What Matters in Initial Teacher Education?

Posthuman enquiries

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Abstract

This thesis explores the affective experiences of neophyte teachers training to teach on a schools based model (Teach First) of initial teacher education (ITE) in England. The thesis maps a contemporary educational landscape where discourses of accountability, hero narratives and discursive constructions of 'resilient bodies' frame expectations about who teachers are and what it is that they do. The thesis unsettles these dominant mythologies to re-configure what the experiences of becoming teacher within complex and contradictory spaces might have to tell us about more sustainable practices for training teachers in contemporary ITE.

The thesis draws on and examines in depth, theories from posthumanism and new materialism, illuminating the potential for thinking, practising and researching differently and generatively in/with/through complexity, entanglement and multiplicity. It experiments with alternative ways of reading and presenting data and in doing so, enacts a critique of data as either passive or revelatory.

Through a series of collage making workshops conducted with early career teachers, the thesis explores the use of creative and participatory methodologies, motivated by the belief that creative practice is a generative approach for research and for practice and the intersection of the two. As such, the thesis suggests alternative conceptions of researching and practising 'always-becoming' teacher, suggesting the productive potential for alternative ways of world-making when connectability and affect are foregrounded, rather than research and practice as a means to seek solutions, outcomes and interpretations.

This thesis contributes to and makes recommendations for a re-imagining of initial teacher education. In addition to contributing to the emerging understanding of the potential and

possibilities for posthuman thinking and theorising in ITE, this thesis also contributes to a growing body of work that questions and re-imagines data and the researcher, in close to practice contexts. It contributes additionally to the understanding of the developmental potential for arts based research methods, specifically in initial teacher education.

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All the teachers who took part in the workshops

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Statement:
The work in this thesis is mine and has not previously been submitted for a degree.
I certify that all information sources and literature used are indicated in the thesis.

Some opening propositions:

This thesis proposes new orientations in thinking about and researching *becoming* teacher in initial teacher education (ITE). The concept of becoming, based on the work of Deleuze and Guattari (1987), is integral to the proposition of the thesis but also to the processes of the thesis in construction.

Paradigmatically, becoming teacher is a process and a site. It is a site of multiplicities (Deleuze and Guattari, 1987, Schatzki, 2002) and '…an ongoing series of confrontations with self, others, ideas, ethics, dilemmas, conundrums and contradictions' (Clarke, 2009:214). I use teacher becoming in this thesis rather than teacher identity, which has a long tradition in teacher education research, to problematise the human-centredness that has preoccupied research into teacher identity and dominates discourses in initial teacher education (ITE). Becoming, a concept used within the new materialist and posthuman theories that I mobilise in this thesis and explicate below, allows us to think with movement and with elements that are not exclusively associated with the human, operating at 'the intersections of multiple agents: the personal, psycho-social-cultural…' (Jones and Ellis, 2019:5) and with material and affective elements that I argue play a significant role in teachers' experiences. Becoming resists the notion that one can somehow arrive at being teacher, or attain such a thing as a 'teacher identity'. As such, when we talk, think, practise and research teaching, we are doing so in a space that is under construction, always in a state of process (Hall, 1997). Becoming is contingent, contextual, temporal, unstable, non-linear, incomplete and affective. This is counter to dominant contemporary conceptualisations of the practice of state education in the United Kingdom where policy discourse emphasises 'uniformity of delivery and outcomes (and) attempt(s) to repress the

gaps and discontinuities out of which teaching, learning and research issue' (MacLure, 2006:224).

I contest, along with Koro-Ljungberg (2016), the idea that teaching can be 'taught'. This is an idea that has particular currency in the contemporary setting of Initial Teacher Education (ITE) in the United Kingdom. The fragmentation of ITE provision, recruitment demands and impacts of austerity have led to a 'teach-quick' market, designed to train 'effective' teachers into schools as quickly and 'efficiently' as possible. I explore the socio-economic and political climate in which policy receives its form, and the directives, advocacy and enactments of such policy in the field of ITE.

My focus in this thesis is the becoming of neophyte teachers, undergoing teacher education in one of the newer models of schools based Initial Teacher Education, *Teach First*. I explore in parts 2 and 3 how Teach First is a model of ITE that has emerged from, is located within, and acts as a solution to, the 'teach quick' landscape that characterises contemporary ITE. I also explore Teach First as a policy response, a technology of entangled global political, social and economic influences, put to use as a response to complex issues of social justice and inequality.

The method

The empirical research for this thesis took place during three participatory practice-based workshops, each lasting two hours. Fifty-two participants took part in total. These were teachers who were coming to the end of the first 'unqualified' year of their two-year training in a schools' based model of teacher education (Teach First).

I knew these participants from being their tutor as, during the first year of this schools' based model, the teachers complete a Post-graduate Certificate in Education (PGCE) within a partner university. I worked in this university and was the course lead for the PGCE programme as well as a personal tutor. Both these roles took me into the schools in which the participants were working and in close proximity to their experiences over the year. These experiences motivated the research and I designed the practice-based workshops to engage participants in an 'otherwise' means of reflecting on the experiences of their first year training in school. I designed the workshops to enable an embodied, exploratory and experimental way of sharing and thinking about their experiences using creative methods, specifically collaging. At the beginning of collage workshop, participants explored the purpose of reflection and teachers' experiences of reflection alongside the ways in which reflection can be inattentive to sensory experiences of the world (sights, sounds, tastes, feelings etc.) The participants were invited to make a collage of any points of their year, or their year as a whole as a means of reflection which was attentive to these sensory details and experiences. The room was set up with a central table filled with material resources. These included large sheets of coloured paper, glues and scissors, a variety of craft materials (feathers, sequins, glitter, wooden sticks, crepe/tissue paper etc.) There were also 'trade' magazines (The Times Educational Supplement) and 'Big Issue' magazines (a 'street' paper sold by the homeless and vulnerably housed in the U.K.). These were available to cut up or use (or not) in any way and I was interested to see if/how the availability of discourses of education and social justice more broadly might be re-assembled. The participants were invited to move freely about the room, to collect images, words, drawings, textures from whatever source they wished (or none) and collate or assemble these in anyways they wished. There were places to sit or stand and the materials were all mobile. Moving, having

drinks and snacks and discussion were encouraged. As the participants participated in the workshop, I moved around the space taking detailed field-notes of moments to which I was drawn. These were discussions but also sensory details of ripping, tearing, creating or movement.

The workshops ended with a collective reflection of the experience of working and thinking in this way. Participants were also invited to share anything they had created, or felt or experienced either as a written account or to share with the whole group. Fifty collages were shared with me, either donated as physical collage or by photographing. Fifteen participants wrote and shared written accounts.

The workshops were 'practice-as-research' (Hickey-Moody, 2015) an otherwise means of reflection, instead 'creating a text that is a site of praxis' (Hickey-Moody, 2015:191), a concept I explore further in part 4f. The 'data' I use within this thesis is what emerged from the workshops as they took place and I thread elements of the 'data', images and written text throughout the thesis as well as a detailed exploration in part 5. The embodied act of the *making* as well as the subsequent collages and the discussions/ written accounts that took place during and after the making of the collages. I explore the role of creative methods and practice as research in part 4f, positioning *making* as a process that foregrounds what 'gets made' through simultaneously thinking and doing in connection with others, rather than what gets understood, produced and therefore foreclosed, as a productive way of opening up thinking about both teaching and research.

Non-traditional ways of knowing, such as memory, attachment and affect are often unrecognised in teacher education, and within this thesis I write about the potential for creative methods to facilitate embodied capacity for change and expression; what Hickey-

Moody calls 'affective pedagogy' (2018:1). Through the use of arts based method as a praxis of uncertainty (Ellsworth, 1997), I propose that working with teachers to exist more patiently with unknowing and uncertainty would develop their confidence as practitioners (Koro-Ljungberg, 2016:145) and sustainability to practice within complex (or 'supercomplex', Barnett, 2015: 238) environments. I discuss supercomplexity further in part 3.

Creative methodologies offer ways to explore stuck places, the ruptures, and the dissatisfactions in order to reconsider what becoming teacher might mean for teachers in liminal spaces. They offer ways in which as researchers and teacher educators we might generate alternative pedagogical knowledges about becoming teacher; that our own practices might reflect the *haecceity* (Deleuze and Guattari, 2004: 421, St Pierre in Guttorm et al., 2015: 17), the 'this-ness' of teaching as an experience or event. This is an area currently under-theorised; asking what effects the entanglement of the micro, day-to-day interactions of the human, material and affective on teachers' becomings? This thesis contributes to a re-theorisation of initial teacher education, foregrounding such entanglements. I employ uncertainty and open-ended experimentation as key research methods, to re-assemble 'teacher' and 'teaching' differently, locating new and creative possibilities for alternative knowledges about ITE and about becoming teacher.

I keep the terms 'data', 'method' and 'analysis' *under erasure*, a technique adopted by Derrida (1967) from Heidegger as a device to signify that these words do not wholly signify the concepts they represent here. Whilst not using the literal crossing out technique of the terms, I draw attention to the limitation of the terms for the ways in which they are used in the context of this thesis. This is for reasons that are theoretical, ontological and methodological. I begin to unpack some of the ways I rethink the traditional signification of

these terms below and explore them further in part 4 when I discuss in detail the posthuman lens through which I think, write and research throughout the thesis.

There are multiple becomings within these pages: becoming teacher, becoming researcher, becoming thesis. At the point of writing this thesis, I have worked in education for many years and with many new and experienced teachers. In keeping with the posthuman and new materialist theories with which I think throughout this thesis, which reject a linear approach to research, the imperative to write about this topic begins in the middle, in the 'entangled agencies' (Barad, 2007:33) and the muddle, what Deleuze and Guattari (1987:11) might consider the 'rupture'. It begins within the problems, Deleuze and Guattari's 'concepts' that have threatened the neophyte teachers I have worked closely with, both in terms of their sustainability as teachers, with their pedagogical development and within the more pressing immediacy of their wellbeing and mental health. Ellsworth (1997:9) talks about the experience of teaching as being a process of 'coming up against stuck place after stuck place', and for me, this well describes my own experiences and that of many teachers I know and work with in contemporary educational institutions in the UK and internationally. The thesis I write now emerges from the stuck places, the discontinuities, the furies and the gaps and silences I experience as a teacher and as a researcher, and sometimes in the navigation between the two. Lather (1998:492), speaks of a feminist pedagogy 'where the effort is to speak from discontinuities (and) the failures of language,' and this is what I attempt to do, to develop 'a praxis of not being so sure, of working the ruins…' (Lather, 1998: 490). It is a *praxis of uncertainty*, which I explore in detail in part 4 (d), both for myself as researcher in rethinking research practices through a posthuman lens and in the work I do with neophyte teachers.

I am interested in what the experiences of teachers within contemporary spaces of ITE have to tell us about sustainable pedagogical practices if we listen differently, if we are more focused on *paying* attention than *having* attention, an act of more careful listening I explore in part 4 (e). There is an imperative to do this. Teacher sustainability, at both a local, national and International level is of increasing concern to those of us who work closely with teachers in state schooling in the UK and beyond. Also of concern is the adequacy of ITE to support teachers to understand pupils' 'becomings', to teach new ontologies where young people may position themselves differently within local and global communities and within contemporary environmental, technological and political spaces.

I am interested in teacher bodies and the who/what is invested in the authoring and construction of these. I am interested in what happens to teacher bodies in liminal spaces, either for reasons of their newness to teaching or by way of their feelings of detachment and alienation from current dominant and normative discourse and practices of teaching. I am interested in what happens when bodies are entangled in intimate connections with things, with environments, with other bodies, what Alaimo (2010, 2016) calls 'transcorporeality' and argue that we currently pay too little attention to this in ITE.

Such 'entangled agencies' (Barad, 2007:33) are the folds in which this thesis has been written. This is a professional doctorate written whilst working within education at a university. It is also my own story that entangles itself throughout. It is the experiences of twenty years plus in education at various times as student, teacher, teacher educator, mother, colleague, researcher and the multiple intersections of these with classed, raced, gendered and otherwise entangled positions. It is the intra-action (Barad, 2007), a term replacing interaction in recognition of the emergent rather than pre-existing nature of agency, of time and spaces and events and affects and matter and what matters. The

collapsing and 'flattening' of these elements are as key to this thesis as they are to the theories I plug in. Flattening, or 'plane of consistency' is an ontological challenge set out by Deleuze and Guattari (1987:73), dissolving hierarchies of language and signification of elements as a way to more entangled ways of thinking. Barad (2007) calls this 'spacetimematterings', a term which captures something of the flattening of these temporal and spatial and material elements. These elements are the maps of this thesis. Cartographies and mapping are also concepts used originally by Deleuze and Guattari (1987) and I make use of them throughout this thesis as an (anti)structural device to more traditional, linear and vertical ways of organising a thesis and thinking and writing about research within a posthuman paradigm. In using mapping, I attempt to practise a more nomadic temporal/spatial thinking, for which I present an argument in part 4.

'Spacetimematterings' then, are messy and complicated and they have unfolded in ways which have required a position of curiosity and new (dis)orientations to map the possibilities they suggest for teacher educators and researchers. As such, I claim neither impartiality nor objectivity but instead make use of the situated, partial and subjective position (Haraway, 2016) afforded by thinking with the posthuman and feminist new materialist theories I plug in.

This thesis takes issues of 'embodiment and accountability, positionality and location' (Braidotti, in Dolphijn and van de Tuin, 2012:25) seriously. They are manifest in the structure of the thesis that follows and in the exploration and presentation of 'data' in part 5, where theory and data become mutually constitutive (Jackson and Mazzei, 2013). I make use of the concept of 'abduction' (Brinkman, 2014) and 'hot-spots' (MacLure, 2013) as a way to make meaning from the 'data'. I am open to affective relations that are both

'disconcerting or fascinating' (2013:172-173), and have the potential to teach us more than 'the static connections that we often assume between self and other, researcher and researched' (MacLure, 2010: 173).

The context in which this thesis has been written is important. The landscape of ITE has undergone significant and rapid changes over the last decade and continues to be a shifting and contested space. Policy developments and the responses to these over the past decade, 'have resulted in growth of an increasingly complex and diverse ecology' (UCET, 2019:4) for all aspects of formal initial and continuing professional development. Ellis and Childs (2019:277) characterise ITE in the United Kingdom as a passive field, 'slow to change and innovate', resistant to change and 'reactive to frequent, successive and often chaotic waves of central government policy'. I explore this in part 2 where I map what territorialises, boundaries and 'interferes' with the landscape of contemporary ITE and what this means for how initial teacher education is 'done', challenging the modality of the current 'training' model which is a performative one, to think new models and modalities for ITE.

Considerable critique is available in the literature of the impact of globalisation on educational policy, where education is a 'key force in human capital development…able to respond to the twin revolutions of globalisation and the knowledge economy' (Giddens, 2000:73, 162). Cole and Gannon (2017:78) argue that 'the notion of a teacher and the co-existing teacher education processes are being progressively emptied out, and replaced by the model of a corporate worker, serving the needs of a post-industrial financial capitalist society'. Such alignment with the private sector (Ball, 2003) has led to an 'economising narrowing skills agenda' (Gerwitz, 2001, in Maguire, 2002:262) which arguably builds fragility into the training of teachers. '*Quality* teacher rhetoric from governments is linked to

human capital arguments and education entails the production of workers for increasingly volatile markets' (Cole and Gannon, 2017:78). I explore these arguments in part 3 by mapping the construction of the teacher body as a recipient of globalised, neoliberal policy.

Competition within an increasingly diverse field can be seen in both the emergence of multiple models of schooling (academies and free schools) and the fragmentation of traditional forms of ITE, creating multiple providers and multiple, competitive markets for ITE. Following a 'practice-based turn' (Zeichner, 2012) in the last ten years, there has been a proliferation of schools-centred initial teacher training schemes. Once the exclusive preserve of universities and colleges, the field of ITE providers is ever growing and to date encompasses schools, charities, private business as well as HE and college sectors. By 2016, more than 50% of all entrants to ITE were on a school led programme (DfE, 2017). These include School Centered ITT (SCITT), Schools Direct (fee paying), Schools Direct (salaried) and Teach First. These offer a mixed model of partnership provision between schools, universities and charity/ not for profit sectors and are indicative of policy positioning where learning on the job is posited as the best way to train teachers. Political ideologies about the 'failure' of the public university to produce sufficiently 'effective' teachers has resulted in a climate ripe for alternative provision to traditional ITE. Subsequently, there has been increased financial and ideological investment and popular support by successive governments in school-based models (see Maguire, 2014). The effect has been to break up and disrupt the patterns of pre-service teacher education in state schools. Policy discourse justifying this fragmentation presents anecdotal 'evidence' that practice is more valuable than theory, doing more valuable than thinking (Cochran-Smith et. al., 2018, Spicksley, 2019).

The landscape is further impacted by austerity measures on schools that have made 'teach quick', practice-based approaches a seductive proposition and an economically practical measure for schools (Jones and Ellis, 2019). The Institute of Fiscal studies (July 2018) found an 8% decrease in real terms funding per pupil between 2019-10 and 2017-18 (Sibieta, 2018). A survey of 1,678 head-teachers by the Sutton Trust (2018a) found 69% reporting to have cut teaching staff to save money. In a poll conducted by the teaching union NASUWT (April 2019), of the 4,300 teachers who responded, 20% said they had paid for classroom resources on a weekly basis and 45% said they had paid for basic necessities such as food, toiletries and clothing for pupils during the past year. By Spring 2019, 25 schools in England reported having shortened the school week, unable to fund a full five days of teaching. This is within a context of wider austerity measures (public spending cuts to government sponsored services, changes in housing and income support and growing inequality), all of which already affected the educational chances and well-being of children (see Smith, 2014). These austerity measures drive models of teacher education that are more limited in scope and more pedagogically sterile, focused as they are in achieving the fastest and most efficient input-output curriculums.

Such precarious landscapes, which I map in part 2, present both opportunity and urgency for re-imagining the ways that initial teacher education is conceptualised, developed and delivered. Such reconceptualising keeps at its heart the conviction that learning to teach is highly complex and therefore needs a more nuanced committed response to the 'contestability of knowledge' (Furlong, 2009) as well as the complexities of knowledge within educational fields. Teaching operates in Schön's (1983:42) 'swampy lowlands, where problems are messy and confusing and incapable of technical solution (and where) lie the problems of greatest human concern.' I argue for posthuman practices that make visible for

'trainee' teachers this complexity and confusion in ways that are generative and attentive to stories and experiences that are ontologically multiple, entangled and embodied. This offers alternatives to current normative discourses and practices of 'what works', and technical rationalist approaches to the 'competencies' of teaching currently dominating ITE.

As Furlong (2009) notes, universities have a unique role to play with regards the 'contestability of knowledge', which is central to their contribution to the study of education. Universities uniquely offer opportunities and space for research, reflexivity and critical thinking that help practitioners to problematise their practices to support 'developing new and powerful insights that could contribute to more complex explanations' (Wyse et al., 2018:24). Universities offer the resources to respond to the research literature on the highly complex, contextually situated practices of teaching (Cochran-Smith, 2013, Darling-Hammond, 1994). They offer opportunities for ITE to move from the status quo where ITE 'value(s) certainty, the known, the manageable' (Larson, 2009:225), to a position where teacher training is able to problematise learning rather than produce learning. In order to do this, I suggest there is work to be done in the ways ITE engages and mobilises research with its trainees and within its practices, an argument I continue in part 6.

There is much in common between (feminist) new materialism, posthumanism and the affective turn (Clough, 2008) and whilst there are some tensions within the field of scholarship around materialist and posthuman thinking, I use them interchangeably in this thesis. I draw on the commonalities within the approaches and also the ways in which they can be 'put to work' together within practice settings. I position myself within a *critical* school of posthumanist thinking. Braidotti (2013) identifies three 'major strands' of posthumanist thought. The first is reactionary or negative. This considers humanism the only workable model for adapting to the globalised world. It is an approach that stresses the

importance of subjectivity as it is attached to '…a universalist belief in individualism, fixed identities, steady locations and moral ties that bind' (Braidotti, 2013:39). Analytic posthumanism is the second strand. This has developed through studies in technology and science and Braidotti describes it as providing 'crucial ethical and conceptual questions about the status of the human' (Braidotti, 2013:39) in a 'technologically mediated world' (40). However, it is a position reluctant to offer a theory of subjectivity or think about the 'implications for political subjectivity, political economy and forms of governance' (42), instead enacting a 'political neutrality' (42). The third strand, and the one which I 'put to work' in this thesis, is critical posthumanism. The goal of critical posthumanism is to, 'move beyond analytic posthumanism and develop affirmative perspectives on the posthuman subject' (Braidotti, 2013:45). This is an approach rooted within the critical schools of post-structuralist, anti-universalist feminist and post colonialist thinking. It draws upon what these offer in terms of how they understand, resituate and reconfigure the individual subject, 'within an eco-philoposphy of multiple belongings, as a relational subject constituted in and by multiplicity…a subject that works across differences and is also internally differentiated but still grounded and accountable…embodied and embedded…' (Braidotti, 2013: 49). The human subject is de-centered but continues to be important for our shared understanding of the interconnections of the self and the world and the implications of these for our practices. As such, my approach shares Braidotti's commitment to an '(a)ffirmative politics (which) combines critique with creativity in the pursuit of alternative visions and projects' (2013: 54). I explore this more in part 4(a).

One of the key shared elements of materialist, affective and critical posthuman approaches, is the emphasis upon thinking and researching within the *flattened ontology* I introduced on page 11. Here, the human subject is no longer privileged over the non-human (material,

animal), more than human (technological) or the affective, other than human. Braidotti (2013: 159), talks about the emergence of new-materialism as refusing the linguistic paradigm, 'stressing instead the concrete yet complex materiality of bodies immersed in social relations of power', which here is becoming teacher. I use this to map how there exists a dominant discursive construction of new teachers' bodies, and the teacher-body as a whole, as fit for 'survival', presenting them as heroic and resilient. I argue that in practice, this results in a fragile and precarious teacher body. In part 5, I map again and render the material-discursive-semiotic more visible and active by putting posthumanism's theories into practice through a 'diffractive' reading of 'data'. Diffraction (Haraway, 1992, Barad, 2003, Mazzei, 2014) is also deployed as a counterpoint to reflection, a practice embedded in ITE and used as a project to narrativise the self. I use diffraction as a means of reading from multiple perspectives in non-linear ways, a concept I explore further in part 5. The matter of 'body-world' entanglement is important within this thesis. In parts 2 and 3, I look to explore the ways in which the bodies of teachers are inscribed through discursive structures. I then go on to suggest alternative ways of thinking about the ways in which the body responds affectively to material entanglements and instances of teaching asking 'how many of these instances occur at the boundaries of language and the body' (MacLure, 2013: 663). As such, I argue for the potential for posthumanism's use 'as a method, a conceptual framework and a political stance' (Dolphijn and van de Tuin, 2012:21) and I mobilise and interweave all three throughout the following pages.

Thinking, working and practising with posthuman concepts as I have written this thesis, and exploring how to mobilise them within my day job as lecturer, has renewed my thinking about what shapes teachers and teaching. I have found the reworking and remixing of inquiry and practice through new and shifting entanglements of the material-discursive is a provoking and

generative way to think about and respond to the rhythms of my engagements with teachers in my professional practice as lecturer and as researcher.

In making a case for new orientations in thinking about becoming teacher, my proposals are thus:

1. Teaching is hard: emotionally, affectively, physically and cognitively. It is also contemporaneously precarious in terms of both recruitment, retention and the ongoing professional practice of teachers within neoliberal educational spaces. High attrition rates continue to impact on the sector characterised some 20 years ago by Halford (1998:33) as 'the profession that eats its young'. In 2018, the National Foundation for Educational Research suggested that approximately 20% of teachers who finish training never enter the state sector and that by the end of 5 years, 31% have left (Worth et.al. 2018). This, together with my own experiences of the profound mental health issues experienced by neophyte teachers and more experienced teachers I work with and have worked with over time prompts me to ask questions about the unsustainable demands of the job for both newcomers and longstanding professionals alike. It also prompts questions about the very nature of teaching as a terrain of 'uncertainty' (Stronach et al., 2010, Hargreaves, 2000) and about the future of the profession(alism) of teachers. Stronach describes teachers as being 'located in a complicated nexus between policy, ideology and practice' (Stronach et al., 2010:109) and the professional as 'a construct born of methodological reduction, rhetorical inflation and universalist excess' (2010: 110). Hargreaves (2000) suggests that we are within a post-professional age characterized by a positioning of teachers in terms of their economic effectiveness and

competitiveness. Professionalism is replaced with 'the notion of technical professionalism, with the professional reduced to a supplier of expert services' (Schwandt, 2008:142 in Koro-Ljungberg and Barko, 2012: 257). Within these contemporary times where standards of 'effectiveness' and 'efficiency' and techno-rationalist approaches frame our educational thinking, teacher educators ask contradictory things of new teachers, expecting them to deliver in respect of a knowledge economy whilst simultaneously making them responsible for complex social justice agendas. New teachers are increasingly offered simplistic and standardised *what works* pedagogical 'toolkits' performing as certainty and security and positioning new teachers' subjectivities and practices. Thus the concept making about teachers within popular discourse equates the 'effective' teacher with a set of resilience and survival values and characteristics that are entrepreneurial in nature and frame teaching as a project of the self, a concept that draws upon the Foucauldian (1975) concept where panoptic techniques of surveillance and disciplinary power make individual subjects within specific spaces. I explore this further in part 3. These popular discourses tap into wider neoliberal discourses of the resilient and survivalist body 'required' in the 21st century, mobilising narratives of vulnerability and precariousness in contemporary culture. In this thesis I propose that a reappraisal of knowledge construction in this current time of rapid change and structural inequalities is necessary. How our everyday lives intra-act within broader socio, geo-political and technologically mediated world in ways which are both ethical and generative seem increasingly imperative to me. I propose that posthuman theories offer ways to think and orient our practices and research within complex times.

2. Teaching is, otherwise to how it is currently imagined in dominant discourse, a space of multiplicity, complexity and coexisting heterogeneity. It is constituted through interrelations of the human, material and affective that are never the same. Experiences as teachers are not particular nor isolated, but are affected by everything in multiplicity; 'the amount of possible relevant variables in any given educational situation being close to infinite, every act can be meaningful, but no single effect predictable' (Visser, 2015:12). Therefore, we must find ways to practise and research within spaces of multiplicity and sites of complexity that pay closer attention to the neglected material and affective components – *the mattering* - of becoming teacher and give them the credibility afforded to the centrality of the human in contemporary discourses. I propose ways to pay attention to *what matters* in the experiences of neophyte teachers, to revisit policy and rework and remix inquiry to be attentive to the layers and the stories and rhythms and the world-making as it emerged in the process of researching, thinking and writing. Hickey-Moody's (2015:5) provocation that 'matter is pedagogical and resistant', is one I respond to throughout the thesis as a means to illuminate the potential for teachers, and indeed for me as researcher, in reconfiguring teaching and learning practices in more generative ways. I view 'the pedagogy of matter teaching the maker how they might make differently' (2015:10).

2. Teaching is a product of interrelations and multiplicities. Locating it thus resists an essentialism and associated grand narratives, embedded in a humanist tradition, about teachers and teaching. I propose that in locating and problematising what is 'settled' about teaching, we can locate where possibilities are otherwise. I make use

> of the Deleuze -Guattarian (1987) concepts of mapping and tracing, of cartography, as vital concepts within this thesis, to locate what is traced and what territorialises education's landscape. Tracings are reproductions of phenomenological experiences assumed to be stable, fundamental and universal. Instead, Deleuze and Guattari offer maps, ways of deterritorialising and uncoding habitual relations, experiences and uses of language. In part 2, I propose that by making visible the *tracings* of governmentality and power to constitute, construct and fix teacher identities, questions emerge about the politics of such tracings and our responsibilities for these as educators working and researching in teaching to resist, refute and create and to map again. In this way I over-map dominant stories of being teacher in more nuanced, hesitant, open-ended ways. We are, as educators and otherwise, always already political, as Barad (2014) reminds us. Thus the simultaneous coexistence of distinctively different characteristics, histories, and experiences of teachers provides us with opportunities to enrich our appreciation of the complexity of teaching within global heterogeneous spaces rather than hearing only a single universal pronouncement.

This thesis is, therefore, interested in how we might (re)imagine the complexities of becoming teacher, how we might (re)imagine working with neophyte teachers in more sustainable ways. It is interested in mapping teaching from the concepts in which it has been embedded and traced: representation, humanistic projects of endless points of progress and closure, fixity and statis and offering instead, opportunities for its over-mapping. I problematise, as Biesta (2015) does, the positioning of the individual teacher as the central factor for 'effectiveness'. Instead, I suggest, along with Larson (2009:209) that;

> …we might rethink our fixation with the central importance of the teacher, and re-centre our attention to address broader societal contexts within which schools are located, and the complex, messy and contextualised nature of teachers' work. Neglecting to do so will continue to prove troubling for teachers and their work, and for broader educational reform efforts.

Through engaging with the theoretical approaches of posthumanism where concepts of fluidity, multiplicity, heterogeneity and creativity are mobilised, this thesis considers and pursues teacher practices differently and suggests that in mapping experiences, we re-locate teaching in more sustainable spaces where vulnerability, or being neophyte is less of a threat to becoming teacher, but instead presents transformative possibilities. To present alternative possibilities to 'the sphere of pessimism that infiltrates contemporary Western education, a pessimism tightly coiled with a larger culture of educational neoliberalism, one replete with maxims of 'deliverology', and 'enactments of policy' (Maguire, Braun and Ball, 2014, Harwood et al., 2016:2).

Posthuman scholarship has been a valuable *weapon* with which to think during the writing of this thesis. Deleuze and Guattari (1987) suggest that 'tools' belong to the state apparatus whereas weapons are of the nomad. For them, weapons are like jewellery, 'turning gold to red and silver to light' (1987: 443), a reconceptualization I put to use here, rather than more traditional connotations of weaponry**.** I have tried to attend closely to material structures as having lively agency or 'vibrant matter' (Bennett, 2010) within the play of our everyday lives. I write more on this in part 4, but this ontological reorientation (Coole and Frost, 2010), not so simple in practice, has required a rethinking and rewording of the matter which matters and how it comes to matter in education. Such an approach, taking away some of the props of language and entrenched thinking about education, has (de)stabilised my writing, taking

away some of the taken for granted structures with which I talked, wrote, thought, felt previously about education. However, it has been a process simultaneously enriching and liberating for my thinking and writing; allowing new terms of reference to do some alternative work on concepts that had become ideologically fixed in meaning and connotation. Like bell hooks '…I came to theory desperate, wanting to comprehend - to grasp what was happening around and within me. Most importantly, I wanted to make the hurt go away. I saw in theory then a location for healing' (hooks, 1991:1).

The structure of this thesis then is as follows:

In part 2 I map something of what territorialises the current landscape of ITE. I explore how the Teacher's Standards (DfE, 2011c) are a policy embedded in discourses of performativity, accountability and standardisation. I also explore the fragmentation of ITE and the emergence of 'alternative' schools based training models. I focus particularly on Teach First as an example of a response to ITE's fragility and political positioning to how wider socio-economic 'problems' are framed and mobilised. I map how a trend towards pedagogical prescription emerges in the increasingly dominant 'best practice' toolkits and 'what works' research, a trend towards automating processes. I read this against the literature on the rising incidences of burn-out and attrition. I also begin to explore posthuman concepts to think differently about teaching as a (super)complex space and explore what these concepts might offer as productive ways to practice and research.

In part 3 I put the posthuman concepts of rhizomatics into practice. At this point the thesis becomes more experimental and philosophical, reading across multiple relational levels to produce 'rhizo-maps' and 'rhizo-readings', ways of mapping policy, theory, recruitment advertisements, images, single narratives of neophyte teachers. As such, I do not offer a

linear genealogical figuration of education's development but make a map where aspects of education's landscape are reconfigured to assemble something of how neophyte teachers experience contemporary ITE. What emerges through this mapping is a conceptualisation of a mythologised neophyte teacher body: a heroic survival body, entrepreneurial and equipped with a repertoire of survival characteristics deemed necessary for the contemporary age.

In part 4 I turn to the question of how to work methodologically with(in) critical post-human theories and 'operationalize' them (Mazzei and Macoy, 2010). A feature of posthuman practice is a commitment to the creative, to innovative ways of thinking about 'matter, materiality and politics' (Bennett and Cheah, 2010:6). My methods have drawn upon this commitment and my own praxis as teacher in making use of the potentiality of arts based knowledges, practices and spaces to explore experiences of 'becoming' teacher. I explore the use of visual cartography; collaging as method and what creative practices offer us to think and research becoming teacher differently. I foreground the significance of affect, which I use as a term to define intensities as much as personal feeling. Massumi, in the translator's preface to Deleuze and Guattari's (1987) *A Thousand Plateaus* describes affect as; 'pre-personal intensity corresponding to the passage from one experiential state of the body to another and implying an augmentation or diminution in that body's capacity to act' (1987: xv). New feminist materialist discussions question both the human 'who' participates in/ through knowledge-making practices but also the 'what'. Space is made for the object, the 'thing –power' (Bennett, 2010), the location which take up legitimate agency within a space of teaching and learning. Barad (2003:822) notes;

> The relationship between the material and the discursive is one of mutual entailment. Neither is articulated/ articulable in the absence of the other; matter and meaning are mutually articulated. Neither discursive practices nor material phenomena are ontologically or epistemologically prior. Neither can be explained in terms of the other. Neither has privileged status in determining the other.

I explore what this relationship might mean in the practices of becoming teacher and also in researching teacher experiences where the material matters and has agency. I explore how we might listen and pay attention differently within a posthuman paradigm and how a reconceptualization of 'data' and 'data analysis' might help us as researchers to do this.

In part 5, I develop the rhizomatic practices of part 3 to practice 'diffractive' (Haraway, 1997, Barad, 2007, Mazzei, 2014) readings. The 'data' from my workshops assembles (Deleuze and Guattari, 1987) to illustrate the connectivities of teacher bodies and other agentic objects (or 'actants' as Latour, (1999) describes non-human bodies); as 'complex social configurations though which energy flows and is directed, where parts plug in and out of each other' (Malins, 2004 in Ringrose and Renold, 2014:773). I try through my reading of the 'data' to make its entanglements visible throughout, as a practice of 'respectful, detailed, ethical engagement (s)' (Barad, 2012b:50). Reading and writing in this way also foregrounds how 'meaning-making emerges over time' (Ringrose and Renold, 2014:773), before the 'research' began, during the time of researching and in the afterward. It attempts to be sensitive to working 'in this time of researching subjects we no longer understand, what Deleuze describes as 'situations we no longer know how to react to, in spaces which we no longer know how to describe' (Jackson and Mazzei, 2013:261) so that we may see different patterns.

In part 6 I move toward thinking about what the possibilities for practice are if we re-orientate ITE in the ways the thesis has proposed. I try to offer some entry-points (Strom, 2017) for practice and for research as well as posing some questions relevant for policy, for university ITE departments and for practitioners and researchers in ITE. In contesting the current discursive normalisation of an increasing number of ITE programmes in contemporary England, particularly those aligned to 'schools based' training to 'produce' teachers who are autonomous 'rational agents' in linear ways, I offer alternatives. I suggest an ontological shift from outcomes to processes, to more of an onto-genesis, (Kitchen and Dodge, 2007), which seeks to reconsider teachers and teaching as a dynamic 'becoming' with a character of its own, an ontologically multiple position. Supporting teachers to recognise and understand their presence in the classroom, as an element of an assemblage that produces teaching and learning amidst a range of other elements, suggests greater possibility for both engaging and retaining teachers in the acts of teaching and learning so that teachers might recognise themselves and their professional practices and institutions more complexly and productively.

I take on Rilke's (1993) challenge to '*live* the question' (my italics): the concepts, the problems, the ruptures, rather than search for the answers (in Koro-Ljungberg and Barko, 2012:257). In living the questions, we might support neophyte teachers to live ways into answers, varied and multiple as they might be. Such a position has ethical demands, to '…be responsible and responsive to the world's patternings and murmerings' (Barad, 2010:207) and to 'stay with the trouble' (Haraway, 2016) that living ways to answers might demand of us as teacher educators and as researchers.

As this thesis took shape I worked and practised and read and selected and remembered and taught and parented and lived 'and…and…and…' (Deleuze and Guattari, 1987: 24-25). All of these contributed to what is here. The post-human theories I have plugged in have allowed me to navigate without becoming overwhelmed (mostly) by the complexity of the field I chose to study and in journeying from the middle outwards, is the journey in becomings.

Part 2:

Cartographies of initial teacher education: plugging in posthuman concepts

'education is composed from all types of interference' (Britzman, 2003:8)

'we fold the outside world into us all the time' (Harwood et al., 2016:40)

In part 2, I want to map something of what territorialises, boundaries and 'interferes' within the current landscape, the topography of initial teacher education (ITE) in the UK. I also explore some of the key concepts of a posthuman inquiry that I think and map becoming teacher through. De Freitas (2012: 564-5), suggests what cartographic practices offer us:

> Topology shifts our attention away from concepts of measurement and rigid transformation (like linear casual links) and focuses on the stretching and distortion of continuously connected lines and regions.

I am interested here in how teacher education is 'done', the politics, policy norms and pedagogies of ITE and the work these do to striate the map and carve the landscape of contemporary teacher education; tracing teacher bodies into particular ways of *doing*

teaching and *being* teachers. Philosophically, *being* is in contrast to becoming. Being is a foundational position. It is fixed, constant and unchanging. As May (2005:59) tells us;

> God is being; Nature is being…on the other hand, becoming is ephemeral, changing, inconstant and therefore less substantial than being.

According to the policy and regulatory practices that define them, there are many things that teachers must 'be'. Many of these are signified within the national Teaching Standards (DfE, 2011) which neophyte and early career teachers need to qualify and which all teachers are measured against for the duration of their careers. Framed as 'competencies' for 'personal and professional conduct', there has been an International educational policy move towards professional teachers standards (Clarke and Moore, 2013) as a means by which to define and measure the 'professional' labour of teachers. Professionalism, however, is a contested term, being 'located in a complicated nexus between policy, ideology and practice' where it is characterised by 'reductive typologies' (Stronach 2010:109).

In terms of the topography of initial teacher education, in the UK the Teachers' Standards (TDA, 1997, revised in 2002, 2007 and 2011), have endured successive government changes and have standardised and structured ITE's curriculum, territorialised ITE's pedagogical approach and codified teachers' work since their first iteration as 'competencies' in 1993. Alongside 'standards' came external inspection from the school's regulatory body (Ofsted) and the establishment of the Teacher Training Agency (TTA), (1994), whose remit was to set the standard and criteria for the award of qualified teacher status (QTS). This codification of 'quality' and the means by which to regulate it have been part of a response to ITE's ongoing positioning as something of a 'policy problem' (Ellis and McNicholl, 2015:13) for UK

governments and its rather precarious position within the University sector, both of which I go on to map.

Considered during the 1960s to require a 'strong personal education' (Furlong, 2000:19), ITE's curriculum was weighted towards scholarly and theoretical knowledge, rather than practical experience (Wilkin, 1996). However, by the 1970s, policy-makers were calling for increased classroom experience (James Committee Report, 1972) and it was the incoming Conservative government of 1979, who heralded the first research into school based teacher education. This initiated a policy direction (Department for Education and Skills, 1983) that was to position government rather than Higher Education, polytechnic or college as the overseer of ITE and its curriculum. Higher Education Institutions' (HEIs), who absorbed the former teacher training colleges, were at this point relatively free to deliver their often widely divergent curriculums. However, some of these were under suspicion (Cater, 2017), for favouring child-centred pedagogies, accompanied by a general mistrust of 'left-leaning' education authorities and localised control. Universities were subsequently blamed for poor educational outcomes and amongst a host of policy reforms, beginning with Circular 3/84 in 1984 (DES, 1984), the funding for teacher education was separated from general higher education funding. Despite some strongly worded dissent in the literature (see Gilroy, 1992 in Knight, 2017), it seems there was a general passivity from the HEIs, as Ellis et al. (2015:18-19) notes;

> (It was) remarkable that university leaders did not challenge such directive interventions on the grounds of academic freedom. …the degree to which HEIs appeared to cede responsibility and allow themselves to become subject to invasive

> and punitive inspections by Ofsted and volatile funding regimes was, in retrospect, startling and set precedents for much that has followed.

New Labour's (1997) take on ITE governance, in educational policy terms, sustained the neo-liberal trajectory begun by Thatcher's conservatives, where the 'success', and therefore 'value' of teachers became even more closely linked with student outcomes. I make use of neoliberalism within this thesis in all its instability, slipperiness and contradictions as a concept and a discourse. Here, it denotes the practice of commodification and market based social relations and its 'penetration' (Ball, 2015:39) via policy into all aspects of our lives. As Ball (2015: 41) suggests,

> …the flow and reach of educational policy is extensive and expanding (and) articulates…the production of a new kind of worker, citizen, learner, with dispositions and qualities. It doesn't stop at developing a sense of how to be, but also requisite feelings and morals.

There has been increasing interest by governments globally in the connection between teacher education and international economic competitiveness and a form of New Public Management (NPM) strongly associated with consumerist and performative technologies of control (Hall and McGinity, 2015). This has sought to commit an educational privatisation (Ball, 2007, Hall and Gunter, 2016) across education's landscape. A contemporary global educational discourse, characterised by logics of competition, instrumentalisation and atomization (Clarke, 2012), has been justified through policy narratives where skillsets for the knowledge economy are demanded from workers. Therefore, school teachers must equip students with these skills, putting teachers at 'the frontline of national economic defense and in the center of educational reform' (Clarke and Moore, 2013:488). Stronach,

(2010:10) calls this a 'hegemonic hypernarrative', a characteristic and hegemonic global discourse in education (Ranciere, 2010), comprising of standards and accountability. Stronach (2010:23) suggests this is not a narrative to underestimate, characterising it thus:

> Education and economics, part and whole, a creature of moral panics and policy hysterias, full of false comparisons and non-sequitors yet one which is considerably more powerful than any other current educational discourse.

Through NPM, ways of measuring teacher 'competency' and teacher 'quality' produced the school output data used nationally (e.g. Standard Attainment Test (SAT) results) and on a global stage (E.g. PISA) to indicate economic competitiveness (see Giddens, 2000, Cochran-Smith and Fries, 2008). This occured to a point where the state and governance of education, standards and accountability, responded to a seemingly entrenched relationship between teachers and national and global economic productivity (Ball, 2012).

Teachers' accountability was thus ensured through the surveillance tools associated with the input-output logics of teacher quality = student outcomes, (league tables, observations, book and data scrutiny, 'learning walks'). Changes to career structures and pay and an increased specification of what should be taught were reflected in policies such as the National Strategies (1998), which embodied highly prescribed ways of teaching English and Mathematics, which could 'reach down into the detail of the day-today practice in teacher education programmes across the whole country' (Furlong et al., 2009: 4). This was the start of ITE policy making explicit pedagogic demands of teachers. For example, such pedagogic frameworks became compulsory in the delivery of systematic synthetic phonics (SSP) as an early reading strategy (DES, 2006). Taking up a significant part of ITE's primary curriculum, SSP is an explicit requirement of the Teachers' Standards and both ITE providers and schools

are subject to inspection of this element of provision. However, the evidence base for SSP is contested (Wyse and Styles, 2007). For example, even where there has been consensus around its benefits, 'any programme introduced in a top-down managerial way is doomed to failure…When you have someone who tells you exactly what to do, you tend to follow it in a mechanical manner…it is not being done with any real conviction' (Burkhard, 2010 in Scott, 2010, n.p.). This reach into pedagogical control is important, as pedagogy increasingly becomes 'toolkit' in contemporary ITE, and the vital work of pedagogical reasoning becomes reduced to delivery of strategies as I explore below and in part 3.

Knight (2017) suggests that the reason for the intensive centralised control in teacher education seen during New Labour's (1997-2010) government was predicated on a desire to produce an efficient and convincing narrative linking teachers' work, pupil outcomes and national prosperity, framed by an equality and social justice agenda. In such a narrative,

> Direct causal connections between inputs and outputs are necessary for exercising control. Managerialism demands simple cause and effect structures around which to build its narratives. In the case of education, a straightforward narrative in which teachers' work was for the national good was emerging. An effective causal relationship also needs a causal mechanism, a variable determining factor, for the newly emerging economic view of education; this was teachers. (Knight, 2017:6)

St Pierre (2011) argues that this neo-liberal logic; 'Input-output' thinking has emphasised both individual responsibility and encouraged related reductionist thinking. For example, the Teachers' Standards (2011) make several assumptions about teaching, one being that it is reducible to a fixed set of principles and actions. However, as Harwood et al. (2016:35) point out: 'there are problematic ontological and epistemological assumptions that arise

from defining knowledge primarily in terms of the act of achieving core learning outcomes, as clearly the process through which these are strived for is core'.

Despite other, more outward looking policy changes in education by New Labour, such as the increased emphasis on partnership (although this took on a contractual nature in an example of the increasingly marketised higher education setting) in ITE, there was only further evidence of centralisation and neo-liberal marketisation policies. The Teachers' Standards were refined in line with this trajectory (Furlong, 2008, Gerwirtz, 2002). Prescriptive and punitive inspection by Ofsted became the ultimate surveillance tool, demanding 'obeisance and hyper-vigilance to an ever present threat of student, teacher and school appraisal' (Teague, 2016 in Harwood et al., 2016:2).

There was, in 2008 a £2.5 million pilot programme for a Masters in Teaching and Learning that 'represented a significant shift from prior practice, as the key aim of teachers' professional development had rarely been a recognised academic outcome' (Cater, 2017:12). However, the banking crisis hit a few months later and the project was shelved in the following years. Professional development through to Master's level, although an aspiration of the University Council for Education and Training (UCET), has had no major investment since. However, I would suggest this remains something of an opportunity for universities to (re)engage teachers in the sorts of work I propose in this thesis. The Educational Green Paper (DFE, 2016) has a commitment to a greater range of funded personal development opportunities and the possibility for further reform in this area. I return to this in part 6.

The Coalition (Conservative-Liberal Democrat) government of 2010 brought considerable change to education in many respects, but in the arena of ITE, the trajectory of defining

'competency' through Teachers' Standards continued. It is significant that the iteration of the Standards in 2011 (those used currently in ITE) are divided into two sections: 'Teaching' and 'Personal and Professional conduct'. Policy now had firm control on all aspects of teachers' work and how they behave at all stages of their career. In essence, it sought to determine who teachers could be.

There are potential advantages to having a national set of standards, especially for new teachers looking for clear, transparent ways of understanding professional practices that might otherwise not be available. Teachers' standards offer a shared language for teachers and educationalists with which they can discuss teaching and learning and a set of shared expectations to evaluate teaching and learning. However, I would argue that currently, the standards are used in ways that echo the logics of educational policy underpinning them. They offer a hollowed out and contradictory notion of accountability, and are empty signifiers despite their contemporary importance in defining what it is to be a teacher. For those unfamiliar with the eight standards, they are as follows (Teachers' Standards, 2011):

- Set high expectations which inspire, motivate and challenge pupils
- Promote good progress and outcomes by pupils. Demonstrate good subject and curriculum knowledge
- Plan and teach well- structured lessons
- Adapt teaching to respond to the strengths and needs of all pupils
- Make accurate and productive use of assessment
- Manage behaviour effectively to ensure a good and safe learning environment
- Fulfil wider professional responsibilities.

Within each of these eight umbrella standards, there are further sub-strands. My purpose here is not to focus too deeply in the detail of the Standards, but rather to discuss what they reveal about the discourses in which they are embedded and the ways these shape practice. Having worked with several iterations of the Teachers' Standards over many years, and in many different schools, I know that both the vagueness of the imperatives and the impossibility of meeting such broad criteria requires overly subjective judgements to render any meaning. The guidance to the Standards (Department for Education, 2013:6) states that assessments of teachers should be made with 'professional judgement…to a level that is consistent with what should be reasonably expected in the relevant role and at the relevant stage of their career…' However, such subjective judgment then becomes subject to the wider symbolic neoliberal order in which they take form, meaning schools' (and ITE providers') interpretation and judgement of individual were often bound with their own contexts and relative status/ vulnerabilities, often in conflicting ways. The fragmented and competitive nature of ITE, with its various models, alongside the diverse and highly regulated and accountable demands of schools, disallows any simple understandings of 'reasonable expectation'. For example. A neophyte teacher trains through Teach First who are one of the newer models of ITE. Teach First are a model of teacher recruitment and training committed to 'closing the gap' by placing 'top graduates', how the teachers are marketed, into schools with high levels of disadvantage for two years. Teach First offers the teacher to the school for employment so the teacher is a paid, albeit unqualified, member of their staff. The school who recruits via Teach First is likely find it difficult to recruit and retain teachers through traditional means because of their geographical as well as cultural and economic location and often is vulnerable to 'failing'

according to Ofsted. The school's expectation of their new teacher is to 'deliver' on their urgent need to 'raise standards' in respect of measurable outcomes of examination results. The ITE provider who observes the developing teacher might consider their emerging practice to be appropriate for their relative lack of experience and the complexities and demands of the classes they teach. They might also feel that with mentoring and time, the neophyte teacher will gain confidence and skill. However, the school feels that they have neither time nor capacity for such support and that the ITE provider is out of touch with the reality of their work. After all, this is why they appointed this teacher through this Teach First model in the first place. In such a circumstance, one I saw repeatedly in ITE with regard Teach First, the Teachers' Standards become easily weaponised to 'evidence' both positions, assessor and school, such is their inherent meaninglessness as a measurement and accountability tool. Moreover, the learning they purport to elicit for both teacher and pupil, is 're-rendered as a 'cost-effective policy outcome' (Ball, 2015:40), when used as an accountability measure. I go on in part 3 to explore in more detail the rise of Teach First as one of the newer models of practice based ITE, as a technology of a policy response to the 'crisis' of education and as a location for neophyte teacher experience.

To return to the wider context, the seeming simplicity and common sense of, 'impart knowledge and develop understanding through effective use of lesson time' (Teacher Standard 4a). Or 'know when and how to differentiate appropriately, using approaches which enable pupils to be taught effectively' (Teacher Standard 5a), or 'reflect systematically on the effectiveness of lessons and approaches to teaching' (Teacher Standard 4d) are belied by the persistent use of contingent terms such as 'effective' and 'effectively'. The Standards are inherently impossible for even very experienced teachers because they

reduce the classroom in all its idiosyncrasies, multiplicities and contingencies to a set of umbrella standards of such all-encompassing breadth that make failure, certainly that of neophyte teachers, almost inevitable. For example, 'demonstrate an awareness of the physical, social and intellectual development of children, and know how to adapt teaching to support pupils' education at different stages of development' (Teacher Standard 5c). What the Standards simultaneously do, moreover, is disallow any objection as they are positioned within wider social discourses on teaching to be statements of both common sense and the obviously desirable. As Alexander, (2009:415) suggests, they thus become 'a framework for codifying not levels of development but degrees of compliance'. In his discussion of the 'indeterminable' definition of 'professional', Stronach, (2010:109 - 110) also suggests such policy frameworks perform 'analytical moves by which professionals are typified, staged and judged betray a rather simple moral bias, chopping good from bad in unhelpfully crude ways'. MacLure, (2006: 3) notes how this embraces notions of education beyond the school environs.

> Like any discourse therefore, these policies impose structures, levels and taxonomies on the flux of experience. They set limits on the ways that the world can be viewed and construed, determine what can and can't be said, and establish what will count as truth. They institute orders of importance amongst entities and concepts, and assert which ones 'belong' together. Most significantly of all, they define what kind of subject - teacher, student, inspector, researcher - it is possible to be. Those who speak the language of the National Strategies, or of Ofsted inspection, or the Research Assessment Exercise, necessarily bend themselves into the new shapes afforded by their disciplinary syntax and hierarchies of significance.

The language of performativity in the 2011 Teachers' Standards was the most explicit of all iterations, defining its purpose as a 'framework…to assess the performance of all teachers' (DfE, 2011:3). In this way, 'competency' and 'quality' became the 'technicisation' (Stronach et al., 2002:112) of teaching. Whilst streamlining the number of standards and the accompanying guidelines suggested an increased flexibility to design ITE provision, this was illusory, given that it came alongside extended control of ITE through Ofsted inspections. Significantly, it was unnecessary to dictate content if the prescribed outcomes prevented any deviation from how Ofsted conceived 'outstanding' (its highest grade). The then Education secretary, Gove, threatened closure to ITE providers who failed to meet Ofsted's criteria (Gove, 2012), an action indicative of a relationship between universities and government that Cater (2017:13) describes as degenerating during the coalition years from 'distraction and antipathy…into overt hostility.'

Traditional educational ideologies, revering canonical subject knowledge over pedagogy, were also evident through the White Paper *The Importance of Teaching* (DfE 2010a) and subsequent policy papers (DfE 2010b, 2011a). Pedagogical practices were relegated as something that would come about through working 'on the job', about learning 'what works'. Based upon the under-evidenced belief by politicians that 'university based trainees see their training as too theoretical' (DfE, 2010b: 9), there were promises to reform ITE to be increasingly school led (DfE, 2011a). It was an explicit positioning in favour of schools' based models of training, specifically praising the 'fantastic' Teach First (DfE, 2010a:3). In some respects, this positioning was a re-articulation of the debate from thirty years previously, but this time with 'key ministers ideologically committed to pushing the changes through' (Cater, 2017:14). What is evident in the four proposed measures to reform training of teachers (DfE, 2011a) is how focused they were upon the individual teacher and their

competence and 'quality', two terms I have problematized, predicated as they are on neoliberal agendas of performativity and control. These measures included the expansion of Teach First as a model to attract 'top graduates' into the profession. There was also a greater emphasis on the selection process and trainee quality at interview and the creation of a higher bar for entry into training by making the 'skills test' (a test of mathematical and English language skills) an entry rather than exit qualification with limited resit attempts. In such policy discourse, 'quality' becomes a synonym for qualification, which in turn becomes a policy definition of 'effective', the term so frequently put to use in the Teachers' Standards. However, as I explore in part 3, the 'quality' of Teach First's so called 'top' graduates also makes assumptions about the presence of other all-encompassing attributes of the neoliberal subject: resilience, creativity, innovation. This paradoxical mix, 'a construct born of methodological reduction, rhetorical inflation and universalist excess' (Stronach et al., 2002:10), is discussed further in part 3.

Alongside financial incentives in certain subject areas for potential trainees, allocations for training places were redistributed, doubling those for Teach First and protecting those for University providers rated 'outstanding' by Ofsted. The expansion of other schools based routes was encouraged through the cutting of numbers, typically by a third from ITE providers who rated 'good' (Cater, 2017).

In addition, the Academies and Free schools agenda, that liberated schools from local authority control and made them answerable directly to the Education secretary was expanded. The Academies programme sought to bring corporate finance and control into schools (West and Bailey, 2013) subsequently followed by the Academies Act 2010, a particular feature of which has been an aggressive school conversion campaign. One of the

key strands of The White Paper (2015) was for all schools to become an academy, although this paper did not make it beyond the cutting room floor following the demise of David Cameron as prime minister in 2016. A feature of these 'independent state schools' has been the right to employ unqualified teachers exemplifying the belief that 'good graduates', i.e. those with the subject knowledge, have the skills required to make 'good', 'effective' teachers, as well as being an economically efficient response to the impacts of high attrition and recruitment difficulties.

The political, economic and ideological investment in what a teacher should 'be' renders the teacher-body as a site of contradictions. This includes both the wider 'body of teachers' *and* teachers' individual bodies. The double meaning is significant in this thesis as I argue the construction of the former has profound implications for experiences of conflict and further affective dimensions within the latter. Strictly regulated to global, national and local standards and clearly defined in associated policy documents, the teacher-body is a 'professional' who is key to economic aspiration and success, but also social cohesion and a myriad of other social concerns. It is also simultaneously subject to the various demands for other traits of nurture, responsivity, creativity, innovation, inspiration and so on. These demands are not necessarily just from other interested parties such as parents, children, media outlets. They are also the demands of the very policy makers who most recently have created the conditions where such attributes are least likely to flourish, thus creating a situation where arguably teaching can be characterised as,

> …a profession that is rife with ambiguity (e.g. Helsby, 1999) laden with emotional politics (Hargreaves and Fullen, 1998), context dependent and contestable in terms of its aims. (Priestley et al., 2015:143)

Stronach (2010, 130-1) suggests that the professional in teaching (and similarly in nursing) exists only as an 'emblematic figure', previously described thus:

> …a mish-mash of prejudice, stereotype, performativity, nostalgia and what Kundera (1991) called – in relation to a decaying Stalinism – 'imagology', where invocations of teachers-at-the-front-of-the-class, nurses-at-the-bedside and bobbies-on-the-beat pass for professional/ political debate. This kind of Punch and Judy professionalism renders the educational discourse that surround teaching and nursing 'disordered' in ways that professional work can never remedy: power lies elsewhere. Meanwhile, the disordered discourse of professional advice and admonition offers a simulacrum of order – technical reason, measured outcomes, social and economic gains.

In part 3, I map recent policy attempts to construct such a 'mish-mash' and hold some of these contradictions together with a catch all narrative of a resilience repertoire (Burman, 2018).

The Teachers' Standards then, are signifiers that 'offer a fantasmatic source of reassurance and certainty in the face of an unruly and chaotic world; that is, they offer a vision of social reality (for teaching) as harmonious and complete, shorn of its constitutive gaps, inconsistencies, contradictions, and disjunctions (Clarke and Moore, 2013: 493). They are, in many ways, representative of the search for the, '…teaching gods…the enduring teaching constants that will hopefully substantiate a quasi-profession. Often these gods are referred to as 'best practice'' (Taylor Webb, 2013:165). 'Best practice' has, however been as illusive in teacher education as in teaching more widely. The desire for transcendence, for 'what works' has not been produced despite its continued dominance in the discourses of contemporary ITE and its persistence in initial teacher education research that supposedly

evaluates 'what works' activities and practices. What we are seeing in 'what works' are pedagogical quick-fixes and ways of being teacher which tend to reinforce transmission orientated teaching (Flores and Day, 2006) and positivist, linear conceptualizations of expertise (Strom, 2015).

What is seen less and less is research that is drawn from education's founding disciplines of philosophy, sociology, psychology, history, or engagement with how pedagogical reasoning (Shulman, 1987) develops or the development of skills for teachers to research their own practices (UCET, 2019), a debate which this thesis can contribute to.

In England, this is evident in the promotion by the government of the Educational Endowment Fund's teaching and learning 'toolkit' (EEF, online, 2011), and encouragement of a 'grassroots' practice-based research using researchers who are positioned as working 'within', seeking evidence and 'truths' about classroom effectiveness and efficiency, albeit with sometimes complicated political and ideological investments in such processes. Launched in 2011, the EEF toolkit was described as an 'easily accessible guide for teachers detailing the approaches they should consider when allocating the government's pupil premium' (Sutton Trust, 2011, n.p.) It originated out of a synthesis of the work of John Hattie (2009) and large scale statistical random controlled trials, meta-analyses and effect sizes, with twenty different approaches to improving learning that estimated the additional progress the average child could be expected to make over the year if each strategy was adopted. By 2018, the toolkit was an interactive online platform, with Scottish, Australian and Early Years versions and it has been translated into Spanish and Portuguese for the Latin American market, to give a sense of its educational reach. The site displays a quality

rating, cost rating and impact rating in a simple format which Biesta (in Seith, 2017, n.p.) suggests is,

> …extremely misleading and utterly unhelpful. Some major issues are the depiction of education as input-output system, with the idea of teaching as an intervention that is supposedly making some impact on the student – an impact that can be measured through test scores. This may be the logic that works with pig farming, but not with the complex endeavour of education.

The impacts of some of this simplistic use of the toolkit has particular resonance for me. A primary school with which I was working closely during 2015/16 cited the toolkit as evidence in their 'strategic' decision to make redundant their teaching assistants and replace them with unqualified teachers from Teach First who could be employed as unqualified teachers. The toolkit had suggested that the average impact of general classroom support (teaching assistants) on pupil attainment was overall, zero. However, what such a simple rendering of the 'evidence' neglected, was the multitude of ways in which support staff were deployed in schools and the work they did, particularly around children with special educational needs and the physical and social inclusion of children within mainstream education. Two years on, the school reversed this decision under new leadership, and, since this was not the only school to have made use of these 'findings', the EEF have since produced additional guidance to suggest more careful interpretations on the part of schools (EEF, 2019).

The Sutton Trust estimate that the EEF 'toolkit' is used by more than half of secondary school leaders and the National Audit Office found that two-thirds of head-teachers were guided by its possible 13,000 studies (Sutton Trust, 2018b). The EEF represents to date the most significant repository of research for non-university based educational professionals. It

is a seductive tool given that educational leaders and managers at all levels practice in an austerity climate that values certainty and manageability, and given it enjoys credibility from successive UK governments.

Alongside the EEF's 'tookit' approach, there has been considerable encouragement for educational researchers to use empirical methodologies employed within the medical profession (Goldacre, 2013), such as randomised controlled trials, but to follow this to its logical conclusion is to suggest that educational issues are illnesses to which a cure is available. The 'market' and emergence of new kinds of educational institution such as Academies, plus the dispersal of local education authorities, has led to an increased number of and networking between educational social enterprise groups, think tanks, advocacy and private interest groups generating self-styed gurus in all aspects of educational training, behaviour and leadership. These have contributed to 'the constitution of an expansive terrain upon which and through ideas, knowledges and discourses about education can be generated, promoted and transmitted' (Bailey, 2013: 814). In this way, as Ball, 2012:9 notes:

> …the boundaries between state, economy and civil society are being blurred; there are new voices within policy conversations and new conduits through which policy discourses enter policy thinking.

Further examples can be found in the success and popularity of texts such as *Teach Like A Champion* (Lemov, 2010) *and Teach Like A Champion 2.0* (Lemov and Atkins, 2015) which is the textbook for the schools-based training model, Teach First and is increasingly in evidence across ITE's curricula. This text offers a taxonomy of teaching practices and 'strategies' designed to be replicated in all school settings. These play into seductive discourses of the good/ bad teacher, the good/ bad learner, good/ bad behaviour and the

corresponding technique to achieve pre-defined and static notions of such. This is Lemov's (2017) response to issues of complexity in the classroom:

> What do you do when you operate live, in a complex setting, where there are 30 or so students and multiple issues to deal with? The answer is that you automate many of the processes. (Lemov, Interview in InTuition, 2017: 10)

This is a response of 'what works' approaches to lived unpredictability. Visser (2015:12) suggests that whilst,

> …the cult of measurability may try to repel this unpredictability, prioritizing some variables over others…its effects on teachers sees rather the opposite: expectancy, responsibility, workload and the opportunity to fail have all been augmented.

Indeed, the effects are well documented in the research literature around teacher burnout (Perryman and Calvert, 2019, Tapper, 2018), high incidences of poor well-being (Day and Gu, 2007, Lightfoot, 2016) and continuing and substantial attrition from the profession (Perryman and Calvert, 2019, House of Commons Education Committee, 2017). As Williams, (2017, in Perryman and Calvert, 2019:2) notes;

> With the vast majority putting in endless hours to achieve ever-harder targets, there is a greater certainty of burn-out than reward. The current mismatch between teachers' aspirations, interests, strengths and knowledge and the job they are expected to do is so demotivating that it leads to an annual exodus. What needs to be overturned is an accountability system that squeezes the last drop of joy out of day-to-day teaching.

Much of the research actually suggests that automation and the cult of accountability discussed above is a damaging response to encourage in teachers.

The use of positivist and post-positivist epistemologies and the assumptions that statistical findings provide a window to 'truth' and 'validity' has offered UK policy makers and educational leaders the 'evidence' they feel is necessary to support their initiatives and policies, an approach Lather (2004: x) suggests 'infantilizes all other approaches'. St Pierre, (2011) suggests that these positivist and post-positivist epistemologies reflect the Enlightenment principles that currently drive UK education policy-making and educational research. I discuss these further below. Privileged in this way, essentialist empiricist knowledges become fixed and static whilst individual teachers are positioned as autonomous agents or easily measured units of resources/sites of production.

So called 'best practice', transcendent 'truths' are explicated both in many current policies and in ITE literature and increasingly dominate UK curriculum and pedagogical approach and practices. Their dominance creates a homogenising, binary logic to notions of 'best practice', 'what works' and 'teacher effectiveness' which suppose that if we know 'what works' and 'how it works' then we can replicate it across our schools, although this neglects the important follow up question asked by Bogotch, Miron and Biesta, (2007); 'effective for what? And effective for whom?' (in Biesta, 2008:36)

The repeated failure to 'discover' educational and pedagogical truths is because teacher-becoming is an *immanent* process, a contrasting idea to that of transcendence (Taylor Webb, 2013). Immanence is the Deleuze-Guattarian (1987) concept whereby there are endless connections between multiplicitous relationships, upon an infinite flattened plane, making standardisation and 'what works' not only an impossible outcome, but a

problematic one, due to what it denies. Similarly, MacLure (2006:6) suggests the desire and drive for transcendence to be a,

> …state sponsored intolerance of difference and complexity…now part of the story of education policy…I want to argue that there is an obligation upon qualitative research to try and interrupt these clarity-seeking and closure-seeking tendencies. Because what such policies attempt to suppress is education's 'Other' – the pain, conflict, chance, irrationality, desire, judgement, frailty, frivolity and singularity that are also, unavoidably implicated in the rationalist projects of teaching, learning and research.

In the opening propositions, I spoke of the need to find ways to work with teaching's 'complexity' as MacLure (2006) begins to define it above. I want to explore further the notion of the 'complex' and the 'supercomplex' (Barnett, 2015) in relation to the experience of becoming teacher and I want to emphasise the role within supercomplexity for the affective teacher body and the material, two elements absent from the competencies traced by dominant discourse of professional Standards.

Complexity is the situation in which teachers are challenged by a surfeit of sometimes conflicting demands that cannot be met within the resources made available to them in schools. Entities such as class sizes that are too large and too diverse in need, excessive audit and accountability requirements both institutional, national and global, marking, administration, emails, dealing with parents, etcetera. Each of these entities are complex within their own right. Together, these are all elements that interact to give rise to a situation of complexity that can be overwhelming, stressful and can produce systemic and personal overload. Many of these complex issues *could* be resolved with more resources:

more time, more money, more staff, more efficient systems and so on. Supercomplexity, however, cannot be resolved as it is a conflicting, disputed and contested. Barnett, (2015: n.p.) describes it as a

> …form of complexity when our very frameworks for understanding and engaging with the world are in dispute such that personally and in our institutions we have no longer have any clear sense of our identity or our responsibility.

In supercomplex environments, philosophical questions arise about what a teacher is and what is the point and purpose of education, clearly situations which give rise to multiplicities of responses depending on who you ask, when, where and in what context. I also want to extend the idea of supercomplexity beyond a linguistic paradigm to embrace what are agentic in the material and affective dimensions of teacher becomings, dimensions I explore further in part 3.

Teachers experience complexity and supercomplexity simultaneously and they are often hard to separate from each other. As such I refer to their experiences as (super)complex. Teachers experience (super)complexity often multiple times a day (even within the space of one lesson). Any classroom space will be subject to the frustrations brought about by a lack of resources to meet the needs of all pupils, sometimes these will include basic resources to alleviate the impact of poverty and neglect. Additionally, curriculum demands dictate both content and pedagogy and might operate in conflict with a teacher or a pupil desire to go 'off topic', to follow a new line of thought or interest or respond in the moment to an unplanned interruption. Teachers and pupils experience, sometimes simultaneously, affective emotions of joy, fear, exasperation, anger. As well as these larger emotions, the

classroom is also saturated with possibly less obvious 'minor' affects; of boredom, irritation, confusion.

The multiple desires of parents, policy makers, institutions, for children to be educated in particular ways are all present in any one lesson, likewise the demands of accountability and the need for measurable outcomes are ever present in any teaching instance,

…and then it snows.

Or a dying fox limps across the playground,

…or it rains so badly that rats flee from under the mobile huts where teaching is taking place,

…or someone gets stabbed with a pair of scissors.

I am sure any other teacher would be able to add to the list of conditions, drawn from the many within my own teaching experience, that are human, non-human and more than human and that teachers and pupils are subject to interference from in any classroom, anywhere. I discuss rhizomes and lines of flight more fully in part 3, but the classroom can be viewed as rhizomic space, entangled and enmeshed (Deleuze and Guattari, 1987) where '…practices…are enabled through systems of social relations and differentiations constituted by multiple, interpenetrating and layered systems (Alhadeff-Jones, 2012 in Ovens, 2017:43). Additionally, Bennett (2010:2) uses the concept of 'vibrant matter' or 'thing power', inspired by Deleuze and Guattari's 'material vitalism' as an ontological position from which to 'dissipate the onto-theological binaries of life/matter, human/animal, will/determination and organic/inorganic' (2010: x). Here, the role of nonhuman material plays an active role, the material semiotic re-figured to be on an equal plane to the discursive (Haraway, 1994).

This posthuman perspective of 'vibrant matter' and its importance in becoming teacher is one that weaves throughout this thesis.

I want to suggest through these various conceptual frameworks that there are possibilities for ITE to accommodate the (super)complex environments and conditions of becoming teacher with some of the concepts of posthumanism. By 'plugging in', a concept in itself which I discuss below, posthuman concepts such as becoming, matter, immanence, the fold, mapping and assemblage (part 2) rhizomatics and diffraction (part 3) and affect (part 4), I argue that we can position ourselves to think and research the experiences of becoming teacher in more nuanced and ethical ways. I play with the 'how' of working with posthuman concepts and the ethical considerations of these in parts 4 and 5. Biesta (2013) suggests a new vision of education as a 'beautiful risk', a process that accepts a lack of control and one that radically opposes measure and punish policies (Amrein-Beardsely et al., 2015) dominant in neoliberal global education systems and traced onto contemporary UK educational landscapes. I suggest that rather than undertaking the impossible task of taming or ignoring (super)complexity, we use (super)complex conditions as a precondition for creative, imaginative and sensitive responses in both teaching and researching. I go on to explore 'plugging in', folding and mapping as productive concepts to both think about (super)complex landscapes and a means to make more visible the tracings of policy and coding of the 'teaching body' and teachers' bodies that have begun to emerge above.

Plugging into assemblage; folding and mapping

Throughout this thesis I employ the Deleuze-Guattarian notion of the 'plugging in' of 'ideas, fragments, theory, selves, sensations, and so on' (Deleuze and Guattari, 1987:4), as a *process* (Braidotti, 2002) by which this thesis folds and unfolds. For Deleuze (1993:6), the

fold is an active, immanent conceptual space, '…always folded within a fold'. It is, '…always in motion, composing and recomposing without inside or outside, beginning or end. In the movement of the fold disparate elements counter and separate, continuous and discontinuous relations of difference. Within the fold a cut or time-space is made possible' (Sprinngay, 2019:62).

Deleuze and Guattari (1987) conceptualise 'plugging in' as a machinic process that draws on the machinic potential to 'interrupt and transform other machine, other data, and other knowledge projects' (261). As Jackson and Mazzei (2013: 262) remind us,

> plugging in to produce something new is a constant, continuous process of making and unmaking. An assemblage isn't a thing – it is the process of making and unmaking the thing. It is the process of arranging, organizing, fitting together. So to see it at work, we have to ask not only how things are connected but also what territory is claimed in that connection.

For Deleuze and Guattari (1987:4), 'plugging into' is '*the assemblage in formation*'. It is from this description of the assemblage in formation that parts 3 and 4 emerge.

Assemblage

Assemblage is a counter-concept to hierarchy, system and structure. Developed in recent years from the thinking of Deleuze and Guattari, most notably by Manuel DeLanda (2006), assemblage theory conceptualises how any number of components of any kind intersect in dynamic and often unexpected ways, folding and unfolding in multiple directions. As components 'plug' into each other, they produce different and unpredictable relationships.

> In assemblages…you find states of things, bodies, various combinations of bodies, hodgepodges; but you also find utterances, modes of expression, and whole regimes of signs. (Deleuze, 2007:177 in MacLure, 2013: 661)

Assemblages are ontologically 'flat', they and nothing within them (which are also assemblages), have a special status. Assemblages within assemblages can describe varied natural phenomena such as space, seas and also humans, cities, classrooms, computers, ideas.

In the assemblage, components are interchangeable. There is no reliance on either a holistic, totalising understanding where the parts function towards the whole, nor a reliance on the individual component, a concept DeLanda (2006) terms 'micro reductionism'. Instead, components can be interchanged into different or new assemblages when new phenomena emerge to;

> …stand in possible, not necessary, collaboration and retain their (relative) independence…there is no dichotomy between macro and micro, collective actor and single actor, but it is rather a matter of assemblages at different levels; this macro and micro are relativized. (Alvesson et al., 2018:55-56)

The 'emergence' of an assemblage is a productive way of thinking about the (super)complex and multiple configurations possible in becoming teacher outlined above. If we think with assemblage then the entire and changing context of becoming teacher: policies, politics, media representation, schools, parents, classrooms, technologies, bodies, things, affects, austerity etcetera… all come to count, generating new ethical questions which I go on to address in part 3. None of these components is necessarily more significant or privileged in a flattened ontology, but attention is paid instead to what emerges when we live and work

within the assemblage itself. Braidotti (2013:49) defines the post-human subject as being 'within an eco-philosophy of multiple belongings, as a relational subject constituted in and by multiplicity, that is to say a subject that works across differences and is also internally differentiated, but still grounded and accountable'.

How we productively work with something that is so shifting which de-privileges the subject and discursive structures that have been so central in teacher training to becoming a teacher is explored in part 5. This is key, as my argument here is for a radically different ontological position than we currently see in teacher education which offers something new. As Bennett (2010: viii) asks, 'how would political responses to public problems change were we to take seriously the vitality of (non-human) bodies?' When we reimagine the biological body in this way and the social practices within which the body exists as entangled and enmeshed as Barad (2007:170) tells us,

> …bodies do not simply take their place in the world … rather "environments" and "bodies" are intraactively constituted.

An important dimension of assemblages that help us reimagine ITE is territorialisation and de-territorialisation. The first is what holds a teacher- assemblage together, giving it an identity (such as 'teacher'). The latter is the process by which this identity is undermined or falls apart, when we call to account or question the values or practices inherent in the territorialisation. Deleuze and Guattari (1987) propose that whenever de-territorialisation occurs, re-territorialisation always takes place. However, at the point of de-territorialisation, the opportunity for something different and productive is made available to us. This, for me, is what the becoming teacher-assemblage offers us, namely, a chance for moments to pause and consider the ruptures at the points of de-territorialisation, where the stuck and sticking

points in experience occur. When these events are re-territorialised they do so differently within the assemblage, with potentially different understandings. When the subject is de-privileged and de-centered, then a broader consideration of components of the assemblage come into view. Thus, as a way of training teachers, thinking with assemblage would seem to offer richer, more ethical and (super)complex ways of thinking about rich, ethical and (super)complex work. Moreover, if we consider ITE as assemblage then 'no position exists outside the system where someone might see its workings' (Ovens, 2017:40). Multiplicitous theories enable us to confront the 'subject' of ITE as it emerges from all the elements involved in its configuration. If we consider this emergent nature of ITE to be a precondition of its agency, then we problematize essentialist views of teaching. This does greater justice to the (super)complexities of ITE and the rapidly changing and (super)complex nature of 21st century education in the UK. The notion of a becoming teacher assemblage thus, as Pennycook, (2017: 270) suggests,

> …allows for an understanding of how different trajectories of people, semiotic resources and object meet at particular moments and places, and thus help us to see the importance of things, the consequences of the body, and the significant of place alongside the meanings of linguistic resources.

Policy as assemblage

So far in this section, I have explored how aspects of educational policy in ITE territorialise the teaching landscape/environment. What is evident in the exploration of policy is that it too, is an assemblage, a 'recipient of form' (Ulmer, 2015: 1101) where the interactions of elements within the assemblage are constantly shifting. In other words, educational policy is itself an assemblage which, 'responds to currents posed by actants, even if sometimes

reluctantly; as givers of form, actants shape discourse, material roles, institutions, power-relations and policy' (Bennett, 2010:1101). Bennett (2010) uses Latour's actants in place of 'agents' creating a more subject-centered vocabulary, one that includes the non-human and not quite human. She extends the concept of politics as a human affair to non-humans, thus conceptualising policy as an ecosystem of human and non-human actants. Here, 'policy directions and political moods are irreducible to the sum of the propositions of even an ontologically plural public, for there is always the slight surprise of action' (2009:103) Latour (1999), distributing agency (actancy?) to the 'event', suggests:

> There are events. I never act; I am always slightly surprised by what I do. That which acts through me is also surprised by what I do, by the chance to mutate, to change, and to bifurcate. (in Bennett, 2010:103)

As such, we can consider educational policy as a Deleuzian assemblage (Latour calls it the 'collective'), as *agencement*. Here, any given idea can only exist in relation to specific connections, component parts of the assemblage are not fixed or stable but can be replaced and displaced and offer multiple functionalities, then we are in a position to ask different and more generative questions about policy making. Who or what are the actants? Human and non-human, time space, location, affect and context. How are actants shaped *from* policy, and how do they give shape *to*, policy? How do they act as disruptive forces to practices and existing policy? Educational policy only finds traction if it can locate itself within, or in answer to, that which has already been established as a problem. This is helpful in thinking about educational spaces where the frequency of policy shifts can contribute to the overwhelming sense of change and contradictions such as those characterising ITE and education in the UK in the last 30 years. Assemblage is anti-structural and yet acts as a

'structure like surrogate' (Marcus and Saka, 2006:101), allowing us to see policy as more emergent and heterogeneous. As Markus and Saka, (2006:102) suggest,

> …assemblage thus seems structural, an object with the materiality and stability of the classic metaphors of structure, but the intent its aesthetic uses is precisely to undermine such ideas of structure.

Policy production then is an entanglement. It has its own dynamic ecosystem, such as Bennett's 'political ecologies' (2010). This is a helpful way of considering policy in educational contexts in mapping the emergence of policy and its own fragility. For indeed, policy in education often has dramatic effects only to disappear with successive and rapidly changing governments and even small social, cultural and economic shifts. Education policy is also subject to 'interference' from everywhere (Britzman, 2003), even more significantly in the current fragmented school education landscape I described above. Such a fragmented provision has enabled a wide range of think-tanks, philanthropic foundations, corporate and venture capitalist organisations and other advocacy groups to emerge (Ball, 2008, 2012), who are 'often well-funded, politically connected and media-savvy, these organisations regularly seek to influence policy' (Ulmer, 2015:1102).

If we consider policy issues through multiple lenses we offer alternatives to critique of policy that might make it more alive and visible as an ecology rather than engaging in the '(d)iscourses of crisis, disgust and inadequacy (that) continue to circulate in relation to educational professionals' (Ulmer, 2014 see also MacLure, 2003). This seems to offer both a more ethical approach to policy analysis, towards critiques that are 'productive, collaborative and careful' (Latour, 2004, MacLure, 2015, in Banerjee and Blaise, 2018:207), and also a helpful way of considering policy and its effects in practice with neophyte

teachers who, in my experience can see policy as a monolithic and ineffable challenge to counter.

Latour (2004) suggests that academic critique needs to get closer to 'matters of *concern*, not *matters of fact*…directing one's attention *towards* the conditions that made them possible' (2004:231, italics in the original). Drawing on Haraway, he suggests our imperative should be more about care and concern.

> The critic is not the one who debunks, but the one who assembles. The critic is not the one who lifts the rug from under the feet of naïve believers, but the one who offers the participants arenas in which to gather…the one for whom, if something is constructed, then it means it is fragile and thus in great need of care and caution…the direction of critique; not *away* but *toward* the gathering. (Latour, 2004:246)

Mapping and tracing

To continue to understand the territorialisation and topography of ITE through a posthuman lens, I draw further on Deleuze and Guattari's (1987:11) concepts of mapping and their logic of *tracing and reproduction, or 'tree logic'.* The object of tree logic is to 'describe a de facto state, to maintain balance in intersubjective relations, or to explore an unconscious that is already there from the start, luring in the dark recesses of memory and language' (1987:12). The tracing is a reproduction, a copy that is based on an assumption of a phenomenological experience that is as stable, essential and universally experienced. If we think of education policy making as a machine of the State-apparatus, as Deleuze and Guattari (1987:410) might define it, which 'constitutes the form of interiority we habitually take as a model' (1987:412), then in enacting its tree logic structures, it hierarchizes, it is hegemonic, over-

coded and habitual: 'ready-made' (1987:12). It is easy for us to see the ways in which the Teachers Standards (2011c), described above, have become such a model, as have the 'what works' toolkits that have emerged in their wake. Deleuze and Guattari (1987:448) describe over-coding as a kind of territorial organisation which enacts a 'structural violence that defines the law' through its 'binary organisation' (Deleuze and Guattari 1987: 221) or tree-logic. Through the enacting of this kind of structural violence, a State apparatus, (in this case, the policy-making within education), gains the capacity to take significant control of how a collective subjectivity develops and is able to exert power over such subjectivities, such as best practice in teaching. For example, through the normalisation of certain modes, practices, or ways of *being*, e.g. the teacher as technician, the resilient teacher, the performative teacher, all ways of coding the teacher body that I go on to discuss in this thesis. In turn and over time, what is produced through this coding is a process of normalisation, a form of enslavement (Deleuze and Guattari, 1987). Here, subjectivities become accepted as the 'norm' and are then reproduced in practice, in what Deleuze and Guattari (1987) refer to as 'molar' movements. Alternatively, and equally evident amongst the many teachers I work with, a façade of compliance is performed with compromises and micro-subversions as an accepted part of such performances, but which fail to disrupt the deep structures of educational discourse. Ball et al. (2012:50) however, suggest that increasingly the means and resource to counter or subvert or dominant meanings are not easily found, with teachers instead reduced to various forms of 'discontents, murmerings, indifference and disengagements'. What gets reproduced/performed is from within the deep structure of educational discourse and policy making, with its gravitational pull of sameness (Mazzei, 2017: 675) and fixed spatial systems which are revised only in the event of new information to replace or revise the representations. In this way, discourses about teachers code

teacher bodies in particular ways and in doing so ensure that policy, 'is written onto bodies and produces particular subject positions' (Ball et al., 2012:13).

The posthuman

The notion of humanistic 'truths' draw deeply on particular dualistic, rational humanist ways of thinking that Braidotti (2013) argues has dominated Western society for more than 400 years and as such has become so internalised as to become invisible. We accept the either/or ontology of such thinking, desiring the world to be stable and unchanging, with a universal way of thinking/ being and understanding 'truths', what Haraway (1991:189) calls 'the god-trick of seeing everything from nowhere'. Educational truths are associated with the rational, scientific 'objectivity' of 'scientific' enquiry that are favoured in the dominant 'what works' enquiry of teacher education I explored above. As St. Pierre (2000:480) notes:

> Much of the work of humanism has been to define the essence of things, to get at that single, unique factor that enables one to identify something or someone and group it with others of its kind in various structures, thus producing, and even enforcing, order out of randomness, accident and chaos.

St. Pierre (2000) calls the categorisations that desire to 'discover' the 'essence' of any group, as 'shaky' (2000:480). This 'essence' can be understood in terms of Derrida's 'presence' (1974/1967), a representational structure for order and fixed identity. In following a humanist path, '…we are forced to group things/ ideas/ people that are similar but significantly different in the same category' (St Pierre, 2000:480).

In much of the policy regarding ITE and indeed teacher education more widely, we see the humanist imperative to essentialise the teacher, to present a coherent and singular human individual, as I map in part 3 of this thesis. As Bennett (2010: ix) suggests,

> …the philosophical project of naming where subjectivity begins and ends is too often bound up with fantasies of a human uniqueness in the eyes of God, of escape from materiality, or of mastery of nature; and even where it is not, it remains an aporetic or quixotic endeavour.

Kascak et al. (2011:83) describes the current terrain of contemporary teacher training as being shaped at the intersection of humanistic pedagogy and neoliberalism, a result of 'the economically motivated prospects of entrepreneurial education'. The personal initiative, creativity and self-regulation of humanistic aims in teaching is aligned with the enterprising citizenship required for success in broad contemporary economic climates.

I explore this interconnectedness in depth in part 3 when I map the construction of the 'resilient teacher body' in contemporary education and also in the emergence of newer models of practice based ITE with explicit social justice agendas, both of which seek to isolate the individual from all it is entangled with.

Post humanist theories disrupt claims to any universal knowledge, the 'bourgeois I', with its pretensions to autonomy…', instead suggesting that 'humans encounter a world in which non-human materialities have power' (Adorno, in Bennett 2010:16). Here, *plural* knowledges are partial, situated, embodied and located, and interact with methodological conversations about positionality, voice and power. I position myself with Haraway (1988:580) in that,

> I am arguing for a politics of and epistemologies of location, positioning and situating, where partiality and not universality is the condition of being heard to make rational claims.

Being simultaneously committed to situated knowledges and a post-human position where the role of the human is de-centered is not a unchallenging position to think from, particularly where situated knowledges have been a means to ensure that marginalised voices are heard as a practice of social justice 'among very different - and power-differentiated- communities' (Haraway, 1988:580).

However, post-humanism, with its commitment to critical theory and feminism, attends to the ways in which different bodies, human and non-human in equivalence, are subject to forces of oppression and violence. I think this allows us to see marginalisation as a part of (super)complexity, part of how all bodies/actants are politically, and ethically situated within material environments on a local and a global scale.

The logic of binary and its structural desire to present coherent, authorising essence is exposed through the work of feminist materialism, extending as it does the work of post-structuralist thinkers such as Butler, Derrida and Foucault. Spivak (1974: lxiix, in St Pierre, 2000:482) suggests this binary logic works in the following way:

> It is this longing for a center, an authorizing pressure…that spawns hierarchized oppositions. The superior term belongs to the presence and the logos; the inferior serves to define its status and mark a fall.

As we see in well-established and oppressive binaries of man/woman, nature/nurture, rich/poor, mind/body, rational/irrational, etcetera, binaries work to privilege one position, the one placing itself on the dominant side of the binary. Those who uphold the binary tend to place themselves into the fictional, privileged position where rationality, normality, and naturalness (Davies and Gannon, 2005) are proposed to reside. Such binaries, maintained as they are, through the power of those invested in their construction, become a means of

regulatory control. The first term in the binary then represents 'the presence' or the essence, seductive elements for those privileged by them. Also, as we have seen in the case of initial teacher education, seductive for their superficial narrative simplicity and apparent common sense.

As women often find themselves on the less privileged and advantaged side of any binary, these simple structures are troubled by feminist perspectives, which show how discursive and material structures operate to produce and perpetuate myths about how the world works to categorise and name 'what is' for and by men. I explore this further in part 3, looking at how the mythologizing of the often implicitly male teacher body within a repertoire of resilience constructs teachers in ways unhelpful to neophyte teachers, especially female ones. As Deleuze and Guattari (1987:276) note.

> The question is not, or not only, that of the organism, history, and subject of enunciation that oppose masculine to feminine in the great dualism machines. The question is fundamentally that of the body – the body they steal from us in order to fabricate opposable organisms.

We see a number of binaries enacted in policy in the fragmented ITE settings of contemporary UK educational landscapes, e.g. the constructed divisions of practice/theory, school/ University, teacher/researcher. The desire to capture and represent the 'effective teacher' from the 'ineffective' one, with their tool box of successful habits which can be 'taught', as I explored previously with the EEF toolkit, is having, I contend, severe consequences on a profession unable to maintain a viable workforce (Worth et al., 2018).

Difference

Fracturing the binary logics of thinking which have territorialised Western thinking is the idea of *difference* (Derrida, 1967) through which 'the materiality of the body was claimed as a political substance, a marker of differences through which power relations take effect' (Hinton and Treusch, 2015:2), and a binaried, dialectical pattern of thinking is rejected, as Braidotti, (2013: 27) notes;

> …where difference or otherness played a constitutive role, marking off the sexualised other (woman), the racialized other (the native) and the naturalised other (animals, the environment or earth).

Braidotti (2013:28) goes on to argue that such pejorative 'otherness' induces 'structural ignorance' of anyone who exists outside the 'norm'.

I quoted MacLure (2006) above as suggesting that difference is suppressed by state sponsored thinking in education and I want to propose the concept of difference as an important position from which to counter the sameness and conformity and singular construction of teacher 'identity' we see being traced through current UK educational policy as described above. Indeed, Taylor-Webb (2013:171) suggests that difference is helpful in thinking about teacher-becomings,

> …rather than perpetuating a discussion about what teachers ought to be. It might be the case that teachers overcome repetitive (and repressive) forms of identity - for instance, "ineffective" – to explore a creative process of becoming and transformation. To my mind, this sounds a lot like what education could be - an experiment in difference rather than an adherence to the same.

Beyond the realm of ITE, understanding difference in punitive, binary terms is 'ethically questionable' (Strom et al., 2018:4), imposing thought that whilst constructed as neutral

and universal is specific to the features and location of dominant human groups (Western, male, white, heterosexual, able bodied).

There is, therefore, an ethical imperative to refuse a single narrative around teaching and 'essential' teacher identity. Rather we must have a profession that truly celebrates diversity. As St Pierre, (2000:480) notes,

> …the desire to fix (this) essence is dangerous…all the identity categories – race, class, gender, sexual orientation, age, wellness, etc…, must be taken into account when we think about people's lives…a person is the "intersection" (e.g Crenshaw, 1995) of these identity categories; thus race or wellness at different times might be as important to someone as gender. (Feminists') concern is that once differences are erased by identity, people can more easily be slotted into a hierarchy or grid and then manipulated, dismissed or oppressed.

Whilst ITE might wholly reject the idea that it does not celebrate such diversity, the 'data' from participants of the research in part 5 of this thesis contests this position as much as the emphasis on the Teachers' Standards discussed above could be said to encourage a reductionist drive towards sameness. Stronach et al. (2002:17) describe a 'false singularity' that comes from teachers reducing the multiplicity within and between individuals in order to deliver in practice the micro prescriptions imposed by professional standards and other accountability measures.

In Part 3, I map how elements that shape the milieu in which neophyte teachers' experiences and subjectivities are produced and positioned through a 'rhizo-mapping'. This begins to put into practice some of the posthuman concepts I have explored above, using mapping for its potential for seeing difference, for disrupting normative ways of seeing and

thinking about what matter in teacher education. As Robinson and Petchenik (1976, 37-38) write in The Nature of Maps,

> (a) map does not converse in sentences. Its language is a half-hearted rumour, fractured, fitful, non-discursive, non-linear … It is many-tongued, a chorus reciting centuries of accumulated knowledge in echoed chants … A map provides no answers, it only suggests where to look.

In this more playful and less linear manner, I map a model of ITE that constructs the teacher body as a heroic survival body, equipped with a repertoire of survival characteristics. I map how one of the newer models of schools based ITE, Teach First, is mobilised and marketised and can be seen as a neo-liberal response to educational agendas of social justice and how this constructs particular ways of being teacher. If in part 2 I have explored what traces ITE's landscape, in part 3 I plug in 'data' from media, policy, recruitment and single narratives of neophyte teachers and theory to figure another map of contemporary ITE, one that attempts to bring the teacher body more clearly into view. Together with my 'data' reading in part 4, it is more untraditional in form, but I take on the encouragement of Ringrose and Renold (2014: 264) when they say,

> …we would like to encourage qualitative researchers to think about answers to research questions as multiple images of beginnings, entry-points, as an entrance to the ongoing dialogue, not an exit or the ending of research. Intertextuality, reflective readings, thinking with philosophers and theory, focus on images and different ways of knowing might avoid us feeling trapped and controlled by fixed and essential questions.

Part 3: Rhizo cartographies

The uncertainty of teacher education: mapping lines of articulation through enduring myths and regulatory policy

In part 3, I use cartography as a means of flattening the 'data', using rhizomatics (Deleuze and Guattari (1987) to produce 'rhizo-maps' and 'rhizo-readings'. I begin with an exploration of rhizomatics as a means of reading 'data', a term I began to problematize in part 1 and continue to explore in part 4, as part of a posthuman enquiry; an attempt to read across multiple relational levels and systems simultaneously, at a global, national, institutional and local level. A number of rhizo-maps and rhizo-readings follow here and in part 5.

I start with an exploration of the functioning of mythology to illuminate the emblematic figure of the teacher emerging from part 2, and map this against a deconstructive reading of a government teacher-recruitment advertisement. The gendered, 'survival' body of the teacher emerging from this is read through a 'resilience' repertoire; a discourse pervasive in the contemporary educational landscape. Alongside and through each of these I plug in some of the 'data' of the participants of this study: single narratives and images of the experiences of neophyte teachers. Some of these images, collages or thumbnails from collages are accompanied by participants' own reading of their collages. At other times, the images simply sit on the map, an alternative, visual reading. The participants all trained to teach with Teach First, and I map the rise of this model of ITE as a contemporary policy response and a technology of power to macro issues of social injustice and inequality and as an embodiment of an entrepreneurial education demanding a self-regulating, rhetorical subject, as discussed in part 1.

What emerges from this map of ITE illuminates some of the contemporary uncertainties, contradictions and fragilities inherent in becoming teacher and therefore some of the conditions of possibility.

Rhizomatics

Like assemblage, rhizomatics is a way of reading the world as entangled and enmeshed Deleuze and Guattari (1987). I use rhizomatics alongside the concept of diffractive reading (Haraway, 1997, Barad 2007, Mazzei, 2014) which I explore in part 4, as a way to map otherwise the landscape of ITE. These are concepts that *map* rather than trace. Unlike the hierarchical, tree-logic (arborescence), I explored in part 2 which encourages binary choices and dualistic categorisations, the rhizome sends its roots out in multiple directions. Where

the trees' organisational structure looks for a conclusion by charting causality along chronological lines, the rhizome works with planar connections, 'open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification' (Deleuze and Guattari, 1987:12). Continuously spreading and self-replicating, the rhizome favours more nomadic and trans-species connections. In other words, it is tolerant of hybridity, of connecting two or more different species (Deleuze and Guattari use the 'orchid and the wasp', 1987) to form a unit that is in itself multiple: a multiplicity. One of the defining characteristics of the rhizome is that it always has multiple entry and exit points rather than always returning to the same. It is a concept that views learning as messy and unbounded: a useful way to think about becoming teacher.

I make use of the concept of rhizomatics in this thesis in my use of *rhizo-mapping*. Rhizo-mapping puts to work Deleuze and Guattari's (1987) method of cartography I outlined in part 2, and Barad's (2007) concept of diffractive reading as a way of mapping data from multiple and heterogeneous sources, of seeing what is made when we put one 'data' fragment with or next to another. I call this making of new maps rhizo-mapping, in an attempt to make visible its movement and temporality.

Rhizo-mapping is not interested in 'competence', points that fix and define; placing markers at strategic points to describe *this is what teaching is…this is who a teacher is…this is how learning is defined*. Mapping is a process concerned not with how things *are*, but with how things *become*. Kitchin and Dodge (2007:335) discuss mapping as being 'ontogenic' in nature; that it is 'of the moment, brought into being through practices (embodied, social, technical); that mapping is a process of constant reterritorialization' (2007:331). Martin and Kamberelis, (2013: 671) describe this process.

> In drawing maps, the researcher works at the surface – creating possible realities by producing new articulations of disparate phenomena and connecting the exteriority of objects to whatever forces or directions seem potentially related to them.

Mapping, creating cartographies in this way offers a way of thinking with various modes of 'data', and this was particularly important to this study to acknowledge the many influences and interferences that stratify and striate the field of teaching. As such, personal narratives sit alongside media narratives, alongside theories, alongside policies.

Rhizo-mapping is, 'performative, participatory and political' (Crampton, 2009:840). The elements I map below are some of the problems of ITE. They seek to explore what and how things behave, not who and why, although this is often a difficult question to escape. Here, inquiry is provoked by problems produced by 'territory and the earth' (Deleuze and Guattari, 1994:82), for which concept creation is the response. Concept creation as responses to the problems, create rhizomes that territorialise, de-territorialise and re-territorialize upon an infinite, flattened plane, the Deleuze-Guattarian concept of which I explored in part 1. There is not a charting of closed and fixed systems. Instead, these are 'open systems that are contingent, unpredictable and productive' Mazzei, (2017:675). Mazzei further describes it as,

> …inquiry as emergent from thinking with concepts. Thinking that happens in the middle of things, in the threshold, in our analytic practice thinking with theory.

To begin with a concept, '…the contour, the configuration, the constellation of an event to come' (Deleuze and Guattari, 1994: 32-33) is to begin to de-territorialise habitual ways of looking and seeing.

> We will never find the sense of something (of a human, a biological or even a physical phenomenon) if we do not know the force which appropriates the thing, which exploits it, which takes possession of it or is expressed in it. (Deleuze, 2004: 256)

By thinking with rhizomatics, the 'certainties' of ITE are destabilised. Territories are expanded to allow for a consideration of how becoming teacher might be otherwise imagined to allow for many multiplicities, pluralities and proliferative ways of thinking to be at play:

> …there are no points or positions in the rhizome, such as those found in a structure, tree or root. There are only lines… (which may be) …shattered at a given spot, but will start up again on one of its old lines, or on new lines. (Deleuze and Guattari, 1987: 8-9)

Rhizo-mapping allows for possibilities for becoming teacher and for thinking anew. 'Becomings belong to geography, they are orientations, directions, entries and exits' (Deleuze, 1987:2). It allows for opportunites to 'follow the rhizome by rupture', the 'lines of flight' and in doing so 'Increase(s) your territory' (1987:10-11). 'Lines of flight' is the translation into English by Massumi (1987: xvii) from Deleuze and Guattari's concept '*ligne de fuite'* where *fuite* captures a sense of fleeing, flowing, leaking and disappearing. Lines of flight offer the possibility of escape, of the elusive moment when change might occur. I argue strongly that ITE needs new territories to think about its own processes and becomings and about the opportunities for new lines of flight to connect and intersect with what is already appropriated and articulated about being a teacher. This is useful for thinking differently about becoming teacher, making visible the tracings on the map so that

there are possibilities to question and disrupt such tracings. Rhizo-mapping does not replace the tracing, instead, new maps territorialise, de-territorialise and re-territorialize concurrently.

The rhizo- map then, has the potential to offer a means to read the world, and ourselves differently, every time the map is visited. It has the potential for creative, radical and transformative thinking about becoming teacher which acknowledges a world in which the human and the non-human 'slip-slide' into each other (Bennett, 2010:4). The rhizo-mapping of teacher education here and in part 4 is non-linear and heterogeneous and offers a way of de-territorializing the traced topology of the landscape of ITE.

Rhizo reading part 1: The functioning of mythologies

Roland Barthes (1957) considered myths to function as second order semiotic systems, taking a sign that is already constituted and turning it into a signifier. Thus the teacher striding forth followed by a line of children in a teacher recruitment advertisement (DfE, 2018) denotes both the event of teacher leading a class but also signifies something else: the teacher as figurehead, progressing and forging the pathways for children's futures.

Here in Part 3 of this thesis, I map this construction of teacher as figurehead, as hero, as autonomous 'master' and problematize the ways in which these constructions are mobilised in 'character and resilience' traits valorised within wider contemporary capitalist cultural discourses and educational discourses. Reading policy discourses rhizomatically with media and personal narratives from trainee teachers, a host of bodies are unearthed: 'resilient', 'gritty', 'self-directed'; trained to cope with and put up with a precarity assumed to be at the core of our contemporary times. Teacher bodies positioned to strive for relentless 'progress' and 'mastery' as imagined in enterprising and entrepreneurial discourses within educational

institutions in the early 21st century and within the contemporary 'turn to character' (Allen and Bull, 2018) or to the 'psychological turn in neoliberalism' (Gill and Orgad, 2018:1). Kascak et al. (2011) considers that, 'autonomy is no longer embedded in the discourse on natural freedoms and rights, but is becoming an *imperative* in terms of the established economization discourse' (2011:75, my italics). In the collages produced by participants of this study, the making and re-making of the teacher body emerged across multiple images in multiple ways: shaped and carved, fragmented, distorted and often made other than human, producing the body in surrender, drowning and simultaneously striding robotically forth combined into a single image alongside heroic, battle bodies.

Rhizo map 1: teacher bodies (thumbnails from collages)

Thumbnail from collage (participant H)

Thumbnail from collage (participant I)

Thumbnail from collage (participant EP)

Thumbnail from collage (participant V)

Thumbnail from collage (participant C)

Thumbnail from collage (participant S)

As meta-languages, myths conceal the ways in which signs are constructed. Motivated by the analogies they draw upon in order to carry particular meanings. They strip language of the political, social, historical ways in which construction of meaning takes place and replace these with a sense of meaning as if it were a social phenomenon, a 'because it is – ness' that presents as if it has always been the case. Myths serve a contradictory function in that we are both aware of them as myths but also live them out as a 'language for codifying what a culture values' (Britzman, 2003:30). As such, in deviating from the values inherent in myths, we deviate from our cultural norms. Myths, as Britzman, (2003:30) tells us,

> …make available particular discursive practices that position situations as given without the quality of contingency, its form asserts as stable meaning despite unstable context.

This stability, the fixing of or freezing of mythic signs makes them appear absolute and devoid of their history and reduces their complexity to a few definitive traits. Barthes (1957) reminds us that myths are seldom 'read' but instead are 'received'. To understand myth only requires certain shared cultural knowledge, and in the case of advertisements, or values which correspond to the resonance of this knowledge. Like Althusser's (1972) concept of interpellation, myths about teachers constructed through both policy and the media, 'hail' new recruits with an ideologically based construction of identities and teaching and learning in which they (mis)recognise only the values made available and being valued as essential to teaching and a teacher's identity and practice. This constitutes their subjectivation as teachers.

Writing about higher education but equally applicable to schoolteachers, Masschelein and Simons (2002:600) suggest that there is a *specific* interpellation subjectivating teachers for 'a final stake of survival'. They suggest that this is done by addressing teachers 'in the first place as separated and isolated from each other… (where the) constitutive dependency of others is obfuscated' (2002: 602). Thus the teacher is positioned as a solitary figure, personally and wholly responsible for their interactions with pupils and who must therefore identify with attributes necessary for surviving this sole responsibility. As Ball, (2015:42) notes.

> Social and education policy are becoming focused on individualism…ultimately it leads to a situation, as Beck says, 'where people have been removed from class commitments and have to refer to themselves in planning their individual market biographies'. This tale of self –determination is of course an engine for particular inequalities. Those deemed unfit for these conditions of freedom are subject to

> interventions for remediation, and enforced activation. Within welfare social policies those interventions will be aimed at cultivating appropriate personal attributes such as self-esteem, self –confidence, self-motivation, ambition and efficacy.

Teach First, a model of ITE I explore further below, mobilises discourses of individual responsibility for issues of social justice as part of their recruitment. As such, I map the mythologizing of teacher bodies alongside Teach First as a 'technology of power' (Foucault, 1998). The hierarchical ideological positioning where certain policies are given the status of 'expert knowledge' in ITE suggests a new narrative is normalising across ITE's terrain. In addition to the 'hero' teacher body, we have the valourisation of the autonomous, resilient, responsibilised teacher body. Within a framework of social justice, where Teach First positions itself, the hero/victim narratives extend from the teacher body to the bodies of pupils and communities they serve, even to the extent that they suggest a responsibility for the redress of structural inequalities that affect pupil bodies. The 'good' teacher who emerges from these dominant educational ITE discourses is the one with the commitment and characteristics needed to become a Teach First teacher, creating a false equivalence.

What is mapped within these constructions of this autonomous, heroic, socially just teacher body is the teacher body made precarious. In practice, this precariousness emerges in the high levels of poor wellbeing, mental health issues and 'burn out' to which the individual teachers' narratives and images here speak. A map of precarious bodies in uncertain spaces make visible some of the problems of contemporary ITE with its increasingly high attrition rates and suggests multiple ways of reading the conditions for these.

Rhizo-map 2: Mythologizing the hero-teacher body: a deconstructive reading of the Department for Education's (2014) recruitment campaign: 'Teaching. Your Future: Their Future' (DfE, 2014a). (See Appendix A for a transcript)

A man strides swiftly through a room, so swiftly he blurs the backdrop of young people looking at works of art who are slightly out of shot so our attention is never lost from the protagonist. He seems familiar… what memories and associations is he stirring? He is young but not too young, smart, the kind of hanky-in-top-pocket smart. What is that? A hearkening to simpler, more old-fashioned times?

A charismatic young teacher associated with tough yet compassionate attitudes to school children. Stepping into the advert from his TV role, the 'fly on the wall documentary' about life in an inner city secondary school: Educating Yorkshire. It isn't hard to remember how ambitious he was, leadership role by 30, how instrumental he was in building the confidence and esteem of the child who stuttered. How he drew on the every(wo)man experience of watching a film which he then used creatively, inspiring his classroom practice. A heart-warming journey which 'reminds us that teachers perform acts of minor heroism every day in schools across our land' (Manzoor, 2013). As an audience, we are interpellated, in the Althussian sense, into these broader stories. Mr Burton, simultaneously real and not real, is a symbol of individual courage and adversity against the odds. Important for these difficult times, perhaps? The answer to the question which appears on the screen 'what do you think a good teacher makes these days?' is surely captured in the figure of Mr Burton.

These days?

He continues his fast walk, through computer rooms, the library. All the students have their backs to us until he enters a classroom where a teacher is in full flow. The children face us

now but with their heads down, diligent in their rows of desks. At the very moment Mr Burton says the word 'clicks', a child's hand shoots in the air. The child becomes visible for the first time, but only in eager response to Mr Burton's command. The journey continues, through the engineering workshop (important for training children for STEM careers), and it does look exciting working on a real car, although I am doubtful this is replicated in many of our state schools. Through the sports hall, the laboratory. As Mr Burton passes a female colleague, his eyes directly on us, provocative, a flame leaps from her hand, "whoa!" exclaim the children in awed unison. Even full classrooms are a place for desire.

There is something of the superhero about Mr Burton (perhaps the handkerchief is a mini cape?) It brings to mind Ahmed's (2000) 'clean body' of the 'privileged subject' (2000:93). The 'Superhero', a figure closely aligned with violence and hegemonic, stereotypical depictions of masculinity (Holland, 2003). The teacher body constructed here surely does some of this work? The domination of the frame, the striding purposefully, the no-nonsense presentation of achievement and ambition. The rhetorical direct address. The provocative eye contact as women and children respond on command, spontaneously combusting, no less, belie the modernity of the setting with its up to date technologies and open learning spaces. This teacher is gendered, this survival body is masculine. This might be a teacher we know works in unconventional ways, but there is simultaneously something more conventional and patriarchal at the core here.

His march concluded, Mr Burton opens the door to the secret space of the staffroom to invite us in. We can go in virtually if we want to discover more stories of teaching, if we are tempted. The financial incentive for doing so is in front of us. 'A good teacher makes more

than you think'. Up to £65K as a great teacher comes onto the screen. I am not sure about this. I think this might be hiding some truths about pay and conditions.

Rhizo-reading part 2: mythologising hero-teacher bodies.

Such explicit positioning of teaching as a project for and of the self is a discourse mobilised by the Department of Education (2014b) in their '*Get Into Teaching*' campaign (2014 to date) as described above (see Appendix 1). As decoded textual artefacts, teacher recruitment advertisements like this illuminate the ideological discourses 'constructed out of local histories, cultures and politics…out of economics and expediency…' (Maguire, 2014:777). Posthumanism's genealogy owes much to the poststructuralist theorists (Foucault, 1977; Butler, 1997, 2004; Britzman, 2003) and Foucault's theories of technologies of disciplinary power (Foucault, 1998) constituting the neoliberal subject are useful tools to think with here. Foucault's 'expert knowledge' is produced in that which is hierarchized, yet set up as being the 'standard'. As Britzman, (2003:30) notes,

> Discourses authorize what can and cannot be said; they produce relations of power and communities of consent and dissent, and thus discursive boundaries are always being redrawn around what constitutes the desirable and the undesirable and around what it is that makes possible particular structures of intelligibility and unintelligibility.

In the discursive enactment of education policy as a technology of power, the notion of an 'ideal' teacher is produced and constructed. Once 'expert knowledge' about what constitutes a 'good teacher' is established, discursively, all other aspects of teaching practice are in conversation with this, all teaching 'identities' are constructed relative to this. Occupying a privileged position in the field of power relations, the 'good' teacher is what is

'produced' and demanded by the technology of power. To be acceptable as a 'good' teacher then, requires teachers to align with this construction of 'expert knowledge', to be part of this dialogue (however reluctantly) and perform its demands. However, the necessity of being in dialogue/aligning with the expert knowledge constrains any possibilities for becoming teacher otherwise.

The government's recruitment advertisement above produces an 'ideal' teacher body in all its contradictions and slipperiness. In it, the 'ideal' teacher body is creative and inspiring, heroic and masterful. It is a 'survival' body re-fabricated for 'effectivity rather than honesty' (Ball, 2015:44) and it is central to the teaching 'success' I explored in part 2.

Larson (2009:208) critiques notions of teacher centrality as 'one of the most revered and abiding cultural myths associated with education. The assumption that the key to educational success lies with the teacher', however by keeping our eyes fixed upon the teachers, we are easily distracted from the more complex socio-cultural, economic and political factors which influence learning and impact on teaching. Or from interrogating the unique and constantly shifting nature of each and every school, 'shaped by their histories, size, type, location, student intake, parental involvement, family culture, resources, leadership and teachers' (Larson, 2009: 217; Sammons et al., 1995). As Larson (2009: 218) goes on to suggest.

> Perhaps this is precisely the intent, as deflecting our gaze away from more complex societal contexts, issues, processes and structures to the individual teacher makes it easier to deal with educational 'problems' in immediate, quick-fix, manageable and efficient ways.

I outlined in the opening propositions how, despite a great deal of pedagogic rhetoric, austerity and economic factors were dictating the policy trajectory of 'teach quick' training and its associated pedagogies, it is possible to see it emerging as a political ideology focused on the responsibility of the individual. How this is traced onto teachers' bodies is explored below.

Rhizo map 2: Collage. ***Showing up is not enough: Partcipant Z (trainee teacher, Teach First)***

It has been a choppy year, hence the waves and storm clouds. All the people in my picture are hiding their faces because like me they are exhausted or things have come crashing onto them like in the box image. This also relates to me moving mid-year twice but was also the endlessness of everything you had to do. Some days I felt like a zombie just going through the motions. It was actually easy to do this because we were preparing for SATS for practically the whole year. They were the only thing that mattered and I was terrified they wouldn't do well and it would all be my fault! I didn't exercise or eat healthily and this is something that has always been important to me. I gave it this title because you don't appreciate how much it is going to take from you physically and emotionally. I was just going through the motions but this added to my stress. The boy in the sea is also stressed and hiding his face which is how I felt the children felt. At the side are all the things I need and want to do: more exercise to help me feel happier, healthier and less like a zombie every day!

Rhizo- reading part 3: mythologising hero-teacher bodies, the 'resilience repertoire' (Burman, 2018)

The personal narrative above (rhizo map 3) reimagines the 'clean' body of Mr Burton as a 'zombie', going through the motions of teaching and simultaneously staggering through the day. The 'mattering' of SATS (Standard Attainment Tests) and the associated fears of failure creates a more vulnerable set of bodies, of both teacher and pupils. S's desire to health and fitness and the associations with happiness and to not being a 'zombie', keep the figure of Mr Burton, our 'ideal' teacher, as a spectre in the personal narrative, who reminds us of the 'expert knowledge' about what being a good teacher is.

To survive teaching, so the mythologizing goes, takes particular character traits. In particular those of 'resilience' and its associated repertoire (Burman, 2018): adaptability, positivity, flexibility, grit, mastery. Evans (Pollard, 2014:198) considers 'resilience' the 'lingua franca of our age' and its prevalence in educational discourses for teachers and pupils is matched by its prevalence in popular culture and the workplace in general. Gill and Osgood (2018:1) regard it as 'a quality demanded and promoted by public policy in the context of austerity and worsening inequality…(and) as a central term in popular culture in genres such as self-help literature, lifestyle magazines, and reality television, as well as in a burgeoning social media culture focussed on positive thinking, affirmations and gratitude'.

In 2014, an All Party Parliamentary Group launched a 'Character and Resilience Manifesto' (Paterson et al., 2014) which described 'resilience and character' not only as necessary for success both in school and in the workplace but also as the 'missing link' (4) in social mobility. Defined in the Manifesto (2014:4), social mobility is,

> …. a belief in one's ability to achieve, an understanding of the relationship between effort and reward, the patience to pursue long-term goals, the perseverance to stick with the task at hand, and the ability to bounce back from life's inevitable setbacks.

The Manifesto further suggests that developing these traits could be instrumental in '… narrowing the unacceptably wide gap in life chances between children from different backgrounds' (4). The recommendations, significantly directed at changes in education and school-level policy, '…will require inspiring people from all backgrounds to change their perceptions of themselves, what they can achieve and their relationship to society at large' (6).

This, according to the Manifesto's line of thinking, is the work one does on oneself, that closes the gap in educational achievement, using a 'resilience repertoire' as the tools with which to undertake this change. I return to this mobilisation of 'resilience' to 'close the gap' below in my discussion of Teach First.

The Manifesto's policy recommendations include 'character and resilience' training in Initial Teacher Education (ITE) for new teachers and Continuous Professional Development (CPD) for established teachers. It also recommends a more explicit recognition of these traits within the inspection framework for schools, 'to encourage a refocusing of schools' policy to ensure that the development of character and resilience and associated skills move from the periphery to become, as it were, the 'core business' for all schools' (2014:35).

Not surprisingly, discourses of 'resilience' are increasingly common in schools and workplaces. As a concept, it is slippery which enables it to be put to work in a multitude of ways. Ahmed (2004) suggests that as an idea, resilience has a conceptual 'stickiness' in a multitude of aspects of popular culture as well as the workplace. This is due to its ideological

'fit' with discourses of the enterprising neo-liberal subject for whom success is simply a matter of the hard work of the individual, available to anyone prepared to put the work in. Gill and Orgad (2018) suggest 'resilience' has a flexibility and elasticity that allows it to be mobilised readily and seductively as a desirable characteristic. In schools, as in wider aspects of popular culture, it is often used in close proximity to concepts of self-esteem, wellbeing, inspiration, creativity, self-assurance, self-control and ultimate personal success. Brinkmann, (2008 in Kascak et al., 2011:75), agrees.

> Concepts such as independence, creativity and autonomy are now being used...within a new context. The emancipative enlightenment content of these concepts has been lost. The positive connotations of these concepts are used to activate and manage individuals in the efficiency model.

Thus humanistic attributes become part of an entrepreneurial education policy landscape. Kascak et al. (2011:83) suggests they 'represent two sides of the same coin in the current era of UK educational reform and are complementary tools in implementing identical political aims'.

Such self-regulatory ideals have the potential to function to reduce the complexities of teaching and tame the teacher body into becoming a repository for this resilience repertoire, as Nitis (2015:116) notes.

> The rhetorical Subject responsible for their actions has been posed in central humanistic disciplines, from law to literature as the unquestionable doer, implying the possibility of self-mastery.

Resilience is positioned as an *obviously* desirable trait for teachers. The fact that as a shape-shifter, it is also easy to meme and sloganize into seductive visual analogs that work across

personal and professional spaces, means it is easy to spread widely and through multiple communication platforms. Resilience is presented as a problem solved in the sense that therein lies the personal salvation needed to survive teaching. Resilience has become commodified, making teachers feel a necessity to acquire it and a feeling of failure when they don't possess or demonstrate it. Within school cultures dominated by accountability, the resilience repertoire has become part of the self-evaluation that colonises professional and personal lives, leading to a situation where, as Miller and Rose (1994 in Kascak et al., 2011:75) suggest.

> If the following have not been identified in an individual: being able to take the initiative, adapt, be dynamic, be mobile or be flexible, then this is seen as a sign of an inability to be a free and rational subject.

Alongside the continual 'betterment' of the self, where 'we are expected to make the most of ourselves – to be creative, innovative and entrepreneurial' (Ball, 2015: 41), the notions of a 'totally pedagogised society, wherein learning takes place indefinitely' (Ball, 2015: 41) is simultaneously demanded. The permeation of such 'learnification' (Biesta, 2010), creates a paradigm shift from teaching to learning. The subsequent discursive shift (Biesta, 2005, 2006) makes 'learning', for pupils and teachers, an endless decontextualized and individual practice. What this means for teachers is that there are few resting points for the kinds of reflexive practices based on contextual, communal and situated practices to act as a counterpoint to decontextualized learning 'outcomes' and their associated characteristics. The resilient body becomes 'a regulatory ideal, part of a distinctive set of qualities and dispositions deemed essential for neoliberal life' (Gill and Orgad, 2018:3).

Ways of mobilising the resilience repertoire are slippery, and are (mis)applied as desirable traits of the economic subject, where resilience becomes '…a means to train people to cope with stress, bullying, overwork, and precariousness…' (ibid, 2018:2). In this context, the resilience repertoire's intersection with health and well-being discourses, correlates professional 'control' in challenging circumstances with 'self-control' of the healthy body; e.g. 'taking time for yourself', 'taking back control'. As such, physical fitness becomes empowering and a further means of survival, as we can see in the rhizo maps 2, and 4 (below) … 'you have to be fit physically and emotionally for this job' (Participant JS) but also one with some inherent instability as the balancing 'strong-man' of participant F's 'Walk the Plank' collage (Thumbnail):

Rhizo map 3: Walk the Plank (thumbnail) Participant F

Han (2015:8) characterises our contemporary society as 'an achievement society', a reimagining of Foucault's (1977) disciplinary model where citizens are 'no longer "obedience-subjects" but "achievement-subjects." They are entrepreneurs of themselves'. Unlimited positivity in the face of adversity becomes the modus operandi, an 'unlimited…Yes, we can…' (Han, 2015: 9). Foucault's work (1977:217) exposes the ways in which human bodies are disciplined, normalised, controlled and ultimately rendered disposable and replaceable by micro and macro political techniques; producing through

cultural practice what is experienced as 'natural'. Han (2015:8) suggests that Foucault's model is rendered 'archaic' in our contemporary condition. Now, features of the disciplinary model, '…Prohibitions, commandments, and the law are replaced by projects, initiatives, and motivation. Disciplinary society is still governed by *no*. Its negativity produces madmen and criminals. In contrast, achievement society creates depressives and losers' (2015:9). However, I would argue being an achievement or a discipline subject, still depends on who you are and the resources you have available to you, and this is especially the case within the context of ITE. Those who are unable (or unwilling) to play the 'achievement' game are still subject to disciplinary processes. This is as true for individuals as it is for some institutions. For example, 'failing' schools and 'failing' teachers become subject to disciplinary interventions that demand all compliance be evidenced in narrowed curriculums, performance management and observational practices which are focused on managing outcomes in the narrowest sense (i.e. examination results). Both the disciplinary and the achievement model co-exist and the extent to which one is, individually or institutionally, subject to one or the other (or indeed both), is linked to factors that are social, cultural and economic.

However, the prevalence of anxiety, depression and poor wellbeing amongst teachers are, in educational discourse as in wider discourse, the *consequence* of a lack of resilience, an inability to be flexible enough to the impossible demands of the modern world. Rather than its lack being a result of unrelenting pressure, causality is inverted: we cannot cope because we are not resilient.

Rhizo-map 4: Participant J (Trainee teacher, Teach First) Thumbnail of collage and reflective account.

I felt so out of control. At first this was just because everything was new and there was so much to take on board. Then I stopped being able to take anything on board. We went to the session at the conference on growth mindsets and it made me feel useless….it all spilled into my every aspect of my life including my relationship with my girlfriend. I knew it was all wrong but felt it shouldn't have been…it should have been easier and it was my fault. My mentor was getting more and more frustrated with me and kept saying I told you that last time and she was right but everything was too much and I couldn't make any sense of it…too fast and too slow at the same time.

Rhizo reading part 4: Resilience and its companion ideals.

Resilience and its companion ideals, traced onto teachers' bodies, of adaptability and a willingness to embrace a positive mind-set requires negative experiences and crises to be re-framed as character-building and overcome and conquered. Gill and Orgad (2018:8) suggest that, 'one of the fundamental works that resilience discourses perform is the silencing of critique of structural inequality' (2018:8). Burman, (2018), takes this a step further, suggesting that the precarity of our economic and political conditions are rendered through resilience and associated 'character education' discourses as traits and characteristics to be worked on by individuals, not through collective political action for change. As such, the social context, the systemic violence; social injustice and economic

inequality is obscured or rendered invisible (Žižek, 2008) and what remains is the necessity for the 'character/ values projects' we currently see mobilised in so many schools for pupils as well as the resilience discourses of ITE for neophyte teachers.

Burman (2018) critiques the Manifesto (2014), which draws on the contribution of Teach First participants as part of its evidence base, for such socio political obfuscations. In doing so, 'resilience and character' discourses are deployed to 'further the contemporary moral doctrine of inciting voluntarist optimistic subjects, devoid of attention to class, gender or racialized inequalities' (2018:1). We might consider that, when recruiting new teachers, to assert that their personal contribution will have an impact on social justice without a reasoned consideration of the multiplicities of how social injustices come about is problematic, particularly given that Teach First work in communities of often multiple disadvantage. J's (rhizo map 3), talk of shutting down, his own turmoil and violence, and the 'failure' of his resilience, his 'useless' enacting of a 'growth mindset' is symptomatic of how complexities are actually experienced in practice. The (super)complexity of his experience, articulated as, 'so much to take on board' is directed inwards, altering his experience of time in ways that add to his experience of internalised emotional confusion.

If we allow the teacher body to become resilient hero unproblematically, then we render the landscapes of their work as both dangerous and precarious. Evans (Pollard, 2014: 197) suggests that there has been, in social and cultural imagination as in educational imagination, a 'slow shift towards…the topography of endangerment'. That the future can only be imagined as 'a terrain of unending catastrophes' that impact significantly on how we understand young people in schools and upon the 'pedagogical imperatives of the educational system' (Evans, Pollard, 2014:197). Butler (2004, 2009), also considered

vulnerability, precariousness and crisis to be an emerging ontological position. Nearly a decade later, we might consider that this position is not so emergent. In *Nervous States* (2019), Davies suggests that the binaries of mind and body, war and peace, have lost distinction in our current age. New forms of violence, by non-state groups and in cyberspace are streamed in real time into our lives. Alongside our increased understanding of neuroscience and the role of emotion and physiology in decision making means that, 'our condition is one of nervous states, with individuals and governments existing in a state of constant and heightened alertness, relying increasingly on feeling rather than fact' (Davies, 2018 n.p.)

It is perhaps important to consider specifically what is being taken for granted in the assumptions that resilience is a necessity in education and what this really means. In expecting resilience, we acknowledge and accept the inevitable vulnerability of pupils (and teachers) within the education system. As educators, if we perpetuate the myth of resilience through the pedagogies and curriculums we teach, then we become complicit. Our ethical imperative, and one I felt keenly as a teacher educator, is to make visible the discourse at work that imposes and insists (not just acknowledges and accepts) resilience and its binary, vulnerability as a necessary state to 'survive'. Evans (in Pollard, 2014) invites us to consider what the conditions are for this discourse of resilience to have become so prevalent. He suggests that resilience 'assumes the inevitability of the catastrophic…and accepts insecurity by design' (2014: 198-199). He takes this further to suggest that 'to be resilient now is not to be resistant. And what that means, of course, largely, is that the political has been settled' (2014:199).

In taking such a position to its logical conclusion, the power structures that cause vulnerability in the first place are no longer challenged or resisted but instead young people are taught of their inevitability, and *how* to live with, and within, vulnerable societies and structures, which one might argue is a successful effect of neo-liberalism. As such, violence, both symbolic and real, is normalised and threats are ubiquitous. Evans (Pollard, 2014:200) agrees that 'power produces vulnerable subjects' and that these 'power structures' in contemporary Western society are the embodiment of neoliberalist and global capitalist structures. Žižek (2009) also considers that crisis within capitalism is a structural necessity for its continued survival, and Klein (2007) suggests crisis is used to accelerate the expansion of the private sphere by governmentality on the right, so that profitable private sectors can intervene where crisis exists, especially one that has previously been dealt with by the state.

Such is the case for English schools, on being categorised as 'failing' by the government's regulatory body, OFSTED, they have been subject to forced academisation. The academies agenda has enabled an increased influence of private sector and 'inspirational' headteachers, prepared to 'take on' 'failing schools', simultaneously insisting on a narrowed curriculum with a focus upon the maths and English results that will bring them swiftly out of a failing category and thus perform the dramatic turnarounds that enable the school's survival. There is a disproportionate dominance of 'failing schools' in areas of highest poverty and social vulnerabilities, a situation Standing (2014:10) would consider as evidence of the fact that,

> …real education is very unequally distributed, and more of what is sold as education is fraudulent. While the affluent have access to an education enabling them to liberate the mind and be innovative, the precariat is relegated to a commodified

> 'human capital' schooling, designed to prepare them for jobs and habituate them to a life of unstable labour.

In the next section I go on to explore how Teach First and its teachers are positioned to 'rescue' schools in areas of high deprivation. These are presented as 'crisis' schools in need of the 'interventions' of the kind of teachers previously failed by 'other' teachers and models of training.

Rhizo-reading 4: Teach First: an embodiment of neoliberal ideologies and discourse

Ball (2015:43) cites Teach First (TF) as 'an example of the mobility of policy ideas via networks of business philanthropy'**.** Part of an umbrella organisation, Teach For All (teachforall.org) which began in the United States as Teach For America, TF was founded in England 2002 (and in 2013 in Wales as Teach First Cymru) and has further international presence. A teacher training and recruitment programme, TF has charitable status, financed through a mix of government and corporate funding. It is the largest graduate recruiter from Oxford and Cambridge university as well as being a significant graduate employer in its own right, listed as being 4th in the Times Annual list of graduate employers, (The Times, 2017). Since inception, it has received high-level political support globally and nationally. Ellis et al. (2015) quote Nick Gibb, a UK Coalition government Schools' minister as saying; 'I would rather have a graduate from Oxbridge without a PGCE teaching in a school than a physics graduate from one of the rubbish universities with a PGCE (Gibb, 2010 n.p. in Ellis 2015:21).

As we saw in part 1, The 2010 White Paper (DfE, 2010a) downplayed the role of universities in ITE in favour of more schools based and leadership and business orientated models of professional teaching development such as Teach First. The (then coalition) Prime Minister, David Cameron (2015, n.p) declared himself to be '...an enormous fan…of the whole idea of

everything you do… (it is) a programme that has the full support of the Department of Education, the Secretary of State and the Prime Minister'. As we see here and with subsequent politicians and policy makers, Teach First teachers are positioned as part of a solution and rescue scenario.

Teach First have emerged within the narrative of crisis and educational failure around both quality teaching for economic success and in closing the educational gap between the richest and poorest. Such explicit positioning in relation to social justice agendas is rationalised as a means of ensuring national economic stability (Bailey, 2013) as well as positioning the individual teacher as being individually responsible for the outcomes of pupils in their classes (McIntyre and Thomson, 2016). In their research on TF teachers, McIntyre and Thomson found that neophyte teachers training with TF felt high levels of anxiety when they failed to 'demonstrate tangible turnarounds in class' (2016:168). As my participant Z notes, 'I was terrified it would all be my fault!' (Rhizo map 2). A focus on the teacher as a socially responsible and entrepreneurial leader (Bailey, 2013), is described by McIntyre and Thomson as a form of 'missionary visioning' in TF (2016:168). This zeal is picked up and echoed by politicians keen to present a 'rescue' narrative that could only be delivered by committed, resilient, 'high-quality' and aspirational teachers made available on the TF programme, rather than 'other' teachers recruited onto university based programmes. Articulated by the Chief Executive of the Training and Development Agency (TDA),

> (w)ouldn't it be wonderful if all the people who joined the teaching profession were more like the people who are recruited through Teach First? (Hillier, 2012: n.p.)

Stanfield and Cremin (2012:21) suggest that such endorsements 'would have been unthinkable a few decades ago', and that Teach First is representative of an ideological construction of a new kind of 'ideal teacher'. They further suggest this is an ideological shift which aims to 'control the very identities of teachers who enter the profession' (27) creating a new habitus of professional capital (Bourdieu, 1989) in which the 'ideal teacher, is part of an academic elite who are 'high flying', and ultimately likely to succeed in the corporate world. What emerges is not an individual with just corporate skills, but entrepreneurial skills. An individual as likely to set up a social enterprise as they are to be attractive to big business.

Laboree (2010), in a discussion of Teach for America, suggests the programme '…discounts all the enormous complexity of teaching as a professional role, suggesting that talented amateurs can pick it up quickly and do it better than plodding professionals' (2010:52). Subsequent recommendations to extend and expand TF, '…so it can help attract talented teachers into some of the most deprived and challenging areas in England' (DfE, 2016:26), reframe challenging and complex social, political and economic problems as being an issue of recruiting the 'right' quality teachers.

Rhizo map 5: Saddle Up for Fitness:

(JS. Trainee teacher, Teach First)

I chose images that captured how hard it was. Teach First gave us the sense of a cause and the fact we would need to be resilient in the face

of the challenges but nothing really prepared me for how tough it was, studying and writing assignments as well as teaching and marking and dealing with everything in school. Constantly reflecting on it didn't make it easier though and I hated this and it just added to the stress. There were some good moments at the top of the mountains but it was tough with everything going on to get there and once you'd struggled up there you never stayed there for long! You have to be fit, emotionally and physically for this job.

Teach First's 'mission' is strongly imbued with discourses and values of social justice, with a particular emphasis on equal opportunity and social mobility; '*We are working towards a day when no child's educational success is limited by their socio-economic background*' (Teach First website, 2018). It aims to place graduates from 'elite' universities into socially disadvantaged schools for two years, although as it has expanded it has also diversified its intake. The first year is spent, following a 6 week training course, in school as an unqualified teacher but still with responsibility for a class, not super-numerary as with other schools based schemes and paid with an unqualified teacher salary. Ellis et al. (2015: 1) characterise Teach For All's teachers as 'teaching other people's children, elsewhere, for a while'. This refers to the gulf between social, cultural, experiential and economic locations of the teachers and the pupils in the schools they are located, and the short-term commitment required from these teachers. As an organisation, Teach First targets schools using the Income Deprivation Affecting Children Index (IDACI), with high levels of deprivation in which to place their trainee teachers, known as 'participants', who are salaried and fully funded. Trainees are employed by the school and so train 'on the job', supported by a leadership development programme run by TF and gaining their certification as a fully qualified teacher after one year in affiliation with a university. Participants on the programme must then

commit to one further year teaching in the school (as a newly qualified teacher). Recruitment to the programme has multiple strands including 'brand ambassadors' on university campuses, through social media and via its website. Although it doesn't explicitly target new graduates, the expectation that trainees could be sent to train in any region in the country requires a flexibility of commitment reflected in its generally young and middle class participants who may have already moved to go to university. Ball (2015:43) suggests that TF has brought 'new concepts and language into ITE programmes', which I go on to map below.

TF's website (www.teachfirst.org.uk) relies heavily on info-graphics and short videos of testimony about the impact of individual teachers on individual pupils' lives to hail graduates who might not otherwise have considered teaching, but who might respond to messages of social justice. Hence the idea of 'teach for a while' (Ellis, 2015:1). Here the focus is on developing 'leadership potential' in schools before seeking work (supported and often facilitated by Teach First) elsewhere in other occupations, retaining the link as an agent of social justice by becoming a 'Teach First ambassador'.

The TF recruitment campaign is the start of a socialisation process that constructs the Teach First teacher as 'extraordinary' (Jones and Ellis, 2019:9) and different to those who train by other means. This difference, centred on the commitment to being a pro-active individual agent in changing social mobility, is an essentially contradictory narrative that is individualised whilst simultaneously drawing on discourses of social movements, whilst being part of an exclusive club.

> *If you are looking for a real challenge – one which requires intelligence and personality to help solve one of country's biggest problems – then we're looking for you.* (Teach First website, 2018)

In his discussion of Teach For America, Laboree (2010:48) considers how as an institution it is Teach First's very skill at marketing a particular, select teacher 'identity' that has been its major attraction.

> TE (Teacher education) has always offered students the chance to do good, but this prospect is less entrancing when they realize that TFA's (Teach For America's) escape clause allows graduates to do good without major personal sacrifice. More than that, it promises to be a great career booster that will pay off handsomely in future income and prestige.

The personal narrative of Rhizo-map 4 (page 87), suggests the need for a more complex consideration of 'major personal sacrifice' in the context of the training itself and unsettles the easy assumption in much of the literature on Teach First that the trainees participate in the programme as Curriculum Vitae enhancement. Indeed the motivation to train on a salaried route or gain paid work experience is desirable to young people even in a position of relative advantage. As Avis and Atkins (2017:168) note,

> …precariousness is no longer limited to (largely) working class youth with few academic credentials and limited to those capitals valorised in education. It now extends to middle class youth, for whom temporary, part-time and unwaged labour increasingly forms part of their school-to-work transitions.

However, young people with the benefits of greater affluence do still have significant advantage and often their career trajectories, even if more disrupted than in previous generations, having a 'choice biography' (Avis and Atkins, 2017: 168). Teacher Education has not traditionally been part of such 'choice biographies' but Teach First, emergent as they are within neoliberal discursive regimes, are in step with the neoliberal policy enactment of the positive, individualistic, entrepreneurial self, of creating one's own opportunities.

The Teach First website is explicit in how it constructs its teachers' identities and asks that they perform by mobilising the 'resilience repertoire':

> *You will need to be hungry for a challenge, using patience and endless energy to persevere through the difficult times. When faced with obstacles you will need to be tenacious and versatile and maintain a positive mindset.* (Teach First website, 2018)

The 'obstacles' of education's impact on social mobility; inequalities of class, wealth, race, health provision, gender are thus reduced in the recruiting website to the absence of inspirational teachers and leaders, the like of whom are hailed in the 'call to arms' in the fight against stagnant social mobility. In this way, Teach First has positioned itself as an 'alternative' provision to more traditional forms of teacher education whilst rhetorically distancing itself from mainstream teacher education with the implication that they have failed to address issues of social mobility and will continue to do so. Ellis et al. (2015) suggest Teach First present their teachers as solutions to the problems of a broken society. This is evident on the current website which draws on emotive stories and images of the failed opportunities of individual children, and by extension whole communities. Even more explicitly, the 2016 iteration of Teach First's website, since updated, had gratuitous images of violence and vulnerability objectifying disadvantaged communities. Images such as

barbed wire with decapitated doll's head attached by its hair, barbed wire with an abandoned and tattered school tie attached, 'do not enter' signs with 'bullet' marks. Houses with missing roofs, broken and damaged and multiple images of urban deprivation: high-rise buildings, graffiti, barren landscapes dominated by gates, pylons and other 'prison like' structures. Often depicted in monochrome, young people's faces obscured, their hands graffittied with pen, huddled in cold and foreboding environments with nothing to do. The association with disadvantage: not only underachievement but also abuse, self-harm, crime and prison. The damaged, objectified pupil body as opposed to the Teach First active subject: the resilient, heroic teacher body which are bodies who 'create change in classrooms, schools and society' (Teach First website, 2018).

In these discursive semiotics, the Teach First individual teacher is valorised as saviour. Rhetorically effective as a recruitment drive, such binary positions of the individual teachers as either saviours or failures of children mythologises and romanticises teachers in simplistic and precarious ways. The Teach First discourse draws heavily on such myths, using captivating memes which mobilise the cultural myth of the inspired and inspiring individual teacher (Britzman, 2003) whose power to change is written for us all to see and witness on their bodies and behaviours.

Personal responsibility is a key feature of the resilience repertoire. Burman (2018) suggests that it 'features strongly in neoliberal economic policies that emphasise individual rather than state, activity and responsibility' (Burman, 2018:2) and that it '…discloses a worldview and corresponding politics of a particular political moment….' (2), with an 'active citizenship which goes alongside a reduced welfare state' (2018:3). This is neoliberalism as a political rationality: limited government, increased individual responsibility and economic freedom

articulated in the United Kingdom since Margaret Thatcher's conservative government (1979-1990).

The neoliberal state is not, however precluded from control and intervention. It remains a powerful site of conflict about control despite its ostensible concern with governing too much (Ball, 2012), but governs the conduct of institutions and the individual 'from a distance'. Via performance measures, inspections and audits and via responsibilisation (Bailey, 2013): institutions and individuals at the 'front line' are incited to take responsibility and govern themselves as enterprising economic subjects, responsible for,

> world class education systems (who) devolve as much power as possible to the front line, while retaining high levels of accountability…no country that wishes to be considered world class can afford to allow children from poorer families to fail as a matter of course. (DfE, 2010a:3-4)

Indeed, in relation to Teach First, 'the role of the social (enterprise) has been delineated in connection with the retreat of government-led, publicly supported welfare networks, combined with a tendency to shift responsibility to independent agents within civil society', (Dey, 2010:8, in Bailey 2013:808). The rise of the 'social enterprise' and private interest in educational institutions and the entrepreneurial, under the guise of 'active citizen' discourses are indicative of a new discursive regime, and one with which Teach First teachers are expected to identify as being both socially responsible and philanthropic. Privilege and altruism are conflated.

Teach First are supported by and one might argue a recruitment agent for, some of the largest employers in the United Kingdom in corporate finance and business (e.g. Price Waterhouse Cooper, Goldman Sachs, Accenture). These,

> …offer a wide range of exclusive support to help you in school, including one-to one leadership coaching, specialist subject support, bespoke skills session and summer placements. Recognising the skills developed on the Leadership Development Programme, some of our partners also offer opportunities to explore career paths at their organisation, for those who choose to move on from teaching. (Teach First website, 2018)

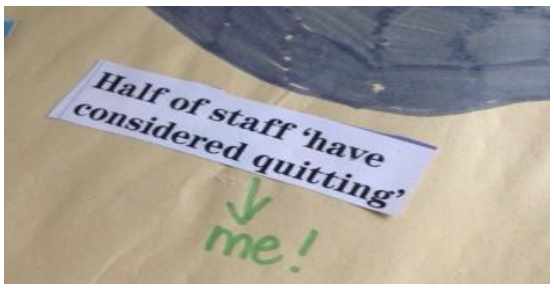
The very skills of 'leadership' and ability to raise school and student performance that is marketed to schools in order to raise the aspirations of groups who are traditionally disenfranchised, are also marketed to the trainees themselves as the means by which to 'move on'. A testimony from an ex-teacher ("ambassador") on Teach First's recruitment website (2018) is intriguing in its ability to accept this dissonance, as a former teacher now working at Price, Waterhouse, Cooper (PwC) (a 'platinum partner' of Teach First) describes.

> *I was contacted by some of my former students three years after I taught them and invited to attend their prom night. They felt I had influenced their school careers and wanted me to be there. That's a special feeling that you won't get anywhere else*.
> (Teach First ambassador and Senior Associate, PwC. Teach First website)

Rhizo map 6: Participant G: keeping quiet. Thumbnail of collage.

In a climate of worrying retention rates, TF have a 60% drop out rate after 5 years compared to a 40% drop out of teachers trained through more traditional means. This figure makes TF trainees the most expensive route to train, £16,000 more than a teacher taking a traditional PGCE (Allen et al., 2016), The think-tank 'Reform' (2017) challenge the economic viability of the route given that it makes up 7 per cent of postgraduates training to become secondary teachers, but 11 per cent of the training costs. They argue that the economic viability of the model does not recommend it significantly enough, despite some evidence of its effectiveness in training (Ofsted, 2011), especially compared to the cheapest alternative (unsalaried School Direct). As a comparative route, School Direct offers a reduced combined cost to schools and central government of 8 per cent compared to the increase of 46 per cent it would cost to train all secondary teachers with the costs of TF (Reform, 2017). The International research on the 'effectiveness' of the Teach For… franchise is mixed and inconsistent (Chiang, Clark and McConnell, 2017) and so the policy investment in and performance of the 'good' teacher of Teach First transcends both economics and a research base. This suggests an advocacy and policy reach with multiple, privileged influences contributing to education's neoliberal turn with concomitant ideological and policy debates.

Rhizo map 7: Participant L: Collage thumbnail



However, even attrition, a scourge of contemporary teaching, is re-framed when enacted by the entrepreneurial, resilient individual of Teach First. Rather than considering a drop out after 2 years as a 'failure', Laboree (2010:53) notes how for Teach For America participants, leaving after two years is considered a success and allows them to,

> …tout the qualities they gained there (in the classroom) – leadership, innovation, motivation, entrepreneurship, compassion – as major qualifications for future roles. They did not fail; they did not quit…they just moved on to the rest of their lives, exactly as planned.

Rhizo map 8: Participant Z, Choppy Waters

Children, books, sleep, pens, parents (mine and theirs), crying, laughing, reports, flatmates, mentors, headteachers, change, assignments, deadlines, the library, SATS papers, marking, pressure, burst pipes, late trains, exhaustion, elation, reflection, playgrounds, observations, teachers standards. Just a few things that have been part of my year!

The mythologizing of the individual teacher speaks to the technologies of power and technologies of self to which neophyte teachers are currently subject. Unlike in rhizo map 8 above, where multiple elements produce a 'teaching life', the Teach First 'good' teacher is recognisable in singular ways. Such mythologizing has the potential to threaten the sustainable practices of teachers, building precarity into its design. This is because narratives of the entrepreneurial 'good teacher' isolate the individual from the complexities of

structural inequalities and re-frame teaching as an economic and social endeavour dissonant with the demands and (super)complexities of the actual, everyday job. Simultaneously, the teacher body becomes colonised by narratives of resilience, grit and tenacity, a demand to 'go the extra mile' in the face of all adversities rather than demand something be done about them. Such demands have potential to render the teacher body fragile and vulnerable to the chasms that open up between the rhetoric of 'good' teacher policy narrative and experiences in contemporary classrooms, ignoring as they do anything not focused on the human-being cast as central to the experience of being teacher. Deviance from individuals or institutions who resist such values and behaviours are at risk of being associated with 'poor' teacher/ teaching, producing an ethical tension for both the practices of neophyte teachers and for the institutions in which they train.

In part 4, I want to make an ethical and methodological argument for ways in which we might think about and practice the initial training of neophyte teachers in ontologically multiple ways. I want to explore how we might work otherwise to make visible the fragilities of teacher education, by considering the multiple and material ways of becoming teacher which diversifies the discursive, material and semiotic. I want to challenge the centrality of the teacher in more generative ways and exploring what posthuman and new materialist approaches offer educational practices for the 21st century classroom that demonstrate response-ability (Haraway, 2016) for teachers' bodies in complex spaces.

Rhizo map 9: Participant W: collage (thumbnail)

Part 4: methodology as a praxis of uncertainty.

As Ulmer (2017:834) notes: 'more than human methodologies are needed for more than human worlds.'

In this section, I want to explore the ways in which I have used post humanism/ new materialism as an ethico-onto-epistemological (Barad, 2007:89-90) methodology (section a) and the significant role of affect within this. I explore new materialism's mobilisation as a non-representational process that re-conceptualises 'data' and frames 'data analysis' differently (section b), and the ways in which I use this as a praxis of uncertainty and paying attention (section c) in my own research practices. I explore visual cartographies as an example of practice-as-research: creative, participatory collaging methods (section e) as a means of researching neophyte teachers' experiences.

a) New materialism as an ethico-onto-epistemological framework (Barad, 2007:89-90)

New materialism has emerged from the work of feminist and post-structural scholarship, post-colonial and queer theory, 'which rejected structuralist determinism as inadequate to critique patriarchy …or to supply a critical and radical stance to underpin struggles for social justice and plurality' (Fox and Alldred, 2018:2).

It draws on worldviews where the human and the natural world are interwoven, and as such has been questioned about its 'newness', given that the material-discursive and semiotic have been a part of thinking and action within indigenous communities for centuries. I purposely set aside these debates over contested terms in new materialism's still expanding repertoire. I plug it in within this thesis for its theoretical and methodological capacity for exploring inclusive and ethical practices and for its plurality and richness, drawing as it does upon 'the epistemological and political foundations of anti-humanism, post-colonialism,

post-anthropocentrism, anti-racism and material feminisms' (Bozalek and Zemblyas, 2016:193). I am interested in what new materialist/posthuman thinking can produce when we plug it into the machine of Initial Teacher Education (ITE). This is one of the reasons I use new materialism/ posthumanism and affective theories interchangeably, as I am interested in how the conceptual work done in these areas can be put to use in both researching ITE and in reimagining its own pedagogies.

The philosophies and concepts of Deleuze and Guattari have made a significant contribution to the development of new materialist thinking. (Massumi, 1987: xiv) in the translator's forward in Deleuze and Guattari's *A Thousand Plateaus*, speaks of the dynamism of their concepts.

> The question is not: is it true? But: does it work? What new thoughts does it make possible to think? What new emotions does it make it possible to feel? What new sensations and perceptions does it open in the body?

Post humanist/ new materialist methodologies offer alternative visions for research to the 'answers', 'truths' and 'solutions' more often sought within humanist traditions. They offer ways of thinking that make it methodologically possible to research in more plural ways, that '…evokes a folding – not just of data into theory and vice versa – but also of ourselves as researchers into the texts and into the theoretical threshold' (Jackson and Mazzei, 2013:266). They offer ways of opening up data analysis to see what gets *made* or produced in the folding as opposed to what gets *understood*. This flattened, non-hierarchical way of considering the components of research, including the associated ethical dimensions, I think holds much potential for both researching teacher education and for doing research with teachers as participants, whose engagement with the research process benefits their own

becoming, a *practice-as-research*. I explore this more below, but this is a practice described by Hickey-Moody (2015) as research for living, working and becoming. It is a methodological approach that folds in my own positionality, as becoming-researcher and as a former teacher and teacher- educator plus the myriad ways I intersect and am entangled within the processes of researching. All are implicated in the processes of the research, the 'collecting' and the 'analysis' of the data.

Whilst the body of literature on ITE is vast and wide ranging, literature that makes use of the theoretical concepts of materialist enquiry in practice settings is an emerging field. Notable early examples in the field of education is the work of Hultman and Lenz-Taguchi (2010) who utilised new materialism as a methodology to focus on the non-human forces involved in children's learning in a Swedish pre-school. There are more examples to be found in literacy studies both within the U.K and Internationally, (e.g. Leander and Boldt, 2012, Toohey et al., 2020) and within early childhood scholarship (e.g. Osgood, 2019, Hackett et. al., 2015). It is also a maturing field in arts based educational practices (e.g. Hickey-Moody and Page (eds.), 2015, Hickey-Moody, 2012). I have also been inspired in my study by the interdisciplinary international working group of scholars practising *PhEmaterialisms* (2015). Within this growing body of work are examples of generative and collaborative ways of researching, teaching and working that combines feminist posthumanism and new materialisms (for an example of this scholarship in educational settings, see Renold and Ringrose, 2019). There is a growing interest and body of scholarship emerging internationally (e.g. Ovens, 2017, Strom, 2015, Strom et al., 2018) that takes teaching, teachers and the classroom as their focus and there are significant implications for this work within ITE, the like of which this thesis builds upon in new locations of schools based ITE practices.

There are a number of reasons why thinking with critical posthuman theory in ITE is challenging and full of possibility. The significant challenges I hope have become evident through the preceding rhizo-mapping. Contemporary ways of thinking about teacher education tends towards humanist traditions and linear input-output practices that appear anachronistic with the rhizomatic, decentered logics of new materialism. What is afforded in new materialist thinking is the potential for exploring what 'knowledges' means through how knowledges are gained, countering some of the dominance of the allegedly easily measurable forms of 'knowing' which is so significant in contemporary discourses of teaching and of teacher education, with their 'what works' bag of tricks. On the surface, toolkit approaches of 'knowledge' may feel reassuring for neophyte teachers. However, there is not a tool for every eventuality in complex locations, as teachers often rapidly discover. New materialism resists the commodification of 'knowledge' and 'knowing' and 'the rage for meaning' (MacLure, 2013:663) that striates much current UK teacher education and which characterises much of the research into teacher 'identity'. Ellsworth (2005:156) encourages us to,

> …acknowledge the existence of forms of knowing that escape the efforts of language to reference a 'consensual', 'literal', 'real' world. This knowing moves us beyond 'explanation' that can be commodified, captured, and in essence 'taught', towards a way of knowing that is rooted in embodiment as being in motion, relational, and singular.

Additionally, ITE has a more precarious position as being somewhat 'outside' academia due to its relatively late inclusion into the domains of higher education. Ellis et al. (2015:5) describe how even after the move into higher education,

> …former ways of understanding the social world of teacher education remained and sometimes, unsurprisingly, clashed with the new. So the past has lived on in the present in the education of teachers through historically sedimented cultural practices, forms of identification and community, and trajectories of development that are already in process.

Constrained in the UK by Teachers' Standards and an external regulatory body (Ofsted), ITE is located differently to other university courses, although it has much in common with other practice-based courses such as nursing and social work. Pritchard (2005), writing in an international context, suggested that the marketisation of ITE and 'delivery' of a standards curricula has created a trend towards 'anti-intellectualism' within H.E. University education departments (in Kascak et al., 2011), particularly where increased time is spent training in school-based settings instead of the university classroom. The kinds of 'deliverology' the teaching landscape is subject to has created a passivity and disengagement in many of the teachers, neophyte and more longstanding, I work with. Dynarski (2003), in Koro-Ljungberg and Barko, (2012:256) suggests this has led to a situation where 'educators perhaps are less interested in the routes taken to arrive at answers than in the answers themselves', opting instead for a kind of 'easy-think, …that flourishes in a climate of apathy, distrust and cynicism' (Schwandt, 2008:141 in Koro-Ljungberg and Barko, 2012:256).

A large proportion of staff in ITE are second career researchers, having moved from teaching in schools themselves into higher education, with 'no clear academic career structure' (Mills et al., 2006. In Ellis et al., 2015:35). The same report by Ellis et al. (2015) found there to be significantly fewer research active staff in ITE departments with uncompetitive career structures and re-numeration compared to the professional setting of schools. Furlong (2013:50) found teacher educators more likely to be,

> …older…(with) shorter higher education careers…less likely to be recruited from ethnic minorities and non UK nationals than other social scientists, …female …relatively low paid; and a greater proportion of them are on teaching-only or casualized contracts.

The reification of practice over theory, most significant in schools-based models but applicable to university led ITE also represents a challenge for space, time and opportunities to rethinking ITE's academic practices with philosophically orientated theorisations as a form of ITE practice.

A further challenge is how to do posthumanism in *practice*. Putting the theory to work, translating the somewhat challenging conceptualisations and language, which Bennett (2010:104) calls 'provocative and elusive' into ways of doing teaching is not always an easy task. Coleman et al. (2019:1) note that this is an 'emerging field of methodological and practice work (that) has not been fully mapped', but there is emerging work 'reshaping what new materialisms means as an approach, what it does and what it can do'.

Despite all of these considerations, however, I believe that there is much to recommend new materialism/ post human thinking, practising and researching in ITE. I want to seek places to begin, entry points in U.K. teacher education, into new materialism's potential as both a research methodology and a way of ITE reimagining some of its practices. It is to this end that this thesis makes some contribution. Whilst writing this thesis, I have played with some of the possibilities for the development of new materialist and posthuman inspired practices for working with teachers in a range of settings.

One of new materialism's contributions, is that its non-linear and multiplicitous theories offer us a pluralistic way of thinking and researching teaching and learning. It is able to respond simultaneously to contemporary concerns, local, national and global, political,

economic, environmental, social, and technological complexities and challenges. It concerns itself with how bodies are politically and ethically situated within material environments. These are all concerns present and intensifying in the context of contemporary UK classrooms. As Asberg, Jooback and Johnson, (2011:20) remind us.

> As humans become more entangled in intricate relationships with technology and science, with other animals and the environment, notions of the human, along with various humanisms and anthropocentric approaches, have become difficult to uphold.

The entanglement of how we experience life is inextricable from what constitutes our local ecologies; how we hear, see, sense, touch, breathe, eat, drink, play, commute, commune. Our day-to-day living can be found within more than just our human relations and this seems a generative entry-point to thinking and researching teaching and teachers' experiences. Classrooms, agentic in themselves and their diverse inhabitants are profoundly and multiply affected by emotions and experiences trailing from other times/ place/spaces, bodily disruptions and interruptions, weather, regulatory devices, poverty, hormones, temperature and so on ad infinitum. The classroom as assemblage is a fluid and ever changing space, rhizomatically entangled politically, socially, environmentally etc... As such, it requires improvisation and ways of responding for which a toolkit of strategies seems inadequate.

In part 2, I mapped how the autonomous, heroic survival body of the teacher is constructed. However, in the assemblage of becoming teacher, there are no singular ways of thinking. The individual speaks only from the collective, linked to wider political immediacy where 'all things, all individuals, all stories are claimed in a territory of connection' (Mazzei, 2017:675).

This means that what gets spoken by the individual is inseparable from the other elements in the assemblage: human and non-human. This approach refuses the idea of single sources of knowledge in a way that I think is helpful for neophyte teachers to understand how the entangled nature of their bodies, institutions, histories, genders etc…are all existing on the same plane, constantly producing new conditions to be navigated. Heckman (2010: 100-101) calls this a 'mangle'.

> The 'I' is a mangle composed of multiple elements. The social scripts defining subjecthood are a key aspect of that mangle. But the mangle also encompasses a body that is sexed and raced, a body that is located at a particular place in the social hierarchy, and a body/subject that has had a range of experiences. The result may be a subject that fits neatly into the definition of subject the social scripts circumscribe. Or the result may be an 'I' who cannot find a script that fits, that resists the scripts available to her/ him. In all cases, however, there is no single causal factor determining the subject; the elements of subjectivity intra-act in a complex web.

For Deleuze and Guattari (1987:84) this is 'the constellation of voices, concordant or not, from which I draw my voice'. The idea that it is a 'constellation' that speaks the speaker, is not only a highly productive way of thinking about what happens in the contemporary classroom, but also shares responsibility for what emerges in the classroom more equitably.

> The ethical aim becomes to distribute value more generously, to bodies as such…it can inspire a greater sense of the extent to which all bodies are kin in the sense of inextricably mixed enmeshed in a dense network of relations. And in a knotted world of vibrant matter, to harm one section of the web may very well be to harm oneself. (Bennett, 2010: 13)

Ethical considerations thus become entangled with ontological and epistemological considerations within new materialist thinking. Barad (2007: 89-90) suggests that we must 'take responsibility for making a difference in the world', a common denominator for feminist research methodologies (Ringrose and Renold, 2014), that should also be a standpoint position for ITE and researching in education. If we take the example of the classroom as assemblage, with its material semiotic connectivities between the teacher, pupils and the non-human elements, practising ethics within this methodological framework becomes a 'situated praxis rather than an aspatial moral framework' (Hubbard et al., 2006: 171). Such an ethical position is inspired by feminism and by Foucault's work on 'care of the self' that put desire and bodily practices back on the ethical radar (in Bennett, 2010: xii). However, it requires broader definition of the self as one entangled with other 'bodies' both human and non-human as well as a recognition of the importance of the body's hospitality to policy/ political governance: the bodies made and remade as we saw in part 3.

Instead, ethics within feminist new materialism is framed as 'response-ability', drawing on the work of Barad (2007) and Haraway (2016), and has implications for methodological design, data 'capture' and 'analysis' and the ways in which we theorise our research. Haraway (2016) urges researchers to 'stay with the trouble' in order that we are always accountable for what is produced or generated in the entanglements, the 'world-making' that happens and of which as researchers we are a part. It is our ethical response-ability to find ways to respond to complex, troubling and messy stories. In this way, ethics becomes a praxis, requiring a continuously reflexive stance to connectivity, analysis, engagement and learning at every stage of the research process.

Haraway (2016:1) argues that we need to find a means with which to both live and die within such 'troubling and turbid times' and to respond to the present in ways which are sustaining. Speaking of a global environmental and political landscape. She argues,

> In urgent times, many of us are tempted to address trouble in terms of making an imagined future safe, of stopping something from happening that looms in the future. In fact, staying with the trouble does not require such a relationship to times called the future. In fact, staying with the trouble requires learning to be truly present, not as a vanishing pivot between awful or edenic pasts and apocalyptic or salvific futures, but as mortal critters entwined in myriad unfinished configurations of places, times, matters, meanings.

Haraway uses smaller stories of 'making kin', her term for making connections across time, space and matter (both human and non-human) to illustrate attempts at existing and living in difficult circumstances. I attempt the same; the smaller story of the teacher in liminal space has much to learn from this being- with, becoming-with in collaboration and acknowledgment of the material in all its forms; a relationship termed 'oddkin' by Haraway (2016:2).

> Staying with the trouble requires making oddkin; that is we require each other in unexpected collaborations and combinations, in hot compost piles. We become-with each other or not at all. That kind of material semiotics is always situated, someplace and not noplace, entangled and worldly. Alone in our separate kinds of expertise and experience, we know both too much and too little, and so we succumb to despair or to hope, and neither is a sensible attitude. Neither despair nor hope is tuned to the

> senses, to mindful matter, to material semiotics, to mortal earthlings in thick copresence.

Researching teachers' experiences then demands a methodology that is equally fluid and responsive/ response-able and connected to the practises of teaching itself. As Koro-Ljungberg (2016: xxi) suggests,

> …the methodological work needs to stay in motion and under constant inquiry and questioning. Scholars should not be satisfied with existing methodological practices, since these practices often need modification to be suitable for new contexts and projects….Methodological work and research designs are not neutral or value free but calls for responsible decision making in the face of the unknown.

I plug ethical considerations into the 'data' in the next chapter. Working with neophyte teachers in liminal and potentially vulnerable spaces has significant ethical demands, as St Pierre (2013:646) suggests, 'to re-imagine being, always an ethical task'. Approval for conducting this research was gained through Birmingham City University's ethics committee (see appendix B) and was carried out within an institutional space where accessible and sign-posted support services for mental health and well-being and further pastoral support were available. However, I also explore the challenges of practising an ethical response-ability both within the research process and as part of my diffractive reading of the 'data', where participant responses were highly affective. I discuss the role of affect below and further explicate it in regards to ethics in the following chapter, following Deleuze and Guattari's (in Bennett, 2010: xii) consideration that,

> (w)e know nothing about a body until we know what it can do, in other words, what its affects are, how they can or cannot enter into competition with other affects,

> with the affects of another body,…to destroy that body or be destroyed by it…to exchange actions and passions with it or join with in composing a more powerful body.

b) Affect

I propose that we need to pay much closer attention to the multiplicities of teacher becoming through an exploration of its affective nature. As Colebrook (2002:39) suggests, affect is not external to us.

> Affect is intensive because it happens to us, across us; it is not objectifiable and quantifiable as a thing that we then perceive or of which we are conscious. Affect operates on us in divergent ways, differing in kind—the light that causes our eye to flinch, the sound that makes us start, the image of violence which raises our body temperature.

Zembylas (2003:229) considers the emotional responses of teachers to be social and political experiences, as well as personal ones. Giving emotion an epistemological position, encouraging teachers,

> …to try to think differently, to ask themselves not only how discourses on emotions and the various norms in their schools have shielded them from their desires, but also how it has installed those desires as what they presume themselves to be.

Boler (1999) suggests that emotions, in both visible and invisible ways, are located in educational histories of both individuals and institutions. Emotions, Boler argues, have been suppressed, disciplined and ignored within education at all levels, and the reasons for this

are politically, socially and culturally motivated to extend hierarchical control. Palmer, 1997:13) agrees,

> …telling the truth about ourselves with colleagues in the workplace is an enterprise fraught with danger, against which we have erected formidable taboos. We fear making ourselves vulnerable in the midst of competitive people and politics that could easily turn against us, and we claim the inalienable right to separate the "personal" and the "professional" into airtight compartments (even though everyone knows the two are inseparably intertwined). So we keep the workplace conversation objective and external, finding it safer to talk about technique than about selfhood.

If we continue, as has been the direction of this thesis, to resist binaried, tacit and gendered assumptions about emotion/ reason, personal/professional, body/mind, private/public, we take up the feminist challenge to the idea that emotion is dichotomous to reason and rationality, or the response of the body dichotomous to the response of the mind. In Rhizo map 2, I suggest a constructed, gendered survivalist body emerging from dominant discourse in ITE. I argue here that we must resist this process, and acknowledge and take more seriously the role of emotion and affect, which I explore further below.

Recognising the centrality of power to discourses of emotion is important in unpacking how the survival body is constructed, and how it makes the teacher body *more* fragile due to its denial of particular emotional responses. As Abu-Lughod and Lutz, (1990 in Zembylas, 2003:217) suggest.

> Power relations determine what can, cannot, or must be said about self and emotion, what is taken to be true or false about them, and what only some

> individuals can say about them…the real innovation is in showing how emotion discourses establish, assert, challenge, or reinforce power or status difference.

The possibilities for reading the development of emotions and identity through their social and political nature by teachers, is that it creates spaces to explore marginalised or 'taboo' emotions and trace their histories and the places in which they intersect and identify with those of others. This sharing, acceptance and openness about emotional histories (both present and in the past), creates opportunities for teachers in liminal spaces to re-think, re-visit and potentially re-construct relations with present and future experiences and practices and inform their pedagogies.

> Dismissal of feeling…ignores the work that needs to be done to re-cast negative feelings. Such dismissal disguises the power of neuro-discourses proliferating through education as authoritative knowledges in schools that cultivate pathologizing opinions about feelings. (Youdell, 2011 in Harwood et al., 2016:6)

The importance of the opportunity for affective ideological critique and its capacity to challenge inequality and oppressions (Blackman, 2012:10) seems to me fundamental in teacher education. However, I want to take the use of affect further within ontologies of becoming teacher and propose that the work of affect within new materialist methodologies works beyond the definition of emotion as it is composed through discourse and language, '…as if it were lodged in impassioned words more than in animated bodies.' (Lutz, 2017:183). Deleuze (2004) talks about a 'logic of sense', where 'sense' works something like affect 'something that exceeds propositional meaning and resists the laws of representation' (MacLure, 2013:658). Here, 'sense' or affect, 'happens to bodies and…insists in propositions' (Deleuze, 2004:142). Colebrook, (2002:39) further notes that,

> (a)ffect is intensive because it happens to us, across us; it is not objectifiable and quantifiable as a thing that we then perceive or of which we are conscious. Affect operates on us in divergent ways, differing in kind—the light that causes our eye to flinch, the sound that makes us start, the image of violence which raises our body temperature.

I want to work with Gregg and Seigworth's idea (2010) of affect being integral to a body's perceptual becoming. Arising '…in the midst of in-between-ness: in the capacities to act and be acted upon' (2010:1); that bodies are no longer simply the 'human body' but are instead assemblages; 'brain-body-world entanglements' (Blackman, 2012:24) of both human and non-human processes, characterised by sensations, intensities, energies and movement (Massumi, 2002).

Theories of affect within a new materialist paradigm distinguish between emotion and affect, with affect occupying a more evasive, slippery, contradictory and chaotic realm. Rather than focusing on 'how feelings stick and fix through compositions of language and discourse' (White, 2017:175), affect concerns itself with 'what moves and *matters* in human life' (Lutz, 2017: 182, italics in the original). Here there is a 'radical refiguring of the body' that foregrounds 'difference, discipline, performativity, embodiment, movement, desire, kinaestheisa, the senses…the posthuman, process, multiplicity, enactment, affect, life and immateriality' (Blackman, 2012:10) and the '…intensities that pass body to body (human, non-human, part-body and otherwise…' (Gregg and Seigworth, 2010:1).

Stewart (2017: 194) talks of the world of affect as not being 'already laid out on the table…' or 'side –effects of systems, codes, or imaginaries located in the elsewhere…anchored in the consciousness of the humanist subject or its categories of thought'. Instead, the affective

turn has 'worried the mantras of structure, mediation, representation, and code that had come to operate as good-enough shorthand for culture and power' and 'waits to see how things unfold in a moment' (Stewart, 2017 194). Gregg and Seigworth (2010:1) consider affect the 'visceral force beneath, alongside, or generally *other* than conscious knowing…that can serve to drive us toward movement, toward thought and extension – that can likewise suspend us (as if in neutral)…or that can even leave us overwhelmed by the world's apparent intractability'.

In this conceptualisation, affects are not 'side –effects of systems, codes, or imaginaries located in the elsewhere…anchored in the consciousness of the humanist subject or its categories of thought' (Stewart, 2017: 194). Instead, affect theory attempts to break down distinctions between the material/immaterial (Lutz, 2017:186).

> In the world affect brought into view, the point of analysis was not to track the predetermined effects of abstractable logics and structures but, rather, to compose a register of the lived affects of the things that took place in a social-aesthetic-material-political worlding. (Stewart, 2017: 193)

Stewart (2017:194) goes on to say that:

> Life is an experiment of being in a world, of finding ways to be in circuits of force and form, an aspiration to get something out of the alchemical (see Pine 2016) transmogrifications of things that twist off on trajectories far beyond humanist models of suffering or the usual hyperlegible registers of normativity and the state…

Affect theories have been mobilised differently across multiple disciplines (see Gregg and Seigworth, (2010:7) for an exploration of these, in what they describe as a 'sketch of a

framework', in itself suggestive of affect theories own intangibility and elusiveness. One of these orientations/theorisations is particularly useful for the work of this thesis and is an approach located in politically engaged work by those,

> …living under the thumb of normalising power that attends to the hard and fast materialities, as well as the fleeting and flowing ephemera, of the daily and the workaday, of everyday and everynight life…where persistent, repetitious practices of power can simultaneously provide a body (or, better, collectivised bodies) with predicaments and potentials for realising a world that subsists within and exceeds the horizons and boundaries of the norm. (Gregg and Seigworth, 2010:7)

In and of itself, affect has no autonomy. Instead, as Ahmed (2010:30) suggests, it is

> …the messiness of the experimental, the unfolding of bodies into worlds, and the drama of contingency, how we are touched by what we are near.

Ahmed is useful for us in her exploration of what it is that alienates us from 'happy objects', i.e. those structures which have a 'moral economy' and thus a social value. If, as I have tried to argue in part 2, a teacher's 'worth' and therefore social value lies in the embodiment of the individuated, autonomous, 'resilient' and depoliticised practitioner, then this becomes the 'social good' to which the teaching community is expected to affectively align. Correspondingly, pleasure and contentment should come from alignment with such values, when we are, in Ahmed's terms, 'facing the right way' (2010:30). However, as she goes on to say,

> the gap between the affective value of an object can involve a range of affects, which are directed by the modes of explanation we offer to fill this gap. (Ahmed, 2010: 37)

Those who are ill-prepared to reproduce such values, or feel satisfaction from proximity to them, will be inevitably alienated by their own resistance, whether experienced as self-doubt, denial or anger. Indeed, such responses resonate with me. I have experienced new trainees who question their own worth or ability, debilitating cynicism and disillusionment of more experienced practitioners, and of course, a burgeoning attrition rate in new and early career teachers. It is at these moments of disjuncture, Ahmed suggests, that we become 'affect aliens' (2010: 37). Stewart, (2017:195) agrees.

> In the world that affect proposed, things were thrown together, perhaps with a great deal of force, to become recognisable as something to be in or near, or else to oppose and resist. Yet this was still an approximate composition of what was happening, a rough angle, a ricocheting impression still shooting side glances at what wasn't captured or recognised, an expose of the real as rhythmic alternation that shimmers and dims. What happened could endure and do real damage not because it was always already in a finished state of achieved power but because it was charged with its own retractibility, essentially haunted by the possibility of its limited life span.

c) New materialism as non-representational methodology: re-conceptualising 'data' and 'data analysis'

In the opening propositions to this thesis, I used Rilke's (1993) challenge to 'live the question' as a baton to take up and I want to return to this in my subsequent exploration of

how I have attempted to employ a materialist approach to my 'data collection' and ' data analysis'. We have already explored the dominant trajectory in ITE to progress to end-points, to 'deliver' the Teachers' Standards, to quantify and control behaviour, to 'know' a subject and know what aspects of this subject is necessary for the ultimate end-point, the school examination. Koro-Ljungberg and Barko, (2012:257) suggest the same trajectory is applied to research in a humanist tradition: the request to 'end with the answers', but to acknowledge that such practices,

> …can create spaces that avoid questions of ethics, communal responsibility, and contextual and situated decision making. By privileging answers over on-going questioning and open-ended inquiry researchers also tend to close dialogue between disciplines, literature, practitioners and between researchers and diverse participant communities.

Hickey-Moody (2015:30) suggests that 'it is impossible, both intellectually and ethically, to disengage the positive elements of Humanism from their counterproductive counterparts: individualism breeds egotism and self-centredness; self-determination can turn to arrogance and domination and science is not free from its own dogmatic tendencies.'

Strom et al. (2018:4) agree. '(I)n contemporary contexts, perpetuating rational humanist logic schemes is ethically questionable', simplifying and reducing complexity to an essential truth or identity. Like our 'teacher body' in rhizo reading 2, constructed as neutral but representative of a dominant group: white, male, heterosexual, able-bodied, autonomous, controlled, and in control. One of the questions this thesis asks is how do we move beyond the representational logics of a teacher 'identity' to account for the complex and multiple material realities which MacLure (2013: 659) argues become, 'inaccessible behind linguistic

or discourse systems that purportedly construct or 'represent' them'. Barad, (2008:137) concurs.

> To think of discourse as mere spoken or written words forming descriptive statements is to enact the mistake of representational thinking. Discourse is not what is said; it is that which constrains and enables what can be said. Discursive practices define what counts as meaningful statements.

I have argued so far that representations of what it is to be a teacher work to fix our understanding by drawing upon particular ideological, political and cultural positions which offer stability but are inherently unstable and limiting for teacher becoming in praxis. As MacLure (2013: 659) suggests,

> (r)epresentation serves the 'dogmatic image of thought' as that which categorises and judges the world through the administration of good sense and common sense, dispensed by the autonomous, rational and well-intentioned individual, according to principles of truth and error.

Representation as the dominant way of thinking about things is critiqued within post-qualitative inquiry as being 'sedentary, categorical and judgemental. It is the enemy of difference, movement and change and the emergence of the new' (MacLure, 2013:659). As such, MacLure suggests that coding and pattern seeking is a 'knowledge –producing operation that makes things stands still, and the price of knowledge gained is at the risk of closure and statis' (2013:662). In comparison, post-representational research practices unsettle conventional ways of understanding and practising 'data collection' and 'data analysis'. For Ingold (2011: vii), post representational research is both practice and process,

> …not exactly a theory, nor is it a method or technique of some predetermined end. It is a means, rather, of carrying on and of being carried – that is, of living a life with others, humans and non-humans all – that is cognizant of the past, finely attuned to the conditions of the present, and speculatively open to the possibilities of the future. I call it a *correspondence*, in the sense of not coming up with some exact match or simulacrum for what we find in the things and happenings going on around us, but of *answering* them with interventions, questions, and responses of our own (emphasis in original).

In other words, because what happens in the spaces of teaching and learning involves multiple agents (human and otherwise) is entangled, complex, with indeterminate cause and effect, then the research process must treat it as such. This makes it hard to define non-representational research, both in terms of what it is and how it should be put to work. Lorimer (2005:84) suggests: 'the focus falls on how life takes shape and gains expression in shared experiences, everyday routines, fleeting encounters, embodied movements, precognitive triggers, practical skills, affective intensities, enduring urges, unexceptional interactions and sensuous dispositions' (in Ulmer, 2017:839).

MacLure (2013:664) talks about the ways in which qualitative research is heavily invested in language practices, 'interviews, fieldnotes, focus groups, conversations, seminars, monographs, scholarly papers…', and that whilst conventional analysis reaches to code, theme, categorise, find meaning and validity, in doing so has ignored 'the bodily entanglements of language (as) troublesome or trivial' (2013:664).

Her call is to research in ways which recognise that '…language is in and of the body; always issuing from the body; being impeded by the body; affecting other bodies. Yet also, of course, always leaving the body, becoming immaterial, ideational, representational, a

striated, collective, cultural and symbolic resource' (MacLure, 2013:664), whilst also being subject to lines of flight that escape the assertion or capture of meaning (Deleuze and Guttatari, 1994).

Jackson and Mazzei (2013) suggest that by 'plugging in' to data we are more able to resist the 'representational trap of trying to figure out what the participants in our study *mean*' (2013: 262) and pay closer attention to what is *made*. As Bozalek and Zemblyas, (2017: 123) noted about their own research,

> …to learn diffractively, we had to unlearn our drive to engage in the reflective process focused on the self or searching for interpretations, as this suppressed the alternative possibilities that we might have come up with opening up to the ontology of learning – e.g paying attention to the entangling of bodies, ideas, flows and intensities generated by our collaboration in the spaces of a physical setting…

The practice of non-representational research, however, is very challenging as I have discovered in my experimentations for both this thesis and in other areas of my work, and examples of its practice elsewhere in the literature seem equally imbalanced between the theorising of the possibilities and the actualisation of this in practice. Indeed, St Pierre (2013:650) asks 'whether we can think reality without representation?' However, like Ulmer (2017:839) I suggest that it is something we might 'trouble in degrees…,' that *less* representational research might more accurately describe the work done within this thesis. I argue below for art practices and collaging specifically that offers a way of working with representations and language of teachers and teaching that resists the closing down and fixing of meaning.

d) Re-conceptualising Data and data analysis

I use the term 'data' in the way that Koro-Ljungberg and MacLure (2013) use the term, to 'problematize conceptualisations of data as known, familiar and inert objects, and to imagine more complex, creative and critical engagements with data in the conduct of research' (2013:219) as 'data-becoming'. That '…the data is partial, incomplete, and is always in a process of a retelling and remembering' (Jackson and Mazzei, 2013: 262). I move beyond traditional modes of both data collection and analysis towards what Denzin et al. (2008:27) call a 'methodologically contested present', where analysis is, as Brinkmann (2014: 722) suggests, 'abductive'. By this, he posits that the analysis is,

> …neither data-drive (induction) nor hypothesis driven (deduction) but driven by astonishment, mystery, and breakdowns in one's understanding (abduction). Materials are "taken" and produced to describe or resolve a mystery, which, to me, is 'analysis after coding'. (2014:720)

For Brinkmann, the inductive researcher 'collects' data and the deductive researcher 'frames' it, but both these researcher activities present a dilemma within a truly qualitative paradigm; suggesting as they do that there is a stable relationship between data and theory. He quotes Hacking (1983) to suggest that induction and deduction is, 'deeply modernist, representationalist and occularcentric and bypasses the fact that knowing is not just (or primarily) about passively *representing* the world but about *intervening* in it' (2014: 722. Italics in the original).

Abduction, then, is a useful research tool for the exploration of uncertainty and the uncertain spaces within the practice-as-research I propose here, research for the purpose of living, working and becoming teacher. If abduction is a dynamic process and open to

surprise, then we are no longer fixed into making it 'mean something' or conclude. This is productive for working with teachers in liminal spaces; research (re)woven into life experience, (re)woven into theory, (re)woven into analysis, (re)woven into practice. Research suggesting how it could be possible to respond within specific situations. Stuck and 'breakdown-driven' (Alvesson and Karreman, 2011, in Brinkmann, 2014: 722) situations where research is a sense making process in order that we might know something new about how to practice/live differently.

As such, research is repositioned 'as part of the life-process…' (Brinkmann, 2014:722) where, drawing on Ingold (2011:240), he argues that;

> (t)here is no division, in practice, between work and life. (An intellectual craft) is a practice that involves the whole person, continually drawing on past experience as it is projected into the future.

The idea that data trips us up, affects us to fall and scrape our knees (Brinkmann calls this 'stumble-data') is evident in the 'data analysis' I do in the next section. The process of inquiry within the metaphor of the stumble is to pick ourselves up and continue in our becoming, possibly with new and different learning and understanding about our lived experiences.

e) Using new materialism as a praxis of uncertainty/ hesitancy and listening.

The motivation for this thesis were the points of breakdown within teaching which I was witnessing with the many different teachers I work and have worked with. Stuck places that seemed irresolvable within the current theoretical understandings and pedagogical practices of ITE.

Ellsworth (1997 xi:1) suggests that there is the potential for movement within the stuck places, that the potential for learning from 'ruptures, breaks and refusals', could be to keep us going rather than fixing the despair which has such significant impact on the lives of teachers and subsequent attrition for the profession. In the moments when things go wrong, the points of disjuncture and the points of frustration, what Lather (1998), following Deleuze and Guattari (1987), calls a 'stammering and stuttering', I suggest, as Lather (1998: 490) does that developing a praxis of uncertainty offers up possibilities for becoming teacher.

> A sort of stammering and stuttering (is used) in terms of the constitution and protocols of knowledge as to what might be able to appear as passage and process, what might be open beyond oppositions, what might enable counter-economics of praxis.

In this chapter I conceive of 'stuck spaces' as both points of discomfort and fear and also as liminal spaces, thresholds, in-between spaces, existing beyond and outside what we think we know about teachers and teaching. Irwin et al. (2006:72) suggests that liminal experiences accept 'otherness and difference', which seems to be an important and inclusive space within a field such as education with its politically driven protocols of sameness and standardisation. As such, liminality offers dynamic spaces of possibility by being both on the inside and outside of dominant discourses simultaneously.

Irwin et al. (2006: 77) also talk of the possibilities of liminal spaces in terms of their potential: 'In-between spaces of *becoming* prompt disruptions of duelling binaries, conceptions of identities and the rush to certainty'. I make a proposition for the ways in which ITE might usefully reconceptualise and create different spaces in the final part of this

thesis, but here I want to sit with the idea that 'stuck places' are actually, and perhaps counterintuitively, uncertain, hesitant spaces that embrace the messiness of knowledge production as an ongoing process. Such hesitant spaces emphasise the movement and flow of everyday experiences and pay attention to the sensation and affect of these as an opportunity of creativity and imagination. Below, I discuss what practices might take place within these 'stuck spaces', but here I want to emphasise how paying attention is a strategy which needs attending to and is one which is currently neglected in ITE.

f) Paying, not having attention

Education policy and practice has created an ethos where *having* attention rather than *paying* attention rules. Take as an example the following classroom 'call and response' technique (number 23) in Lemov's (2010) *Teach Like a Champion*:

'*one, two, three, eyes on me…'*

'one, two, eyes on you'.

What I want to suggest is that this approach needs problematising in ITE if we want to really open up spaces for generative diffractive practice and world-making around becoming teacher. There is much to be valued in attuning to moments of choice, of chance, of finding small, quiet spaces in which to explore and question and think rhizomatically. For making explicit the inevitability of the messy unpredictability of moments in teaching that have no easy solution. That require instead a slowing down of the moment, to choose action or inaction that is responsive to the assemblage, to the intra-play and to exist in the inter-world between 'not knowing and knowing – the living passage from one to the other' (Deleuze, 2004:215).

It requires an improvising, a capacity according to Jones and Ellis (2019) which is integral to the development of teaching. It asks teachers to be open to the human and the non-human, to notice chance in the present and be possibility-orientated, as Barad (2007: x) suggests.

> The ongoing practice of being open and alive to each meeting, each intra-action, so that we might use our ability to respond, our responsibility, to help awaken, to breathe life into ever new possibilities for living justly.

Therefore, I take a methodological approach that employs hesitancy as a strategy for paying attention within the spaces of researching and being attentive to its possibilities as both a process for participants and researcher and for what emerges as 'data' and the way in which this is 'read'. '(P)ausing to listen is simply essential to understanding – to really understanding' (Harwood et al., 2016:5). There is an ethical dimension to such an approach, an obligation to 'not be too certain', as described by Kofoed and Staunæs (2015:24) who suggest that it is a research approach particularly applicable to fieldwork with 'affectively distressed, concerned, upset, action-orientated participants…who think that 'something should be done', so that this or that 'problem can be resolved'. I have argued here that teachers are encouraged to think this way through current educational discourses, as indeed are teacher educators and perhaps all of us who work within practice-orientated fields. It is an approach also pertinent to researchers like myself who are also teachers and practitioners in the field and who are potentially imbued as figures who have 'answers', 'solutions' or such investments in outcomes as to impact on the expectations of participants in the research. Finally, engaging a praxis of uncertainty reminds us, as do Jackson and Mazzei, (2013:262), to pay attention to our own subjectivities,

> …that we as researchers question what we ask of data as told by participants, question what we hear and how we hear (our own privilege and authority in listening and telling), and deconstruct why one story is told and not another.

MacLure (2013:173) argues 'we should not rush for meaning and definitive interpretations' of data but instead take 'an affective approach that can help us slow down and sit with what data sparks 'fascination or exhilaration…incipience, suspense or intensity'. There is a temporality to a praxis of uncertainty, a slowing down, a shift of pace or a pause of being alert to what Kofoed and Staunæs (2015:28) call an 'embodied thoughtfulness', where the 'intensity and weight of the atmosphere, the moods, feelings, senses and intuitions through which the researcher experiences and interacts/intra-acts with the object of study'. Back (2007) calls this, in his book of the same name, the 'art of listening', reminding us of the patience, humility and ethical care that needs to be taken as researcher into the complexities of participants' lived experiences.

g) Using creative, participatory, cartographic method (collaging) to foreground the role of affect in researching neophyte teachers' experiences

I have long been inclined towards using creative arts based practices in my teaching. Firstly with young people in school teaching literature and drama and latterly with adults in education as 'a means of accessing hard to reach, embodied knowledges' (Harwood et al., 2016:19) and as a means to think and ask questions from multiple positions. I have found creative practices to be able to interrogate issues of trust and power in different communities, to consider whose knowledge counts and where it is located. I have found it a powerful resource in supporting thinking about bodies in spaces, particularly those of young

people in institutions and in communities. Other disciplines to ITE (for example arts based community education, creative disciplines and psychotherapeutic disciplines) have employed artistic practice as a means for enquiry and generation of knowledges in a way that has not been used in teacher education in particular. Not least because of ITE's narrowing discourse of measurable standard, progress and outcome that sits less comfortably within arts based practices.

I have found creative activities to be spaces of both trust and risk, where surprising and unexpected responses are often found. Creative activity absorbs participants, creating what Csikszentimihaly (1990) calls 'flow', which can facilitate deep consideration of the current activity and also the development of new ideas. Creative activity is playful, engages the imagination and can work at the boundaries where experiences are uncertain or contested. As a teacher, I have used creative practice for many years to support students to explore their own thinking, their own behaviours, those of others, as well as dilemmas and conundrums provoked within literary text or by social, emotional, cultural events. Creative practice offers socially just, critical pedagogies that respect the knowledges and experiences brought by learners into teaching and learning spaces, and that have the potential to offer alternative way of thinking.

Therefore, it was not such a great step to make use of creative activity as a research tool for this thesis. Irwin and Sprinngay, (2008: xxix) suggest it offers 'a methodology of embodiment, of continuous engagement in the world: one that celebrates and interrogates meaning…a living practice'. For me it was also a means of unfixing the teacher/ researcher boundary: challenging the static notions of one or the other. Researching teaching and teaching research are entangled in my professional practice.

Furthermore, my contention throughout has been that normative discourses in education are something of a 'prison-house' for neophyte teachers. In the rhizo-maps in part 3 there is evidence of the failure of language to provide movement and possibility rather than statis and imprisonment within the hegemonic, normative and habitual educational scripts to which teachers are subject. As Biesta (2008:38) reminds us, '…we shouldn't underestimate the ways in which language structures possible ways of thinking, doing and reasoning to the detriment of other ways of thinking, doing and reasoning.'

However, the processes of thinking, drawing, creating, writing, talking used as method for this thesis, allowed for the sort of ontological stammering and stuttering (Lather, 1998) I discussed earlier, the spaces of less certainty. This was important, that the research design offered participants an escape from just having language to describe and represent thinking. This is because visual, creative methods,

> …acknowledge the existence of forms of knowing that escape the efforts of language to reference a 'consensual', 'literal', 'real' world. This knowing moves us beyond 'explanation' that can be commodified, captured, and in essence 'taught', towards a way of knowing that is rooted in embodiment as being in motion, relational, and singular. (Ellsworth, 2005: 156)

Wallins, in Masny and Cole (2012:i), drawing on what education has to learn from arts practices and artists who, 'have opposed power, affirmed difference and dehabituated normalised discourses', asks what *becomings* might be available to education if we took creative practice seriously. What are the '…possibilities for creative openings where becoming teacher might be reassembled differently?'

By using creative activities, I wanted to make available the 'non-thought within thought' (Deleuze and Guattari, 1994:12). Through the research, participants become part of a process of '(d)econstuct(ing) moments in classrooms when 'things go wrong', pedagogical meltdowns are used to foreground the limits, the necessary misfirings of pedagogy' (Lather and Ellsworth, 1996:70).

A further key methodological consideration was that the research should be participatory and collective: that it should generate the connectivity that I have argued is integral to teacher becoming, and problematize the autonomous individual discourse, as St Pierre (in Guttorm et al., 2015:18) notes,

> …we need others to help us think – we're dangerous when we're alone in our own heads. It's in these conversations that…the humanist subject disappears. This is much more than conventional collaboration.

In this way, the creative activities become inter-activities (Barad 2007) which foreground questions around how 'such inter-action with other bodies (human and non-human) produces subjectivities and enactments not previously considered? Asking how might participants interact with the matter of their worlds in ways in which they are transformed by matter and vice versa' (Jackson and Mazzei, 2013: 268).

Grosz (2001:23-24) claims 'art is the opening up of the universe to becoming-other (…) and the most direct intensification of resonance and dissonance between bodies and between the cosmos, between one milieu or rhythm and another'. As such, it was integral to my approach that the creative activity should be beneficial to the participants, that it might support diffractive thinking about their own experiences and the interconnections between the experiences of others in the workshops. Consequently, the informality of the

workshops, the weaving in of the theory of rhizomatic thinking, encouraging multi-sensory, bodily approaches and an attention to what *mattered* to participants, allowed them to be agentic within the research created as space of practice-as-research (Hickey-Moody, 2015:169). Hickey-Moody describes practice-as-research as 'an entwining of contemporary creative practice and academic research landscapes' and differentiates it from more common practice led or practice based research. It is a 'thinking about making, which unfolds with a focus on invention and evaluation'. Practice-as-research both 'materially and conceptually performs' Deleuze and Guattari's (1987) rhizomatics that I explored in part 3, 'creating a text that is a site of praxis' (Hickey-Moody, 2015: 191). As Carson and Sumara (1997: xvii) suggest of artists' practices,

> …the greatest challenge to producing works that interrupt normalized ways of perceiving and understanding is to learn to perceive freshly…, (l)earning to perceive differently, then, requires that one engage in *practices* that, in some way, remove one from the comfortable habits of the familiar (italics in original).

Research in feminist new materialist frameworks invites us to be wayfaring, more nomadic. To be more adventurous, to start in the middle and recognise ourselves as entangled. Open ended creative activities allow opportunities for a reconfiguring of practice, theory and ideas. For Irwin et al. (2006:80) describe this as,

> (t)heorizing rather than theory, Practicing rather than practice… transforms the intention of theory, and practice from stable abstract systems to spaces of exchange, reflexivity, and relationality found in continuous state of movement.

Such practising has much in common with the work of artists as Irwin et al. (2006:72) further suggests.

> Therorizing and practicing are verbs that emphasise the need for being in the process of producing. This move toward destabilizing concepts, objects, and identities is also found in contemporary art discourse where 'site' as a fixed geographical concept has moved to a relational concept re-imagined as a situation within political, economic, cultural and social processes. In contemporary educational discourse 'sites of learning' are reimagined as 'places of process' (see Lai and Ball, 2002) or 'pedagogies of place' set within political, economic, cultural ecological and social processes. (Gruenewald, 2003:72)

h) The use of collage as method

Collaging is a means by which to tell spatial stories. It is an open-ended activity that invites multiple interpretations of meaning (see Beach, 2001). It is a low stakes activity that requires no artistic skill from the participant and so the task itself presents little barrier to inclusion. As a non-representational practice, collage often emerges in process and in response to the resources available and the site of production.

For this research, as described in the opening propositions, I invited fifty-two participants take part in a creative workshop to consider and explore moments of their practice and experiences at the end of their first year of being a teacher in training with Teach First. This meant they had spent a year teaching in a school as an unqualified teacher, training 'on the job'.

During one of three workshops, participants were invited to use collaging techniques, where they (de)/ (re) constructed, (de)/ (re) assembled, *mapped* the experiences of their year and moments of practice using a range of crafting materials plus 'trade' magazines about teaching and 'street' papers which were available to (not) use. Participants had

opportunities to write about their collages or experiences if they wished to do so but did not have to. All participants had the opportunity to reflect on the collage-making workshop as a process. I took field-note throughout the workshops, written recordings of the observations, conversations and movements, plus some of the sensory detail of the workshops in process. This generated three sets of data. Fifty collages were donated by participants and/or photographed by me, written accounts from participants totalled fifteen. My own researcher notes included discussions about the collages participants had engaged in during their creation and notes about my own responses and observations of the processes of creating and making/sharing/doing during the workshops.

In keeping with the concepts of mapping and tracing that I have threaded through this thesis (see page 57) , collaging is a form of visual cartography, an opportunity to un-map and 'cut up' normative discourse, tracings, in different ways. 'Cut up' was a literary technique popularised by William Burroughs in the 1950s to create new text from existing text, thus creating new meaning or rhythms within the juxtapositions. It is a technique that has also been used in film and music and has a tradition in art practices from the Dadist movement and one I have used many times in my teaching practice as a means to counter a passive reading of text. Ulmer and Koro-Ljungberg (2015:139) suggest that visual cartographies offer opportunities to resist 'unilateral information from the map-maker', i.e. the dominant discourses of teaching to be more playful or disruptive. Here,

> …space is held open for the map user to actively interpret multiple cartographic possibilities. Instead of controlling disseminations of results, cartography welcomes viewers to conduct their own analysis, critique, and interpretations. The data/

> knowledge transfers back and forth between the map maker and the map user, with the cartography itself as the conduit.

Collage as mapping offers the potential for participants to produce new or counter hegemonic understandings of the experiences of teaching, to create 'novel juxtapositions and/or connections, and gaps or spaces, (that) can reveal both the intended and the unintended' (Butler-Kisber, 2008: 269). To make new temporal maps to layer onto those already available.

Deleuze (1987) characterises creative spaces as ones where latent ideas and thoughts can intersect and make connections with current thinking and working. Research in such spaces takes place in the 'in-between', in the processes of making and un-making rather than in the end-result, a shift in emphasis from the *generation* of data to the *generating.* As Grosz, 2001:91 tells us below.

> The space of the in-between is the locus for social, cultural and natural transformations: it is not simply a convenient space for movements and realignments but in fact is the only place - the place around identities, between identities - where becoming, openness to futurity, outstrips the conservational impetus to retain cohesion and unity**.**

Creative activity works *physically* and affectively where boundaries are uncertain and contested. It also works with breadth rather than depth, at surface level, on a flattened plane. '(A)ll multiplicities are flat' (Deleuze and Guattari: 1987:9), and everything appears at the surface, at the level of human activity (Foucault, 1970). This rejects 'static and hierarchical logic of representation' (MacLure, 2013:658), creating something more fluid and ephemeral.

Collaging has much in common with the 'baroque' research method advocated by MacLure (2006:9) in that it favours 'ways of working with, and deeply within, the intricate entanglements of global and local, sensual and intellectual, particular and general, and so on'. As a process it looks to complicate, to find 'disconcerting ways of engaging and representing educational scenes. The baroque method recommends disruptive writing, which intentionally undermines its own self certainty, interferes with the hierarchical disposition of its conceptual structures, and blurs the illusory transparency of its access to the world' (2006:11).

A further feature of collage as method is in its ability to give materiality to experience. Unstable ideas are stabilised for a short time as image that makes dialogue possible with the idea itself (Grushka, 2005). The collage itself can be agentic – an active collaborator who can 'talk back', dialogue, and reveal to the creator something of its own content and form. 'When considering creative approaches to arts enquiry we can consider art practice as the production of knowledge' (Barrett and Bolt, 2007:2). Knowledge is created through making and re-making, from the senses. As such, arts based research enables multiple knowledges that are 'personally situated, interdisciplinary and diverse and emergent' (Barrett and Bolt, 2007:2). Arts based research allows participants to choose the knowledge they work with, what to scrutinise, what to reject, what to lampoon. As MacLure (2006:9) suggests below.

> Entities are not therefore intrinsically big or small, containing or contained. They are not disposed in stable layers or nested inside concentric circles of individual, family, society. The size, significance and dimensions of the object under study depend on how the folds of the fabric of the world are disposed at the place where we start ravelling and unravelling some of its threads, and upon the intensity of our interest.

Such an emphasis on conceptual creativity (Braidotti, 2013), offers an affirmative politics in educational research in that it may lead to alternative possibilities and alternative ways of thinking about education. As Grushka (2005:355) notes;

> …this reflected connectedness bridges the individual life, family, society and the world. The meaning of self is constructed through an interrogation of new image possibilities.

What meaning or knowledges are made is also contingent on the process of making within a larger group, within the workshop environment and the relationships within it. Meanings are further contingent on how what is made is 'read' by the researcher and again by those reading the research and the contexts in which they read, the way these relations are altered by the 'as yet unnameable which begins to proclaim itself' (Derrida 1978 in Irwin et al., 2006:85). As such, in arts based inquiry, 'relationality is more than the contexts in which situations occur – it is the potentialities that constantly evoke and provoke meaning' (Springgay, in Irwin et al., 2006:85).

Part 5: A deep hanging out (Haraway, 2016) with the 'data': micro-events and uncomfortable affects

A version of this part 5 of the thesis was published in PRACTICE, Volume 1 Issue 2 in 2019 as an article: *Becoming teacher, becoming researcher: reconsidering data analysis in post-qualitative practitioner research*. It is available at https://www.tandfonline.com/eprint/V5GSQJRMQZGIPAWYGXMN/full?target=10.1080/25783858.2019.1659633

Diffractive readings

In part 3, I explored the use of rhizomatics to map contemporary ITE landscapes. I continue this rhizomatic approach here alongside the concept of diffractive reading (Haraway, 1997, Barad 2007, Mazzei, 2014).

Although diffractive reading and rhizo- mapping have much in common, I have used them slightly differently during this thesis. In part 2 I used rhizo-mapping to plot a number of elements drawn widely from ITE's terrain. Here, I use diffraction as a means to 'read' my 'data'. Thus, I want to pause to define the ways I am using diffraction to re-orientate assumptions of the solely human agency commonly found in traditional reflective, reflexive or analytical readings. Schön's (1983) notion of the reflective practitioner, reflecting in and on practice is deeply embedded in teacher education discourses and practices and came up in the 'data' in a form of a 'death by reflection' motif. Reflection's role in ITE is often to gather 'evidence' for the teacher's standards and requirements to reflect 'through' the teachers' standards is not uncommon in my experience across multiple ITE providers. This places reflection and reflexivity as a 'project' in constructing one's own narrative as a

teacher (Giddens, 1991) and is a cognitive, linear activity. As Jones and Ellis (2019:16) suggest,

> …none of these reflective practice models are unproblematic. Often they run the risk of being little more than a technical, repetitive exercise represented in a plethora of homogenized reflection templates and journalling (Boud et al., 1993) rather than a genuinely transformative process…that should be culturally-situated and fluid…

Reading diffractively (Haraway, 1997, Barad, 2007, 2012a, 2012b, 2014, Mazzei, 2014) conversely, is a non-linear process that attempts to read from multiple perspectives in order to produce different insights. Barad (2007) advocates its use as a method and a practice and a way of being attentive to differences: how these are made and the effects of these differences, the 'otherness' to normative structures I explored in part 2. Barad uses diffraction as an alternative to reflexivity that, like refection can become caught up in mirroring fixed positions and seeking solutions, and as an alternative to critique, asserting that '(d)iffractive readings bring inventive provocations; they are good to think with. They are respectful, detailed, ethical engagements' (Barad in Dolphijn and Van der Tuin, 2012: 50).

Diffractive readings make it possible 'for entangled relationalities to make connections between entities that do not appear to be proximate in space and time' (Barad, 2007:74), and so embrace memory, hopes, dreams, past experiences, future projections, creating 'new temporalities' or 'spacetimematterings' (Barad, 2014:168). Diffractive reading rejects binaried and simplistic interpretations and meaning-making, instead 'diffraction troubles the very notion of dicho-tomy – cutting into two – as a singular act of absolute differentiation, fracturing this from that, now from then', (Barad, 2014:168). Diffraction

instead involves a 'cutting together-apart (Barad, 2007, 2014), a way of understanding how things can be together and simultaneously be separate: past, present and future practices and feelings fold and unfold upon each other.

Rather than seeking to find meaning in texts or events, a diffractive readin looks at what organisms, matter and phenomena *do,* and what they are connected to (Grosz, 1994). As such it is non-representationalist (MacLure, 2013), not reflecting the world from the outside but implicating and entangling our inseparability from the world. It is a concept that draws on the theories of Foucault and Butler, to emphasise not how policy discourses function to produce power-relations but instead how 'power-relations materialise in the intra-action between/ with the material and the discursive' (Jackson and Mazzei, 2013:264). As Haraway (1994:61-62) suggests below.

> Textual re-reading is never enough, even if one defines the text as the world. Reading, however active, is not a powerful enough trope…the trick is to make metaphor and materiality implode in culturally specific apparatuses of bodily production…engaging in the always messy projects of description, narration, invention, inhabiting, conversing, exchanging and building. The point is to get at how worlds are made and unmade, in order to participate in the processes…The point is not just to read the webs of knowledge production; the point is to reconfigure what counts as knowledge in the interests of reconstituting the generative forces of embodiment.

Intra-action is a Baradian (2007) neologism that sees entities as not pre-existing the relationships that enact them, as *interaction* that assumes separate entities existing a priori. Instead, intra-actions take place in the middle, they are agentic, not possessed by individuals or beings, but emerging through the dynamic relationships of entities.

Diffraction is a way of reading that owes much to the critical practices of deconstruction (Derrida, 1967), in that it looks to re-inscribe structures that are at work in language, by looking at the construction of the structures themselves, as Spivak, (1974: p. lxxvii in St Pierre, 2000:482) suggest,

> to locate the promising marginal text, to disclose the undecipherable moment, to pry it loose with the positive lever of the signifier; to reverse the resident hierarchy, only to displace it; to dismantle in order to reconstitute what is already inscribed.

Judith Butler (1997) sees deconstruction as a practice of freedom in that it closes nothing down. Any reconstruction is always subject to further deconstruction. She argues that the comfort of deep structures offers us the opportunity to opt out of our responsibility for the state of things. If things 'have always been this way' or 'that's just the way of it', then we abdicate our ethical responsibility: '…this urge is the very sign that the sphere of the political has already been abandoned' (1997:131). Instead, she sees the potential of the ungrounded, rather than the fixed, as holding 'the condition of our contemporary agency'; posing a question we should alternatively ask: '…which way should we go?' (1997:131). My contention here is that thinking with rhizomatic and multiplicitous theories offered by critical posthumanism, builds upon this deconstructive work to further embrace the material with the semiotic and discursive. Posthuman thinking includes a politics of location (Braidotti, 2013), a mapping of the power relations in which we are embedded. It is a means of looking at the construction of both teacher and teaching 'from its own shadows…straying into the alien yet uncannily familiar shadows cast by our field's own domesticated knowledges about teaching' (Ellsworth, 1997:195).

I want to view the interferences in the landscape of initial teacher education across multiple perspectives, to view my 'data' in '…the process of making and unmaking the thing…the

process of arranging, organizing, fitting together. So to see it at work, we have to ask not only how things are connected but also what territory is claimed in that connection' (Jackson and Mazzei, 2013:262). To conclude.

> To read intensively and immanently extends the power to read differently and to think differently, to go beyond what is to what could be, the virtual actual interaction: difference and becoming. (Masny, 2010: 339-340)

A diffractive reading of the data.

I spread the collages out across the room (figure 1). It is not such a big room and the floor space is soon gone. The collages end up climbing the furniture, on tables and chairs. They create a pleasing aesthetic map, all together, and I try to leave some little pathways between them in order that I might get close to see the details.

Figure 1: the collages

I attempt to keep the 'data as fluid and in flux, thus keeping the way open for working rhizomatic in-betweens, to ask what is happening between multiplicities' (Masny, 2010:341). I try to practice Haraway's (2016) philosophy of deep thoughtfulness, a 'deep

hanging out'; using an 'off the beaten path' method for wayfaring to different starting points, staying with the uncertainty and open-endedness of the images and attending to the memory of their creation. These tentacular processes of sensing and making connections, allowing the stories to weave their threads together, re-configuring experiences to emerge to new possibilities, new becomings and other stories.

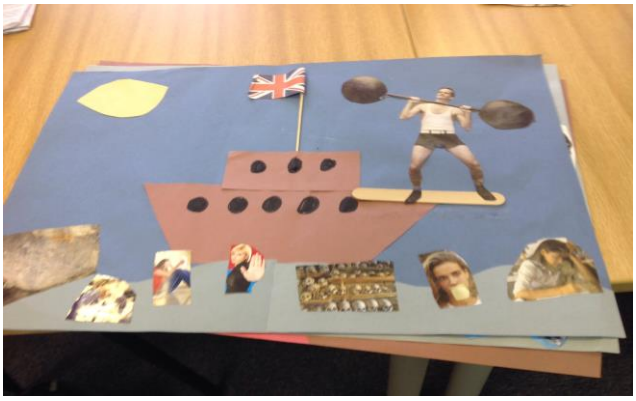
It is like wandering a strange new city. It must be a city I know, for all its landmarks seem familiar and in its hubbub it feels like somewhere I live, but I am lost. I sit still in order to be attentive to the surroundings. I am not alarmed, not only reassured by my nomadic theoretical guide but also because this is a method I employ in my own city-life; pausing amidst the noise and fumes and people to get my bearings and scope the space for reassurances of place and safety.

I linger at the edges of the collages, remembering the event of their making. MacLure (2013) urges us not to rush for meaning and definitive interpretation and suggests that we sit with what it is in the data that "glows", that sparks "fascination or exhilaration . . . incipience, suspense or intensity…hot spots (that) disconcert" (2013:169, 173). The affective responses that create a sense of "wonder". I know that I will make selections, choices, "agential cuts" as Barad describes the practice of separating 'something' from the ongoing flow of spacetimemattering (Barad, 2007:49) of the data.

> By properly recognising that we have no bird's eye position from which to look back or down at our world, we have to take seriously our own messy, implicated, connected, embodied involvement in knowledge production – what Barad (2007) calls our onto-epistemology. (Taylor and Ivinson, 2013:666)

I am drawn to the collages with a tactile quality. The cotton wool has been employed as clouds like formations in a number of the collages and in one as the wispy fly-away seeds of dandelions. The materials available to participants have been agentic in remembering feelings, in producing affect, demonstrating the importance of 'thing-power' (Bennett, 2010). They 'signal the moment when the object becomes the other…when the subject experiences the uncanny and feels the need for what Foucault calls a 'metaphysics of the object, or more exactly, a metaphysics of that never objectifiable depth from which objects rise up towards our superficial knowledge'" (2010c:2). They are creating a 'speculative onto-story' where objects become 'things', 'vivid entities not entirely reducible to the contexts in which (human) subjects set them, never entirely exhausted by their semiotics' (Bennett, 2010:5). The cotton wool is also used with density for storm clouds; "it has been a choppy year" (Participant Z), and in tiny wisps, pulled apart and floating around the image of a fragile looking dandelion. Bennett notes this as 'the curious ability of inanimate things to animate, to act, to produce effects dramatic and subtle' (2010:5). I am struck by how each of these collages tell of movement; 'I felt blown to the school I am at but also not really settled' (participant JS). In another collage, choppy waters are created in paper and a man teeters precariously above them. Entitled "walk the plank", the heroic image of the strong man is made precarious (figure 2, below).

Figure 2: 'Walk the Plank' by participant F.



In this collage, the cotton wool/ lollipop stick *becomes* representational, but it is more than that: it drives the ideas, its feeling in the hand re-immersing the participants in some moments of their experiences. In another collage, S crinkled plastic: 'bureaucratic suffocation' (Participant S). The sensual and visual nature of the material eliciting an affective response. The plastic is layered across all the images, making everything beneath opaque.

Ideas flow between participants, so across various collages there are a few sunny yellow flowers and suns made from tiny rolls of crepe paper, lollipop sticks become bridges, tree trunks and see-saws. In this way the works are both individual and collective, the same techniques creating different meanings as participants use them to conceptualise their experiences.

My field-notes describe how as they craft, conversations and stories flow and connections are made, new *lines of flight,* emerge – these are the moments of possibility for new or different thinking, for change, for momentary escape. They are the de-territorialisations of the map of becoming teacher. Shared experiences made unfamiliar in new locations. These lines of flight in turn inspire new creative responses: the discursive and the material in

symbiosis. The collages are of the moment and can never be produced in the same way again, threading and connecting as they do with materials, bodies, space and time. There are 'shifting speeds and intensities of engagement…generat(ing) sensations resonating in the body as well as the brain – frissons of excitement, energy, laughter, silliness' (MacLure, 2010: 282). Affective responses to the things shared, recognised, the tiny little sensations that returned through the process of making/ thinking/ talking simultaneously. They exist only in the moment and somewhere in connection to, but not explicitly within, the representations or significations of the collages. As MacLure, (2013:664) reminds us,

> …language is in and of the body; always issuing from the body; being impeded by the body; affecting other bodies. Yet also. Of course, always leaving the body, becoming immaterial, ideational, representational, a striated, collective, cultural and symbolic resource.

In SE's collage (figure 3, below), the process of creating assembles alternative narratives. In the ripping and layering, emerge some of the contradictions of becoming teacher. These contradictions overlap, jostling for territory and sharing the same space. The reorganization and cut up is playful and cynical and questioning. Through the interference with the textual discourse available in the 'trade magazines', different narratives are mapped that keep the contradictions in play.

> It is at the level of interference of any practices that things happen, being, images, concepts, all kinds of events. (Deleuze, 1989:268)

Figure 3: Too much too young? Collage and text by participant SE

My collage represents the stress and anxiety that my students have encountered during their KS 2 SATS. Choices are a lie: hence the 'one way' signs that point both ways and the 'availability of programmes' picture. It was all about targets. There are several references to failure and 'too much too young' was the first thing I chose. Some of the statements are conflicted though. Do I believe in them or not? I want them to get jobs but is it that simple that this way of learning will get them there? Some kids never stood a chance, especially those with special needs or those who lived in bedsits or didn't have enough to eat, or whose English was poor AND they were poor. The learning was obviously not pointless but it felt like it sometimes. The references to creativity and happiness are my vision but that feels so clichéd now. The little paper clip images were a good expression of how I felt my pupils had become. Some of the collage was little jokes - trying to get the pupils not to use emoticons, not being able to read anything they wrote.

The inseparability of thinking/ feeling/ doing here in the process of making the collages demands a theoretical response that does not allow for any easy 'reading' of the 'data'. Participants, like EP, return to the highly emotional encounters that characterized their everyday experiences and respond to them in the process of making. Questions about how

learning can/not take place when student and teacher bodies are so entangled with hunger/ poverty/ violence/ uniforms/ exam papers/ singing/ emerged in the reconfigurations. I am reminded of Barrett and Bolt's (2007:3) 'mingle and mangle' of entangled material and discursive agents. Trying to understand learning in ways that cannot be linear, the purposes of education can be re-examined through the agentic entanglements of multiple inequalities. This re-mapping through the collages questions what it is that matters for the children in the classroom whose access to how learning is conceptualised and enacted in the space of the school, is about success in examinations. In EP's collage, the entangled social economic factors turns pupils and teachers from enfleshed human bodies to 'paperclip', other-than-human bodies.

Across the participants, the collaging evoked some interesting entanglements. It bore witness to the experience of crying in 'unacceptable' spaces such as the playground or the classroom and invoked how this was damaging to the ways professionalism and the 'master' teacher narratives had been constructed/enacted. GP's (figure 4, below) re-immersion in the sensual nature of the playground with children's bodies moving and demanding to share GP's space suggested a configuration of teachers not as separate entities from the children or the spaces they inhabit, but entwined with them. The loss of control felt in this temporal-spatial liminality of the playground where different rules and ways of becoming both teacher and student are at play in ways not easy to describe. What is 'known' for GP within the multi-sensory experience: the 'screeching' noise and the proximity of movement, is something of the flow, of the *affect*, of the mobilities and multiplicities that characterize becoming teacher.

Figure 4 (thumbnail): *The Crash.* Collage and text by Participant GP

I was mortified when I cried in the playground. I knew it made me look weak and pathetic but I had no idea how to respond only to the important things. All the children running around and screeching and wanting to be near me. I thought 'this is the moment I have to leave, when everyone can see I can't do it.

Drawing on Stengers (2009), Stewart (2017:197) talks of the method of the mezzo: 'the state of being in the middle of attachments and threats, of what lingers and what jumps…one that makes demand on visceral imaginaries and the sensoria'. This use of affect as ethnographic method she suggests,

> …more fully describe(s) a world under pressure, the way a present moment can descend like a curtain on a place, the way a world can elaborate in prolific forms, taking off in directions, coming to roost on people and practices. In the state of emergence and precarity, points of aesthetic-material-social-political precision can appear as a flickering apparition, a flash of colour, or they can come to bear, roughly, on bodies like a hard shard landed in a thigh muscle.

Indeed, many of the participants' responses fragmented and abused the 'body-as-image' in ways that were suggestive of affective responses still-felt/re-membered by the body. (Figure 5 and figure 6).

Figure 5: Thumbnail from 'showing up is not enough' collage by participant Z.

Other collages gestured to entangled, liminal spaces which emerged as places for experiences teachers had found generative, e.g. extra-curricular spaces such as the choir MM had started with her pupils (figure 6, below).

Figure 6: The Choir. Collage and text by Participant MM

Once I had set up the choir, which created an opportunity for the children and myself, it became one of the most positive experiences of my journey. I'm here in this picture, all on

my own with my eyes falling out due to work and the late, late nights and juggling the things I had to do. But when we were singing it was all worth it. It was a beautiful thing and all the stresses melted away and I even loved P *(a child in her class)* **at that moment – even though he was the bane of my existence at all other times. It was the only harmony I reached with my mentor though – the choir was my second choice of club. I chose all the songs deliberately so that I got my first choice of club in the end!**

In the picture, the teacher has 'goggly eyes' which fall from her head and roll across the table. The teacher body is disintegrating amidst the multiple demands and pressures of the job. The renewed and reformed body exists in collaboration with the children in the choir, their bodies (gendered through the participant's cutting of skirt and trouser shapes) become one and MM's suggestion that she "even loves P" re-configure his "disobedient", "bane of my existence" body in a new space, differently. In discussion following the workshop, MM tells us about her first choice of club - a 'Black Lives Matter' club connected to the work the year 6 children had been doing in history during *Black History Month*. MM's mentor had vetoed the suggestion, saying it would be too much work, so MM chose songs for the choir whose roots were in black experiences - her way of embodying with her students the political and cultural space she had wanted to open up. "Too much work" MM interpreted as meaning "too challenging, too black, too me, just too *much"* (field-notes).

MM talks during the workshops of the school 'doing' *Black History Month* as series of worksheets 'so it looks like it's done, but there is no space for any real discussion or sharing of experiences. It's all hush'. In my field notes, I write about how MM physicalizes her descriptive 'hush', making her body smaller and closing it in, before releasing it in a dramatic gesture of distain, rolling her eyes (field notes). MM's body gestures perform a refusal of the

school's inadequate response, as she performs a refusal with her choir who sing gospel songs. The choir, is an entangled teacher and pupil body where relationships play out differently than in the classroom, refusing to collude in the negating of spaces. Here, in the choir things might open up, rather than close down. I take up MM's story again to explore the possibilities of space in the final section of the thesis.

MM's 'hush' is Deleuzian trace. It is Derrida's (1967) temporality of silence opening up questions about what is happening in the silences, in the gaps. They too have the potency to 'arrest' (Derrida) or 'abduct' (Brinkmann, 2014) and might be missed from a research method less attuned to how bodies perform silences. These ideas around silences and getting 'shut down' open new lines of inquiry for participants who discuss questions around the following during the collaging, recorded in my field-notes: Who is heard in schools? Who gets to speak and who has the 'authority' to do so? What and who gets silenced? What is obscured in discussion about curriculum and pedagogy?

I have written in my field-notes how this debate clearly has some significance for participants. Their 'constructed identity' as Teach First teachers, as dynamic leaders of change are unsettled by the power dynamics within the institutions they work in. Their schools demand an autonomous responsibility for pupil good behaviour, lesson outcomes and curriculum delivery but as new teachers they are rendered naïve and unworthy in areas that 'matter' to them such as the 'mattering' of creativity, of dialogic practices, of relationship building, of innovation and 'making a difference'. There was much discussion about the 'identity' they went into schools with. Participant D says they were 'set up', told at their induction to Teach First what a difference they would make but then she says they were prevented in their schools from being part of any innovation around issues of poverty,

social justice or narrowing the gap. 'It was basically survival' (participant D). These comments are lines of flight, the leakages, betokening states of becoming, 'always becoming otherwise, however subtly, to what already is', (Gregg and Siegworth, 2010:3). The co-ordinates of the participants' identity as Teach First teachers no longer adding up to a recognisable pattern dictated by the Teach First discourse, but making new patterns that feel less familiar and less sure. 'I didn't want to become this teacher' (Participant D), talking about a lack of creative practice, of having to teach to the test regardless of the impact of this on pupils. My field-notes record how this is met with agreement with a number of the group but also with some alternatives, moments of refusal, of possibility to become otherwise. This evoked for me Braidotti's (2013:163) belief in a process of 'disidentification' as being essential in a critical posthuman methodology: 'the power of memory and the imagination and the strategy of defamiliarisation'. Disidentification is a process whereby subjects dissociate themselves, like participant D, from discourses with which they have come to identify. It is more subtle than a wholesale rejection of one's subjectivities but requires 'a situating oneself both within and against certain discourses' (Braidotti, 2013:163). Judith Butler (1992:219) calls it an 'experience of misrecognition, this uneasy sense of standing under a sign to which one does not belong', or no longer belongs or believes in. It is both a challenge to normative discourse and a strategy for resistance. It opens spaces for emergent situations, to alterity in self and others. As such, I believe in the collaging process, the participants operationalized an ethics of a posthuman practice.

As a way of thinking how institutions reproduce and sustain inequality and discrimination, these 'small stories' made visible some of the more obscured boundaries within participant's educational institutions which made some space O.K. (choir) and some spaces

not O.K. (Black Lives Matter club). Participants also evoked spaces of resistance configured; e.g. the 'choir', singing songs rooted in protest and in holding hands presenting as a unified wall against the closing down of the other spaces to discuss black history. In another collage (figure 7, below), the cut up text from the 'trade' magazine was re-written, re-purposing the discourse to create a 'void' or dip with the cut up text, 'the reality: overwhelmed by SATS work'. A series of lines suggested an old-fashioned corrective for school children, 'doing the same thing' over and over again – punishment for me and the children. The choice of words 'I Will Not', slowly fragmenting has the potential for both resistance as well as regret.

Figure 7: *I Will Not*, collage by participant E.P

The frequent visual references to falling and climbing in a number of the collages suggest the teacher body in constant motion, sometimes represented by mountains and valleys, at other times in the physical act of creating voids, dips, toppling images and structures, mounds made from paper. Movement was also evoked in images of 'crossing': bridges, tracks, boats on rivers. Landscapes of two halves. Spaces of liminality/ spaces of belonging/ borderland spaces. There were also many temperate evocations: feeling of warmth from sunshine and cold, rainy, bleak conditions evoking a corporeal response to climate and environment, to comforts/discomforts.

J's response unsettles (figure 8, below). His is the one I have found the most troubling, at the time of its production and in the many times I have looked at it and held it since. A gentle and thoughtful young man, training to teach in a primary school based in an economically deprived area of the West Midlands, his response was unexpected and discomforting. My notes from the time record my own affective response and my and others' entanglement with J's storying.

Figure 8: Collage. Participant J.

J immersed himself in the activity. His first act was to screw up the paper and then rip the edges, taking chunks out of it. He scoured the images in the magazines quickly, flipping through the pages and selecting without hesitation. The images he chose all had associations of distress and violence, three showing active conflict. One image was of a mouse on a wheel and another an image of a person making a call on a telephone labelled SOS. The images all overlapped in the middle of the paper. He crudely cut the edges of the 6

images at the edges but the central image: a blurred photographic depiction of two children fighting with one child holding another in a headlock, he tore chunks from. He did the same with another photographic image of a couple arguing, a woman with fists raised behind a man with his head in his hands, his face showing signs of distress. He cut out some sentences and single words from the variety of magazines around him and arranged these on the images. These were: 'drinks',' need a break', 'toll on mental health', 'depleted', 'disastrous', 'it upsets me a lot', 'sharp slowdown', 'uncertainty', 'considering oblivion', 'siblings squabbling', 'sacked', 'I was bed bound'.' I went from confusion to anger to paranoia'.

He worked intensely and quickly, not engaging in the ebb and flow of conversation around him.

J's response exemplifies what was characterized by much of the 'data'. It was highly emotional and recorded chaotic encounters and experiences. His response to the activity in the tearing, ripping and screwing up were sensual and evoked feelings revisited giving new space for reconfiguring his experiences. As Manning (2009) reminds us.

> A body…does not exist…a body *is* not… it *does.* To sense is not simply to receive input - it is to invent…Sense perceptions are not simply out there to be analyzed by a static body. They are body events, where bodies, sense and worlds recombine to create (invent) new events. (in Hickey-Moody, 2015:3)

Without a linear narrative, J layers the experiences in interesting new ways, where they overlap. At the time, as inexperienced researcher and as an experienced teacher, I find the experience of the collage creation as unsettling, not least because I am called by my responsibility to this student's wellbeing. I am entangled in his emotional response and

violent representations in the collage in multiple ways: as teacher-educator, as teacher, as University tutor, as researcher, as mother, as woman, as human. In the moment, I inhabit these multiple identities in unsettling ways. I am caught in a moment of feeling the urge to do something whilst simultaneously committing to the process in which J is engaged. 'Obvious suffering accentuates appeals 'to do something', the pressure of an 'urge to take action' which Kofoed and Staunæs (2015:25) suggest is an experience likely to be shared by research in 'zones of high intensity', in 'grey zones' of ethics in practice: 'unpredictable and yet utterly important moments and issues of ethics arising when in the field'.

This is a version of Ellis' (2007:4) 'relational ethics' which 'recognizes and values mutual respect, dignity, and connectedness between researcher and researched, and between researchers and the communities in which they live and work'. MacLure's (2013:164) reminder that to sit with the difficulty of the 'hotspots' is an 'ethical refusal to take the easy exit to quick judgement, free-floating empathy, or illusions of data speaking for itself'. Diffraction, as Bozalek et al. (2016:6) note, 'is ethical and care-full practice of reading texts in their fine details, recognising the value of past, present and future knowledge contributions (6)… moving (us) away from 'reflective, disinterested judgment to mattering, embedded involvement' (Kaiser and Thiele 2014, in Bozalek et al., 2016:206).

The potency of narratives of violence in the collages affect me at the time and again on re-readings. It is an affective response. My heart beats faster and higher in my chest. It is not just J's current story I am reading and responding to: it is multiple stories of violence from different times and memories. They are body memories, remembrances of the sensations and fears that proximity to violent episodes trigger. There is something of the private being made public in J's response, the making visible of the teacher experience 'behind closed

doors'. Citing Deleuze and his emphasis on the importance of what happens in the spaces between stimulus and response, Pearce et al. (2012:425) talk about the affect response I experience with J. As,

> (a) rush to fill that gap when we are anxious, hurried, under pressure or on the spot. We feel compelled to act, to go on but…it is important that we counterbalance conceptions of time in which a future is treated as known, or inevitable…

The response reminds me of the unpredictability of the affective, to materialize and behave rhizomatically and implicate us all is both what makes working within this paradigm as compelling as it is unsettling, as I and other participants experience in J's response in the workshop.

Stewart (2007:3) talks of attending to such ordinary affects as being 'to trace how the potency of force lies in their immanence to things that are both flighty and hardwired; shifty and unsteady but palpable'. For me it is the *resonance* of J's engagement and the ways in which he and the processes of his response inhabit the space within the workshop that demand both my attention and that of other participants. Like Pearce et al. (2012:425) suggest; it is,

> (the) shame, embarrassment, awkwardness, and uncomfortableness (which) suggests that there is much that has to be navigated. To be in between, to find the middling spaces, enables us to attempt an articulation of our learnings in human rather than humanistic ways.

This is my response; I employ the methodological hesitancy, plugging in the response-ability (Barad, 2007, Haraway, 2008) as researcher to stay with 'the trouble' *because* of its unpredictability. I acknowledge that such ruptures to habitual and comfortable ways of thinking offer productive possibilities and new ways of knowing about the experiences of becoming teacher. As Barad (2007:49) suggests,

> …knowing does not come from standing at a distance and representing but rather from a direct material engagement with the world.

I recognize the resonance of what J later describes as being 'too fast and too slow at the same time' in my response to the collage. Barad (2012a: 215) urges the researcher to account for the body that is always-already in the work, as I am in J's. She reminds us that,

> …all material entities, are entangled relations of becoming,…materiality 'itself' is always already touched by and touching infinite configurations of possible others, other beings and times. In an important sense, in a breathtakingly intimate sense, touching, sensing, is what matter does, or rather, what matter is: matter is condensations of response-ability. Touching is a matter of response. Each of 'us' is constituted in response-ability. Each of 'us' is constituted as responsible for the other, as the other.

This conceptualization of the body is not just a human one, J's story becomes part of the rhizome of personal, shared, social, educational, political violences. As Stewart, (2007:129) notes,

> It's transpersonal or prepersonal—not about one person's feelings becoming another's but about bodies literally affecting one another and generating intensities:

> human bodies, discursive bodies, bodies of thought, bodies of water . . . it gestures toward the texture of knowing.

The possibilities for researcher and participants to 'think through the body, not in a flight away from it' (Braidotti, 2013:5), and to acknowledge '…the role played by the body as a visceral protagonist within political encounters' (Coole and Frost, 2010:19) are mobilized in encounters such as with J and his collage above. These possibilities speak to the potential of thinking and working with new materialism as practice as research, outlined in part 3. Post human encounters like this encourage us to think with the body, 'a form of composition in which the feeling body produces its own emotionality, potentially without words' (Ulmer and Koro-Lungberg 2015:141) and the physical act of creative practices, as Taylor and Ivinson, (2013:667) suggest,

> …encourage us to look (again) at the micro-political level, at what is happening in a specific material context. By recognising the micro intensities of here and now, 'new' material feminisms invite us to reaffirm that the personal is as political as it ever was.

The emphasis on 'becoming-in relation-with matter and meaning' (Taylor and Ivinson, 2013:667) demands that we revisit our ethics of care – our understanding of what matters with and beyond the human subject. As Taylor and Ivinson (2013:667) go on to say, this emphasis,

> …has the potential to re-cast and re-invigorate an ethics of care by installing an ecological perspective – rooted in a respect for the vitality of all matter – at its heart.

This ontological 'ethics of care' operationalises Haraway's (2008) 'response-ability'. In staying with what matters for J is the opportunity to reappraise what counts as knowledge of how becoming teacher is constituted, with and beyond the human subject.

J makes his collage quickly and he sits back contemplatively. Then he is ready to talk. Others come; there is something about the work which draws us to want to sit with J. I am interested in how tactile his work is to other people and the collage becomes a point of connection – his damaged collage is stroked by one of his peers, becoming agentic, part of the intra-actions that take place spooling from one person's experiences and stories to the next. New lines of flight emerge where some of the participants on J's table talk about the impacts on their mental health and share some of the trigger moments, persistent grinds, personal events, histories etc. that had affected them throughout their training. (Field notes).

There is something in the response of others in the workshop who are in proximity to J that reminds me of how visceral and affective teaching is and how ignored this in in the processes of becoming teacher. Stewart (2007:2) stresses the productive potential of 'ordinary affects', the ordinary, habitual routine and unremarkable.

> The ordinary is a shifting assemblage of practices and practical knowledges, a scene of both liveliness and exhaustion…(o)rdinary affects are the varied, surging capacities to affect and be affected that give everyday life the quality of continual motion of relations, scenes, contingencies and emergencies. They're things that happen.

Other participants touch and stroke J's collage, making a physical connection with him through his work and with small reassuring gestures on his arms. They sit close to him, with

him and share other moments when control and meaning has imploded. These are crossings of time and space, '(b)oundaries don't hold; times, places, beings bleed through one another (Barad 2014, 179). I am struck by how the openness and fragility J has shown is reciprocated, how it has collaborative benefit and yet it sits outside dominant resilience discourses.

Sprinngay (2019:63) talks about touching as 'immediate, proximal, and bodily' and suggests that it is under-valued, whereas,

> (s)ight, equated with reason and the mind have dominated the sensorium hierarchy. Consequently, the phrase 'I see' is commonly used to express cognitive understanding, while 'I feel,' which implies an intuitive, interior, and a bodily way of knowing, is conventionally construed as a non-objective way of making meaning. Touch threatens bodily boundaries opening up different corporeal ontologies.

This reflects the emphasis placed on the cognitive in ITE, and education in general which is de-centered in posthuman thinking and the importance of this is illuminated in the connections made between the other research participants and J. This is not a one way 'comfort', as Sprinngay (2019:63) notes; 'in touch is the ongoing unfolding of differences…the opening of one body to another; it is an interval, an event' in which is the possibility for becoming in different ways.

These situated knowledges, partial perspectives rooted as they are in contexts not always the same offer opportunity for 'shared conversations' (Haraway, 1991: 195), affective and spoken between the participants, 'producing meeting points of shared solidarity around which layers of difference nevertheless persist' (Hubbard et al., 2006:170).

The participants' 'data' is filled with intimacy both emotional and physical. Sprinngay and Truman (2017) argue that such intimacy is either demoted or devalued in educational research, or treated as a negative. Particularly in schools orientated research. Affectivity then hides within the 'pleats of matter' (Deleuze, 2004:3) which the collaging and connections the participants make with each other unfold and fold these pleats to 'make sense' of their experiences. 'Making sense' in the Deleuzian (2004) sense that it is sensing the significance of their potential becomings, of being sensitised to possibilities, of being 'in touch' rather than to simply 'make sense of'. Specifically, being 'in-touch', in ways that enable response-ability and ethical responses of noticing, improvising, acting.

I want to argue this as a kinder and more response-able survival tactic than the call to resilience which we saw mobilised previously (page 77). It also has opportunities to function as a mode of resistance. The assemblages of macro policy that inform the concept of the resilient teacher can be responded to with micro-practices of intimacy and touch. It is in these affective alternatives where possibilities for a different future are folded for J.

The participants and J make affective connections, trusting, being patient, being playful, taking risk, being open to discovery and possibility. Braidotti (2013:12) suggests that post-humanism 'urges us to think critically and creatively about who and what we are actually in the process of becoming,' as the participants do in this moment.

In part 3 (page 79), I mapped the ways in which discourses of resilience and particular performances of conformity hailed teachers in multiple ways. It was unsurprising then that I should be drawn to those collages where these very discourses played out. Throughout all the collages were representations of bodies compromised by the demands of training to teach, often in violent ways. Pens were driven into heads, eyes fell out of sockets with

exhaustion, people engaged in active bodily conflict; punching, fighting and shouting. These images incorporated the bodies of both adults and children as well as elements not human, the spaces of classrooms and schools, the interaction of 'things' in creating moments of calamity and crisis. Books fell onto bodies, mangled car crashes, bodies were variously buried under paperwork, clocks, symbols for marking, academic 'caps', a variety of stationery, cartoon 'bombs' ticked. The emotional impact of violence on the body was also rendered through images of crying and grimacing, hiding and obscuring faces with hands and arms. There were also multiple images of exhaustion. In this way the collages showed the visceral nature of becoming teacher, dissolving in these moments teaching's preoccupation with the 'rage for meaning' located in human cognition. Specifically, in the classroom/ school encounters which the participants mapped, bodies were shown to be in a process of constant becoming, temporary elements in an assemblage punctuated by other bodies, events, affects. In the context of the collages, 'things' become political. They come alive in the presence of 'others'. Deleuze and Guattari (1987: 257) suggest,

> (w)e know nothing about a body until we know what it can do, in other words, what its affects are, how they can or cannot enter into competition with other affects, with the affects of another body, …to destroy that body or be destroyed by it …to exchange actions and passions with it or to join with in composing a more powerful body.

Through all the collaging, the construct of the resilient body remained on the map. There was much that was familiar, drawing on and returning to the normative discourses about teachers and teaching, performances of the teacher body traced in parts 2 and 3. However, there were many less familiar lines of flight and surprising events, speculative onto-stories

(Bennett, 2010:4) that 'highlight the extent to which human being and thing-hood overlap, the extent to which the us and the it slip-slide into each other' (2010:4).

In the affects and intensities of the creative practices and the space of the workshops in this research there emerged the potential for something new for me as a researcher. Where binaries of life/matter, human/inanimate are dissipated and the affect of both the human and non-human are at play, is the possibility to 'generate a more subtle awareness of the complicated web of dissonant connections between bodies, and will enable wiser interventions in that ecology (Bennett, 2010:4)'. I believe this is vital if we are to think of alternative ways of understanding and engaging teachers to understand teaching in its 'swampy lowland' (Schön, 1983:42), engaging with where and how and in what moments pedagogical reasoning and affective response develops and the ways in which this influences practice and sustainability within the profession. This does not offer a concept of a fixed 'alternative', but alternative ways of thinking that themselves will 'become objects of later critique and reform' (Bennett, 2010: xv).

Part 6: Teacher educating with rhizo-pedagogies: possibilities and propositions for a situated praxis

The intellectual enquiry of this thesis began with the ruptures, the discontinuities, the 'ruins' (Lather, 1998:490) of the intra-actions and entangled agencies of a number of the problems I encounter as a teacher, teacher educator and researcher. The enquiry emerged from the experiences of neophyte teachers and the increasing articulations of distress and discomfort as they worked in schools based models of ITE, from the fragility of practitioner subjectivities and bodies as they encounter liminal spaces. It emerged from the time spent in their classrooms with their pupils where I became interested in the affective and material nature of their experiences and entanglements. From the stories told within my own classes where they were the students and as I moved on from ITE, the stories of those who had left teaching, who could not find a way to sustain themselves in the contemporary educational climate in teaching in the UK. From time spent in training courses and at conferences about ITE where normative and reductive educational discourses dominated. From my own histories as a teacher and parent and woman and colleague, and all the other points from which I think and feel and speak and act. It emerged late in the day, so to speak, after many years in education and as such is multiply diffracted through time and space and experiences and the things that have mattered along the way.

As such, it has never attempted or claimed a linear process or that it was seeking answers to clearly defined research questions. It began with the 'data', not so much defining the challenges to be addressed, but in the messy, chaotic, multiplicitous experiences of teaching and the many interferences and bothering of education. From there it behaved rhizomatically, breaking into new thoughts, taking new directions, making new connections

and suggesting new possibilities as I read and thought and practised and experimented and lived and read some more. It has been the productive nature of an Educational Doctorate that I got to live my thinking and writing on a day-to-day basis. In practical and visceral ways in my teaching and practice in the university and simultaneously fractured and fragmented with long temporal gaps where new thoughts, experiences and inspirations crept into the gaps and produced new directions.

Deleuze and Guattari (1987) use the concept of the weapon as I previously noted on page 23. Unlike the 'tools' of the state apparatus, weapons are for the nomad, like jewellery, 'turning gold to red and silver to light' (1987: 443). I want to return to this idea here to suggest weaponry of the sort that has the potential to disrupt and disturb normative thinking and practising, to do difference to an unrelenting and exhausting drive of sameness, repetition and standardisation that structures ITE. Weapons, characterised as they are by mobility and transportability, are a means to dismantle state mentalities, always 'projectile' to be aimed towards dislodging what is 'known' and accepted about teachers and teaching. I propose that there are a number of weapons, crafted from posthuman thinking that can be used in ITE to disrupt education's dominant discourses. Discourses that understand the 'training' of teachers by accepting a vision of learning that is driven and limited by standards and that valorises relentless notions of betterment and progress for teachers and pupils alike. This thesis does not accept the idea that there is a 'universal concept (of ITE) and some recipe can be implemented' (Ovens, 2017) for its 'success' in 'delivering' teachers who can 'produce' teaching and learning, or that there is a set of values and practices through which professionalism in teaching can be understood. Current approaches to ITE do not pay enough attention to teacher bodies in (super)complex spaces preferring to construct them as resilient 'survival bodies', while not paying enough attention

to the affective dimensions of becoming teacher, or the importance of matter and what matters in teaching. My proposal here then, is that contemporary UK educational policy in neoliberal state education frames the work, training and 'identity' of teachers in ways which mute all the discontinuities and dissonances of becoming teacher seeking instead to produce a static and measurable standard of teacher and teaching. This current state behaves in contradictory ways. By constructing 'teacher' as a fixed outcome of neoliberal enterprise and entrepreneurial endeavour, a docile subject who operationalises state educational policy, the fragility and decline of teachers in the face of such super-complexity is guaranteed. The status quo works to place the responsibility to become the 'ideal' teacher with the individual, using an easy set of markers to measure oneself against and 'no-one to blame except yourself' if you fail. However, the (super)complex modern world, the contestable nature of knowledge (Barnett, 2015) and the exigencies of neoliberalism makes more urgent a flexible and fluid response to knowing and doing within teacher training which is currently underdeveloped and to which I hope this thesis makes some contribution.

Throughout this thesis, I have drawn on the philosophies of Deleuze and Guattari, and the theories of posthumanism, using the language and concepts they offer, whilst trying to keep more normative education discourses 'under erasure' (Derrida, 1967). I have interrogated taken for granted signifiers within both the fields of Initial Teacher Education and of qualitative methodology. I have been working in the 'fields of play' (Richardson, 1997), where there is no 'getting it right', only contouring it differently (Richardson and St Pierre, 2008:478) and here I want to follow these contours into some propositions for practice. In the spirit of Deleuze, I am not proposing a grand gesture of revolutionary reform: 'there is no need to look to fear or hope, but only to look for new weapons' (Deleuze, 1992:4).

As such, this final chapter is both a series of resting points from which new lines of flight are possible as well as some re-imaginings for the practices of ITE. Rather than to review and conclude, I want to be more speculative, to ask some 'what if?' questions. Haraway (2016) suggests we ask 'what if' questions as a way of becoming actively involved in world-making practices, as opposed to more traditional researcher positions gathering representational accounts.

What is there in this thesis for the possibilities for practice? For teacher education in universities? For teacher educators? For teachers? In reply to such questions, I propose some rhizo-pedagogies: ways of working and thinking that open up new possibilities.

I also want to offer an imaginary. To imagine a version of ITE as informed by posthumanism. What would that look like and what questions would need to be provoked in order that ITE is not about training teachers to know and to become, but is an undoing? An undoing towards becoming.

Becoming teacher is not an outcome, as I proposed at the start of the thesis. There is not a point in which one arrives at the state of being teacher. It is a nomadic and subjective ongoing experience, where neophyte teachers' engagement in more multiplicitous thinking offers more sustainable practices. As (Britzman, 2003:214) notes,

> (Where) multiplicity is suppressed, so too is the struggle of student teachers to deal with, articulate, and transform their circumstances – and all of the vulnerabilities this entails – into meaningful learning. If student teaching is characterized by multiplicity, then the professional's discourse of certainty will not be able to assist the student teacher's potential to respond creatively to such difference. In such turbulence, where certainty is sought and eludes, and where the real is unfastened

> by relations of power, what kinds of tensions work against multiple understandings of teaching and learning?

This thesis has considered how in the entwining of creative practice and academic research we can create new opportunities and spaces for (re)thinking the landscape of practitioner education, particularly that of teacher education. It argues that when we think and work with rhizomic, feminist, post human theories we position ourselves more adequately to research the (super)complex nature of our educational spaces and practices, where multiple fields and multiple practices are at play within the practical, conceptual, physical and emotional, human and non-human entanglements that constitute the daily professional lives of teachers. In the context of contemporary practices in teacher education, where reductionist, linear, *arborescent* (Deleuze and Guattari, 1987) thinking striates spaces of learning to be teacher, *rhizomatic* thinking makes imperative a response which is different to how teacher training is currently constructed and delivered. What role can we play as teachers and teacher educators in producing and (re)producing practices, relations and spatial boundaries? What is produced in some of the practices we 'accept' or tolerate within teaching and learning such as within curriculum design, assessment strategies, behaviour 'policies', school cultures, pedagogical approaches and what happens if we resist describing things as they tell us they are but instead look at events as temporalities of becoming (and of difference)?

Rhizo-pedagogy 1: Practising rhizomatic knowledges

- **What happens to bodies and subjectivities in movement within rhizomes?**

ITE must find a way to encourage critique of arborescent thinking and knowledges both with its students and within its own practices. It must understand its own striations and make

these visible to neophyte teachers. This should be an explicit ethical undertaking. Ovens (2017:48) quotes Lorente and Kirk (2013) to suggest that transforming ITE practice involves,

> …attending to the creation and sustenance of social systems operating at different levels of the education system as much as it does on using particular methods and strategies in teacher education lessons.

ITE must create spaces, smooth spaces as I propose below, that are rich with pedagogical opportunity as well as being affirming to new teachers. It is imperative for ITE providers to facilitate teachers to thrive whilst fracturing the dominant propositional structures with which the monoliths of the field's core knowledge curricula and its twin, direct instruction pedagogy in education generally and ITE specifically. As I have mapped in parts 2 and 3, the propositional structures of relentless progress and accountability and the assumptions within these propositions of the teacher body as a survival body, are unsustainable. This is not dismissing such structures outright, but rendering them visible as assemblages within the assemblage of becoming teacher. As Haraway (1994:59) suggests;

> …the point is to get at how worlds are made and unmade, in order to participate in the processes, in order to foster some forms of life and not others.

ITE can, of course, start from where we are at in teacher education, and acknowledge and work with the neophyte teacher's desire to conform in order to survive in the profession and within their institutions. However, it must also be resolute in proliferating thinking about knowledges and associated pedagogies, and take up its role in contributing to the policy debate of ITE for the future. This means engaging with research not solely focused within the 'what works' arena but that engages with Foucault's (1987:8-9) question;

> …what is philosophy today - philosophical activity, I mean – if it is not the critical work that thought brings to bear upon itself? In what does it consist, if not in the endeavour to know how and to what extent it might be possible to think differently, instead of legitimating what is already known?

By foregrounding what happens rhizomatically, opportunities for 'lines of flight' from the effect and affect of such striations are made available and visible for teachers to work with in more productive and generative ways. Deleuze and Guattari argue that striated spaces are inevitable, and such lines of flight will always be re-territorialised. However, lines of flight are valuable because they present us with opportunities to foreground differences/ alternative experiences/ fresh perspectives and opportunities to examine the ontological 'trick' of the striated space where 'teacher' and 'teaching' are constructed as autonomous acts, from other positions and perspectives. Instead, as Barad, (2012a: 214) proposes, we might practise an, '…ontological indeterminancy, a radical openness, an infinity of possibilities, is at the core of mattering…matter is never a settled matter. It is always already radically open'.

Through the mobilisation of rhizomatics in teacher education, there are alternative ways of thinking about what 'is' or what 'appears to be' teacher identity and the experiences of teaching as it is mediated through current dominant discourses. Otherwise to fixed, contemporary ways of thinking and practicing, '(i)n-between space of *becoming* prompt disruptions of duelling binaries, conceptions of identities and the rush to certainty' (Irwin, 2015:200) as well as opening us up to more positive, exciting opportunities as MacLure, (2006:229) suggests below.

> Our ways of seeing education are so deeply ingrained with discursive familiarity and 'mythic immediacy' (Buck-Morss, 1991, x) that we are more-or-less insulated from surprise and wonder.

Is it possible though, to become more Deleuzian in ITE? Is it possible to replace identity with difference, being with becoming, to think horizontally and with seriality rather than hierarchy? As Stronach (2012:172), notes, 'being radical in a doctoral space is easy enough', but what does new materialist thinking have to offer us as teacher educators and close to practice researchers? Post qualitative enquiry is a theoretical approach largely absent from UK initial teacher education even whilst it is increasingly finding space within educational research, what Ringrose et al. (2019:1) call 'a maturing field within educational studies'. There is very little evidence of its application within UK based ITE although there is evidence of this in the Unites States of America, see for example the work of Ovens, (2017) and Strom, (2015, 2017). There is currently a disconnect between post qualitative educational research and practice as research in ITE. However, as this thesis has suggested, combining the two has much to offer. As Bayley, (2018:22) notes,

> …it is perhaps of greater importance to see how new critical tools are not merely engaged in advancing ways of reflecting the world around us in new and interesting ways, but with actually participating in creating new realities, new ontologies, new ways of being human and non-human at the same time – ways that speak with the entangled human/nonhuman complexities of our time.

Hickey-Moody (2015:174) suggests that working rhizomatically offers opportunities for change and for asking different questions that I argue ITE needs to adopt.

> Rhizomatics is a method of conceptual and practical arrangement that initiates change. Making a rhizome is about asking questions, pulling things apart to see how they work and putting them together again in a different way to see what they can produce, what *different purposes they might serve.* (Italics in the original)

Rhizo-pedagogy 2: The opportunities of the smooth space

- **What happens if we (re)consider classrooms as spatial assemblages where bodies-objects-spatial configurations-environments-temporalities entwine? Teaching practices as co-constituted, co-produced spaces always in a state of becoming through multiple elements only one of which is the (also multiple) teacher-self**
- **What happens if we take seriously the idea that matter and materiality are co-producers of teacher becomings? If we take at face value the interconnectedness of the human, non-human, virtual and actual?**

There has been much in this thesis about spaces. In particular, this thesis has explored the liminal space of training to be teacher in school based training models such as Teach First. It also has relevance for those whose bodies and subjectivities cannot find a place within the dominant discourses that frame the mythologised discursive construction of the teacher-body. A disconnect, I argue, that leads not only to high attrition from the profession, but also high incidences of poor mental health, professional and personal anxiety in teachers.

Current initial teacher education has not yet, at policy level, embraced the thinking and research available around space, time and matter. However, there is practical application in Deleuze's conceptualisation of 'smooth space' that is worthy of further enquiry for what it might offer to practice. Teachers practise largely in Deleuze's 'striated' spaces. These are 'state' spaces of regulation, order and conformity, made up of the organised classroom; of

walls and enclosures, of the lesson objective; the plenary; the review of progress; the target and the regulated teacher and pupil body. They are the spaces colonised by Ofsted for observation. It is easy to see how teacher *identity,* as traditionally conceived and researched, might be a state evolved striated space. Teacher *becomings*, however operate in smooth spaces. Smooth spaces are the folds. They are open, nomadic spaces (Deleuze, 1994). Spaces where one is multiply positioned, spaces where there are no plans (although they are not empty spaces, but spaces brimming with possibility), that operate in the 'in-betweens'. They are important, as Grosz (2001:91) suggests.

> The space of the in-between is the locus for social, cultural and natural transformations: it is not simply a convenient space for movements and realignments but in fact is the only place - the place around identities, between identities - where becoming, openness to futurity, outstrips the conservational impetus to retain cohesion and unity.

Smooth spaces are the spaces where there is a gathering of matter and what matters in the classroom: the emotion, the decision, the movement that holds a possibility for change or resolution, or chaos or laughter or despair. As Deleuze and Guattari (2004:421) remind us.

> There is no line separating the earth and sky; there is no intermediate distance, no perspective or contour; visibility is limited; and yet there is an extraordinary fine topology that relies not on points or objects but rather on haecceities, on sets of relations (wind, undulations of snow or sand, the song of the sand or the creaking of ice, the tactile qualities of both).

Anyone who has ever spent any time in a classroom will know how there are fractional, fleeting moments when the course and feel of a lesson is changed in tiny or in dramatic ways. These are where, as Applebaum (1995:15-16) suggests,

> …(b)etween the closing and the beginning lives a gap, a caesura, a discontinuity…it is neither poised nor unpoised, yet moves both ways…it is the stop.

This thesis has explored what might happen when we attend to these moments.

Rhizo-pedagogy 3: practising diffraction not reflection in the folds of the smooth space

- **If one event has occurred in one space of teaching and learning, will it occur differently in another space? How do phenomena change when resistance or barrier is encountered, such as in Barad's (2014) example of the ripples of water when a stone is thrown in?**

Smooth spaces are diffractive, full of possibility. It is in the intra-action of moments of possibility that becomings and events can take place and they transcend time in the linear sense. Deleuze and Guattari (1994) call these spaces 'void spaces', although not in a sense that a void means nothing or emptiness. Instead, the void is a summoning 'force' (1994:181), a space for the not-yet-formed where anything might happen. These are powerful spaces, if difficult spaces for teachers to think in. Fluid spaces, they are also moments of fear, of uncertainty, of frustration, of doubt. Moments of affect. They could be hesitant moment before the teacher shouts, or makes a caustic remark or feels out of control. Nuanced, tiny moments where connections can appear if attentive to the moments, where meanings are made. They are, not surprisingly, 'a busy site of agency' (St Pierre, 2004:260). Action may follow such moments but Deleuze (1994) reminds us that it is

possible for affects to be inactive and yet still vibrate with potential (Colebrook, 2006). They offer potential in the moment and in the afterward to, '(n)ot to arrive at meaning, rather to map connectives, to think about how things worked together' (Mazzei, 2017:681). Ways of mapping connection in this way are made possible through the process of diffractive reading.

Diffraction is a useful weapon as a research methodology as I have found in my own practices within this thesis. It could also be a pedagogical tool I believe to be useful for ITE, in place of humanist, reflective methodologies and practices where reflection is a metaphor for sameness and mirroring, reflecting through 'standards' to reach 'what works' within the framework of the pre-scripted.

Rhizo-pedagogy 4: Thinking space and re-thinking time

Massey (2013:n.p) conceptualises space as 'a cut through the myriad stories in which we are all living at any one moment.' She notes the intimate connection of space and time in ways that I think are useful for educators where time is such a weaponised (in a non-Deleuzian, normative sense of aggression), commodity and so frequently mobilised to prioritise one thing over another. Massey suggests,

> …if time is the dimension in which things happen one after another, it is the dimension of succession, the space is the dimension of things being, existing at the same time: of simultaneity. It is the dimension of multiplicity (2013:n.p).

Let us consider again the story of participant MM from part 5, whose 'Black Lives Matter' club is considered by her mentor as being too time consuming, too much work. Here time is mobilised to reduce space; space for difference and exploration. Space for this teacher and

pupils to exist in a 'new' space of their own making. Massey (2013, n.p.) considers space to 'concern the relations with each other…our connections with each other', and that what is critical to consider are the ways in which these relations become about power. More specifically, how power is unequally distributed. MM's reading of the refusal for her club is about more than a lack of time. MM's reading is about the taking up of 'too much' space. This is racialised space, gendered space, body space, liminal space. It is risky space, where the power potentially shifts from the institution to the teacher and her pupils. She is keenly aware of the unspoken narratives within the school she works, an industrial town in the West Midlands, in which Enoch Powell gave his 'rivers of blood' speech in 1968. MM's story shows how historical and contemporary discourses 'come to matter' to particular bodies in new temporalities, in spacetimematterings (Barad, 2007).

If time is 'the dimension in which things happen one after another…the dimension of succession, then space is the dimension of things being…that we create through our relations which are all full of power (and) which presents us with the multiplicity of the world' (Massey, 2013:n.p). A focus on the possibilities of different kinds of space in ITE offer opportunities to counter the concept of linear, progressing time as being in pursuit of a single end, but rather reposition it as multiplicitous spaces where many becomings can simultaneously emerge. As Grosz, 2001:93 notes,

> (t)he space in-between things is the space in which things are undone, the space to the side and around which is the space of subversion and fraying the edges of any identities limits. In short, it is the space of the bounding and undoing of the identities which constitute it.

I propose that rather than being spaces of resolution, these liminal spaces affect ways of being in the world via the entanglement of differently situated knowledges. As Deleuze and Guattari, (1987: 27) suggest below.

> *Between* things does not designate a localizable relation going from one thing to the other and back again, but a perpendicular direction, a transversal moment that sweeps one *and* the other away, a stream without beginning or end that undermines its banks and picks up speed in the middle (italics in the original).

For practices of ITE, this is not as radical as it seems. In it the relationship between smooth and striated spaces is dynamic, 'smooth space is constantly being translated into a striated space (and) striated space is constantly being reversed, returned to smooth space' (Deleuze and Guattari, 1987:474). Smooth spaces can and must co-exist with the striated spaces; 'the teacher must co-exist in both modes, living between the two' (Semetsky, 2006).

This is a productive way of thinking for working in ITE educational spaces, where normative humanist discourses allow so little air for alternative ways of thinking and practising. As with much of posthumanism's contribution, I am not positing an *either/ or, this/or that* situation, but one which is a *this and this and this and*… (St.Pierre, 2013). As I have found in both the researching for and the writing of this thesis, there is a challenge in holding onto smooth spaces in any case. St Pierre (2000:478) articulates this challenge below.

> Humanism is the air we breathe, the language we speak, the shape of the homes we live in, the relations we are able to have with others, the politics we practice, the map that locates us on the earth, the futures we can imagine, the limits of our pleasures.

Like Strom (2017) suggests, and as this thesis has evidenced, we need some alternative entry-points in ITE, some spaces to begin to be posthuman, even if it sometimes tests the limits of our imaginations.

Rhizo-pedagogy 5: paying attention to what matters.

- **What (and whose) other stories are available to us if we sit quietly and listen in at the voids, the frontier spaces? What is the transformational potential of this?**

In my exploration of methodology (part 4), I argued that *paying attention* rather than *having attention* is the role of ITE, that the current focus on the centrality of the teacher as having all the control and all the strategies is putting neophyte teachers at risk, as evidenced by high rates of both attrition and poor mental health. ITE must support (super)complexity thinking so that as becoming teachers they can inhabit smooth spaces so they are able to make connections of memory and time and experiences for themselves and pupils, to create/ operate in spaces that are generative of empathy and respect, where warmth and sorrow can exist and futures are filled with alternative possibilities and hopefulness. Hope which 'lives in the spaces between our lived realities and how things could be otherwise' (Pearce, 2010:3). Although in many ways this seems self-evident, education policy is currently fixated with time as linear, milestone orientated, of pupils' 'rapid and sustained progress' (Ofsted's descriptor for evidence of 'outstanding' in classroom observation). What I propose in reconceptualising space, positions education differently; 'education is no longer about right responses or dogma (striated), but becomes multi-sensory, affective, involutionary, felt events' (Sprinngay, 2019: 67). I argue here that a 'stammering knowing' (Lather, 1997:299) offers us more. As Barad (2007:91) notes,

> (m)aking knowledge is not simply about making facts, but about making worlds or rather, it is about making specific worldly configurations…in the sense of materially engaging as part of the world.

Grossberg (in Hickey-Moody, 2012:129) suggests that we might 'use our authority, mobilised through a pedagogy of risk and experimentation, to discover what the questions (that we ask in our research, questions about investments in politics and popular culture) can be in the everyday lives of our students and what political possibilities such questions open up'. I argue that we will only know what matters to neophyte teachers (and their pupils) if we listen, and by this I mean a multi-sensory listening/ feeling and pay attention in radically open ways. As Pearce et al. (2012:422) ask,

> …how can we mark, or make time for those who speak, write and resist in their own voices? How can we break through the routine, the numbing, the frozen, and the unexplored? And how can we avoid perceiving only that which concerns us?

This is the matter that matters. The paying attention to, and valuing through theoretical frameworks, to what Taylor and Ivinson, (2013: 668) describe as,

> …the forces and power at work in classrooms operat(ing) through the bodies and things of the classroom, its space and its many materialities. The classroom as material assemblage, bodies as matter to be managed, and the materialisms which impact on knowing, affect how learning takes place.

Rhizo-pedagogy 6: foregrounding the role of affect

- **What work does affect do to our experiences as teachers, our relationships and our bodies? What if we consider the ways in which our raced, classed, gendered**

bodies interact with the raced, classed, gendered bodies of the students/ colleagues/ communities we are entangled with?

- **Do different bodies do different practices within ITE/ education's shifting assemblage?**
- **What happens when we think with our bodies? What does it take to allow ourselves to do this, what are the conditions in which this can happen? What happens when we think/feel/sense in the moment?**
- **How might pedagogies of hope and imagination replace those of despair and retreat?**

ITE's developing practices needs to be not only in its attention to an entangled view of the world, but also the complex relations of ongoing violences and power (Alaimo, 2016, Jackson, 2013) and how these emerge as, 'a collective assemblage of enunciation, that mixture of bodies, instruments, institutions and utterances, which speaks the speaker' (Lecercle, 2002:88). The concept of assemblage as opposed to the individual or humanist subject offers neophyte teachers a safer and more sustainable space to think within, de-centering the 'hero' body whilst simultaneously acknowledging the intimate role of the affective teacher body. Mazzei's (2017:683) minor inquiry, her use of the Deleuze-Guattarian (1987) concept for a flattened ontology, as opposed to grand narrative of teachers and teaching, suggests the following.

> It is not that individual bodies or utterances disappear, but narration must be thought that enacts the social and collective nature of language and the subject…there remain bodies that laugh, cry, bleed and sweat and anguish. However, that contour (of a minor inquiry)…demands an entirely different conception of voice,

> representation and the subject. I a minor inquiry, all things, all individuals, all stories are claimed in a territory of connection.

In part 5, the 'data' of the collaging workshop foregrounded the highly affective spaces of teaching and suggested there were possible ways of relocating trust, intimacy, being in-touch in our practices. I am inclined through both experience and observation and through my reading of the 'data' in this thesis, towards Ellsworth's (1997:194) understanding of the teaching experience which asserts that;

> (t)here's something provocative about teaching's proximity to discredited things such as trauma, surprise, discontinuity, tickling, the unconscious, paradox, magic, silence, obsession, invisible and unrepeatable events, and the movies.

To me this seems the closest we can get to begin the work of describing the emotional, physical and affective experiences of teaching. I think the process of creating the collages by the participants of this study was play within these proximities described by Ellsworth above, being simultaneously stories-so-far, still under construction, ontologically multiple, drawing as they do from the entanglement of the human, the non-human and the material.

Concepts such as intimacy, touch and trust are not easy to think through in teacher education, where the teacher is constructed as 'highly professional: therefore not emotional….a totalizing object of teacher identity that leaves little room for 'abnormal identities' (Zembylas, 2003:233). It is an area worthy of further exploration. However, in generating these new spaces within the practices in ITE, and promoting thinking about space and time we offer opportunity for examining and unravelling the folds, where such potentially risky or deviant elements hide within the 'pleats of matter' (Deleuze, 2006:3). It also demands that ITE is more careful with its mobilisation of the 'resilient' body, rather

foregrounding the 'affective' bodies/non-bodies offers potential for more generative and sustainable practices. Bennett (2010:21) asks an important question to add to our imaginaries about the ways in which affective bodies form assemblages.

> How does the agency of assemblages compare to more familiar theories of action, such as those centered around human will or intentionality, or around intersubjectivity, or around (human) social, economic or discursive structures? And how would an understanding of agency as a confederation of human and non-human elements alter established notions of moral responsibility and political accountability?

Rhizo-pedagogy 7: Using practice as research and creative, experimental, participatory practices.

- **What happens if we research differently, as practice?**
- **What happens if we take arts practices seriously as method?**

I have proposed and illustrated in this thesis how practice-as-research, mobilised here as creative, arts based practice is mindful of and responsive to context as a dynamic entity, refusing to close down or fix or conclude and as such is a method suited to valuing and encouraging the becomings of neophyte teachers. As Hickey-Moody, (2015:191) suggests below.

> Inventive research methods materially and conceptually perform Deleuze and Guattari's (1987) concept of the rhizome, creating a text that is a site of praxis, a text that explores a range of different spaces, times, territories, locations, points of stasis and lines of flight.

Like St Pierre (2011) I propose it is more productive to see theory and practice in this domain as inseparable, instead to reimagine participants of educational research as 'provocateurs' rather than objects of knowledge, as lines of flight that take us elsewhere (St Pierre, 2011: 620).

Deleuze and Guattari (1994:111) prioritise the role of active experimentation above the delivery of the definitive answer: 'to think is to experiment, but experimentation is always that which is in the process of coming about'. Methods that destabilise 'identities' and fixed concepts are found in contemporary arts based practices. 'Site' as a fixed geographical concept is reconsidered as being a relational concept; a situation within political, economic, cultural and social processes (Taylor and Ivinson, 2013). There is something in this transdisciplinary imagining that holds potential for ITE. For us to reimagine contemporary educational discourse's 'sites of learning' as 'places of process' (see Lai and Ball, 2002) or 'pedagogies of place' set within political, economic, cultural ecological and social processes (Gruenewald, 2003:72 in Irwin, 2015:72).

So what might these spaces look like and what might happen within them? I have explored within this thesis one attempt to create such a space with the collaging workshops. This attempt sits within a wider commitment in my own praxis to more experimental and creative methods for teaching and learning (and researching) within the University and during the writing of this thesis I have experimented with other creative workshops, using the river as metaphor and swathes of material, auto-ethnographic writing and photography, crafting lanterns and intra-active walking methods. All with the emphasis on process to invoke conceptual creativity (Braidotti, 2013) in teachers.

I have a commitment to pedagogies that are experimental and playful. A commitment to rhizomatic learning spaces where complexity and unpredictability are not threats but are (re)imagined as ways to change and respond in different ever-changing contexts. A commitment to disorientation that has the potential to make the striations in teacher education more visible. As Haraway (2016: 12) reminds us below.

> It matters what ideas we use to think other matters with; it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what descriptions describe descriptions, what ties tie ties. It matters what stories make worlds, what worlds make stories.

There is much for ITE practices and pedagogies to benefit from the physical act of creating, using 'thing power' as in the collaging to access memory and encourage wondering and playfulness as Bennett (2010:20) suggests,

> …thing-power perhaps has the rhetorical advantage of calling to mind a childhood sense of the world as filled with all sorts of animate beings, some human, some not, some organic, some not. It draws attention to an efficacy of objects in excess of human meanings, designs, or purposes they express or serve. Thing-power may thus be a good starting point for thinking beyond the life-matter binary, the dominant organizational principle of adult experience.

Materiality is also force, energy and intensity, it is not only 'things' and this extends the possibilities for projects and research in multiple directions. Creative spaces and practices create networks of motion, play and sharing that are affirmative, as seen in the data in this thesis. Creative work has a potential for embodied, relational, affective understandings of process of becoming teacher as a dynamic way of opening spaces to (re)think what matters

to teachers in their lives and experiences. Creative practice can also be work of interconnectedness, work of the political: 'to configure the world as a complex weave of micro-events – or simply becomings' (O'Sullivan, 2010:277).

Becoming thesis, becoming researcher: some resting points

Each of the provocations and imaginaries in this final section are suggestive of much work to be done and much more thinking and experimenting to take place. I have discovered, like Ulmer and Korolungberg (2015:44) suggest that 'one inquiry continues to provoke wonderings in another' and this is perhaps the point of practice as research or all close to practice research.

These wonderings, the 'what ifs', the uncertainties will continue beyond this thesis, but in newly informed ways. 'Doing theory requires being open to the world's aliveness, allowing oneself to be lured by curiosity, surprise and wonder' (Barad, 2012:207). St Pierre (2001:142) describes the power of theory to produce us differently as the writing of this thesis has for me: 'living and theorizing produce each other; they structure each other. Not only do people produce theories, but theories produce people'.

Like Haraway (1988 in Ringrose and Renold, 2014:778), I am aware that the,

> …analysis and the knowledge produced is affectively situated, it is coming from and going somewhere…analysis never stops; it is always ongoing in ways that flow through and inside of the research projects intra-acting and shaping future research encounters as part of the complexity of the research assemblage.

I still have much more to think through, around ethics in posthuman methodologies, around language, around theory and praxis, around ITE's resistance to everything this thesis suggests. Post this thesis, I will revisit the lines of flight and rhizomic connections made in the writing of the thesis, continuing to think about how we look at teacher education differently, and how we learn to look in this way, as educators and as researchers. I end (for now) with two thoughts. The first, from Williams (2013:247) inspired the thesis.

> Knowledge alone is insufficient. Knowledge also requires an apprenticeship to evolving practice. This practice is not a matter of knowledge. It is a matter of experimental doing and acting, when knowledge is not enough, when knowledge fails. *A gardener on a new hill in changing climate. A cyclist going beyond her limits on a hill taken too fast. A teacher in front of a new class each new day ... A writer essaying the next sentence ... The first day without a loved one ... and the hundredth. A scientist with new results.*

The second is the attempt I have made within this thesis to respond to where knowledge is not enough, through my thinking and my praxis and my researching, and my commitment to making further small plots of land.

> This is how it should be done: lodge yourself on a stratum, experiment with the opportunities it offers, find an advantageous place on it, find potential movements of deterritorialization, possible lines of flight, experience them, produce flow conjunctions here and there, try out continuums of intensities segment by segment, have a small plot of new land at all times (Deleuze and Guattari, 1987:161).

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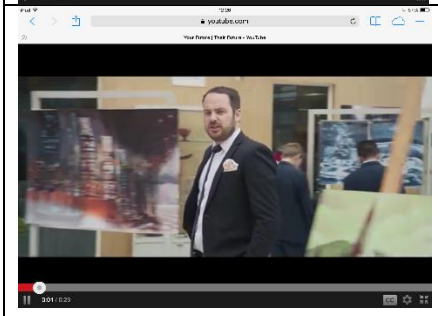
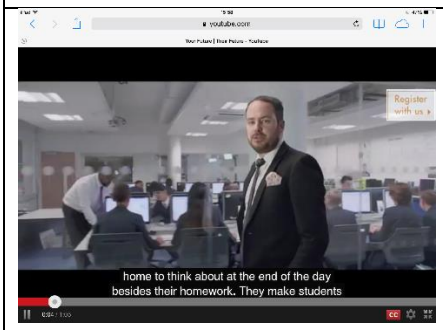
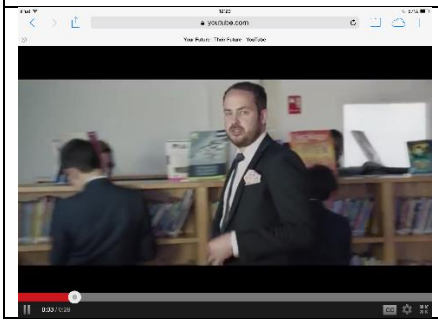
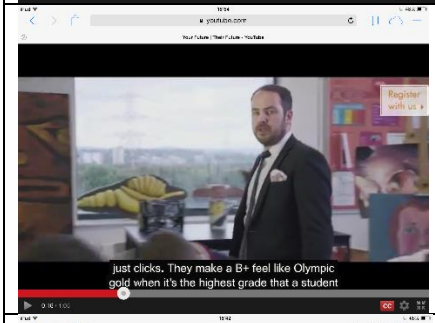
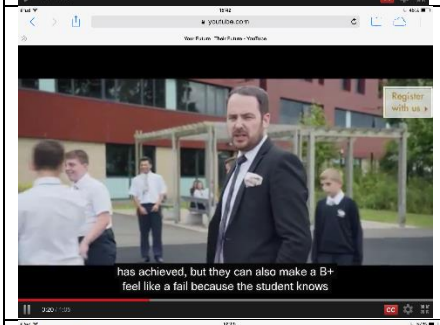
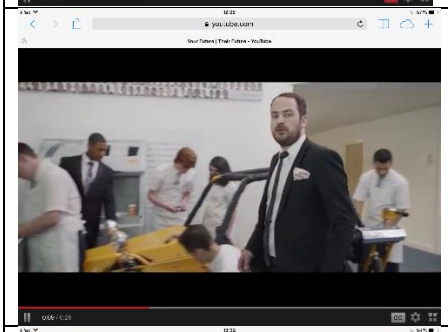
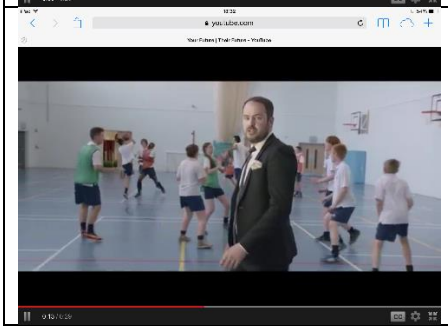
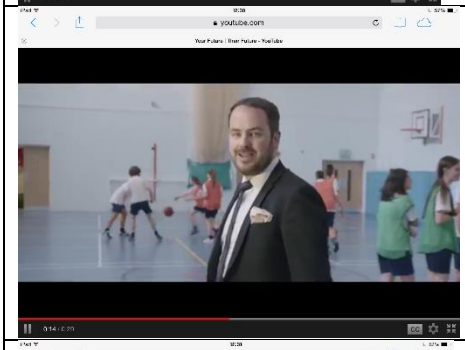
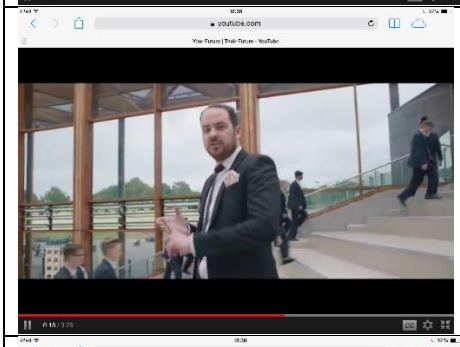
Appendix A: A visual transcript by the author of the DfE (2014) recruitment campaign

Each image is a frame of the sequence and includes the accompanying spoken or written text and a description of the action.

Image	Spoken text	Description
		
	What do you think a good teacher makes these days?	Mr Burton walks quickly through a space where art works are displayed. Students are in the background, some with backs to the camera, others engaged in activity but slightly out of shot.
	Well, they make a class take something home to think about at the end of the day besides their homework	Mr Burton walks through a computing classroom Students are working at computers, their backs to the camera or partially obscured by computers.
	They make students curious, question and criticise	Mr Burton walks quickly through library. Students in background. All students have backs to camera looking at books on shelf.

	They make them understand. They make that moment when it just clicks	Mr Burton walks through classroom All students are heads down, concentrating on their work at desks in rows. Clicks fingers on 'clicks' as student puts up his hand as if in response to question. No other student reacts.
	They make a B+ feel like Olympic gold when it's the highest grade that a student has achieved…	
	But they can also make a B+ feel like a fail because a student knows it wasn't their best effort	
	They make young people believe they could achieve more than they could ever achieve	Mr Burton walks through engineering workshop. Students working hands on a car
	They make the frightened confident	Mr Burton walks through sports hall. Students play basketball in the background.

	The uninterested ambitious	Mr Burton walks through sports hall Students play basketball in the background
	And the gifted brilliant.	Mr Burton continues to walk through sports hall. On the word 'brilliant' the camera zooms in to make him appear closer.
	They makes CEOs, nurses, scientists and engineers	Mr Burton walks down steps. Students in the background walk up steps, their faces averted or slightly out of focus by the sense of movement
	And for those of you wondering what else they make…?	Mr Burton walks through science laboratory between two rows of students. Students face towards an off screen point.
	Whoa! (gasp from students)	Mr Burton walks past what the students were looking towards as a flame jumps up from the hand of a female teacher. Students take a collective gasp.

	It's probably more than you think.	Mr Burton stops walking to deliver the lines before closing the door on a room labelled 'Staff room'.
		Writing appears on the fixed screen.
		The words 'your future' appear first, followed by 'their future'. Voiced by a female voice.

Appendix B: Ethics

Faculty of Health, Education and Life Science Research Office
Faculty of Health, Education and Life Sciences
Birmingham City University
Westbourne Road
Birmingham
B15 3TN
HELS_Ethics@bcu.ac.uk
27/09/2016

Ms. Louise Lambert
[redacted]

Dear Ms. Louise Lambert
Re: Collage and blog research 2016 - **Lambert /Sep /2016 /RLRA /0581**

Thank you for the additional documentation regarding the above study. I am happy to take Chair's Action and approve the study which means you may begin your research.
The Committee's opinion is based on the information supplied in your application. If you wish to make any substantial changes to the research please contact the Committee and provide details of what you propose to alter. A substantial change is one that is likely to affect the safety and well-being of the participants;
scientific value of the study;
conduct or management of the study.

The Committee should also be notified of any serious adverse effects arising as a result of this research. The Committee is required to keep a favourable opinion under review in the light of progress reports.

I wish you every success with your study.
Yours sincerely,

Dr. Merryl Harvey
On behalf of the Faculty Academic Ethics Committee