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‘Troubling’ Music Education:
Playing, (re-)making and researching
differently.

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Abstract

Traditional theorising around music teacher education has focused largely on dichotomies between theory and practice. The dominant stories of teaching, knowing and researching which underpin this theorising arise from Enlightenment views of humanism where knowledge is fixed and transferable, where bodies and materials are used as tools towards cognitive gain, where the spoken and written word dominate.

This study challenges these stories, 'troubling' views of music teacher education and approaches to researching it. These challenges arise from bringing together music teacher education with posthumanist literature, particularly the work of Donna Haraway and Karen Barad, to break down divides between body and mind, theory and practice, nature and culture, human and material, knowing and being. Drawing on post-humanist philosophies, this thesis reconceptualises relationships not as opposites but as entanglements, where learning occurs in between people, materials, spaces and ideas. It is through doing differently that we create potential for seeing, hearing, feeling, practicing and thinking in different ways.

To challenge dominant stories of teaching, knowing and researching, this project focused on creating a space to make music teacher education differently, creating different relationships, making different metaphors and stories, and being together both with one another and with the materials in different ways. For this project a space was created alongside a university music teacher education programme where a research group was established involving eight student teachers, their course leader and myself as the researcher. Our research experiences involved a series of conversations and practical workshops over a period of nine months, during which we explored and re-visited the notion of improvisation - a common concept in music – from the perspective of it being a 'radical apparatus' used to 'trouble' our expectations, our actions and our thinking about teaching, knowing and pedagogy. We played with improvisation through discussion, through responding to and creating images, through musical, physical and verbal improvisation activities and through ongoing reflective conversations about how the ideas of the project entangled with our lived experiences.

In our playing, the role of the body and the active role that materials played on us became important. Challenging the absence of discussion around bodily and material activity in music

teacher education and reinstating the importance of these elements in our entanglements, makes significant differences in what is seen as relevant and important, what is explored and played with in the research processes and how relationships are considered. Posthumanism allowed the project to play with and challenge conventional research language (e.g. in this thesis the terms 'data' and 'methods' are reframed as research materials and research experiences); conventional analytical approaches (e.g. which in this thesis are thought of as playful diffractions), and the conventional thesis structure. This thesis is written as a set of three *Themes and Variations*, where the literature and methodology are entangled throughout, and ideas are explored from multiple perspectives. Each variation sets particular materials, ideas, vocabularies and literature in motion with each other, creating spaces of diffractive playing.

Doing, thinking, writing, seeing, hearing and feeling differently not only troubles music teacher education but creates potential for asking far reaching questions which traverse discipline boundaries: Who or what is teaching? How do we see beyond the human to see what materials are actively doing? How do we create forms that are dynamic, allowing difference-making to occur? What happens when we consider learning as emerging in-between us and materials? What is the role of the body as making in teacher education? What is the role of making in learning? What if we reconceive teachers as makers? What relationships do we have with sound as makers? What would it mean for attentionality and response-ability to become core professional ways of being?

In leading us to ask these questions, this thesis begins to tell a different story, of a posthumanist pedagogy for music teacher education. This is a story of pedagogy as relating to the specific way we enact relationships not only with other humans, but also with materials and sounds. It is a story of how we develop student teachers' sensorial awareness to these material / sound / human entanglements, and how we promote playfulness as a process of opening up concepts, forms and language to make new and make differently in Music ITE. This new story is embryonic, an offer which is not a set of fixed conclusions but as something to continue to make-with in different contexts, in different environments and with others. It is a story of music teacher education yet to come.

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Acknowledgement

The story of completing this thesis is one of transitions; moving to Scotland as a family, changing family responsibilities, a changing supervisory team, changing Higher Education institutions, changing jobs, and most recently all the transitions involved in adapting to Covid-19 including home schooling, home working and finishing my PhD writing in some of the most extra-ordinary circumstances. When I sat in an office in Aberdeen University for my first supervision meeting nearly six years ago I knew it was the beginning of something that would be very important to me, but what I didn't know was just how radical an impact it would have on my thinking, being, parenting and teaching. Therefore, this acknowledgement isn't just a thank you but an absolute recognition that I wouldn't be sat here typing these words without a combination of the following people, spaces, places, events and most importantly music!

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A very special mention must be given to those who were in the research group. Thank you – I learnt such a lot with you, and your enthusiasm and commitment to the project was hugely appreciated.

Much of my PhD has been written in pressured time slots, around childcare, job commitments and more recently home schooling. For much of this time my PhD has been my hobby, the

space I carved out for me, where I could lose (or maybe become) myself. At the centre of this process was having spaces and places to write and think, the most important of these being my local coffee shops where I could escape to early in the morning or late at night. This literally wouldn't have been written without them!

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Introduction

Making you an Offer

I would like this thesis to be thought of as an offer. An offer to join with, make with and be with the materials, ideas and arguments that make up this story. An offer to join in with a posthumanist space in which conversations, actions, emotions and bodies were set in motion and continue to be in motion. To join in requires you to 'live' this text, making with it in your own life, with your own body and emotional responses, recognising that as you read the materials and make with them, you contribute and develop this dialogue.

In theatre improvisation 'an offer' relates to the opening up of a situation through an activity or a verbal interjection which then enables others to join in. It is about each response creating potentiality to move the story forwards.

An example of an offer:

Person A: 'What have you got in your bag? It looks heavy!'

Person B: 'Ah – you may be interested in this' (digs into a bag, pulling out some blocks of wood with sandpaper on them, some sticks and a bag with pinecones). 'I've been using them in my music sessions – have a try'

Person A: (with a big smile she takes a stick, a cone and a block of wood and starts making sounds)

In theatrical improvising, a participant doesn't need to have prior knowledge of the intentions of the activity or verbal statement of the offer but does need to accept the offer, in order to make with it (Johnstone 1979). This is the basis of the 'Yes, and' principle in improvising, where 'yes' is to accept, and the 'and' is making with the offer. In the above example, accepting the object, taking it into their hands and allowing that to answer the original question of where they had been allows the story to continue to unfurl. As with this example, it relies on more than *just* the words or physical acts, but also involves connections at a relational, emotional and sensorial level in which there is a melding together of immediate responses, knowledge of the form and processes of improvising, and an openness and willingness for in the moment exploration of the potentiality of the offer.

Seeing this thesis as an offer to you, the reader, is asking you to take what is here, accepting¹ the offers, being open to how they make with you, relationally, sensorially and materially. It is an offer to explore a different story of music education, teacher education, knowing and learning which ‘trouble’ accepted narratives and ways of being. It is an offer which ‘troubles’ common processes and structures of PhD research and therefore the very nature of this thesis is different to what might be expected. Seeing the thesis as a space for offers isn’t the same as a traditional thesis which tells a linear story of a project. Instead the offers are playful improvisations *with* the project and its materials. However, such improvisations need to be located both in terms of the scene in which they occur, the processes they instigate and the form in which they are occurring. Therefore, before joining in with the substantive materials and ideas of the thesis, the introduction which follows will orientate you to where the offers in this thesis have come from (the scene of the project), the nature of what has been undergone (the experiences of the project) and how they are presented (the form of the thesis). These three elements, the scene, the experiences and the form, aren’t a container in which the project and the thesis sit but are to be thought of as what we are joining in with. They are space within which we; you, me, the materials and the words, improvise together to make something new.

Playing with the thesis

Recognising that this project and thesis play with traditional expectations of PhD practices and writing, I have included moments of connection between what would be expected of a thesis, and my particular approach. These connections highlight discussions of methodology, method, analysis, and ethics *within* the context of this thesis. They are therefore written in dashed boxes, separated but permeable from the rest of the text.

The Scene

The scene in which this thesis has so far developed is an entanglement of myself, the people, materials and environments of the project, the original aims and how these have developed

¹ It is important to note here that the word accept is not to be interpreted as a lack of critique, an acceptance without questioning, but an openness to go with it and build from it.

and diverged, the activities that it has involved and key authors and ideas which have influenced what happened. In making you an offer to join in with this entanglement it is necessary to firstly introduce you to these elements. While they are written under different headings, the entangled nature of them is important, they have developed and grown, with each other, becoming inseparable.

Introducing myself

This project arises from my experiences working within and around spaces of music education, teacher education and education research. The context of this project arises from small but meaningful events as well as more notable experiences from right across my childhood, adolescence and adulthood thus far, which would require a biography. Instead, what follows is a series of positionings. Drawing on key events or understandings which position my approach, my practices and my thinking.

There is only one time in my academic writing where I have been given full marks for an assignment. In my second year at university I took a course called 'Issues in Musicology' led by an Ethnomusicologist, which involved a wide ranging, and deep critique of musicological practices. The assignment which got full marks was a piece of writing exploring canon formation in western art music: why do certain composers and pieces become part of the accepted musical canon while others do not? The reason I regard this moment as so important in my positioning, is that it made me reflect back over my experiences to that point: how far my musical experiences were shaped by the Canon (the repertoire I had studied, the exam processes I had undergone, the expectations of how to act and respond to situations); how I hierarchically organised experiences in response to the canon (pushing aside non-western musical experiences as less important, less theoretically informed) and how narrowly the subject of music can be conceived in some places, by some people, including institutions and cultural organisations. These reflections have become significant ideas which have shaped my ongoing relationship with music, music education and teaching, which for a long time I would have described as based on critical pedagogy.

My own trajectory of musicianship fits very neatly in to the narrow pattern which Welch et al. (Welch et al. 2010; Odena & Welch 2007) describe as being where over 80% of music student teachers arrive from. This included learning through peripatetic music lessons, which my parents paid for, achieving ABRSM graded exams in multiple instruments, playing with a

variety of ensembles including the Northamptonshire County Youth Orchestra and the National Guide and Scout Youth Orchestra, and then studying for a music degree which was in large part focused on western art music traditions. The western art music canon and its associated behaviours were well established.

However, there is a thread throughout my education and teaching of musical events that have significantly challenged this, even if at the time I didn't recognise their importance. These experiences have positioned not only my views of music as a subject but have also shaped views of what it means to teach and learn. Firstly, during my teenage years I attended an annual folk-rock festival (Fairport Convention) which was held in my grandparents' village. Along with a school friend we started a folk duo playing covers of the songs from the festival. This was a very different musical tradition compared with the orchestral and chamber music scene I had experiences of. For a start, much of it literally happened in fields, it was an aural tradition and we developed all our repertoire from listening and copying from recordings, making the songs our own by adding different solo passages and harmonies. This experience interests me as I didn't write it on CVs or applications. It wasn't part of what I considered my 'music education' at this point, although retrospectively it has become critical in challenging my understandings about musical knowledge and teaching. Despite not recognising it at the time, this was an experienced-embodied-critique of my subject as I understood it for a very long time, which I am sure influenced my decisions to embrace the opportunities to study ethnomusicological modules at university, continuing the critique² of western art music practices. These experienced-embodied-critiques continued in my school teaching where some specific 'lived' events shaped my position as a music teacher.

Firstly, I established an extracurricular percussion group for children who wanted to join in a lunchtime musical activity but did not necessarily have instrumental or vocal lessons. The open access of this group meant that many of the children came with no preconceptions or developed musical behaviours associated with performance groups. Therefore, the group developed its own character, which was significantly different from other music groups, as

² It is important to note that critiquing western art music is not to be confused with developing an anti-western art music stance, but as explored by authors including Regelski (2016), it was developing a recognition of the ways western art music, and our socialisation into its particular practices, has and does operate to maintain a dominant position, and ideological and aesthetic hegemony at the expense of other music and ways of being musical.

we found a way to compose, notate (often using pictures) and perform together. This was about making, not only making the music, but making sounds (the children often chose the instruments and how to play them) and making the rules and behaviours for the group. While this was very early in my teaching career and I still wanted a high level of control, this group made me re-examine what musicality can mean when not tied to instrumental proficiency. It also made me re-examine what it means to make-with children. I played *with* them; they *made* the musical decisions as much as I did.

Secondly, I was involved as the music subject lead in establishing the International Baccalaureate qualification in my school. This was an absolute revelation to me as a teacher, as the assessment was broad and based on having sound and reasoned responses to music rather than knowing facts and being able to regurgitate information. It was also rooted in musics of the world, with western art music being just one of many different and important musical traditions. Developing the curriculum for this was less a prescribed and formulaic exercise to make sure content had been covered and was more an adventure between myself and the students to bring ideas and different musical explorations to a forum (the lesson) each week. It was a sharing, an exploring and ultimately my first introduction to the idea of a more authentic student-led curriculum, albeit in small classes and with 16 and 17 years old. When I was talking to colleagues about the IB I found a tension in using the term 'teach'. I was very often only at the front of the class for taking the register and felt much more of a learner as we listened, read and experienced the musics together. This wasn't about being one step ahead but was being alongside, which was a very different position to teach from but it was also liberating and exciting.

At the same time as starting to teach IB I took over the running of the jazz ensemble, something I had very little background in musically. It happened that at that time there was a group of friends (aged 15) who were all in jazz band together. They took it on themselves to find, arrange or transcribe, and then rehearse the music themselves. This process often involved bits of paper with diagrams, lines, letters and also notated music, although often created from an audio file with incredibly complex rhythms. I sometimes played along, but often just listened and supported younger players. At a very real level, the jazz group was theirs and my role shifted from being 'teacher' to being alongside.

These very early experiences of difference: difference of context, difference in musical practices, difference in role of teacher and difference in perceptions of musicality, are the beginnings of threads that have entangled themselves in my philosophical and professional positioning, and have therefore influenced the context and aims of this project.

Introducing the context: initial music teacher education

After working as a music teacher and head of department I made the shift into postgraduate initial teacher education (ITE) working as an academic. Initially this appointment was as a music education specialist and then I moved to take a more generic role supporting the programme director in shaping the curriculum and aspects which crossed over between different subject areas. I have since relocated, and worked for two Scottish teacher education providers, teaching on various aspects of their programmes including two primary ITE undergraduate modules, music workshops for primary ITE undergraduate students, seminars and school placement visits for an undergraduate music education degree, seminars and school placement visits for postgraduate music education courses, and undergraduate dissertation supervisions.

It is within this context of ITE that this project evolves. Initial teacher education in the UK is a term that encompasses a variety of different routes into a teaching career, which all lead to Qualified Teacher Status (QTS). The award of QTS is dependent on achieving the required professional standards for registration as set out by the relevant government (this is a devolved issue so Scotland's standards for registration are different from those of Wales, Northern Ireland or England). All ITE involves a combination of subject pedagogical learning, professional studies learning and school-based experience. The location and nature of these different elements of ITE vary significantly across the UK, but in Scotland there remains a strong collaboration between universities and schools to provide a combined programme of experiences, led by the Higher Education institution.

It is in this Scottish ITE context that this project took place, although recognising my own background and experiences in ITE across all four nations of the UK, the thesis arises from a broader experience and understanding of ITE. The particular Scottish university that was the scene of the project's experiences, ran two parallel Music ITE pathways; an undergraduate four year music education degree in which students studied a 3+1 model: three years of an undergraduate music degree and one year of music education leading to QTS, and a one year

postgraduate Music ITE course. While there were differences in the entry requirements for these pathways (the postgraduate route required students to have an undergraduate music degree and the undergraduate pathway on entry to year 1 required specific grades at Higher and Advanced Higher level), both required students to have ABRSM Grade 8 or equivalent on their first instrument, and Grade 5 or equivalent on Piano. Both pathways were split (physically, in space, time and staffing) between the School of Education who organised and supported the school placements and the professional studies courses the students undertook, and the Department of Music, where the course leader was based and which provided the subject pedagogy sessions, assessment visits to see students in schools and their pastoral and academic support.

[Introducing my relationships with the context: people and environments](#)

While in a more traditional education thesis, the context of this project would have been solely described as being within Music ITE, this is where I begin to challenge accepted notions of what 'doing research' involves. This theme will be explored in much greater detail as the thesis develops, but here it means introducing you to two significant contexts, rather than one, to position this project: the context of becoming a stay-at-home mother for the first time and the ITE context in which I developed relationships and engaged in activities specifically for this project.

In 2013 my family and I moved the length of the country for my husband to start a new job. The move coincided with us having our second child and so life shifted very suddenly, and I found myself going from working, travelling to meetings and events, to staying at home (something I didn't do with our first child to the same extent). The negotiation for this radical change was the chance for me to do my PhD, which I started a year later and to which I attribute a large weight in keeping me happy and healthy. Much of this PhD has been explored and written around naps, bedtimes, toys and cooking. Therefore, the day to day experiences with my PhD have revolved around early years play and development which has been a hugely transformative space in developing understandings of my views, beliefs and feelings about children and education. It has been the space in which I have explored, reflected on and tried out my ideas. It has been the space in which I have gained new experiences of children, learning and communicating. It is the space with which I can illustrate through concrete experiences the terminology and definitions I have been exploring, specifically that of

improvisation, 'making-with' and 'response-ability'. This is the space through which I have 'lived' the project.

At the same time, starting my PhD involved not only a move to a different institution, with staff I didn't know and course structures that were different to those I had experienced in other places, but also a different national context. Having negotiated access to approach all of the music student teachers (undergraduate fourth years and postgraduates) in the 2018-2019 cohort, I organised an initial meeting directly after a music pedagogy session in which I could explain the project and provide them with the information sheet (see appendix A). However, it is important to note that whilst this was the first meeting with this group of students, it wasn't the first time they had met me or that we had been in the same spaces. In many ways we were already entangled. My husband worked in the department in which the majority had or were completing their undergraduate degrees and as a result they had seen or met me at various music events. I had attended the music education and community music seminar series for several months before meeting the students and had given a research seminar to which some of them had attended. In addition, the music student teachers on the two pathways were given a reading list which included a text which I had co-edited and written chapters for. While at the time, having given up my lecturing job to move to Scotland, had a year of full-time care for my son, and now feeling very much a student, I felt a long way from the professional identity in which the book was created, I was acutely aware of the power relationship this could or would create. However, I had a name they knew and a voice that went beyond an unknown PhD student turning up and asking if they would be interested in a project.

As a result of the initial meeting, eight student teachers and the course leader expressed interest in being part of the research group. The group was comprised of five final year undergraduate music education students (BmusEd), three postgraduate students (PGDE), the course leader and myself. Of the five undergraduate students, all had experience of Western Art Music ensemble playing, whether in orchestras or wind bands. Two had experience of teaching (H and E), while another had experience of working as a facilitator in a weekend performing arts group for children (R) and one had experience of informal music making with very young children through church groups (G). One had experience of non-western ensemble playing at school (G) while another played at her local temple and had been on a religious

camp in India which included musical teaching (A). Two had experience of playing in traditional Scottish music ensembles (commonly referred to as Trad music) (G and E).

Of the postgraduates, two had experiences of sustained employment as peripatetic violin and viola teachers (M and J). J had experience of conducting large ensembles, and both J and M had significant experiences of playing trad music. S, the other postgraduate student in the group, and P (the course leader) had significant experience of Jazz, both playing Brass instruments. While all the postgraduates were returning to the postgraduate course at least a year after their undergraduate degrees were completed, S was returning after a more significant time. As a parent, with experience of working with patients in a neurological unit using music, and his extensive jazz improv experiences, his background was distinctive.

These people, although presented here as a group, would not have occupied this space together, being grouped in this way, without agreeing to be involved in this project and having been involved in music education at a point of change in the university. This was the first year that the postgraduate music education course had run. It was also the first time that the undergraduate course had shifted to a 3+1 model, with three years of music degree and one year of music education, where it had previously been a 2+2 model. These significant structural changes meant that at the very moment I was asking for people to join me in the project, the course leader, and the students, were having to adapt to a different pattern of working (timetabling, times the two pathways were together or separate and differences in assessment and marking). A significant feature of this change involved the postgraduate students aligning with and therefore coming into the space of the undergraduate fourth years, mixing and experiencing the course alongside each other.

Shifting relationships

During the period of my project my relationships with the people and environments involved wasn't static. I moved from being involved with them through the research project, to becoming a tutor on their course, to visiting them on school placements and marking their assignments. I increasingly became more and more entangled with them and their lives. This dynamically developing context 'troubles' research ethics procedures, which will be explored later (see p.48 and p.162).

These two contexts, being at home with my children and being a PhD student in a professional context I knew but was different and somewhat unsettled by the changes occurring in the programmes, made me feel vulnerable. I didn't know initially how to 'be', how to make sense of these sometimes conflicting and often incompatible environments. As you read on through this thesis, it will become clear that this 'trouble' between these two contexts became a strength of the project as they entangled with each other, playing off each other and helping me see differently.

Introducing the field of initial music teacher education

Music ITE as an academic field sits uncomfortably between several literature bases and their underpinning principles often straddling music, music education, teacher education, school education, sociology, philosophy and many others. The positioning of the field is further complicated by the nature of ITE itself as a contested site, where the perceived division between theory and practice, higher education and professional contexts is a continuous feature of discussion. This has been particularly evident in England where there has been a political agenda to change the relationships between schools and universities in providing ITE courses, to a focus on practice and school-led teacher education thereby reducing the role of the university. In Scotland, this agenda has been less pronounced, with a continuing role for universities, but there has been a diversification of routes into teaching and a changing relationship between institutions and schools with a more equal partnership model. These changes as noted by McNicholl and Blake (2013) have unsettled the field, creating anxiety about the role of university research active staff in the field of student teacher learning (McNicholl and Blake 2013:283-284). In response some authors, notably Philpott (2014) have set out to articulate what ITE pedagogy might be, establishing the specific contribution that teacher educators (as having a specific set of attributes different or in extension of those of a classroom music teacher) make to student teacher learning.

Against this backdrop of contextual uncertainties Music ITE research spans these different fields and contexts, creating what can seem to be a messy, rhizomatic tangle of different projects and approaches. This can be seen in Silveira and Diaz's (2014) review of 87 articles published in four North American journals which they subsequently categorised. The findings from these studies showed that the majority of the articles related to examinations of music

student teachers' perceptions of their experiences (33%), with the context of ITE and the relationships within (school / university, mentor / student teacher etc.) coming as second most frequent (26%) (Silveira and Diaz 2014:8). Whilst Silveira and Diaz's findings reflect to some extent the nature of the field in Europe and Australasia (there is still a heavy presence of research around perceptions and relationships), this project has grown from engagement with slightly different literatures which can be grouped very roughly around five inter-related themes:

1. Identity: the dynamic identities of music student teachers as they bring together different aspects of who they are and find ways of amalgamating (or not) their ways of being a musician, student and professional educator (see Dolloff 1999 and 2008, Pellegrino 2009, Welch et al. 2010, Bouji 2004).
2. Perceptions A: the perceptions and beliefs that music student teachers bring with them into initial music teacher education about the subject, learning in music and how to learn to teach music (see Teresa et al. 2012, Burton et al. 2013, Odena and Welch 2007, Campbell and Thompson 2007, Ballantyne and Packer 2004)
3. Learning to be a music teacher and on-course experiences: relating to more general models of teacher development, comparing and contrasting music student teacher's experiences (see Miksza and Berg 2013 and 2015, Yourn 2000, Schmidt 2010), or proposing an alternative view of music student teacher learning to these models (see Finney and Philpott 2010, Wright and Kanellopoulos 2010, Abramo and Reynolds 2014). Some of these studies involve action research with student teachers in trying out different pedagogical approaches to ITE (see Fink-Jensen 2013).
4. Perceptions B: the perceptions of music student teachers about their own development, experiences and relationships of being a student teacher (see Yourn 2000, Lehmann-Wermer 2013)

The fifth and final group of literature around Music ITE is that of types of knowledge. The literature around Music ITE is threaded with implicit discussions of types of professional knowing. While there are some specific examples of articles or chapters dealing with this issue in a more explicit way (Burnard, Georgii-Hemming and Holgersen 2013), much of the discussions around knowledge and music student teachers have developed within the broader field of music education. At the time that I became a lecturer in 2008, there was an

increasing interest in the role critical pedagogy (as underpinned by the writings of Paulo Freire) could play in disrupting existing views of knowledge in music education. Freire's vision of an imperfect unbalanced and unjust society, which needs significant change through a process of questioning and challenging assumptions (Freire 1970), had and has much to offer music education and resonated with my own music education experiences.

Abraham (2005) outlines the key principles of critical pedagogy as believing education to be:

- a conversation between students and teachers who pose and solve problems together.
- broadening views of reality which affects a change in the way that both students and their teachers perceive the world.
- empowering through the phenomenon of "conscientization" which implies a knowing that has depth and goes beyond the recall of information. Rather, conscientization implies knowing that includes understanding and the ability to act on the learning in such a way as to affect a change.
- transformative where both teachers and students can acknowledge a change in perception.
- political, involving issues of power and control inside the classroom, inside the school building, and inside the community. Critical pedagogy resists the constraints that those in power place on them, firstly by acknowledging that children come to class with knowledge they gain from the outside world and as such, that knowledge needs to be honoured and valued.

(Adapted from Abrahams 2005:4)

This challenging of power relationships between learners and teachers, of how structures and ways of being could constrain but could equally be a power for transformative processes, resonated with my experiences of playing folk music, my assignment on canon formation, the pupil-led percussion and jazz groups and the International Baccalaureate. Critical pedagogy gave me a label and a space in which I felt I fitted, shaping how I would think about my learning and teaching practice in Music ITE and my writing. At the centre of this were concerns about:

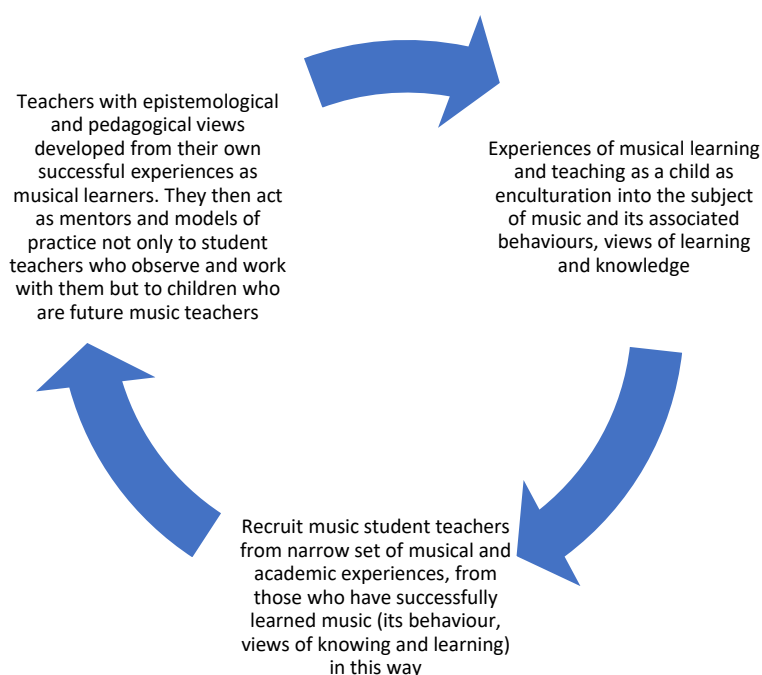
- Images and perceptions of music as a subject and how this acts as a narrowing and limiting power in education (e.g. the insistence on student music teachers to have high level piano skills for entry onto ITE courses, or the over-promotion of extra-curricular music as the

‘shop window’ for the subject without due respect and support for curriculum music in schools)

- Images and perceptions of music teachers and teachers more generally in relation to understandings of knowledge as something which is fixed, transferable and universal, resulting in a separation between teacher as knower and learner as not knowing yet.
- Understandings of music as a broad, dynamic and context specific subject. This is particularly troubling in music where western art music practices and concepts are sometimes ‘applied’ to music practices in which it is inappropriate (e.g. teaching improvised music practices through written notation).
- The dominance of the verbal and written word over musical sound in music classrooms, and the association of this practice with ‘dialogic teaching’, leading to music teaching without musical sound as reported in the 2012 Ofsted report (Ofsted 2012).
- Technocratic approaches to teaching, curriculum organisation and assessment not only stemming from within music education and perceptions of what it means to learn, but often as a result of top-down initiatives at a school or national level (e.g. the way assessment ‘levels’ in England and Wales were enacted by schools at the local level, or the way the national standards for teacher registration formed the story of what Music ITE programmes involved).

As I perceived it from my position as a teacher educator, a significant issue in addressing these concerns was the cyclical re-assertion of these problems within the profession (see figure 1.1).

Figure 1.1: Cyclical learning in initial teacher education



Working with this cycle, and living it through discussions with student teachers, mentors and other colleagues in ITE led me to the initial ideas for this project. It was a desire to ‘trouble’ this cycle, finding a way to engage with student teachers in a way that ‘changed the story’ of music education and Music ITE opening up different ideas and ways of being. As I started to explore these ideas, I encountered posthumanism and some of the key authors and texts which have gone on to inform not only the context, but the very nature of this project.

Introducing Posthumanism

During my PhD, authors who write or are associated as being part of ‘posthumanism’ have become increasingly important to me. While this is a term which even some of the authors who are associated with it reject³, for me it has been a useful catalyst for thinking and acting differently. As Taylor in her seminal work on posthumanism states

Posthumanism is perhaps best considered as a constellation of different theories, approaches, concepts and practices... posthumanism in its various incarnations is resolutely interdisciplinary, post-disciplinary, transdisciplinary

³ Haraway rejects the term posthumanism but acknowledges the alignment of her ideas to those which are discussed as posthumanist. Instead she uses the term “companion species” as part of a multi-species world in which we are entangled.

and anti-disciplinary, which vastly expands the range and variety of conceptual resources available to educational research. In its current state as an unsettled and unsettling terrain – as an emergent field in flux that is continually concretizing, dispersing, flowing and mutating in unforeseen ways – posthumanism opens ways of researching that seek to undo tired binaries such as theory/practice, body/mind, body/brain, self/other, emotion/reason, human/nature, human/animal, producing instead multiple and heterogeneous knowledge pathways that are radically generative for educational research (Taylor 2016:7).

While Taylor cites seventeen different fields of studies that this constellation encompasses, for me, and this project, posthumanism is the particular way that complexity, feminist theory, new materialism and object-oriented ontology speak with and to each other. This constellation has shaped this project, both in its literature framings, methodological approaches and also the way the thesis is written. The writings of five authors have been central to this project in entangling posthumanism with arts and education; Barad, Haraway, Ingold, Murris and Taguchi.

Barad's seminal book *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (2007) is often cited by posthumanist writers, providing an account of an interconnected, entangled world, where the social and natural are inherently becoming with each other. Through these entanglements she argues that there is constant movement, constant making, where relationships between space-time-matter are constantly in flux. At the centre of Barad's book is an argument that we require a new view of epistemology, ontology and as a result, ethics which brings together knowing and being.

Donna Haraway's book *Staying with the Trouble: Making Kin with the Chthulucene* (2016), builds from and pushes us further into a world of entangled relationships where boundaries between human and nature, art and science, doing, knowing and being are not only questioned but retold using different stories, different language and forms. Haraway's call for us to "stay with the trouble" of a multispecies world (ibid. 1) provokes us to reconsider our relationships with each other, as sympoiesis, making-with our material, human, animal entanglements.

Bringing these two thinkers and their ideas into relationship with music education led me to other authors who became significant to this thesis. Tim Ingold (2009, 2013, 2016), an anthropologist whose writings intersect education, creativities and relationships between

science and making has shaped some of the language and ideas, particularly in the chapter Making-with. Karin Murris's book *The Posthuman Child: Educational Transformation through Philosophy with Picturebooks* (2016) draws heavily on Barad. It brings Barad's ideas into a practical educational setting, making a different story of childhood and teacher education which has shaped my thinking about *how* we tell different stories in education. Lenz Taguchi's book *Going Beyond the Theory/Practice Divide in Early Childhood Education* (2009), also brings posthumanism into early childhood and teacher education, but with a particular focus on the 'doings' of pedagogical documentation, has played a significant role not only in thinking with my own research materials, but providing me with language and ideas to question the story of educational research itself. Taguchi's later writings about research, particularly the articles 'A diffractive and Deleuzian approach to analysing interview data' (2012) and 'Challenging anthropocentric analysis of visual data: A relational materialist methodological approach to educational research' (Hultman and Taguchi 2010) have been particularly important in this.

It is my entanglement with these key authors and the way they write about materials, bodies, relationships, knowledge and learning, which has created the particular space of this project; where music education, initial teacher education, early childhood contexts and experiences, and posthumanism are brought together in encounters with each other. What follows is a very brief introduction, the beginnings of these ideas with which the thesis will continually make-with.

Materials matter

A key argument of posthumanist authors is that there needs to be a shift away from the dominance of humanism, moving instead towards an ontological levelling of human and non-human, where the dichotomies between subject and object, nature and culture are collapsed. Central to this argument, and developed from new materialist thinkers, is a reconsideration of materials as both important and as actively entangled with us.

As Barad argues, in our western societies, "Language matters. Discourse matters. Culture matters... the only thing that does not seem to matter anymore is matter" (Barad 2003:801). To redress this balance, Barad, drawing on the work of the quantum physicist Neils Bohr, argues instead that "The relationship between the material and the discursive is one of mutual entailment" where "Neither can be explained in terms of the other. Neither is reducible to the other. Neither has privileged status in determining the other. Neither is

articulated or articulable in the absence of the other; matter and meaning are mutually articulated” (Barad, 2007:152). In this way, materials, as argued by both Murris (2016) and Taguchi (2009, 2012) are performative, not a thing but a ‘doing’, which have the power to intertwine and transform us and our thinking (Taguchi 2009:4).

While Ingold agrees with the notion of materials as active, he comes to this argument from a different direction, drawing on the work of Deleuze and Guattari who argue that matter is in constant movement, in flux and variation. Ingold develops their concept of ‘material-flow’ arguing that material is not completely passive and subservient to human design but that we join in with it, following it and making with what happens (Ingold 2009). This is a subtly different idea of being with materials than Haraway, who also speaks of human and non-humans as companion species who ‘become’ together in intertwined relational worlding (Haraway 2016:17). This is a mutual relationship, more akin to Barad’s view of material entailments.

The world view of these authors in which materials matter as equally as humans, is not to completely dismiss language, culture or discourse but to re-see the world and our relationships with it in a more levelled way, in which Haraway describes materials as being “Ontologically heterogeneous partners [which] become who and what they are in relational material-semiotic worlding” (Haraway 2016:17). It is in this ontologically levelled way, that Murris chooses to use the term materialdiscursive, with no hyphen, “to indicate that both ‘material’ and ‘discursive’ are *simultaneously* produced” (Murris 2016:6-7). It is this simultaneous ‘becoming with’ which then breaks down the dichotomy between bodies and objects, where both are seen as materially and discursively made in and with the world.

Bodies matter

All five of the authors talk of the human body in similar ways, as situated with and made with the environments, materials and bodies it entangles with. In other words, the body is materially constituted. This challenges the view of the body as a separated container, taking from and acting on the world. Ingold moves us towards this entangled view, describing humans not as someone who acts, but as a “hive of activity, energised by the flows of materials, including the currents of air, that course through the body” (Ingold 2009:96). Haraway literally breaks away from differences between bodies of humans and nonhumans

by adopting the word 'critter' for all bodies, describing how "critters [are] entwined in myriad unfinished configurations of places, times, matters, meanings" (Haraway 2016:1).

This rejection of the separation of human and nonhuman bodies is reflected by Barad, who then proceeds to argue that to continue to describe the relationships between human and non-humans using the term interaction is unsatisfactory in two ways. Firstly, it retains a humanist quality, indicating inter-human relationships and secondly, it maintains the hierarchy of human dominance over materials. She therefore argues for a different view of our relationships with the world and for the need for a different term to describe them.

Relationships matter

Instead of inter-action with its humanist and separatist tones, Barad argues for "intra-action", as the relationship between any bodies or matter, human or non-human. Taguchi takes on the term intra-action to describe a different way of thinking about relationships in education, where intra-activity makes us pay attention to the way matter (objects, documents) is active in how we make meaning. Central to this idea of intra-action in the way Barad presents it is the argument that "we are not outside observers of the world...[but] are part of the world in its ongoing intra-activity" (Barad 2007:184). This 'ongoingness' is developed by Haraway (2016), who argues that too often we shut it down when instead we should be "staying with the trouble" (Haraway 2016) that ongoingness, the flux and variation of becoming with what is happening in the present, creates. Haraway changes the story of what it means to relate, stating "The task is to make kin in lines of inventive connection as a practice of learning to live and die well with each other in a thick present. Our task is to make trouble, to stir up potent response to devastating events, as well as to settle troubled waters and rebuild quiet places...[where] staying with the trouble requires learning to be truly present" (Haraway 2016:1). This is not a relationship of just accepting or of just critiquing, but of acting, doing, making, in which knowledge shifts to a verb.

Knowings matters

Positioning knowledge as knowing, as an act, is another core tenet of posthumanist authors where a performative view of knowing focus on "matters of practices / doings /actions" (Barad 2003:802). If knowing involves intra-active making with or joining in with the ever changing and moving material world, what Haraway terms "worlding-with" (Haraway

2016:58), then core western assumptions about learning become problematic. The authors address this in several ways.

For Murris, worlding-with problematises the idea of learning happening *within* someone, where posthumanism makes the argument that knowing and learning happens in the space between bodies, environments and materials (Murris 2016:5). She therefore argues that, as the knowing happens in between, which requires an embodied, felt response, we should reframe thinking as transcorporeal and therefore uses the term 'bodymind' (Murris 2016:7). This is similar to Ingold's argument for correspondence as a way of describing what happens in relationship with the material world, as bodies and matter co-respond together, which he defines as "the process by which beings or things literally answer to one another" (Ingold 2016:14). It is with this notion of co-responding, that Ingold argues that change (or learning) isn't therefore something imposed from the outside (Ingold 2016:16), arising from set intentions about what will happen and how bodies and materials will inter-act (Ingold 2013:3). Instead change, or transformation, comes from within the act of doing (Ingold 2016:16). It is this act of 'doing knowing' with the material world, that Haraway argues for sympoiesis and tentacular thinking, in which we deliberately allow ourselves to become entangled with the world and make-with what occurs. In defining sympoiesis Haraway states, "Sympoiesis is a simple word; it means "making-with." Nothing makes itself; nothing is really autopoietic or self-organizing" (Haraway 2016:58).

Taguchi, drawing on Barad and Haraway's concept of diffraction, argues that in response to this posthuman way of thinking about knowing and learning, we need to reframe how we think of difference, not as always "a construct of the negative...[but] difference as positive emerges as an effect of connections and relations within and between different bodies, affecting and being affected by each other" (Taguchi 2012:269). It is this difference making, which is at the very heart of posthumanism, which makes for a very different type of research design, process and presentation. In shaping my own intra-actions with this literature and the experiences and materials of this project, one particular quotation by Donna Haraway has stayed with me; "It matters what matters we use to think other matters with; it matters what stories we tell other stories with...it matters what stories make worlds, what worlds make stories" (Haraway 2016:12).

This statement keeps me from taking a humanist gaze, making me constantly think about and join in with the matters, stories and worlds of this project. It has also been central in making me consider how changing matter, stories or worlds can act to disrupt and make different. It is here, in this space of stirring up trouble, that I have worked with the research group on the idea of teaching as improvising, to disrupt and trouble concepts of teacher, knowing and learning in Music ITE.

The Experiences

Improvisation as a 'radical apparatus'

Becoming more familiar with posthumanist thinking, my direct experiences of playing with my children and my concern with music education and music teacher education stories (both as told and enacted) led me to explore the literature around improvisation. Improvisation, as a musical, theatrical and ultimately relational term, is associated with democratic, non-hierarchical ways of being with others (material and human), particular ways of thinking about artistic creation (conflation of process and product, composing and performing), as a direct challenge to technocratic and fixed views of knowing as pre-existing engagement (knowing as doing in the moment) and a balancing of freedom and structure (openness to what happens within a form that is understood). These elements of the term intrigued me as to how they straddled across my experiences in music education, teacher education and with posthumanism. Musical improvisation is often included in Music ITE experiences as part of exploring music pedagogies around jazz or other improvisation-based traditions. However, I was struck by how considering teaching as improvisation had the potential to 'change the story' of music teacher and music teaching by troubling humanist assumptions and beliefs about the subject. While having potential to create change, it was also conceptually accessible to explore with a research group of music student teachers who were likely to have some direct experiences and understandings of the term within musical contexts.

Calling the phenomena of improvisation, a 'radical apparatus' in my project is to borrow from Barad and Murris. Barad defines 'apparatus' as more than instruments that can magnify and bring into focus aspects of the world, but instead are "laborers" which "contribute to the production and reconfiguration of difference" (Barad 2007:232). Therefore, improvisation as a radical apparatus is not a tool, something I have used to highlight a particular issue but has

‘made difference’. I have adopted Murris’s term ‘radical apparatus’ as improvisation has radically affected the very nature of the project (the way it is written, structured, experienced and discussed). It has affected the language it uses and the processes it has embraced. It has opened up to question and re-definition, nearly every concept and assumption. The term ‘apparatus’ has etymological roots in Latin meaning ‘make ready for’. The constant presence of improvisation throughout the project has made me ready for seeing and doing differently. Creating a project that plays with and explores what happens when improvising and music teacher education were entangled with each other involves “staying with the trouble” (Haraway 2016:1) that this created. This ‘troubling’ happened right from the very beginning, recognising some of the initial challenges of this entanglement. Firstly, the reaction of the research group to the idea of improvising would be very heavily influenced by their personal experiences of it. For those with experience of improvisation, which some of them had in a jazz context, there would be a comforting familiarity albeit within very specific musical contexts. For those with less experience or those who felt less confident in ‘having a go’ they may feel vulnerable or engage less confidently with the process. The second issue was that improvisation as ‘radical apparatus’, stirring up issues around knowing, teaching and doing, would need to be experienced in a broader exploration of what improvisation means beyond the musical. Recognising that a music teacher improvises with words, materials, bodies and sound, the project needed to explore all these aspects. The third issue was that to play and think with the apparatus would inevitably cross many different types of experiences the student teachers were going to be having during that year. It couldn’t be contained to a series of events, all located within the university seminar room, but had to allow us the opportunities to ‘live’ the concept in different spaces and places. The final issue was the challenge set by improvisation, along with posthumanism, to allow the experiences to have an openness, to follow and make with what developed in the moment, rather than work towards a fixed set of outcomes.

Formal and informal research experiences

In response to the particular nature of improvisation and for the coherence of playing with it in a research context requires acknowledging both the formal pre-planned experiences which I articulated in advance of starting on my work with the research group, and those informal experiences which were emergent, unexpected, incidental. This latter group of experiences

are far too many to note and articulate, although throughout the thesis you will find evidence of some of them (for example the Cat's Cradle on page 121, the influence of the craft shop window on page 67, the coincidence of listening to Elgar's *Enigma Variations* on page 21). Therefore, this section will focus more on the formal moments which involved three phases: Introducing, Living and Reflecting. These three phases spread from September to May of the academic year.

Introducing:

- The completion of an initial basic CV (appendix C). This was sent to the members of the research team on receipt of their consent forms. The purpose of these CVs was to act as a stimulus for the individual conversations.
- An initial conversation with each individual in which we explored shared experiences, interests and differences. The form of the conversation was two part; firstly, discussing the completed CV, asking them to elaborate on details and explore aspects which they wanted to highlight, and secondly, to play with a variety of music education images (see appendix E). They were asked to order the images from most similar to least similar to their experiences. We then discussed the images they had chosen and dug into why the pictures resonated or were different to their own experiences of those contexts.
- Workshop 1 aimed to introduce the idea of improvising and then broaden out the definition to include physical, verbal and material improvisation. It started with us exploring the term improvisation, sharing experiences and feelings about it. We then responded to images of play as improvisation (see appendix F). We then revisited our definitional work. The main activities of this workshop were experiences of improvising with playdough (physical and material improvisation), theatre improvisation games⁴ (verbal improvisation) and music (sound improvisation using mainly percussion instruments).
- Workshop 2 began exploring improvisation within music education and teaching. Again, the group were asked to respond to images, but this time they were of music education contexts (see appendix F). They also responded to a simple clapping and notation activity, and a video of a music teacher working with a class using a music software to record a

⁴ We explored the game 'Yes, and' in which a small group create a story by each member improvising a short sentence to which the next person responds 'Yes, and' to then carry on building on the story (Johnstone 1979).

bass line. We then moved into smaller groups to discuss improvisation in relation to being a teacher, the school and classroom environment, the curriculum, the materials in music classrooms and expectations of parents, children, exams.

Living:

- These workshops were followed by a period of ‘living’ the concepts of improvisation and teaching in which we kept in touch via email and social media sharing examples and experiences of improvising, both in school settings, university and beyond.

Reflecting:

- At the end of the project we had some final individual conversation framed by one statement “teaching as improvising”, to which we discussed specific moments during the last few months when they felt this phrase was appropriate, and times when it did not.
- We concluded with a group workshop to reflect on the project, the term improvising and our experiences as a group and individuals. We played with the materials of the project (images, quotes, responses, descriptions) to make collaged images and (re)connect our experiences in different ways across the timespace of the project.

Critiquing the language of research experiences

Working with posthumanism and the trouble it created in music education involved rethinking the project’s relationship with traditional vocabularies of research. In traditional social sciences research the experiences of the project would be framed as arising from a literature review, work within a methodological framework, explored using pre-planned methods, and result in data to be analysed.

Posthumanism and improvisation challenges this view of the experiences, as pre-framed, pre-planned and as contained within one area of the project, around which the reading, thinking and writing circulates. Instead, it is the constant movement, the constant connection and intra-action that allows differences to emerge. Part of this shift is to recognise the embedded humanist and often positivist influences on the way we speak and enact social sciences research (Weaver and Snaza 2017, Taylor and Hughes 2016, Ulmer 2017).

Therefore, within this project I have played with shifting from the language of research methods to *research experiences*, from data to *research materials* and from methodology to *research processes*. These shifts in language are more than a linguistic trick to make it look and sound different, they are a way of (re-)forming the relationships in research differently.

Instead of a stable methodology, a stable set of methods, a stable and fixed set of materials which are described and fixed within contained chapters of the thesis, the project keeps methods and methodology as performative, constantly on the move throughout the thesis. This allows them to intra-act directly with different ideas that emerge and with different elements of the thesis.

All the research experiences of the project involved making – making thinking, making images, making writing, making sound, making movement. This making in traditional research would be considered purposeful in terms of the data it created as a result. However, as Weaver and Snaza (2017) argue to use the term data is to consign it a particular role, a particular place in the hierarchy and as they argue a particular way to be “interpreted by a researching subject, [where] this research enacts its imperial power” (ibid. 1062). Instead, I have shifted to the term research materials, allowing them to exist, and be open to being connected and played with other materials of the project. Throughout the project (and indeed thesis), the literature, my ideas, research materials made by the group, and other materials from living during the last six years have all been considered as actively doing in this project.

From these research experiences a rich collection of materials were made. All the conversations and workshops were videoed from multiple angles, allowing bodily and materials responses to be seen. The audio of these experiences became very important to the project, not only musical sounds, but as part of seeing physical and emotional responses. Alongside these audio and visual materials, were a series of written responses. In the workshops and conversations, I asked the group to make quick responses on post-it notes during activities. For some aspects of the workshops I asked them to respond to reflective questions and write longer responses. During the living phase of the research their responses

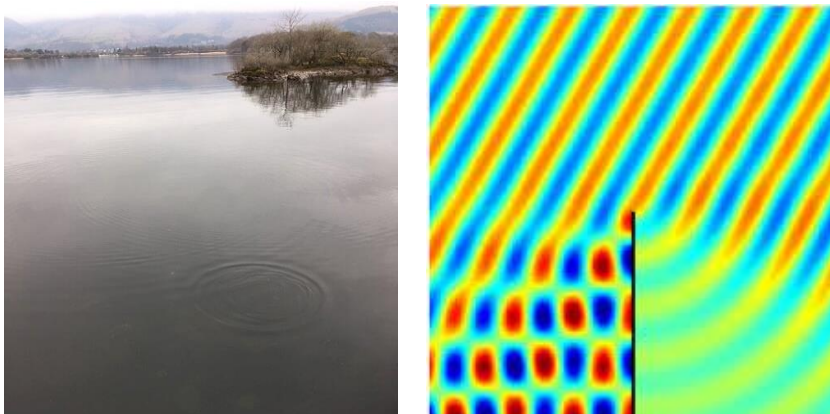
and our exchanges via email and social media, and images drawn or collaged during the final phase also made significant contributions to the project.

While the research experiences and the types of materials made during this project in themselves aren't a radical departure from other arts based qualitative research approaches, the way these are then used (the process that has followed) is significantly different.

The research processes: Diffractive playing

Reading about diffraction while we were in the Lake District at Easter was one of those moments in this project where lived experience, the concept of diffraction and my research seemed to magnify each other. Somehow the throwing of stones from a jetty into Derwentwater, watching the ripples spread and how they interfered with the other wave, became an enduring moment that has influenced this project ever since. As with the many of the terms in this project, the resonance of the term diffraction with sound and therefore music education added an additional layer of significance and meaning.

Figure 1.2: Waves in Derwent Water and thinking with sound waves¹



Therefore, drawing on Barad (2007), Haraway (2016), Murris (2016), and Taguchi (2009, 2012), I have conceptualised my research processes as being of diffractive playing. The physical phenomena of diffraction is described by Barad as “the disturbances in the water caused by each stone propagate outward and overlap with each other, producing a pattern...between the overlapping wave components...The waves are said to interfere with each other, and the pattern created is called an interference or diffraction pattern” (Barad, 2007:76–7). This notion of interference, of ‘troubling’ to ‘make different’ aligned with the

aims of the project to stir up and trouble existing stories and assumptions, diffracting what is there and what is experienced to create different patterns, different ways of telling stories of music education and consequently, initial music teacher education. It is through this process that the potential is created to move us towards difference as being a positive force.

In terms of this project, I therefore use diffraction not as a methodology, a form of analysis or as a way of constructing a literature review. It is not a contained 'thing' which has been applied to the project or a section of it to create a difference. Instead diffraction is part of the entanglement, a constant throughout. It has been the process of exploring and amplifying different ways of thinking about what already exists. It has raised awareness of issues, ideas, experiences and ways of thinking which the project is joining in with. It has surfaced dynamics which were already there, albeit unseen (as the boat and the wind in the photograph in figure 1.2 are), and it has highlighted differences made through creative and sometimes serendipitous contacts. This has been a centrifugal process (Ingold 2013), one of casting outwards, exploring the complexities and multiplicities instead of a centripetal one of looking inwards, looking for one true meaning or planned outcome (Ingold 2013).

This fundamentally changes the role of the researcher, shifting to a process not of excavating what is already there but of joining in with what is happening. Diffraction also fundamentally changes how knowledge is perceived which Mazzei recognises "keeps analysis and knowledge production on the move" (Mazzei 2014:743). Therefore, the nature of engagement in research is not of looking in at or reflecting on, but an active engagement, a 'doing'. Lather (2016), drawing on Taguchi, recognises this process as "engagement towards a thinking otherwise ... [where] a new kind of object comes to attention: an object pulled out of shape by its framings and, equally importantly, framings pulled out of shape by the object" (Lather, 2016:126). The question then arises as to how such objects or ideas come to the researcher's attention, particularly when, as is the case with my project, I am an active member of and participant in the field of study. How do I, as encultured and trained as a musician and music educator, see difference and differences in framings?

While diffracting, constantly pushing materials and ideas out to make contact with others, and noticing the differences made as a result is part of the answer, another key aspect has been to adopt a playfulness to the process. Play and playing has significance in music and music education, where to play generally means to practice or perform on an instrument. For

this project the term play has surpassed this subject definition becoming a way, not of meeting an expected standard or way of performing, but of being at a heightened attention and being open to what may happen. It is no coincidence that playing has become a feature of this project given the time I have spent playing with my children alongside my PhD. Moving from reading about diffraction, to sitting on the floor with my one year old, made me attentive to how they were with materials, the potentiality of different entanglements and their physicality while they played. Their play was a dynamic, 'bodymind', 'materialdiscursive' process. They changed their game as the sunlight began to make lines of light on the carpet, moving the blocks and teddies to sit on it and watching as the light then climbed over them. They responded when the sofa was pulled out for hoovering, by seeing the potential for it to create a den for a few moments. They found that the colander and the marbles together made a fantastically noisy instrument which they could change depending on whether the marbles were glass or plastic. They constantly pushed outwards, not accepting there was one way or one role. They were, as Murris describes of diffraction, playing "not to look for the same (what is familiar), but for what is different, what is new and unexpected" (Murris, 2016:221).

This type of play is much more aligned with the French definition of the term which encompasses not only the act and manner of playing an instrument, and the play of children, but the idea of there being room to manoeuvre (i.e. 'there is a little play in the steering wheel'). I see that broader definition of play in the attentiveness of my children, their freedom to play with ideas, materials, each other and their senses, getting a different perspective and finding differences. It is this same type of playing that I see as the process of this project, where diffractive playing doesn't distinguish hierarchically between literature, analysis, 'data', my life, my experiences, the project experiences, but plays across all these finding and exploring difference. As Hultman and Taguchi argue, diffractive seeing or reading involves "install[ing] yourself in an event of 'becoming-with' the data [which] encompasses all of your bodymind", and in which "you need to activate all of your bodily affective perceptions when intra-acting with the [data]" (Hultman and Taguchi 2010:537). While Hultman and Taguchi argue for this affective perception in relation to 'data', I see it as necessary in all intra-actions and therefore I have had to develop ways of working across and between all the materials and experiences of the project. This fundamentally changes the story of how the thesis is written, requiring a form that doesn't artificially separate literature from methodology, from

analysis and discussion, and which is open enough for diffractive playing to happen between all these elements while still retaining a logic which allows the reader to join in with the ideas.

It was when I was thinking about this issue that just by chance, I was listening to Elgar's *Enigma Variations*, with its thematic coherence but with the very individualistic characters of each variation. A balance between structural form, and openness to difference.

The Form

Playing with posthumanism and improvisation 'troubles' not only social science research processes, the role of the research and views of research knowledge, but also troubles the very nature of writing and therefore form. This has involved as much a decomposition process as a composition process, where I have had to decompose my assumptions about what research is, how it is done, and how it is written, as well as compose my own ways of researching, writing and forming a thesis. This dual processing, unmaking and making simultaneously, resonates with the simultaneous creation and execution of plans which characterises improvisation (Chelariu, Johnston and Young, 2002; Mattin, 2009; Ross, 2014). It therefore feels right. It feels coherent to be exploring improvisation with posthumanism in forms that allow the key ideas of both to be expressed not only through the project ideas, but with the project's creation.

However, it also feels difficult, tricky and disruptive. Diverging away from expected forms of research activities, methodology, analysis and thesis structure is to become vulnerable. This vulnerability comes from navigate different forms, different vocabularies and different ways of thinking about the role of a thesis. These vulnerabilities are as much part of the offer of this thesis as the content.

The thesis: theme and variations

In western art music, Theme and Variation involves the statement of musical material which may be written by the composer or may have been borrowed from another. This theme is then used as the basis for each variation which is an exploration of the original material's potential. This exploration may involve making changes to the theme's melody, harmony, rhythm, timbre, orchestration or by adding a counterpoint (newly composed material or borrowed material). Choices as to what elements of the theme's material is explored, and

how the variation develops, can be argued to be a process of artistic and aesthetic understanding of the potentiality of the original materials to create something new.

It is interesting to note that the lived experience of performing musical Themes and Variations today involves reading from fully notated scores, however this is not the origins or even the predominant lived experience of this form in history. Notated forms of Theme and Variation only arrived with the advent of music publishing. Previously performers were given skeletal music on which they were expected to improvise. As Nicholas Cook describes “responsibility for the most highly elaborated stage in the compositional process [therefore] fell not upon the composer but the executant” (Cook 1990). Today the notating of Themes and Variations has turned what was a largely improvisatory form in the Baroque and Classical period into a more fixed compositional form, where composer’s intentions are realised fully. This ‘writing out’ of improvisation from western art music practices (whether literally writing out what someone improvised to create a notated score or the improvisation process being written out of musical history) hasn’t been prominently discussed until fairly recently and still isn’t present in much western musicological writing (Moore 1992).

When exploring forms for this thesis, Theme and Variation entangled itself in multiple ways with the key ideas of this project. Firstly, as a musical form it promotes creative processes to “imagine, invent and do the doing [of research] differently” (Taylor 2016:6), an important aim of a research coherent with posthumanist aims. Making variations from a theme is a process of diffractive playing, seeing materials and ideas for their potential, pushing them outwards and into relationship with different materials or ideas to create anew. Secondly, having played and composed Themes and Variations as a musician, I have an embodied, practiced understanding of the form and its creative potential. This is important as there becomes a coherence between form, materials, concepts and the theoretical positioning, all tied together through my personal experiences of the field as a musician and music educator. Thirdly, it promotes a pluralist view of knowing, whereby the same theme is explored from multiple perspectives and through multiple materialdiscursive experiences. The very nature of musical variation, whereby the theme is developed by coming into contact with other materials aligns with the posthumanist notion of knowing as occurring ‘in-between’ materials coming to know each other. By drawing different materials together, in different ways is to keep the process mobile, not ‘fixing’ on one conclusion or finding but allowing me the

opportunity to see in different ways. Finally, the term Theme and Variation is associated with improvisation across different genres and traditions in music, even if the improvisation has mostly been written out of western art music. This history of the form in western art music (shifting from an improvised form to a notated one) mirrors and exposes the same shift in epistemology (from broader conceptions of knowledge to knowledge as fixed, transferable and declarative in the Enlightenment) and in educational practices (with the 'writing out' of materials, bodies and improvisations in favour of standardisation and the dominance of the spoken and written word).

It is this complex web of interlinking associations of the terms Theme and Variation (between the musical, improvisational, educational and research) that drew me to using it for this thesis. However, it is worth noting how the terms 'Theme' and 'Variation', exist within the realm of research practices and how my use of them differs from this.

The term 'theme' in educational research is often associated with grounded theory and the process of coding to elicit important themes (St. Pierre and Jackson 2014), in order to describe a phenomenon or issue which link to pre-determined research questions. Therefore, a theme is a combination of prevalent ideas or a patterned response. However, as Taguchi (2012) argues, such research practices are underpinned by a focus on interpretation, whereby the researcher embarks on a "process of sense-making and positioning the subject of research as the source of meaning that enables the researcher to construct a coherent and interesting narrative, bound by themes and patterns understood to emerge from the data" (Taguchi 2012:269). The themes in this thesis are quite different. Whereas theme in research is often (and sometimes wrongly) considered to relate to frequency, my themes have arisen from what Maclure has termed "glow moments"- a sensorial response to a coming together of entangled experiences (Maclure 2013). Maclure, in her work focusing on challenging behaviour in pre-school classrooms in the UK, describes "glow moments" in her own work, as being those which "generate sensations resonating in the body as well as the brain" (2013: 661) and which she further elaborates as when "connections start to fire up: the conversation gets faster and more animated as we begin to recall other incidents and details in the project classrooms, our own childhood experiences, films or artwork that we have seen, articles that we have read" (Maclure, 2013:661).

In my project such “glow moments” have occurred in much the same way as they did for Maclure. They are moments, sometimes very small moments, which have captured me and not let go. They are the happenings which have grown and grown in significance, spreading out their reach to touch with and intra-act with more and more of the research materials. I have used PowerPoint slides to collate and record these glow moments (appendix B), allowing the momentum to build in these entanglements, adding more materials and ideas throughout the process. Therefore, they aren’t singular ‘moments’ in time, in the same way that the term ‘fragments’ is sometimes used in research but are more distributed; instead they are where webs of associated materials and experiences from across the research project and beyond have become joined together. In this way, the term ‘theme’ in this project isn’t representing a concept as something fixed and as existing ‘in’ the ‘data’, but as something living and dynamic.

Just like in the musical form, each variation in this thesis takes the theme and makes with it, finding potential to become something new through emphasising particular aspects or bringing it into relationship with (intra-action with) other materials. This potential is realised in part by marrying up the nature of the research materials and a variation technique (e.g. juxtaposition, troping, distortion). These techniques, described at the start of each variation, have arisen as a response to the materials in the theme, often coming along after I have started playing, and have been vitally important in helping me make, see and feel the materials differently.

It is notable how different this view of difference is to how the word has sometimes been considered in research practices. Variation, as associated with ‘difference’ in some forms of research practices has been perceived as that which lies outside of the norm – the outlying results, the differences at the edges as captured in Cohen et al.’s description of qualitative data analysis as involving “organizing, accounting for and explaining the data...[by] noting patterns, categories and regularities” (Cohen et al. 2007:461). The word ‘regularities’ implies that difference or outlying views or responses are negative, where fitting in with patterns and categories is where strength lies – a view that very much underpins coding as a research analysis process which “reduces polyphonic meanings to what can be captured in a single category” (Brinkman 2017:iv). Quoting Deleuze, Taguchi (2012) puts forward an alternative view of difference stating that, “Contrary to ... [difference as negative], difference as positive

emerges as an effect of connections and relations within and between different bodies, affecting and being affected by each other” (Taguchi 2012:269). To shift from viewing complexities as something to be reduced and ‘worked-out’ to something which is full of potential, isn’t a process of simply swapping one methodology for another, but of re-seeing difference as generative, as something to ‘stay with’ and explore.

This deliberate embracing of processes which lead to difference making, processes which keep the intra-actions dynamic and open and embrace the ‘trouble’ (Haraway 2016) that this causes not only changes the forms of the projects but also the very nature of the writing.

Where are the research questions?

This project, before it entangled with posthumanism and improvisation, had started life as an exploration of music student teachers’ pedagogical beliefs. As with any PhD journey, I had written, redrafted, changed and rewritten my research questions many times over before even reaching the point of creating the research group. These gradually shifted to focusing on how improvisation was conceptualised, and what improvisation did to the students accounts of teaching. These research questions are still present, still visible in the nature of the project and the way the writing has developed. And yet, research questions in and of themselves as a practice of researching, of creating a linear path from conception to conclusion, began to feel increasingly at odds with the nature of the project. Responding to what happened in the moment, what emerged as important, what developed into themes, didn’t feel coherent with focusing on pre-decided foci. However, there have been some questions that *emerged with* and *in response* to the project which have proved useful throughout; How is improvisation experienced by the music student teachers in their living of music teacher education and beyond? And how does exploring improvising ‘trouble’ aspects of music education?

[Navigating the Thesis: Programme Notes](#)

Balancing the expectations for presenting a thesis for a PhD submission and at the same time forging a different path, requires an explicit acknowledgement not only of why there are

differences and what these differences result in, but how it is different. I therefore provide programme notes for this composition. These come in two parts;

- an overview of the composition to orientate you to the key ideas you will encounter in each of the sections.
- a set of navigational threads associated with elements of a traditional thesis, which you may want to be able to find and follow in amongst the Themes and Variations (letting you analyse and explore at a structural level). These navigational threads don't make one continuous and coherent narrative but are a gathering of lots of different strands which together make a story. The presentation is therefore not a linear, hierarchical 'route' through these but a way of engaging with the thesis in different ways.

Overview of the composition

Ex-positioning Stories: To ex-position is to displace ourselves, to help us see and experience from a different position. This chapter considers three stories which are troubled by this project; epistemology, pedagogy and research. Each of these stories is considered in relation to how they act on Music ITE, and then each is ex-positioned by the materials of the project in combination with posthumanism.

Teaching-with: Teaching and the teacher are a dominant part of the conversations of this project, threaded with ideas of teacher as bounded human, separated from others and where everything relies on them. However, diffractively playing with the research materials and discussions with improvisation and posthumanism is to re-see how far the body of 'teacher' influences our ability to see (Variation A), how re-seeing materials as teaching troubles notions of teacher exceptionalism (Variation B), and how the physical stances of the teaching body (through status and strata) maintain and project separation, bounded control and power over (Variation C).

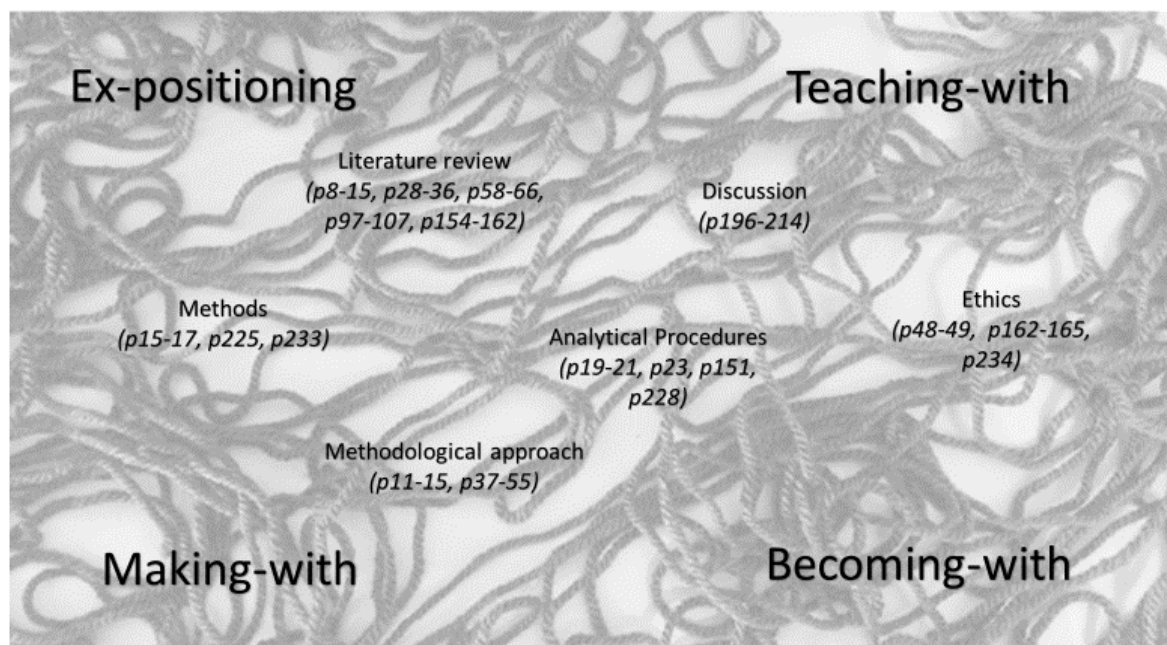
Making-with: The term making has a complex association with the subject of teaching, and the subject of music, despite its core music-making activities. However, improvisation troubles us to consider all intra-actions as making together (sympoiesis). The variations in this chapter explore the research group's difficult and contradictory experiences of making together (Variation A), the role of hands and touch in making (Variation B), the role of listening

as a fully embodied experience (Variation C), and how we make ourselves vulnerable, but also how we are response-able with materials when using all our senses (Variation D).

Becoming-with: To become a teacher holds strong connotations of learning ‘the’ knowledge, developing ‘the’ skills, and being able to demonstrate these through effectively *using* materials. In this chapter posthumanism and improvisation trouble three particular relationships which emerged with the group; sound as intra-animating relationships, blurring boundaries and changing relationships with materials and others (Variation A), expressions and metaphors as manifestations of becoming vulnerable to being with others (Variation B), and forms as a site of tension, re-seeing them not as inert and fixed, but as a ‘doing’ with which student teachers become (Variation C).

Coda: The Coda explores what has been set in motion by the project and what difference-making this has led to, before offering the chance to begin a different story of music student teachers and music ITE.

Navigational threads



Ex-positioning Stories

“It matters what matters we use to think other matters with; it matters what stories we tell other stories with...it matters what stories make worlds, what worlds make stories”
(Haraway 2016:12)

This chapter is an exposition, in the common meaning of the term as used in music and literature. It introduces and explores three interrelated stories within music education; epistemology, pedagogy and research. A story is defined as the telling of events, whether they are true or fictional. They are the structures through which we understand characters, narratives, intentions, events or worlds. We can think of a story in a book, contained and bounded, but the stories in this chapter are more than this. They are the dominant stories which are told, but also enacted. They are the bringing together of theories, practices, and discourses. They are reinforced and restated through micro and macro actions and exchanges. They are the metaphors and symbols which not only inform how we think about the (music education) world but make us respond in certain ways. These are stories which are deeply embedded and embodied, told and enacted, listened to and felt.

The stories of epistemology, pedagogy and research haven't become significant within this project through pre-determined choice, through cognitive endeavour. Instead these are stories which have become increasingly 'troubled'. This troubling has arisen partly from my own enacted relationships within music education (with students, with children, with disciplinary materials and ideas) and they have also become more 'troubled' through the course of this project. These stories are so engrained in how we think about music education and embodied in how we enact music education that to be able to stand aside and re-see these stories and their tentacular grip on the discipline requires more than an exposition, an introducing. It requires an "ex-positioning" (Masschelein 2010) which Masschelein describes as "being out-of-position" (Masschelein 2010:45).

To be out of position, displaced, is not easy, particularly when coming from within the field where I have lived the types of experiences and processes which contribute to the dominant stories. As Masschelein argues, to enable this ex-positioning is a process of E-ducating the gaze. This he argues, isn't a process of educating "in the sense of 'educare' (teaching), but of 'e-ducere' as leading out" (ibid. 43), it isn't about achieving "a liberated or critical view, but

about liberating or displacing our view...[not] becoming conscious or aware, but about becoming attentive, about paying attention” (ibid. 43).

Therefore, the offer in this chapter is to both exposition these stories, but then also to exposition ourselves before turning our attention to the ways these stories have been troubled by this project in the later chapters.

A Tale of Three Stories

This chapter plays with the stories of epistemology, pedagogy and research as they entangle with education, music education, music teacher education and educational research. These entanglements are played with not only using literature, but also from the experiences of the research group and my own experiences. It therefore is not a literature chapter, but is deliberately the start of bringing together materials, bodies and ideas into play with each other.

The story of epistemology

Authors in many fields recognise the continuing constraints of a view of epistemology based on Enlightenment thinking, where knowledge is seen as observable, describable as propositions and fixed in that there are perceived to be ‘truths’ which are provable and therefore universal. Varela et al. (1991), in their work on enactivism, come to the conclusion that this pervasive view of knowledge in the western world can be best described as abstract in that it creates a “tendency to find our way towards the rarefied atmosphere of the general and the formal, the logical and the well-defined, the represented and the foreseen” (Varela et al. 1991:6). This is a view of knowledge as ‘out there’, waiting to be learnt, as separate (from the learner), where subject and object are separate. This separation is not only about a gap between knowledge and ourselves, it is also a separation of mind as the place where learning and therefore knowledge operates, and the rest of the body. Attributed to Descartes’ philosophy, and known as Cartesian Dualism, this separation of mind and body, mind and environment, has led to a story of epistemology which has permeated how we consider education and educational institutions. As argued by Denmead it has led to a view of “formal educational institutions...[which are] designed to regulate bodies and discipline minds” with

a focus on “the cognitive-based transmission of disciplinary content” (Denmead 2015:26). Observing children undergoing examinations in a hall, separated, still in body, writing down what they cognitively ‘know’ is one example of this in practice, but many others exist in educational practice, policy and discourse whether it is the rise in standardised testing, the performance management of individual teachers against narrowly defined criteria, the focus of some educational research on technical rational ‘silver bullets’ to provide universal solutions billed as ‘best practice’, or the way some curricula are developed as top down, politically led statements as to what ‘valued’ knowledge is. This story is not just told, it is enacted, felt, observed and heard. It lives in our actions and our responses. It is a story which has become the focus of much critique in music education but is still prevalent in so many music classroom practices.

Critiques of Enlightenment epistemology and its hold over educational discourse and practices form a significant body of discussion for those in the music education academic community (Spruce 2012; Spruce 2016; Regelski 2005; Regelski 2016; Elliott 1995; Bresler 2015). These authors are responding in part to the ways in which the story of epistemology and its resulting practices at a broader educational level permeate music as a discipline (i.e. policies or practices which are applied to all subjects). One of the ways this is most evident is in the way we talk and write about music. Talbot argues that,

when we speak and write about music education, we often restrict the kinds of music, ways of music transmission, and spaces for music education that we consider...we privilege particular musics, along with one approach to knowing music; western notation. Other kinds of music.... the value of aural transmission and embodied ways of knowing is often diminished (Talbot 2013:47).

This restricting way of talking and writing is an enacted response to the story of Enlightenment epistemology. It is a response where fixed (by writing down in order to transfer), observable (where there is a ‘correct’ understanding) and describable (in which we can collate and assess understandings about music) accounts of knowledge provide the central premise to many activities in western education. This in turn informs the nature of the activities we create in music classrooms. Spruce identifies three specific examples;

- The teaching of music theory as separated from musical experiences;
- Instrumental technique taught separate from musical application or context; and

- Stylistically neutral composition tasks without recognisable musical style or tradition

(Spruce 2012:186)

These examples, Spruce argues are accompanied by underpinning conceptions of knowledge which align with what Freire (1970) describes as the 'banking concept' of learning where knowledge is deposited or 'banked' in the learner, with the teacher role being one of regulating the knowledge and the way in which it is banked. These activities, and the view of knowledge that they promote aren't just about the activity, they are also about the relationship they create or maintain between learner and teacher, which is based on hierarchy and power. These issues were evident throughout our conversations as a research group, where 'correctness' and the idea of there being one truthful answer were explicitly discussed.

E written response in workshop to discussions: *"Different perspectives made me feel uncomfortable – links to right and wrong and judging yourself"*

G in workshop discussion: *"I want to try and get with the flow in class. Not be so scared of improvisation, getting things wrong or being worried about judgement"*

G in workshop discussion: *"You said about not wanting to contribute as scared your ideas are wrong. That resonated with me!"*

A workshop post-it comment: *"People taking it from different perspectives – OOOOPS!"*

As the discussion developed with the research group about right or wrong, others in the group drew on constructivist views of learning to justify a different stance, but with them came tensions which were expressed about the role of the teacher and how to become confident and comfortable with the idea of improvising knowledge.

J responding to others discussing feeling worried about getting things wrong: *"It relates to seeing your voice as a contribution rather than whether it is right or wrong".*

H in response to reflective questions at end of workshop 2: *"[Improvising is about] communicating to pupils and others that they are free to express themselves fully – nothing is wrong. However, this can be interesting / challenging for teachers who don't have much experience to enhance and take improvisations to another level"*

R written post-it response in workshop 2: *"No thing as wrong answers – when questioning classes should I be looking for a specific answer?"*

This constructivist story of knowing underpins much of initial teacher education (ITE) practice, drawing heavily on the works of Vygotsky. However, there are concerns of how the story of

Enlightenment epistemology, with its separated knowledge and linear view of knowing still influences even when the learning theories being explored advocate a different way of knowing. This is summarised by two arguments, firstly that as noted in Taylor et al.'s 2013 international meta-analysis of ITE practices, "The traditional 'application of theory' model is still pervasive in many teacher education programmes" (Taylor et al. 2013:195). This was reflected in a comment by several students who explicitly noted the tension between what they were being 'told' to apply, and what the 'lived' reality was when they were in schools.

E final conversation: *"I had so many ideas to make my National 5 exam class more engaging... However, my teachers were worried [the pupils] wouldn't have everything learned by the exam and asked me to fire through everything and expected me to use a PowerPoint, explain / describe and give a musical example and move on...which was a bit of a let-down"*

S final conversation: *"the lectures are very much benchmarks, learning intentions, success criteria, filling out all the boxes, which is fair enough, they have to justify what they're telling you to go out and do, but as a teacher you have to be creative, it requires being able to just work on the hoof a bit"*

R final conversation: *"[we were encouraged to] almost over plan...I really do feel that this acted as a constraint to improvising in the moment"*

The second argument is a concern highlighted by Murris (2016) who argues that often in ITE, due to the particular assessment models that are employed, we socialise student teachers into theories, such as social constructivism, which they then speak (through their writing or in discussion) "with a representative voice...[where] it does not matter *who* speaks" (Murris 2016:105-6). These practices are manifestations of the Enlightenment epistemology story, where knowledge is fixed, transferable and separated from the learner and therefore all learners can 'speak' the same. In this view, the role of the teacher (and therefore student teacher) is to learn the way of speaking, and pass this on to the child, in what can arguably be considered an instrumentalised view of the teacher role. As Murris argues, instead we should be encouraging student teachers to speak with "one's 'own' unique-as-irreplaceable voice" in order to bring "something new to the world" (ibid. 105).

The concerns about how the Enlightenment epistemology story operate in both music education and ITE, and reflected in discussions with the research group, are threaded through the story of pedagogy, where underpinning ideas about what it means to 'know' and to 'learn' align with views of the act of 'teaching' and facilitating learning.

The story of pedagogy

The origins of the term pedagogy stem from the Greek for paid (Paed, pais) and agogos “child-tender” (Davis, 2004; Hamilton, 1999; Smith, 2012) forming the term *paidagogia* “education, attendance on boys”, and *paidagogos* as teacher (etymonline.com). It is in this context that a number of authors have written about pedagogy as to “lead the child” (Pearse et al. 2011), “the act of an attendant leading a child to school or supervision of a child” (Hardman 2008:65), “a man having oversight of a child, or an attendant leading a boy to school” (Mortimore 1999:4) or as “the slave who met the student ...and followed and guarded him on his way to school” (Folkestad 2015:118). As Pearse et al. summarises, a pedagogue therefore “is literally one who leads or guides or serves a child” (Pearse et al. 2011:7). While Pearse’s summary clearly follows from the previous statements and is recognisable in its links to education in the modern world, there are some particular meanings and ambiguities encompassed within this story of the term.

Firstly, ‘to lead’ is the underpinning meaning of many of our words relating to education stemming from the Latin term ‘educere’ meaning to ‘lead out’. From an epistemic position, ‘to lead out’ could be argued to involve the leading of children from a position of less knowledge, into a position of more knowledge, where the teacher is the knowledgeable presence and is responsible for finding the best path on which the children will be able to develop this knowledge. In this way, the teacher is in control of the knowledge to be built, literally ‘holding’ the access to it and the way through which it will be developed. While ‘to lead out’, is different from ‘to guide’, Pearse et al.’s second definitional term, they hold similar assumptions when explored. According to the Oxford Online Dictionary, guide as a verb can be thought of in two ways as “showing the way to” or to “direct or influences the behaviour of development of” (online Oxford Dictionary). Here there is an equally strong assumption that the teacher will know the best way to show or direct the child. In both to lead out and to guide there is little evidence of space for the children’s own involvement in the process other than to follow.

However, Pearse et al.’s use of the phrase, “to serve the child”, immediately creates a different set of assumptions about the relationship. As noted by a number of the authors, the fact that the boys were led, guided and served by their slaves or servants inherently creates a tension in the term pedagogy, where there is an uneasy power relationship (Smith, 2012;

Webster, 2009). This tension is argued by some to exist right through to the present-day educational uses of the term. Dewey (Dewey 1938) reminds us that slaves such as pedagogues were employed to “execute the purposes of another” (Dewey 1938:67), which creates an interesting dichotomy between pedagogues as holders of knowledge, leading children and the contrasting position of being pedagogical slaves either to the will/purpose/policies of others or to their assumed evidence-based principles and rules for conduct.

While this story of pedagogy, with its multiple meanings to serve (passive / follow their lead or needs), to lead (proactive) and to guide (encourage), all promoting different assumptions and understandings about the nature of knowledge, and the role of the teacher, what they have in common is that they promote pedagogy as a verb, ‘to act’. Olivera (1988) points to this as different to other words associated with education such as curriculum, method, strategy, stating that pedagogy refers “to an action, [which] has always been generally understood as consisting of ways of doing rather than of knowledge” (Olivera 1988:168). This process, this act of being pedagogical, reframes the story from epistemology (knowing) to ontology (being and doing), with a consideration of what it means to ‘be’ a pedagogue.

At the time of starting my PhD project the term pedagogy in music education was more prominently used and discussed, with the recent explosion of interest in the idea of ‘informal pedagogies’ in music education, led by the development of the Musical Futures initiative (Green 2008). In the introduction to Green’s book (2008), she talks of the need for a new pedagogy in response to the increased breadth of musics being introduced into music curricula. She states that while changes have led to new content, this was “largely approached through traditional teaching *methods*... [where] the *processes* by which the relevant musical skills and knowledge are passed on and acquired in the world outside the school, have been left behind” (Green 2008:3). She goes on to argue that this has led to a whole range of musics in schools being enacted as a representation of the musics rather than the musical practices existing as they would in the world. Although Green talks of methods and processes in reference to pedagogy, she is concerned with a broader issue: that of relationships between learner, subject and teacher. She argues for a shift from directive teaching to a responsive one, which she describes as “metaphorically taking the learner by the hand, getting inside their head and asking ‘What do they want to achieve now, this minute, and what is the main thing they need to achieve it?’”. In this way, the teacher sits alongside the learner and is to a large extent a

learner themselves” (Green, 2008:34). At the time this was a radical departure from more traditional views of music pedagogy where, as Schmidt (2016) identifies, two interlinked issues framed practices and relationships: those of power and authority, and issues of developmental progress.

Schmidt talks of the inherent tension between pedagogy and authority in music education. Highlighting how educators are musical, she argues, creates an authoritative power which can be used to narrow pedagogic practices and confine the ways in which we engage with musics, leading to a conservatism in pedagogy (Schmidt 2016). Schmidt’s argument centres around the notion that authoritative musical ‘ways of being’ close pedagogical spaces where “Authority offers only presence (and no space) as it denies the existence of what is not immediately visible by privileging what is normative and therefore patent” (Schmidt 2016:17). This aligns strongly with Allsup’s call for an “Open philosophy of music education” in which open forms of pedagogy create the space for “travel and surprise” (Allsup 2016:43). This is a very different pedagogical act than those governed by a development view of progress, delivered through instructional models of music education which Schmidt describe as those underpinned by the belief that “technical and operational development...is built up” (Schmidt 2016:10-11). This is a sequential, cumulative approach, building in a linear and progressively skilful manner.

This notion of sequential ‘building up’ was evident in many conversations with the research group. This part of the story of pedagogy was almost always described using the term ‘steps’.

M initial conversation: *“I don’t know everything...I am trying, trying my hardest, to learn each instrument, because it’s only fair that if they have to learn it, I should be trying to keep a step ahead at least”*

E final conversation: *“Anything that they do not finish can be used in the next lesson which indicates next steps in their learning”*

H final conversation: *“[this was] the hardest class I had... I thought [I] was going to hand them over the booklet, all the steps, they shouldn’t not know what to do, coz all the info was in front of them”*

This story of pedagogy as being of steps (being one step ahead, step by step learning) created tensions for some of the research group.

H final conversation: *“I’m actually so much more relaxed because I’m not following a step by step guide... and I think when I’m more relaxed, like when I was more free, the kids responded*

well with that, and they, not that they mirrored my character, C: but they picked up on it, they responded H: yeah, it made the whole atmosphere more chilled and relaxed... I feel the most tense, I would say, if I know I have to keep to a certain step by step plan"

M in final conversation: *"so you have this plan ahead of you, it's like going from A to B, and I'm going to take someone along with me, but then...it's like you know which way you're going, but they don't know where they're going and they see another route...and then your adapting and going ok, let's see what happens... both improvising the way along...what gets me is...when you're going from A to B, and you've got this path and you've got signposts along the way...it doesn't really matter letting them experiment and improvise as even if they do get to B and then come back the way and hit those signposts, who says B has to be ahead of [A]?"*

While acknowledging that sequential building up is an important element of musical learning, where individuals are empowered to develop their technical abilities, Schmidt argues that such experiences "need to be balanced at times by pedagogy that builds down, helping learners to disinvest from authority, to risk their way into music making that is self-directed, innovative, non-prescriptive, and open" (Schmidt 2016:21). Much like Green's theories of learner and teacher alongside each other, Schmidt argues for a way of being in music education which safeguards "self-directed, exploratory, and idiosyncratic growth that is not dependent upon or overridden by mastery" (Schmidt 2016:10-11). It is this democratic mess, the complexity and idiosyncrasy of musical experiences, which Schmidt argues makes music deeply pedagogical. She argues "The act of music making compels an effort, a direction, a commitment, but also acknowledges and engages with tension, adaptability, and multiple possible readings" (Schmidt 2016:18).

How far we prepare music teachers for this tension, this trouble, is debated. Allsup argues in the introduction to his book *Remixing the Classroom* (Allsup 2016), that musicians and music teacher educators aren't attentive enough to relationships between musical forms and the pedagogies that we use (ibid. iv), while Wright and Kanellopoulos (2010) argue that free improvisation experiences in Music ITE contribute positively to teachers pedagogical understandings of "autonomy, developing the self and developing an open attitude to children and their music" (Wright and Kanellopoulos 2010:81). Their findings complement Abramo and Reynold's call for a reimagining of teacher education as being primarily about the development of "creative pedagogues" who are "responsive, flexible, and improvisatory; are comfortable with ambiguity; think metaphorically and juxtapose seemingly incongruent and novel ideas in new and interesting ways; and acknowledge and use fluid and flexible identities" (Abramo and Reynolds 2014:1). While drawing on music education, Abramo and

Reynolds situate their research more broadly within ITE, which challenges notions of ITE pedagogy as being about finding the ‘best’ or ‘right’ way or re-enacting pedagogical habits of others (McWilliam 2005, Abramo and Reynolds 2014).

The story of research

Over the last five years of my project I have been frequently asked, both within and beyond academia, how my research is going. This question is phrased in a number of ways including “Have you got all of your data now?”, “Have you got a good group of participants?”, “What methodology are you using?”, “Have you got good stuff coming from the data?”, or “How’s the writing up going?” These questions often lead to me giving a vague and unsatisfactory response. These questions are not difficult, they are not unfair, but they do cause me problems because of the assumptions they contain, rooted as they are in the educational research paradigms arising from the social sciences. These paradigms have created a resonant story about what research is and what a researcher does with assumptions about terms such as data, analysis and methodology. This current story of educational research and practice is grounded by three interrelated assumptions – the dominance of humanism, the linearity of process and the dominance of the linguistic.

Humanist assumptions still dominate current understandings of what it means to do research. In practice this is seen where the reporting on human thoughts and actions is hierarchically elevated and the mind of the researcher, and knowledge within it, is considered of most prominent importance. This is seen in the questions I am asked, where it is assumed that I am “reporting” on human responses and actions, where there is one truth that I am uncovering, with a separation between myself and the data which has been “collected”. As Haraway asks, “What happens when human exceptionalism and bounded individualism, those old saws of Western philosophy and political economics, become unthinkable in the best sciences, whether natural or social?” (Haraway 2016:29–30). Such a focus on humans and human-to-human relationships at the expense of all others is, as Taylor highlights, an outcome of the western Enlightenment which, “via colonialism and science, generated a version of humanism grounded in the separation of, and domination by, a smallish section of ‘mankind’ from/of the ‘rest of’ nature, humanity, and nonhuman ‘others’” (Taylor 2016:8). In this form, humanism is not only associated with particular ways of knowing based on Enlightenment

epistemology but is also divided into disciplinary fields and subjected to disciplinary ways of researching. In music education this is exemplified in situations where, mirroring music education itself, greater value is placed on elements of research which are fixable and reportable, obscuring music's "participatory, enactive, embodied character" (van der Schyff 2015:79–80).

The linearity of the research process has been of particular challenge in this thesis, where the question of what methodology I have chosen was often asked. The difficulties of this question are highlighted by Weaver and Snaza (2017), who argue against what they term "methodocentrism", which they argue is "the belief that predetermined research methods are the determining factor in the validity and importance of educational research" (2017: 1055). They argue that choosing a methodology in advance, thus creating a linear pathway through a research project, "disenables research from taking account of problems and non-human actants that are presumed to be of no importance or value in existing social science research methodologies" (ibid. 2017:1055). Goal-directed, teleological approaches to research (and teaching) are so embedded in our practices "that it has become conventional, reductionist, hegemonic, and sometimes oppressive and has lost its radical possibilities" (St Pierre, 2011:613). This is a view which is mirrored in music education research, where Regelski (2002) criticises the 'methodolatry' of music education. As explained by Jorgensen (2009) in her critique of music education research, methodolatry is used by Regelski to "refer to the tendency to regard means as if they were ends... [organising] music education research around research 'methods', a traditional approach that creates a silo mentality by perpetuating the fiction that methods are discrete and mutually exclusive" (Jorgensen 2009: 416).

Thirdly, this is a story in which research practices continue to be regulated by representational forms of thinking, writing and doing, stemming from what is commonly referred to as the "linguistic turn" in which words and language are used to represent others' lived experiences. As Maclure states, representation is an important part of research, and this critique is not to completely remove "representationalism", but it is to recognise what she describes as a "pervasive representationalism that has rendered material realities inaccessible behind the linguistic or discourse systems that purportedly construct or 'represent' them" (Maclure

2013:659). The key feature of such representationalism is a view of the researcher as someone who is able, through their own thinking capacities, to categorise and make judgements about others, ensuring truth is revealed and the resulting knowledge is fixed, transferable and abstracted. Fundamental to how this plays out in research is the view of what data is, what it looks like, and how it is to be interacted with. Assumptions that data is written, captured on paper, static once it has been collected, and separated from the researcher still shape expectations of what researchers do.

While this story of research and researcher has begun to be challenged through the critiques developed in some post-qualitative research circles (e.g. feminism, post-structural, critical, new material), this story is still very present in music education academia. In researching her book Jorgensen encountered significant issues with the nature, quality and underpinning assumptions of music education research (Jorgensen 2009). In particular she highlights the “many studies of various kinds [which] seemed to test psychological and sociological aspects of music teaching and learning having to do with what sometimes appeared to be uncertain and ambiguous variables (ibid.407). She also comments that she “encountered a variety of logical, conceptual and methodological issues that left me hesitant to interpret such findings as were reported with any confidence” (ibid 407), while noting, “Less attention seemed to be paid to matters that go to the heart of the complexities of music education, maybe because these are less amenable to scientific and other related methods of investigation” (Jorgensen 2009:407). This last comment mirrors the humanist, linear and linguistic dominance of the story of research, by which complexities, the radical possibilities in music education, as with all education research, have been reduced or even ignored.

Entangling the stories with improvisation

Improvisation as a “radical apparatus” (Murriss 2016) in this project ex-positions us to see, feel and hear these stories differently. Improvisation is a broad term, which can be used very specifically in certain musical contexts, with different rules and habits (e.g. the difference between free improv and jazz improv). For the purposes of this project however, I draw across disciplines of theatre, music, business, education, nursing and anthropology to consider the underpinning similarities in the term. Some authors have claimed improvisation as a fundamental, all-encompassing phenomenon in interactive situations. These claims include

that “Improvisation is a cultural imperative” (Bruner 1993:322), that we can view “Life as improvisatory art” (Bateson in Ross 2014:7) and that improvisation can be seen as a “para-critical hinge between critical pedagogy and music education” (Giacomelli 2012:1). These literatures, viewing improvising as a broader concept than the musical alone, are underpinned by a fairly consistent set of defining characteristics of what is meant by improvising including:

- the simultaneous creation and execution of plans – conflation of process and product (Chelariu, Johnston, & Young, 2002; Mattin, 2009; Ross, 2014);
- the constant investigation in the moment, of the materials for their potential (Prevost, 2009; Sarath, 2013);
- an openness to what will happen, accepting it for itself, staying alert to the here and now (Mattin, 2009; Saladin, 2009; Sarath, 2013; Sawyer, 2004);
- a collective dimension – group improvisation as a vehicle to probe limits of acceptable conventions (Ross 2014),
- horizontal, non-hierarchical positioning of others in relation to self through shared responses and mutual support (Saladin, 2009; Giacomelli, 2012; Ross, 2014)

Ross sums these characteristics up in five words: emergent, contextual, embodied, attentive and engaged (Ross 2014). It is these aspects of improvisation, both as a concept, but also as a ‘doing’, a lived experience, which have intra-acted with both posthumanism and the stories of epistemology, pedagogy and research to change the story of what it means to know, learn, teach and research. However, this isn’t a theoretical exercise, a playing with words alone to change the story, this is an embodied, felt experience which has fundamentally changed what it means to ‘do’. The remainder of this chapter focuses on how, by changing the ‘doing’ of research (thought of as changing the dynamics, tonality, texture and timbre of research) has given weight to three ‘ways of being’ which are coherent with improvisation and posthumanism; being performative, being minoritarian and difference-making. Each of these ‘ways of being’ have changed the relationships between bodies, environments, materials and ideas, and have therefore changed how the story of doing research is embodied.

Changing the Dynamics: Performativity

“Dynamics:

1. *The branch of mechanics concerned with the motion of bodies under the action of forces*
2. *The forces or properties which stimulate growth, development, or change within a system or process*
3. *(music) the varying levels of volume of sound in different parts of a musical performance”*

(Google online dictionary, accessed 2.2.2020)

To change the dynamics in a musical sense can allow different voices (or in this case materials) to come to the foreground, while in physics it involves movement and forces. Therefore, changing the dynamics, the movements, forces and allowing different voices to be heard has the potential to change the stories of epistemology, pedagogy and research. A key part of changing the dynamics within this project has been to embrace the posthumanists view of knowing, and their emphasis on performativity (of knowing) rather than representation (of knowledge). This distinction was captured in the creation of a collaged picture in the final workshop (figure 2.1). The group had access to all the images that we had explored in the initial workshops, the terms the group had come up with in the definitional work from workshop 1, and a selection of craft materials.

Figure 2.1: S’s response to the final workshop collaging task



I wanted to understand what he meant by the picture, but he refused to tell me (S: “Ah I think I’ll leave that up to you”), capturing in a single moment the tension between representational and performative views of research. At that moment in time my response to the picture, to *understand* it through a verbal exchange, revealed my ongoing enacted beliefs about what it meant to ‘do research’ and ‘be a researcher’, based on dominant humanist views. I wanted to understand it so that I could represent it accurately, discussing its meaning as something which belonged to the maker. Posthumanism and improvisation ‘troubles’ this view of knowing and research, arguing for a performative view of research (see Taylor and Hughes 2016, Bozalek and Zembylas 2017, Taylor and Gannon 2018, Springgay 2019). This use of the term perform is not about a technical and highly practiced performance of a final product, but an ongoingness, a joining in with what is in play.

To join in with and to play with the materials of the project is to continue to transform and be transformed by the materials, to hold them open for playing with and to see them as co-existent in and with me, not separated from me. The dynamics between researcher and the materials of the project in this story of researching, makes the term ‘data’ increasingly problematic. Data as associated with something that has been contained, held separately from self and fixed once collected is constantly reinforced through phrases such as ‘have you finished collecting your data’, or ‘have you analysed all of your data’, or ‘have you got good data?’. In this way, ‘data’ which is often treated as “passive matter to be interpreted by an ontologically separate researcher” (Taguchi 2012:269). In contrast, a performative story of research asks us to view materials as something dynamic, continually becoming *with* the researcher, research group, and ideas from literature and life. Something to join in with, which is already in movement.

To reflect this difficulty with the associations of the term data, I refer instead to *research materials*. This term is still not unproblematic, still suggesting something as separate from human, but it creates less of a distinguishing hierarchy between environmental, verbal, physical, sounds and concepts. It doesn’t delineate between something purposefully collected and analysed, and something outside the ‘container’ of the projects timetabled events. While it may maintain a non-human, human distinction it allows for materials to be considered and written about as active and dynamic things rather than inert objects.

Viewing S's collage picture (figure 2.1) as research materials, something to be played with and keep in motion, rather than interpreted through words in one particular way, was a significant shift in how I responded. For a long time, I wished I knew what he would have said, thinking of ways I could to ask him once I had realised, he didn't verbalise an explanation on the video recording. I wanted to capture S's thoughts because I wanted to represent his words, his ideas. The route to a representational analysis of S's adapted image wasn't open to me, he hadn't described it or explained his thinking. Instead, joining in with the image, responding to what was in play because of it, and improvising with it, fundamentally changed my role, my behaviours and actions.

Instead of interpreting the image, finding out what S meant and representing it, I have instead played with this image, bringing it into contact (both physically and with ideas and concepts) with other materials, seeing what is made. Playing with the image alongside reading Hultman and Taguchi's (2010) argument that a posthumanist approach to data "challenge[s] the habitual anthropocentric gaze we use when analysing educational data, which takes human beings as the starting point and centre and gives humans a self-evident higher position above other matter in reality" (Hultman and Taguchi 2010:525), I realise that I have de-centred S's intentions and instead become-with the materials as I have played and responded to the image. In doing so the image has been an 'active participant' in the world (Barad 2003), where it is not only thought of as a 'thing' to be analysed and written about, but as something which has acted, has impacted, has and is 'a doing' (Barad 2003:822).

Thinking of materials as intra-active, as the mutual affecting and being affected by different bodies (human and non-human) (Taguchi 2012, Barad 2007) is to ensure that they continue to be 'in play', never codified, never made static (Maclure 2013) but continually performative, developing new meanings and influencing what emerges in different ways at different moments when it is being worked with. Therefore, each 'encounter' with the materials involves a different materialdiscursive relationship between bodies, matter and meanings, which can lead to multiple 'readings' as with the excerpts of my notes (figure 2.2). The picture has literally (be-)come with the project, with me, with the literature.

Figure 2.2: Excerpts of my research notes in response to the picture May / June 2018

"I mounted the picture on the yellow card, a very teachery thing to do, but in the image, the border is crossed, it is broken.

He has moved across into a space which I had created - link here to letting children or other musicians cross over into our musical spaces - the role of permissions, access, confidence to do so..."

"The cut in the picture is interesting me as it links with a conversation I have had with [teacher friends] lately about children being scared to tear and crunch paper, even when they'd been given permission and a related conversation I had with [another friend] about children who were scared to get paint under their finger nails. S was the only one today who decided to make-with the picture, rather than use the pictures as representations of something already fixed" (day of final workshop)

"Wool - straight, curved, circle, threads - reaching out. Some look like they are continuing to move out (yellow one pointing to the girl's chest). Only one touches her, by her nose - why her nose, not her ear or her eye? Non are reaching down to her hands or the keys. 4 reach up and beyond the picture, but most are in and around the page. This isn't transmitting to others; this is about the page and what it is doing"

(returning to the idea of the page a few weeks later) "Page as dynamic, expressive, reaching out" "In the original image of the girl without S's additions and adaptations, she is the most dynamic element, but in this version of the picture she appears almost fixed. She isn't releasing the threads; they are there with her"

(thinking more about being overwhelmed) "Overwhelmed? Trying to stay focused on the notes, the page, the technique *despite* the colour, the emotion, the dynamics or what is occurring? Too much? Too much to push aside? Managing distractions -- but are we suppressing feelings, bodies, responses?"

As I am typing up these excerpts, I realise I haven't written anything about the addition of the word 'play' to the side of the image. Using this word was a deliberate choice by S, but it is interesting that it sits alone, separated, torn at one end so as not to interfere with the image. It is not attached to either the act of pressing the keys of the piano by the girl, or the threads and stars of the page. The word is left in its own white space, maybe as a description but it leads me to thinking that the girl is performing (music, from the page) but what is 'in play' is something quite different.

This idea of what is 'in play' intrigues me, making me think about what it means to be responsive and response-able to what is 'in play'. In performance (being performative) what

do we block out, refuse to engage with or dismiss without recognising as important? In the moment of S making his collage, I was so focused on verbal exchange to transfer meaning, that I was less able to respond to other elements that were 'in play', not paying attention to the image itself, its process of coming to be or S's emotional or physical responses. Being responsive to what is 'in play' is therefore reliant on attention. Attention to what is there, what different voices (material or human) are contributing, and what they are creating.

Making a shift from representational to performative ways of knowing (both in research but also as a challenge to music education and teacher education) requires ex-positioning ourselves from the dominant stories of 'performance' which are strongly embedded within music education and teacher education.

Performativity in music education

In music, to perform is an integral part of a musician's identity and behaviours. While not all musicians will hold the same understandings of performance as their experiences will be unique to them (genre, group, location etc.), research by Welch et al. (2010) tells us that the vast majority of music student teachers will have developed their understandings of performance within western art music practices. Welch et al.'s survey of 140 UK based music student teachers revealed that over 80% of these music student teachers arrive along a well-trodden path of musical experiences (instrumental or vocal lessons, orchestral or ensemble experiences, graded examinations, music A level / higher / and music degree) (Welch et al. 2010). This route by its very nature socializes music student teachers into particular beliefs about performing and its associated behaviours which could arguably include:

- the final performance as the culmination of the creative process and therefore a desire to accurately demonstrate what has been achieved via that one occasion.
- the importance of the score in providing an intricate 'map' of the performance, which is fundamentally static and unquestioned in the performance itself and which, as Prevost (2009) notes, mediates the relationship between the musicians.
- the need for extensive practice and preparation to resolve or refine technical problems before the performance

- the minimizing of possible interferences to the delivery of the performance (i.e. making sure all equipment is ready and the ‘stage is set’)
- the role of the audience as a passive, critical listener to the performance
- judgment of success resting on aspects such as accuracy and realization of the intentions of the composer

While I have varied experiences of how musical performance is conceptualised within schools, from the emphasis on whole class performing from notation in some Scottish schools, to the more integrated nature of performing compositions which was how I taught performance, what is common across music education in the UK is how performance continues to be held up as the pinnacle of musical achievements, with significant emphasis on reaching the higher standardised levels of performance (equivalent to ABRSM grades). The prominence given to these standardised grades is reiterated through the entry requirements of the courses the music students were on (Grade 8 ABRSM equivalence in principle instrument and Grade 5 Piano). It is within this context that the original image of the girl playing the piano (which was shared during the initial conversations) sparked a strong emotional response in some of the group.

Figure 2.3: Image of girl playing the piano and responses from initial conversations⁵



E in response to the question ‘why did you immediately choose to look at this picture?’
“because Piano has been like a main focus to try and catch up especially, well the end of school but all through uni as well to get to a certain standard”

G *“that was just me because I was sitting at the piano for so long for the last two years of school, I was just sitting bashing things out like, just trying to learn like, to get up to standard for uni”*

Here, to perform (to play) was about the page (as S had asked in his collage). Looking again at the image, with the words of E and G, was to be drawn from the girl’s eyes and the direction of her hand into looking at the music on the piano. Realising that this is where the standard is set and fixed, the learning is contained, the composer’s intentions marked. E’s comment

⁵ Image from <https://cherryhayes.com/home-page/student-practicing-piano-3/> (accessed 21st January 2018)

about catching up and both E and G's reference to 'standard' feels important here. This makes me consider the huge efforts and energies put into paying attention to standards (in this case the grade level expected for entering the Music Education course). When attention is so firmly rooted on a standard and that standard is both defined by and tested through the page in front of you (which with graded exams is packaged in a contained, standardised book of pieces), it makes me consider what elements of performing are not paid attention to. In this sense performance is about narrowing down attention, a centripetal attention (Ingold 2013) focusing in on very specific defined aims.

This could not be further from S's collaged image of this same picture, where the page is almost hidden, obliterated, by the dynamism of the threads, where to perform was to release and be open to what was released. This dynamism isn't about standards, learning or intentions this is about emotions, responses, sound. This is a capturing of what is 'in play' as a result of the page, not focusing on the page itself as the most important 'voice'.

The question that arises from this is if as posthumanism argues, performativity of materials, bodies and ideas is inevitable (as nothing is 'fixed'), how do we acknowledge this in a discipline in which attention is dominated by standards and reified musical objects?

Performativity in teacher education

In initial teacher education (ITE) the term performance is "most often... situated in contexts of technological *effectiveness* or economic *efficiency*" which leads to a message "that teachers are charged with producing and reproducing performances of efficiency and effectiveness, both in themselves and in their classrooms" (Prendegast 2008:2). The ability to develop and lead your own learning to be increasingly efficient and effective (as measured by children's progress and results) throughout your career (through critical reflection) is given significant weight within teacher education. This then becomes a cyclical demand where, as Smyth (2011) states, teachers are recruited, initiated and measured on their abilities to be "dutiful, compliant, market responsive and uncritical of the circumstances and conditions around [them]" (Smyth, 2011:32). This makes me question what sort of 'performance' we are expecting in teaching and how this aligns with similar behaviours to western art music

performances. Arguably there are some strong cross overs between the two areas (music performance and teacher performance) where to perform implies:

- the final lesson as the culmination of the ~~creative~~ student teacher's learning process and therefore a desire to accurately demonstrate what has been achieved on that one occasion.
- the importance of the lesson plan in providing an intricate 'map' of the lesson, which is fundamentally static and unquestioned during the lesson itself and which, drawing on Prevost (2009), mediates the relationship between the teacher and young people.
- the need for extensive practice and preparation to resolve or refine technical problems before the lesson
- the minimizing of possible interferences to the delivery of the lesson (i.e. making sure all equipment is ready and potential issues have been planned for)
- the role of the young people as listeners (receivers) of the lesson
- judgment of success resting on aspects such as accuracy and realization of the intentions of the ~~composer~~—curriculum, department and mentor and how far the ~~audience~~ pupils understood those intentions.

While in music performance the issue of centripetal attentionality was raised, the similarities with performance in teacher education make me consider how the edges of the performance space are considered. Some of the reflections of the group in the final conversation made me consider the difference between a hard edge, an edge that is perceived as solid and cannot be improvised with, and times when hard edges get broken down in unexpected or sudden ways.

R *"we have to make these plans and stick to them, and that's kind of become engrained in me"*

R *"when it was official and you had to have every single timing down, and especially with your crit⁶, when [the tutor] writes down if you are actually sticking to your times, then I feel the course makes improvising difficult"*

⁶ 'Crit lessons' refers to school visits made by the tutor to observe the student teachers teach a class. They are part of the assessment processes for both the PGDE and BMus course, alongside written assignments.

S “the lectures are very much benchmarks, learning intentions, success criteria, filling all the boxes, which is fair do’s, they have to justify what they’re telling you...but as a teacher you have to be creative, it requires being able to work on the hoof a bit”

S “I’m too bad at going off on tangents and going about and seeing what’s happening with different folk, so I think teaching is improvising for me, for me certainly...that’s how I approach life, it’s like I’ve got a DIY job to do in the garden, it’s like ok, how am I going to go about this, ooo I’ve got a bit of wood that fits perfect, and then stuff goes up from that...yeah I’ve always had that ability, what tools, what resources are at hand. In the classroom it’s the kids, and what, where they want to go with things, or how they are getting on...”

R’s comments talk of hard edges of the performance space, where the planned activities (on the lesson plan) and the timings of the lesson are felt as fixed, un-questionable elements. This reminds me of seeing the piano lesson image only through the page, as a fixed standardised voice that dominated everything else, pulling in attention.

S’s comments contrasting the messages he was given in the course lectures with his lived experiences of being in the classroom, makes me consider the positioning of children and materials in this performative view of teaching. S’s account brings to my attention how children in this passage of speech are discussed as being like materials. S isn’t implying he ‘uses’ the materials (the wood in his garden or the children in his classroom) but that they are an active body in shaping what is created. These aren’t the hard edges of the performance space as discussed by R, but a performative way of being which gives and takes. One which isn’t about fixed, or static adherence, but of flexibility and playfulness. This isn’t performing the page (of music or the lesson plan) but allowing what’s ‘in play’ to be performative.

What is *in play* encompasses the unplannable, the uncontrollable (even if we think we can reduce the impact on the performance by responding appropriately) it is the in the moment goings on which we often see as things to control, to make contingencies for, or to suppress. The questions this leads me to is what type of ‘performance’ behaviours are we (possibly implicitly) implying within teacher education? And what happens when you change the story of what it means to perform, away from a western art music model to an alternative?

Being performative, as a way of being in and with this project is different therefore to ‘performing’ in music or teacher education. Being performative is not a centripetal focusing inwards, meeting prescribed standards, using materials in a prescribed way or following prescribed behaviours. Instead being performative means casting outwards, not being limited

by what relationships are kept in focus by the existing stories of epistemology, pedagogy and research, but paying attention to what else we are intra-acting with. By allowing ourselves to be attentive to what is being performative with us, is to allow different stories to be made.

Changing the Tonality: Becoming Minoritarian

“Tonality:

- 1. the character of a piece of music as determined by the key in which it is played or the relations between the notes of a scale or key*
- 2. the harmonic effect of being in a particular key*
- 3. the use of conventional keys and harmony as the basis of musical composition*
- 4. the colour scheme or range of tones used in a picture”*

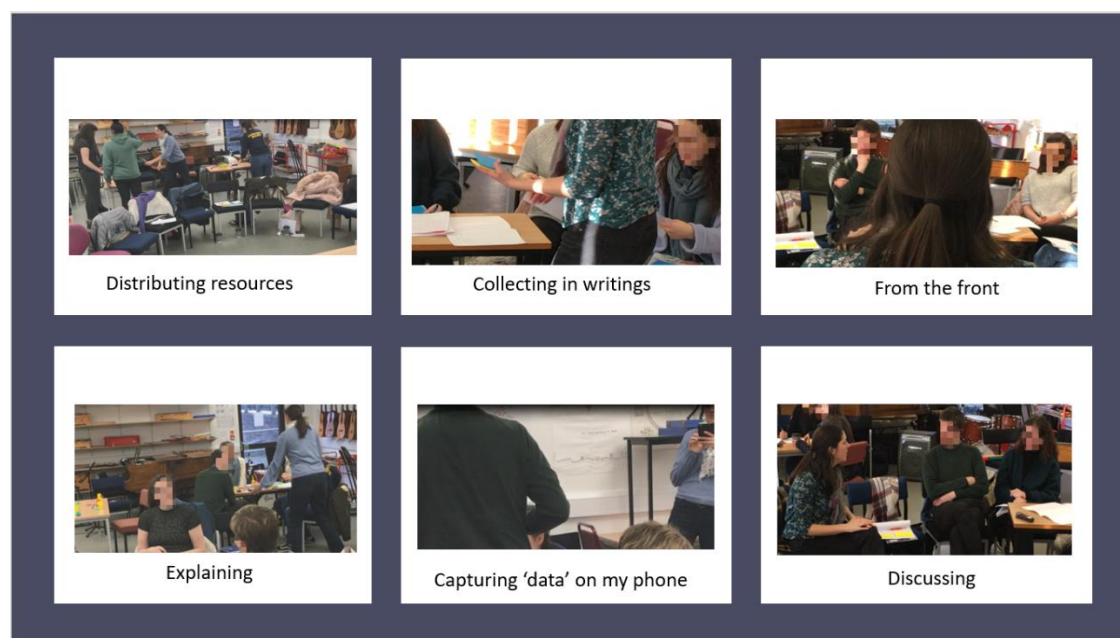
“The expression ‘becoming minoritarian’ defines the very process of escape from ‘majoritarian’ norms, subject positions, and habits of mind and practice” (Taguchi 2012:267).

The issue of tonality is one of relationships and associations, of developed habits and assumptions. To change the tonality is to ex-position ourselves from given narratives, developed habits and bounded silos to be, see and feel differently. A shift from major to minor is a shift from a position of certainty to openness and uncertainty, it is from a position of power to being humble. As Taguchi explains it is a process through which the rational subject can “disrupt hierarchical thinking and to think instead through zigzagging networks of minoritarian differences that move beyond constituting and stabilising dichotomies” (Taguchi 2012:267). This process is therefore a de-stabilising one, one which creates friction, tension and questioning, but also one which “opens up things which are excluded, un-expressed or unheard by breaking into, de-territorializing and altering the usual modes of doing and saying things” (Beyes and Stayaert 2011:111).

Becoming minoritarian is not an easy process. It is predicated on challenging deeply rooted assumptions, beliefs and expectations, which are enacted as habitual practices and behaviours. Coming into this project as a teacher educator and being introduced as such to the music student teachers who made up the research group, created a practiced way of being with each other. This was further emphasised by the physical location of the project, within the education and music education rooms at the university which established patterns

of movement and possession of space and materials. These assumptions, patterns and behaviours played into assumed practices of research, and researcher.

Figure 2.4: Research behaviours workshops 1 and 2



What is interesting to me about these pictures is that they do capture moments of majoritarian habits; of me as owning the materials, the explanations, the 'data', the knowledge and the space. These are moments where I embodied my teacher educator, workshop leader stance as practiced hundreds of times. On the surface I struggled to become-minoritarian in these spaces. The habits were too engrained and the relationships too embedded in practiced behaviours. And yet, there was a significant difference between these sessions and my teaching practices in the level of my attentiveness and the amount of space I did give to the group. There were long periods of sitting back or standing to the side of the space, many moments of listening and watching, and plenty of examples of members of the group taking more of a central position (physically or in conversation) than myself.

I am reminded of a discussion I had with a different group of student teachers about informal learning approaches in music⁷. Their descriptions of lessons they had taught, which they had

⁷ Informal approaches in music education are discussed more extensively on page 64

conceived as using informal approaches, made me question the dichotomy between formal and informal learning and its relationship to being minoritarian.

Research notes April 2017 - a discussion on informal learning approaches:

A student stated that she did not know if she was 'doing it right' as she was still spending time standing at the front of the class explaining the tasks, setting up the groups and listening to the performances at the end of the lesson. She described the lesson as having two different flavours, one in which she was most definitely the teacher, leading the learning processes and one which was student led, and which she felt was more akin to the informal approaches we had been exploring.

How many lessons have I observed that have claimed to use informal approaches but within a formal tonality? How many teachers have I watched who in their relationships with pupils demonstrate the types of interactions I associate strongly with informal approaches, without their lesson being framed as such?

This memory of a conversation makes me consider the pictures in figure 2.4 differently. It makes me consider carefully the assumptions around the term 'minoritarian' as opposed to majoritarian. Minoritarian conjures up images of retreating into the mix, not leading from the front and of being of lesser influence and a less prominent voice. These assumptions about the term arguably stem from associations with the word minority and child as being a minor. However, Taguchi's definition of minoritarian is not only concerned with power and influence but with responsiveness, or what Haraway (2016) calls response-ability. This then raises the question as to whether leading and response-ability are mutually exclusive, which arguably is not the case.

Leading in musical improvisation is often thought of as rotational (Ross 2014:17), taking turns and including all in the leading of the piece. However, ensuring one person leads, and then another arguably doesn't make the process one of becoming minoritarian, as each leader can do so in a dominating and separating way. Instead, Bell's descriptions of improvisational leadership provide a different view, making a distinction between power-over, power-to and power-with (Bell 2014).

In Bell's account of anarchist views of human power, a new relationship is conceptualised in which humans are neither masters or slaves (Bell 2014:1017). In a master / slave dynamic the

power relationship is one of power-over, “in which one body is compelled by another to behave or act in a certain way” (Bell 2014:1014). This power-over limits the amount of power-to that each person in the relationship has. Interestingly, Bell talks of the mutually reductive effect this has, where both the dominated and the dominator in the relationship have a reduction in their power-to (ibid. 1017), enslaved as they are by the roles they maintain and the inability to create power-with each other. Bell defines power-with as “collective freedom” (ibid. 1017) in which both people in the relationship have power-to, and which resists the notion of power as limited, scarce or contained, instead seeing it as an unlimited productive resource.

Revisiting my own positioning within the workshops I can differentiate between moments of leading as having power-over (where the research group sat, what materials I gave them, what order we engaged in activities) but there was also a sense of handing over of the time, space, process and concepts to the group. I wanted *them* to lead the engagement, the opening up and exploring of the ideas, the activities and the discussions. Bell describes this handing over in musical improvisation as being where “each expressive act is a placing of power-to into the common realm” (Bell 2014:1018). This is becoming minoritarian as a collective, where power-with develops from everything involved. However, this makes me question whether my actions of sitting or standing observing acted as a disruptor to this common realm, where I positioned myself as outside, still maintaining a majoritarian position. In reviewing the moments where I am observing, I can see myself physically trying to ‘disappear’ (figure 2.5) where I slump down in a chair, literally trying to shrink behind the classroom materials, and hiding my face with my hands and yet this isn’t maintained. I am clearly still watching, and the groups interact with me, bringing me into their conversations and humorous goings on. This brings me back to the conversation about informal learning, where teacher is perceived as facilitator, allowing the learners to self-direct, and makes me question whether in this scenario we really are fostering power-with, and whether we can as teachers really retreat from majoritarian positions when we are ‘in the background’.

Figure 2.5: Being minoritarian?



Bell's account of power is clearly human-centric, but his ideas within a posthumanism context also raise the question of material power. How do we ensure materials have power-to in our relationships with them? How often do we ensure we have power-over materials to do exactly what we have planned for them and no more?

Making spaces for all in an entanglement (bodies and materials) to have power-with, is to be response-able with all of ourselves, not just our minds. Taguchi (2012) argues that becoming minoritarian is therefore a “transcorporeal⁸ process [in which], the researcher is attentive to those bodymind faculties that register smell, touch, level, temperature, pressure, tension and force in the interconnections emerging in between different matter, matter and discourse” (Taguchi 2012:267). Such attentionality to the bodymind is to pay attention to the “entangled and touching relations between bodies, things, and environments” which “emerges from a sense of fleshy permeability and erod[es] a human-centric understanding of the world” (Springgay 2019). This is quite a different conversation from viewing the power and positioning of the body as being major or minor, to focusing on the body as co-constitutive in the relationships between materials (human and non-human), between discourse and matter (Barad 1999; Taguchi 2012).

⁸ Transcorporeality is a term that moves us beyond the body as a singular, bounded unit, to bodies as entangled with and materialised with others (Taguchi 2012, Springgay and Truman 2017, Ingold 2011). Therefore, being transcorporeal is to allow ourselves, in all our senses, to doing this entangling with other bodies (human and non-human).

Symp-ethical doing

It is here, where bodies (material or human) have power-with each other, that the issues of ethics arise. In human centred research, ethics is concerned primarily with the powerful separation between people involved, and how this separation is negotiated without harm and with moral responsibility for all human subjects. This leads to what Taylor (2018) describes as “consequential ethics”, in which human affairs, through man’s ability to reason and “arrange the world in a sensible manner” are regulated. In this way, ethics is “directed at” others who are being acted *on* (Taylor 2018:84).

This consequential ethics, rooted in Enlightenment ideals, is significantly troubled by posthumanism with its emphasis on moving away from human exceptionalism, and notions of pre-determined relationships. Instead, posthumanist ethics, as argued by Taylor (2016) is “an ethics of ‘worlding’...proceeding from the presumption that ethics is not about trying to see the world from someone else’s shoes – which presumes individuated bodies” (2016:15). Instead Taylor argues, it recognised skin “not as a barrier-boundary but as a porous, permeable sensorium of connectivity with / in a universe of dynamic co-constitutive and differential becomings” (2016:15). This is an ethics which “through dialogic encounter, subjects create life together and nurture one another’s moral obligation to it” (Christians 2011: 69). It is therefore an ethics which cannot *precede* action, written beforehand as a set of moral instructions to adhere to, but emerges through relational action, based on an ethics of being with each other. However, as a PhD project, I have had to adhere to the ethical standards and go through the ethical procedures expected of a PhD, validated by a University. Much of what I wrote and was approved in advance of working with the research group now feels abstracted and structural. It feels distanced in both time and space, completed in advance, without knowing (in) the relationships. Instead, a different sort of understanding of ethics has emerged with(in) the project, which although in some ways still related to those early ethical processes has disrupted the consequential ethical procedures of the PhD processes even more. This ethics is one of entangled, emergent, affective, affirmative action. It is an onto-ethic knowing which is inextricably tied to the nature of the making (both with others and with materials) and care for all that become entangled with it.

These are entangled relationships and ways of being together couldn’t be fully known and therefore described in advance but are a response to what happens in the ‘in-between’

(Taguchi 2012). Acknowledging this ethical co-making is to continue the tradition of feminist research in which “power is relational, characterised by mutuality,...it is reciprocal...a relationship not of domination but of intimacy and vulnerability” (Christians 2011:74). I have therefore begun to think with the dual aspects of ‘feeling together’ (the etymological root of ‘symp-’) the ethical responsibilities (-ethically) of the relationships as they develop. Symp-ethical action recognises the importance of bodymind in being attentive to ethical action, feeling together with other participants and materials what is happening. It recognises the importance of care in allowing everyone in the entanglement to have power-with the project to “expand towards unknown futures” (Spinoza in Taylor and Hughes 2016:16), where ethical action is situated and contextualised within the “more-than-kinship-network” (Alaimo in Springgay and Truman 2017:29). It is an ethics of “encounters, meetings, contacts. Responsibility, accountability and commitment” (Taylor and Hughes 2016:15). This care in symp-ethical action is to acknowledge a different kind of participation. One in which participation is not about the instrumentalization of bodies or objects but instead an invitation to create, build and make together. It is an improvised, iterative process of being minoritarian enough to recognise and feel concern.

Changing the Texture and Timbre of Research: Differencing

Timbre – the distinctive character of someone or something (e.g. a voice or sound)

Texture – the quality created by the combination of different elements in a work.

Distinctiveness and difference are two terms that would in some research paradigms be aspects of less attention, where outlying results or less frequent references would suggest less important as less common. However, if as Haraway (2016) argues, we are aiming to change the stories we tell stories with, then difference and distinctiveness have an important role, one of making us see or think beyond the common or standardised.

Diffraction processes are ones of ‘difference-making’, pushing outwards and entangling ourselves with different human or material bodies. This is a difference that is not only deliberately created, bringing elements together in different or unexpected ways, but is also a difference which is sought, trying to learn with the new entanglements that are made to

further thinking and doing. At the heart of this deliberate act and this searching for difference is a willingness to 'stay with the trouble' (Haraway 2016) that is created as a result.

Haraway, drawing on the French etymology of the term, defines trouble as "to stir up, to make cloudy, to disturb" (Haraway 2016:1). She argues that to stay with such disturbances, not pushing them aside, or removing them but embracing them as moments of possibility, "requires learning to be truly present" in which "mortal critters [are] entwined in myriad unfinished configurations of places, times, matters, meanings" (Haraway 2016:1)

While embracing complexity, allowing 'anomalies' to exist and have meaning in a research process, this is more than just accepting difference, it is about deliberately changing the timbre and texture of what we do, to make and search for different stories, different matters, different ways of being in and with the world. While seeing performativity in research differently and exploring ways of being minoritarian are also entwined in this search, posthumanism calls for us to explicitly consider the boundaries we operate with and what this precludes. These include boundaries of bodies, materials, stories and disciplines.

I don't know if S had read about the notion of "bounded being" (Aspelin 2011) which Aspelin argues has significant philosophical roots in the western world and stories the self as "independent of others...liv[ing] in his own world, alone, free and responsible only to himself" where "we are fundamentally differentiated from others" (Aspelin 2011:7). I don't know if S had heard the term or what he meant when he stated it, but when talking about his experiences (or lack thereof) of improvising in his first school placement, he talked of 'bounded teaching'.

S responding to the pictures of music teaching in workshop 2: *"so yeah, it just had a lot less of the spontaneity and play and investigation. It almost made me feel uncomfortable... (C: because?) you know, bounded teaching, and then reflecting on some of the stuff I did on placement..."*

This phrase really struck me. Aspelin's accounts of Gergen's ideas of 'bounded beings' sparking with and against S's comment. "According to his work, policy documents, curricula, educational programs and so on, usually depart from an individualistic perspective. They presuppose the existence of a bounded being. Teachers and students are seen as separated from each other. Education is interpreted in terms of rational thinking and the exchange of ideas" (Aspelin 2011:7).

While arguably there are stories that bind us, as the stories of epistemology and pedagogy are outlined at the start of this chapter, the question then arises as to what ‘unbinds’ us. This is where texture and timbre come in. Changing the texture, the feel, the character of what binds us and changing the timbre, how we hear and understand the world, helps us to ‘unbind’ and see complexities and differences not as negative trouble, but as trouble that is worth staying with because it opens possibilities to see and experience in different ways.

While we could talk more of bounded teaching (which reappears in Teaching-with), or bounded individualism (which is explored in Becoming-with), here we explore bounded research and posthumanism’s challenge to it.

A PhD project is a container. It is marked by a date when you have enrolled, it is enacted with particular people (supervisors, participants) and is completed when it is further ‘contained’ within a written thesis that is published. However, this containment didn’t work with this project and with me, as I am sure it doesn’t for many other PhD researchers. Instead of suppressing elements that weren’t containable, I embrace them, allowing the project to flow in and between and with all that is going on around me and around those I am entangled with. This is ‘trans’ working and playing, where the prefix trans implies exceeding, moving towards, changing, going across, going over or beyond (Jones in Bayley 2018:54). What follows are a series of illustrations not to merely exemplify this trans working but to tease out how important such trans working has been for changing the texture and timbre of this project, making difference and staying with ‘trouble’ to push me across, between and forward with their intra-actions.

Illustration 1: Seeing everything as within the project scope (trans-project)

When talking with the group about the project, we explicitly decided that we would bring in elements of experiences from beyond the course, recognising that our experiences of improvising would be wider ranging. I was very aware that the group would have preconceptions as to what doing research in music education would mean, in terms of what might be deemed important and relevant. Two of the group embraced this idea of going beyond the discipline, the course fully, describing their experiences beyond music education in our discussions, emails and in their written responses in the workshops. S described many

different spaces and experiences he felt were important to his view of music education and improvisation, including playing in his band which met in a barn, playing in jazz improvisation sessions in pubs, talking of his work in a neurological unit, doing DIY jobs and of playing with his children. R described in detail her work in a weekend performing arts group for children in the city.

Such differences of experiences didn't emerge without prompt. Knowing the group would have well developed stories of their own journey into music education, based on numerous retellings of the story for university applications, conversations with peers and staff and through job applications, it was important to go beyond this developed narrative. To do this, as well as inviting the group to describe their music education backgrounds, I then also introduced a series of images of different types of music education settings and activities to further elicit details about differences in their experiences. These were the moments in which discussions moved beyond what instruments they had learnt when, what graded exams they had taken, and what ensembles they played into discussions of emotions, relationships, different settings and experiences which they hadn't written on their CV forms (see appendix C). Although these initial conversations opened the discussion to include many wide-ranging aspects and experiences, it was notable that there were hesitations for some in going beyond.

While S and R embraced talking beyond their immediate C.V. narrative, for others in the group there was less confidence in reaching out with A stating in her initial conversation with me *"I don't know if it's really relevant but..."* and others using negative or dismissive language when describing more informal experiences, such as E when talking of spending lunchtimes in the music department stating *"some of the guys were playing their piece for their exam on the guitar, and I would just play drums along with them...but I didn't do any drums, I only knew one beat"* (E initial conversation). These hesitations, either hesitating at the relevance or hesitating at the perceived skill level and therefore significance, were reflected in the body language, the tone of the speech, the looking away or down to reduce eye contact. Yet as you will read, many of the most interesting conversations about improvisation and music education stemmed from these 'beyond project' anecdotes which made us (both me and the group) consider these differences and make with them.

Illustration 2: Living the research ideas (trans-contexts)

Not being bounded by a containerised view of the project has allowed the project to live with me. The concepts I have explored haven't just existed on the page, in authors words or in notes in my computer files, but I have experienced them. Often these experiences have been spontaneous, unexpected and have resulted in me grabbing a notebook and scribbling down something my children have just said, or in the case of figure 2.6, quickly taking a picture and making some notes on my phone.

Figure 2.6: 'Don't throw the tissue away'



C "Don't throw the tissue away, I'm thinking about it for my project"

"What? It's just A playing!!"

Sometimes something I have just heard on the radio stops me from what I am doing and makes me take notes. This was the case of the Radio 4 programme 'Free Thinking: Trees of knowledge' (BBC 2018) and their interview with Emmanuele Coccia, which stopped me in the middle of Christmas present wrapping in December 2018. Sometimes it is something about the space I am writing and thinking in which becomes thought-with, not just somewhere I sat (figure 2.7).

Figure 2.7: Branches reaching across and between panes, behind the structure.



At other times I realise that something I am doing, such as swimming in the lake district (figure 2.8) is directly helping me think with concept, in this case diffraction and reflection.

Figure 2.8: 'Wild swimming'



This living research is much more akin to artistic concepts of research where there is less separation between research processes and the researcher (see Springgay 2005). This is not to argue that this doesn't happen for other researchers, I am sure it does, but deliberately embracing it, seeing it as a constituent part of the project and therefore allowing it to be in and with other research materials is to acknowledge its presence beyond the traditional research project container.

Illustration 3: Entangled with each other's lives (trans-relational)

The contexts of this project immediately troubled the boundaries of the project. While working with the research group I was also teaching many of them and observing them teaching in schools as an assessor (figure 2.9).

Figure 2.9: Entangling with lives lived beyond the project



This was not a project in which I was entering a setting, with participants who were separate and separated from me, but instead I was carrying on entangling with and joining in with the group, albeit in a different way. This meant that the project inevitably ‘bled’ between and with our relationships wherever they were. In other forms of research this would have ethically been seen to have been difficult, and I did consider in detail the ethical implications of these entangled relationships and how I needed to respond to this in gaining ethical approval for the project (see appendix D). However, this ‘trouble’ was worth staying with and exploring, where ongoing relationships, discussions and experiences in teaching have fed this project and vis versa. This is a different type of research impact, ongoing, to and fro, where the research constantly ‘acts’ in and with our entangled lives outside the project.

Illustration 4: Entangling with different matters (trans-medium)

Locating this project within and with music education immediately set up expectations of what this project would involve. At various points in the process I have felt that pressure, knowing that not many theses are written about music education and feeling the weight of expectations as to what I might be exploring. In some ways I have conformed to type, having verbal conversations with music student teachers and ‘doing music’ as part of our explorations. But some parts of the project have explored with different mediums; theatre games, playdough, image response and collage creation. Choosing these materials wasn’t arbitrary but emerged from the concept of improvisation which exists beyond the boundary of music (in theatre, play literatures, business, philosophy and anthropology among others).

As Haraway argues, as well as changing the stories we think with, we also need to recognise that “It matters what matters we use to think other matters with” (Haraway 2016:12). Exploring with materials other than what might have been expected of a project rooted in music teacher education, entangled us in conversations, concepts and experiences that we wouldn’t necessarily have come to entangle with us.

I didn’t know in advance what power these materials had to shape the project. As with teaching, the first few minutes of encounters with materials gave me an indication as to the groups responses to them, but where in teaching I would often steer the response to ensure

the learning from it or with it was focused on my planned intentions, in this situation I had to let go, allowing the materials and the responses of the group to develop in unplanned and unanticipated ways. This led to moments where certain materials exerted greater power-with the group than I had ever imagined when choosing them. For example, the picture of the girl swinging around the lamppost in workshop 1 (see appendix F), or S's collage creation of the girl playing piano in the final workshop (see figure 2.1). Had I tightly controlled or had power-over the materials of the project then aspects of this project would not have become significant. Had I only seen, recorded or analysed elements of the responses that were anticipated or that were verbal I wouldn't have allowed the materials power-with this project.

Allowing materials to lead and shape the nature of the project has made me aware of how other materials have shaped my research and thinking, taking me right back to the very start of my PhD course and recognising how my practices and thinkings were shaped by boundaries I hadn't at that point considered.

Illustration 5: Entangling with different stories – my school physics teacher would be proud!
(trans-discipline)

Figure 2.10: The library shelf



At the very beginning of my PhD I spent time wandering the aisles of the University library, exploring the music education and education shelves. Since this time, I have often found a book that I want to search for in the library and once I have located it, take time to explore all the shelves in the immediate vicinity, sometimes finding treasures I wouldn't have found, sometimes finding nothing. The purpose of this searching is to find different stories to entangle with.

This entanglement isn't about bringing a representation of one discipline into contact with another. It also isn't about dismissing disciplinary knowledge altogether, but argues that instead of relying solely on it, transdisciplinarity creates a dialogue "between different forms of knowledge" (Colucci-Gray et al. 2013:136-7). It is in this dialogue, between different ideas, different forms of knowledge, different traditions of writing and creating, that we can change the texture and timbre of research, valuing different characteristics and approaches. This isn't an easy comfortable slotting together, as one might piece together a puzzle. Instead it feels like a constant challenge, where different perspectives, voices and methodologies compete for attention. Where each challenges and changes the others.

Improvisation is threaded with transdisciplinary ways of being, where as Bateson states improvisation is about "the ways we combine familiar and unfamiliar components in response to new situations, following an underlying grammar and an evolving aesthetic" (In Ross 2014). This is about a way of being, constantly pushing outwards, creating an improvisatory space in the research where different influences (personal, external, disciplinary and relational) are in play together in different combinations and at different times.

Codetta: Ex-positioning

The aim of this chapter was to ex-position ourselves, to re-see stories we have developed, understanding that ex-positioning ourselves (literally put ourselves in a different place or in a place in a different way) involves the need to engage with bodies and materials in different ways than we have before. Improvisation acting as a 'radical apparatus' (Murriss 2016), played with the materials, ideas and processes of this project to allow me to consider three particular stories, epistemology, pedagogy and research, that traverse the arenas of teacher education and music education influencing not only how we think, but how we act and respond.

Ex-positioning these stories has therefore not solely been a process of cognitive re-thinking but has arisen from behaving differently in teaching and in research. Playing with different materials and being attentive to how I feel and respond as a result, is an important part of changing the stories we tell stories with (Haraway 2016), where stories are of and in the body as much as on the page or considered of the mind.

Changing the dynamics, the forces between humans and matter, explored how a performative, rather than representational view of knowing disrupts and changes our ways of being. It changes the nature of our relationships and how we view ourselves as intra-acting with materials as an active participant in the process rather than something to control, manipulate and represent. This required a different way of being with the materials, allowing them to exert themselves into the project, constantly playing with them in combination with different materials and ideas to see them and experience them in different ways, and allowing them to remain dynamic.

Changing the tonality explored the notion of being-minoritarian and how challenging a shift this was from my previous positioning as a teacher. At the centre of this difference in how to be, is the notion of having power-with (as opposed to power-over).

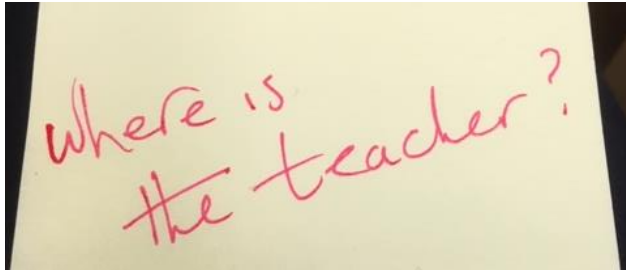
Changing the timbre and texture of doing research explored the idea of differencing, where through the process of diffraction we set out to deliberately make difference, changing the stories, relationships and pushing beyond the containers (stories, identities, disciplines) that keep existing narratives in place.

This chapter has set in motion stories (epistemology, pedagogy and research), ways of being (performativity, being minoritarian, differencing) and relationships (with materials, humans, environments) that are continual visited and revisited throughout the remained of this thesis. They are played with and discussed in relation to different aspects of the project and form the threads which lead us through the different Themes and Variations that follow.

Teaching-with

A Note on Composing the Theme

Figure 3.1: A's response to images of music education in workshop 2.



The question on the post-it was an intense moment of re-seeing for me. It was written in response to a series of images of music education which the group discussed during workshop 2 (see appendix F) and A's overriding response was 'Where is the teacher?'. This question sticks with me and won't let me go. It is always there when I see the images again or re-hear the words, even though A's question was written and not seen in the moment. Part of this strong reaction is that I had thought the images clearly showed the presence or lack of presence of a teacher and therefore A's response was a surprise to me. I remember seeing it and pausing, still in body and staring into space to consider it, alone, without the surrounding materials, just for a moment. This emotional response of surprise rippled throughout the rest of this project, intra-acting with other experiences and literature, each amplifying the effect, collecting meanings and associations, creating a 'glow moment' (Maclure 2013) of increasing significance.

One amplification of these ripples was the co-authoring of a chapter for a book (Colucci-Gray and Cooke 2019) in which student teacher's assumptions around what the 'teacher' (or in our case lecturer) role was. The chapter was based in part on experiences of going for a listening walk around campus with a group of music student teachers. As well as the 'trouble' this caused in relation to the sounds, music, listening and learning while walking, what struck me most was how the walk challenged assumptions that I (as the educator who planned the session) would have a particular route in mind, with particular sounds they were expected to listen to, where their being with me was intention led. Instead, "Turning our back to the

classroom space opened up opportunities for the group as a whole to view learning as a collective action, situated on the 'rough ground' of life... where the unexpected and the unexplored were invited in" (Colucci-Gray and Cooke 2019:182). This developed a flight of ideas around not only where but also who, or what is the teacher, where the experience of the walk threw into sharp relief what happens when the 'teacher' steps back. This line of thought was added and developed in relation to literature I had already engaged with about the backgrounds of music student teachers (Welch et al. 2010), the assumptions music student teachers bring to ITE (Thompson 2007, Bouji 2004, Miksza and Berg 2015), music teacher images (Dolloff 1999, 2008) and my thinking around how new materialism and posthumanism challenges the question of teacher only being a human.

Throughout the writing of this thesis I have kept images of the PowerPoint play spaces at the forefront of each chapter. These are too small to read, too small to see the connections between the groupings of literature, images, quotes from the group and my own notes. But their role was important as a reminder of the place where the ideas of the project came from, as a reminder of the dynamism of the materials, a reminder of the playing that had led me to the point of writing. They are images which are inexplicably entangled with the chapter and therefore to remove them was to lose something of the process. Therefore the images of these PowerPoint slides are left at the beginning of these chapters not for you to be able to read their details (they are available in the appendix B), but to help remind us as we read it of the diffractive processes that continue to be 'in play'.

[illegible]

Exploring teacher

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These depictions of a teacher, their bodies and their role in the classroom is very much part of the story of Enlightenment Epistemology (see Ex-positioning). The teacher at the front, transmitting fixed knowledge which they have in advance and the learners do not. The hierarchical power position of being separated, stood up and controlling the environment while the learners are physically still. The mediation of words with the blackboard, with the teacher gatekeeping what is learned. Britzman's work on Learning to Teach (1991), identified cultural myths around the concept of teacher which align strongly with this image. She identifies three such myths; everything depends on the teacher; the teacher as expert and teachers as self-made (Britzman 1991). She argues that it is these cultural myths interacting with teacher's personal histories that leads to the reproductive cycling of behaviours and attitudes (see p.10). Critically examining these myths is to realise just how human-centric they are, where teacher is considered separated from their surroundings and as having a fixed identity. The myth 'everything depends on the teacher' is to place huge power and control into the image of the human in front of the class, where nothing extraneous such as other bodies, other matter or different meanings can or should disrupt the teachers' plan. The second myth, teacher as expert, reinforces the hierarchy and separation between teacher and learner. It also emphasises teacher as 'mind', linking with the Enlightenment view of knowledge as transferable and fixed. The teacher's job is to impart this expertise into the learners as a one-way transaction. This promotes the notion of teacher as having a fixed identity, something which is unchanging and unchanged by the process of children learning.

As De Freitas (2015) notes, contemporary research into identity dismisses this fixed view, arguing that identities are "provisional, emergent and conflicted" (De Freitas and Curinga 2015:249), although arguably these views are still rooted in a humanist view of self. The third myth, teacher as self-made refers to the notion of the 'natural-born teacher' who already has the skills, the command and presence and the understanding of how to teach. This assumes a pre-existing understanding of what 'teacher' is, what it means and what it takes. In particular such a humanist view of identity acts, as de Freitas and Curinga (2015) warn, as a "systemized standard of recognisability that operates through a search for sameness and the exclusion of others who differ" (De Freitas and Curinga 2015:261). These culturally dominant images and myths of 'teacher' with their associations with Enlightenment Epistemology

arguably structures not only our thinking about teaching and education, it acts on how we act, how we respond, and how we perceive our bodies in teaching and learning contexts.

This brings me back to A's comment 'where is the teacher?' which was a response to a picture of children working in a small group with drums (figure 3.3).

*Figure 3.3: Identifying the teacher*⁹



A's comment makes me consider whether without an identifiable teacher, a hook into the images and myths, it was difficult to find a story which aligned with what was happening. Did the image of the children drumming not appear educational without an identified teacher? Did the image need an explicitly visible teacher to structure our thinking and our responses about what was occurring? Was it difficult to see what the relationships were, how the learning was taking place? This was in significant contrast to a comment made by R in her final conversation with me of her time observing a maths class in her placement school.

R final conversation: "...the kids sit in silence and the teacher is at the board, and it seems very old school. I know it still happens everywhere (referring to a teacher lecturing a class from the front), [pause] they're on a totally different level, the teacher"

I found R's comment about the maths class particularly interesting to play with as there was a vivid description of bodies within her comment, without specifically stating it. The stillness of the children's bodies and the hierarchical positioning of the teacher's body made an impression on R and her description of it made an impression on me. The word 'level' made me think of Lakoff and Johnson's work around metaphors (1980) in which knowing is metaphorically related to height, where gaining knowledge is seen as an ascending process, climbing up the metaphorical levels. However, as well as metaphorically being on a different

⁹ Image from <https://musicalchildren.wordpress.com/tag/student-driven-learning/> (accessed 15th May 2017)

level, in R's description I imagine the physical levels, the teacher's body, being adult and likely to be taller, and stood up compared to those sat down. This is a physically embodying of Lakoff's levels metaphor, but arguably it is also a visible, embodied communication of the subject, and its forms of knowing. Daugbjerg, de Freitas and Valero's paper 'Mapping the entangled ontology of science teachers' lived experience' (2015), discusses the way in which the science teachers past experiences "of teaching and life in general are always present as embodied corporeality and are expressed through the observable actions of the teacher" (Daugbjerg, de Freitas, Valero 2015:784). They qualify this in their conclusion to the paper, arguing that this is also combined with more in the moment responses, but that the teachers consistently "leverage their bodies – through gesture and action – to model and explore scientific knowledge" (Daugbjerg, de Freitas, Valero 2015:781). As they summarise "It is this entanglement of feelings, actions, knowledge and experiences that the teacher uses when (s)he teaches" (Daugbjerg, de Freitas, Valero 2015:784-5)

Comparing the contexts of A and R's comments about teacher's bodies (in A's case through a difficulty in identifying the teacher's body) made me consider how the images of Enlightenment teacher, the myths that surround them, and the experience of those enacting this form of teacher body can be considered to have a frozen quality. Louth (2013) uses the term 'frozen metaphors' in relation to metaphors in music education which have taken on a reified quality. Drawing on Lakoff and Johnson's work (1980) on metaphors and how they structure our lives (how we think, act, speak), Louth argues that frozen metaphors in music education (such as "music as language" or "seeing music as knowing music") act ideologically to present "a socially generated view of the world, or parts of it, as naturally occurring or given" (Louth 2013:67). He argues that frozen metaphors prevent alternative views from developing by "reinforcing long-standing or conservative conceptualisations over newer or less orthodox views" (ibid. 76) while playing a tacit role in how we accept and expect actions and responses (Louth 2013:75-80). Arguably, the image of Enlightenment teacher, stood at the front, transmitting knowledge to the receiving learners, also has a frozen quality.

Exploring music teacher

For music education and music teachers, the frozen qualities of these culturally dominant images of teachers arguably do a particular disservice where, as a practical creative subject,

teacher-learner relationships, and embodied knowing are commonly in tension with the image and myths around teacher. However, just as Enlightenment epistemology still influences music education practices (see Ex-positioning), the frozen images and myths around 'teacher' are only one of the complex mesh of factors influencing music student teacher's perceptions of what it means to be a music teacher.

As argued by Bouij (2004) in his article about the socialisation of music teachers, the culture music student teachers come from is one based on years of relationships and experiences which have shaped particular beliefs and assumptions about music, music education, musical learning and the teacher role (Bouij, 2004). What is most striking in reading research papers about influences on music student teachers' views of teaching and education is the dominance of instrumental teaching and learning (Welch et al. 2010, Creech et al. 2008, Dolloff 1999). I use the term instrumental teaching generically to cover instrumental and vocal tuition that often occurs in small group or individual settings within or outside of school contexts. This is sometimes also referred to as studio learning. The influence of this form of teaching and learning on music student teachers' understandings of 'teacher' shouldn't necessarily be surprising. Returning to Welch et al.'s research into music student teachers' backgrounds (see Ex-positioning), there is a fairly consistent set of experiences and relationships which music student teachers are likely to have had (Welch et al. 2010) and therefore behaviours, assumptions and understandings of the subject arguably become homogenous. A significant part of these consistent experiences is that of learning to play an instrument, where, as noted in Welch et al.'s research, almost all of the 140 participants played more than one instrument, including Grade 8 ABRSM or equivalent in one, with over 80% being first study piano.

Of the student teachers in the research group for this project, all had met the entry requirements of the courses (Grade 8 in a principle instrument and working towards grade 5 level piano, appropriate academic qualifications) with all having participated in university level western art music performance groups (Orchestras, Choirs, Bands). What was strikingly different about working with a group of music students from Scotland was how many of them also had experience of Traditional Scottish Music (often abbreviated to Trad music). There was also one student, who along with the course leader, had significant experience of playing jazz. Therefore, in this group, over half had experience of performing in non-western art music

groups. A further difference from Welch et al.'s findings was that only one explicitly stated the piano as one of their principle instruments, with three of the group only learning the piano in the immediate period before university to meet the entry requirements. While these differences are an interesting note, and did become significant in some of the discussions, activities and my composing of variations in this thesis, the overall picture of the research group's student members aligned strongly with Welch et al.'s findings.

This alignment is significant as instrumental teachers were found by both Welch et al. (2010) and Creech et al. (2008) to have been a greater influence in the student teacher's choice to become a music teacher. Although all of Welch et al.'s participants had learned music at school, their secondary school music teachers were cited as having 'very little' impact on the decision to go into teaching (Welch et al. 2010). While Creech et al.'s findings align, arguing that the relationship with their instrumental or vocal teacher is typically one of mentor / mentee, a relationship that they argue "may have profound consequences for transition into professional careers" (Creech et al. 2008:19). This relationship is not only profoundly influential in supporting music students development (personal and career) but also arguably provides the site of extensive socialising into particular forms of music learning and teaching, particular relationships with materials (instruments and music), views of achievement, progression, success and fundamentally what it means to be musical. This is reflected by Dolloff (1999) in her work around student teacher drawings of teacher images, stating that

often the influential teachers that emerge in our personal history work are private studio teachers. Many music education students cannot describe significant music experiences from their own music classes at school. This means that their image of the music teacher and the teaching-learning interaction, is based on a model that will not necessarily work in the multi-student classroom (Dolloff 1999:204-5).

While the experiences of the research group and the literature reiterate that the story of instrumental tuition is a significant part of influencing how 'teacher' is considered in music contexts, this isn't purely developed from a 'learner as observer' position. Aligning with Welch et al.'s findings that 70% of their participants had been the teacher in this relationship, four of the student teachers in the research group were instrumental teachers *during* the project and the course. This creates a situation in where images, relationships and stories of 'music teacher' aren't an abstracted, cognitively generated element of the story but are being 'lived', constantly being renewed and re-experienced. Recognising the importance of these ongoing

experiences of being teacher, situates music student teachers as in somewhat of a different position to other beginning teachers. Music student teachers are entering initial teacher education not only as “moderately successful and generally conformist student” (Thompson, 2007) but also in a very real sense already have a professional persona within what is broadly termed ‘music teaching’.

Underlying this influence of instrumental teaching (through the relationship and influence of the instrumental teacher, experiences of music teaching within this context and their own experience as instrumental teachers) is that it mainly happens within western art music, which foregrounds particular behaviours, practices, and aims as valued. As noted by Creech *et al.*s findings there is an important link between the dominant musical genre (western art music or non-western including traditional or jazz music) and views about what is deemed important and relevant for musicians. For example, Creech *et al.*’s study found that “classical musicians ranked the ability to improvise as the least important musical skill” instead attaching greater importance to “musical skills associated with the drive to excel musically and technically as well as notation- based music-making skills”, while “non-classical musicians assigned the least importance to the ability to sight-read” and attached greater importance to “non-notation musical skills such as memorizing and improvising” (Creech *et al.* 2007). In addition to this, Creech *et al.* highlight differences in how western and non-western musicians assigned relevance to different musical activities. Of particular note was that western art musicians assign higher value to solo practice and performance than the non-western group. While the non-western group assigned greater value to extra-curricular activities (defined by the authors as those relating to organising, listening to music or networking) and playing for fun than the western art musicians. While the very presentation of Creech *et al.*s findings ‘others’ different types of musical practices, what is particularly relevant to this project is the recognition that western art music teaching, experienced through instrumental tuition, is a significant element in what formulates particular views of material-relational ‘music teacher’ for music student teachers. It creates ways of being learner or teacher, and with materials such as musical notation, music stands, stages, particular clothes, certificates of progress, which by their very nature are an enactment (and embodiment) of Enlightenment images of teacher and the cultural myths as explored earlier in this theme.

While there is little in the way of literature in this area, there are some striking synergies. Firstly, the instrumental teacher-learner relationship, in the context of western art music, is one of expert – novice. The teacher has the skills and pedagogical knowledge to help the learner progress. This aligns very strongly with Britzman’s myth; teacher as expert, and the image of teacher at the front, leading the learning, where being able to play an instrument is considered not only an expertise, but one which is a pre-requisite of being able to teach music. Secondly, the experiences of instrumental learning can be perceived of as linear, step by step progress, through ascending numbered grades, with ascending difficulty and associated with specific resources (from ‘learner’ books and exercises, through graded exam books to larger works). In this sense, the myth that ‘everything depends on the teacher’, aligns with the teacher making decisions about the choice of materials, the rate of the progress (although arguably this is responsive to the learner’s progress) and the pedagogical approaches taken.

While instrumental teachers and teaching, and its interactions with Britzman’s myths arguably has a large part to play in how music teacher is perceived, there has been a notable attempt to radically change how teachers see themselves in the classroom through the Musical Futures programme¹⁰. The initial form of Musical Futures, based on an informal learning pedagogy approach, focused on children making music and learning to be musical in peer groups with little to no direct instruction. Instead, the teacher was repositioned as facilitator (Hallam et al. 2017:214) and learners as active leaders of their own engagement with the musical activity, which Lamont and Maton (2010) note “downplays the epistemic relation (specialist knowledge and skills) and emphasizes the social relation (for example free expression, personal engagement)....[where] the role of the teacher is downplayed to that of observing, diagnosing, suggesting and modelling while pupils work on musical materials” (Lamont and Maton 2010:66). This significant change from teacher at the front leading, to being beside and supporting, has not been an easy transition, with Ofsted (the English schools Inspectorate) noting that while the Musical Futures approach had a “considerable and beneficial effect” that there was evidence of poor progress in some schools where “teachers did not demonstrate that they still had a key role to play” (Ofsted 2012:40-41).

¹⁰ The Musical Futures approach developed by the Paul Hamlyn Foundation is founded on the research of Lucy Green (2002) into how popular musicians learn (see also <http://www.musicalfutures.org>).

This comment by Ofsted, when read with Hallam et al.'s findings from their two studies into students' and teachers' perceptions of the Musical Futures programme highlights some clear tensions about the role of the music teacher in informal and non-formal pedagogies. Firstly, as discussed in their 2017a study, Hallam et al. note the starting point for Musical Futures projects is often rock and pop, where not all teachers entering the profession necessarily have skills. This was reflected in comments made by the students where "In some cases, students indicated that their peers would know better than teachers what would sound best. This may have been because their teachers were not perceived to be experts in relation to some musical styles" (Hallam et al. 2018:220). This is a significant challenge to Britzman's myth 'teacher as expert', making the teacher role one of vulnerability and learning-with. This vulnerability is interlinked with the issues captured in a quote from one student who stated "the only thing you really need the teacher for is tuning up and possibly a bit of advice every now and then on which direction to go before you do it" (Hallam et al. 2018:224), directly challenging the myth that 'everything relies on the teacher'.

While the Musical Futures initiative did and does not promote the teacher's role as being less controlling of the classroom environment, it is evident that in practice it initially caused tensions as to how to balance student-led with teacher engagement, and how this was conducive within an educational system with qualification assessments which were based on more direct teaching approaches. Where teachers have successfully adopted the changes required to effectively implement the programme, Hallam et al. (2017) note that one of the most pressing challenges for the project is the exhaustion teachers feel in leading workshopping style lessons and trying hard to support all learners. This comment about the physical implications of changing the teacher role can also be seen in a comment made by a Head of Music who stated "I think if you've got a staff that has taught in a different way for a long period of time, it is really very difficult. It is like taking all... the scaffolding that they hang on to – away" (Hallam et al. 2018:55). The term 'hang on' is interesting here. On initial reading the statement could be taken to mean the planning, the resources, the routines, but 'hang on' suggests a more physical response, the physical cues and routines they use as well as the material.

The alignment of western art music instrumental teaching, with Britzman's myths, and the Enlightenment view of 'teacher' arguably creates the conditions for the (re)cycling of

particular physical enactments of 'music teacher'. This perpetuation of particular relationships between bodies and materials creates a music teaching body which in some ways can be considered to have a 'frozen' quality. However, the evidence from Musical Futures which 'troubled' these habitual ways of being 'music teacher' suggests that a sudden break from, or disruption to, that physical enactment may create tension, exhaustion and difficult transitions in helping teachers 'unfreeze' their habits. While the Musical Futures programme does a lot to support teachers to make this transition, in literature there is very limited discussion about the role of teachers' bodies in relation to pedagogical and epistemological change. This then leads to the question as to how we can support music student teachers to 'unfreeze' their bodies, taking on different physical enactments of the subject, but also how we support them to 'unlearn' the dominant images and myths of music teacher.

Unfreezing and entangling bodies

Part of unlearning the bodily responses of an Enlightenment epistemology teacher is to reframe what we mean by bodies. This shift is critical in posthumanism, where bodies are no longer considered a container, with defined boundaries between them and the rest of the world. Instead bodies are considered a materialdiscursive phenomena in which human and non-human bodies aren't considered as inherently different from each other (Barad 2003) and where all bodies are constantly in a process of dynamic intra-activity, becoming with the world. It is this understanding of bodies as entangled, dynamic and becoming, which challenges the Enlightenment epistemology story of mind and body, subject and object, body and environment as separated and leads Barad to the term Onto-epistemology as "the study of practices of knowing in being" (Barad 2003:829). Haraway's writing (2016) troubles these images, myths of teacher as contained and separated (physically through stance and location in the classroom, and hierarchically in terms of power) from the other bodies (of learners and materials) in the classroom, by changing the story. She argues for bodies to be considered and experienced as tentacular critters, who "interpenetrate one another, loop around and through one another" (Haraway 2016:58). As tentacular critters we are no longer disembodied figures, but entwining in attachments, weaves, knots, nets and networks, through "interlaced trails" (Haraway 2016:32). We are bodies that aren't 'frozen' in habitual

ways of acting, but response-able, dynamically ‘feeling’ and ‘trying’ (the Latin etymological roots of tentacular) as we entangle with different bodies.

Some authors have taken these ideas, or their roots in feminist and new materialist thinking, to begin to explore a different view of Higher Education. Aldridge in his chapter *The Role of Higher Education in Teacher Education: A Reorientation Towards Ontology* argues for a reorientation of university elements of ITE not as being epistemological, but ontological “in terms of what happens to us (both teachers and students) when we learn....[where] in learning, being is transformed” (Aldridge 2015:112-3). In doing so, Aldridge argues, the educational task would be reframed as concern for students “being in the world...[in which we would] invite the student to take up his or her own stances and help form the courage to do so” (Aldridge 2015:115). This is a direct troubling of the ITE pedagogies described by Murris (2016) in which theories are delivered to be applied, and students become socialised into a representative way of speaking (this is explored more fully in Ex-positioning). Aldridge frames this change as requiring us to simplify the curriculum for ITE in order to create more space for dialogue. However, the argument that onto-epistemological knowing for teachers requires a significant change in their bodily engagements with the world, literally embodying a different concept of teacher, draws me to Hickey-Moody, Palmer and Sayer’s paper ‘Diffractional pedagogies: dancing across new materialist imaginaries’ (Hickey-Moody, Palmer and Sayers 2016). The authors explore how dance in a higher education interdisciplinary course pushes student bodies to “become other than who they have been, and corporeal forms are changed physically and emotionally” (ibid. 217). For them, the movement of creative action, “remakes bodies”, focusing attention on “a ‘between’ located in, with, and through the body” (Hickey-Moody et al. 2016:216). It is in this in-between, they argue, where “student bodies can materially remake the limits to which their consciousnesses were initially drawn [where] through embodied work, unconscious change through corporeal practice can begin the process of affecting students’ imaginaries of university education” (Hickey-Moody et al. 2016:227).

While both these papers explore higher education contexts, there is surprisingly little literature around bodies becoming teacher-bodies in initial teacher education. This is of concern where, as argued by Hickey-Moody et al. a disembodied view of knowing and learning leads to a “reproductive, rather than productive, philosophical imaginary” (Hickey-

Moody, Palmer and Sayers 2016:215). In her paper, 'Learning professional ways of being: Ambiguities of becoming' (2009) Dall'Alba drawing heavily on Heidegger, also expresses concern, where she argues that without an ontological view "the most challenging task of learning professional ways of being...is left to the students themselves" (Dall'Alba 2009:50). Aldridge builds on this argument stating that consideration of student teachers "ways of being can be pushed out to the refectory in the lunch break, or the student union bar after lectures, or those other spaces on the margins of the higher education experience" (Aldridge 2015:117-118). This is particularly surprising given the extent to which the concepts of teacher bodies and improvisation as a 'radical apparatus' troubled these, came through in the research experiences.

[A Note on Composing the Variations](#)

The variations which follow arose from playing with the research materials with the literature. All the variations are threaded with issues of re-seeing who or what is the teacher. Variation A, playing with the music education images the research group responded to in workshop 2, 'distorts' images of music teacher. This distortion is a response to how dominant the teacher was in the attention of the research group when responding to the pictures with less attention paid to the materials or the learners. To re-focus attention, to 'displace our gaze' (Masschelein 2010), I distort the pictures to create silhouettes of the teacher, allowing us to pay more attention to the bodies (human and non-human) in the pictures. This illuminates the separation of bodies from materials and each other.

Variation B plays with the question 'Who is the teacher?' by inverting the story of teacher from the human to the material in a sequence of playdough making in workshop 1. By inverting this story, telling the story from the material, is to pay attention to how materials exert themselves into the pedagogical situation, changing how we (as humans) respond and react. This *troubles* the myths of 'teacher as expert' and 'everything relies on the teacher', whereby focusing on the material is to make teacher vulnerable.

Variation C explores the physical and habitual ways in which teacher is enacted, particularly through notions of status in relation to theatre improvisation. Playing with quotes and conversations with the research group, the variation explores moments of divergence from

the way status is imagined or assumed based on the Enlightenment image of teacher and the cultural myths which surround it.

Variation A: Seeing beyond the teacher (distortion)

Distortion: a change, a shift, an emphasising of one element to make something different or strange.

Driving to work at a coffee shop one evening, I drove past a craft shop in which they had cut out silhouettes of trees and leaves. As I drove past, with my mind already thinking about my project, I realised there was something about silhouettes which give you an impression of the thing but allow you to see past them (into the shop). I pulled the car over in a layby and scribbled down “‘cut outs’ to allow you to re-see”. That same evening, while I was working, I re-read part of the transcript of a conversation at the end of the project year in which S and I were discussing how he became more relaxed as the year went on in which he stated he was:

trying to be less formal I suppose, I think I was trying to be ‘teachery’ erm, and given a group of people around me I can be quite upbeat and erm, I just bounce off people I suppose in that way so I can talk a lot more than I would naturally and erm, I think that’s what happened as it developed, I sort of found my voice a bit and relaxed into the classroom a lot more

In my scribbled note on the transcript I had written ‘does less ‘teachery’ mean seeing beyond?’. Instead of sitting down to write more words, I took two of the images we had looked at in the workshop (see appendix F for hot response photographs workshop 2) and the responses to them that the group had given. These two images had created the most teacher focused comments where comments about the children and the materials in the pictures were considerably less prominent. It was this which intrigued me. This wasn’t just a dominance of the human over the material, but a dominance of the teacher over everything else. I started to play with trying to see-beyond the teacher.

This was a process of re-seeing, or as Masschelein describes it, displacing my gaze (Masschelein 2010). Masschelein describes this process as one of “liberating our view”, “becoming attentive” (ibid 44) and enabling an experience which is “not just as a passive undergoing (being commanded), but also as blazing a trail or path, a kind of cutting a road through” (2010:45). In playing with the images from the workshop I literally ‘cut’ a different view by creating a silhouette of the teacher. This felt important, allowing me to be more attentive, exploring what else was there, what is ‘behind’ or being detracted from by the

teacher in the picture. This playing with the images wasn't to give a definitive analysis of the pictures, arguing that there was one correct way to interpret them, but instead was a playful creative engagement which has led to me re-seeing and creating different stories about 'teacher'.

Figure 3.4: Violin lesson¹¹



In selecting music education photos for the hot responses' element of workshop 2 (see appendix F), I deliberately chose an image of an instrumental lesson context. This was partly in response to Dolloff's findings that this was a dominant model for music student teachers' views of pedagogy (Dolloff 1999), but also was responsive to the large number of the group who chose to talk of their own experiences in these types of settings

in the initial conversations. Many of the group, as aligned with Welch et al.'s research, were also instrumental teachers at the time of the workshop or had had experience of this role in the past and therefore exploring a photograph of this context led to some

The responses made by the group reflect these experiences, with a focus on the teacher, her role and actions. Even when the pupils were mentioned, it was in relation with the teacher and her actions. The responses to this particular photo focus on the physical (H, E, R, J), as

Written responses of research group:

A: Teacher going round helping each pupil, giving them their own advice, time and help

H: Teacher assisting with fingering. Hard to keep on top of if all pupils are at beginner stages

R: Violin in hand to demonstrate but getting involved in practice

G: Group learning, kids all in a line. Teacher getting involved and helping one kid / correcting their fingering

E: Teacher in the middle – has her own instrument – learning together. Facilitating, demonstrating, modelling, active, all children engaged and working together.

S: Pupils lined up, Teacher led.

J: Improvising their feeling of technique within the pushing and pulling the teacher is doing.

M: Horrendous! (in reference to the group situation and her perception of how this impacts on the quality of the teaching)

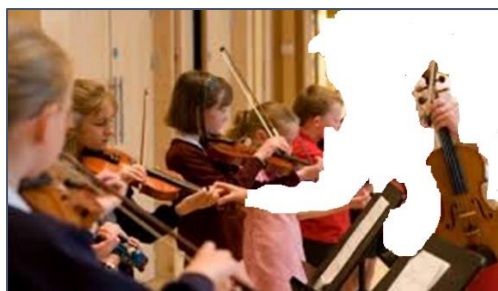
¹¹ Image from https://music.sdsu.edu/index.php/degrees/music_education (accessed 4th April 2018)

well as the verbal (A) actions of the teacher. H expressed an emotional response describing her own feelings of being the teacher in this situation, drawing on her experience of teaching violin to beginners in a group setting. This was more negatively expressed by M ('Horrendous'), who described her negativity towards group learning of string instruments in the initial conversation as problematic for ensuring good posture and physical technique. M hadn't experienced group tuition as an instrumentalist, having private lessons from the start, but had done some teaching for the local authority and was not happy with what she perceived as the compromises of this type of experience.

There is also an interesting disjunction between those who perceived the line (S, G) and children as learning separately (A) and those who perceived this as children learning together (E). E's comment is particularly generative, as it is correct, the teacher is in the middle of the photo and in the middle of the line of children, but it challenges me to consider what is meant by the term 'learning together' with the children. They are clearly learning together in the space and learning to play the music on the stand which maybe the same for all of them and therefore they can play together, but are they *learning-with*? This then raises the question as to whether the teacher is *teaching-with* (the children, the materials, the bodies) as different from teaching-to (other humans) or teaching-about (as transmitting the teacher's expert knowledge)?

And then I stop, and consider, the teacher is physically teaching-with as commented on by J who states the child is, '*Improvising their feeling of technique within the pushing and pulling the teacher is doing*'. R and G also comment on the teacher 'getting involved'. This seems critical – the teacher is responding physically to the fingers, instrument and sound of that child, physically intervening, causing an interference to make things change. However, this is still very human centred. The only mention of the instruments in relationship with the children is H who talks of 'assisting with fingering' as a technical aspect of what the children are trying to achieve, while E and R mention the teacher's violin as being there, 'in hand' (R response), without exploring or commenting further on its role.

Figure 3.5: Stratified bodies, violins, hands and stands.



Silhouetting the human teacher changes how I see this image. This isn't about 'deleting' the teacher as she is still there as a silhouette, but it is about enabling us to re-see what is occurring, changing the power dynamic and the other people and materials. This is thought of a little like when someone in a jazz improvisation completes a solo, and then retreats into the musical texture, allowing the other players and their musical interactions to come forward. By re-seeing the image in this way is to see the hands, touching, moving, creating a sensorial moment. It is to imagine the feelings of pressure on the bows or fingerboards, or the tension in the hand holding the violin and bow still and away.

It also shows the teacher's instrument as held away from the music making – separate from the children learning. As R and E note, it might be used to demonstrate but we don't know if it is used to join in with, but this is speculation, the picture shows it as static, as separated and without suggestion of movement (whereas the children playing *do* show movement).

The impression of the line is still there, heads, bodies, violins as strata, but what I also start to notice is the music stands, as a physical separation, to be leaned over, or to learn over. The teacher's violin on one side, and the children and their instruments on the other. The word strata, defined as "layer[s] of material, naturally or artificially formed" (dictionary.com) is useful in thinking with all bodies in the picture and realising the impact of both humans and materials in creating this stratified image. This idea of strata leads me to think of my viola teacher when I was a teenager, who used to run a beginners' violin group at the Saturday music school. She was considered quite radical as she didn't put up music stands, but instead projected (from acetate) note names of pieces onto a board and had all the children (about 40 6-8yr olds) play with her all standing in the space. What was so striking watching this scene was how my teacher weaved in and out, walking around and in-between, she could reach (physically and musically through sound) every single one of the children. I play with this

contrast, thinking about lines. In the responses to the picture of the violin teacher (figure 3.5) we see a line of children with a line of violins, separated from the teacher by a line of stands.

Figure 3.6: Strata lines



These are the physical lines we can see, but there are also sound lines which we can imagine, projecting forwards from the instruments to reach the teacher. This is how we think of an orchestra or choir on a stage, projecting their sound forwards towards the waiting audience. But actually, sound spreads, in every direction. While the strata is visually imprinted, the intra-actions between bodies, vibrations of the sounds and the environment of the room is far more entangled and in amongst this entangled matter the teacher is reaching over and amongst the strata. The question this leaves me with is how the matter and its organisation within the setting leads to meanings and understandings of the role of the materials and the role of the humans within the subject. What meanings of how music is organised and structured do the children develop through this experience? Arguably there is a physical separation between teacher (expert) and novice (learner), which the music on the stand is the route between. You learn the music on the stand and you move towards being expert.

Figure 3.7: Girls singing¹²



The responses to this image were more emotional than towards the violin lesson with S, E and R all commenting on the visible discomfort of the girls. As with the Violin lesson picture, some of the group tried to guess the nature and context of the activity with H assuming the girls were learning Guitar as that was what the teacher was holding, whereas A thought

that he might be accompanying them but she was unsure, leaving us with a question mark. The word 'lines' was only used once by S in response to this picture but many of the comments imply a separation between teacher and learner, summed up by S's comment 'teacher+pupils (not with)'. It was this comment that made me play with the idea of strata with this picture. I was intrigued again by the notion of teaching-with, and whether the strata in this picture revealed any more about this idea. I initially tried replicating the horizontal lines I had used in the Violin lesson picture, but soon realised the vertical lines were stronger in this image, revealing a vertical strata of torsos and legs.

J: Pupils are subordinate to teacher who is subordinate to the board (material on the board)

S: Traditional lines, teacher + pupils (not with), teacher led, uncomfortable.

E: Teacher is visible – centre point, pupils don't look as engaged + as happy, nervous, looks planned.

G: Teacher led, Teacher at front directing what is happening, learners following teacher directions.

R: regimented almost – pupils don't look very comfortable – arms crossed etc.

H: Odd, unengaging way of teaching Guitar as children don't have their own guitar to try

A: Maybe teacher accompanying on guitar? With pupils singing? Or teacher showing them something. Teacher is there for the pupils learning not facilitating.

¹² Image from <https://musicalfuturesblog.wordpress.com/2014/11/02/10-reasons-why-singing-should-be-in-the-music-classroom/> (accessed 20th April 2018)

Figure 3.8: Vertical strata



What is particularly striking in seeing the vertical strata is the horizontal gaze of the teacher. J had a particularly interesting response, which has stayed with me, in my memory and in association with this photo, in which he uses the term 'subordinate' to describe the relationship between teacher and pupils, but also interestingly the material and the teacher suggesting implicitly that the materials are dictating the responses, and the teacher himself is a conduit, acting as a vehicle through which 'material' from the board is passed onto the children. J's comment suggests looking at materials as a passive response, where a teacher isn't intra-acting with the materials but instead following their instructions. Following this through is to suggest that the pupils gaze towards the teacher is also passively following, doing as he asks of them, being subordinate.

Figure 3.9: Silhouetting the teacher



Silhouetting the teacher in the picture reduces the impact of the teacher's gazing towards the side. This highlights further that none of the girls are looking towards the same point as the teacher, suggesting they aren't making directly with the materials which the teacher is working with. The teacher, who is now less present, is the learning, the knowledge and a conduit of it. He is the reason, the impetus, the focus of their attention. Without him in the

picture, the girls to me, look even more uncomfortable, as if they have been untethered from that which gave them reason for being.

Taking away the teacher also brings into sharper perspective the table as a physical barrier between the teacher and girls. This is different from the music stands in the Violin picture which had a purpose and were reached over and between by the teacher in order to touch the young violinist's hand. Here the table has an unclear role but physically highlighting the amount of separated space between the girls and the teacher. It also brings to attention the girls standing positions (ballet position feet, hands and arms in different positions) and the physical awkwardness of these teenage girls, at different stages of physical development, and body-awareness.

I return to S's comment about 'teacher + pupil (not with)'. The 'with' intrigues me. With who, with what, how does being in the same space not equal withness? While the teachers and pupils are with each other in the pictures, S's comments make me think about the role of the strata in how it might influence perceptions of withness within the classroom. Are the strata an enabling constraint (Davis and Sumara 2006), a way of giving form which then allows the entanglement of people and materials to make meaning together while still allowing the group "sources of disruption and randomness that compel [them] to adjust and adapt" (Davis and Sumara 2006:147)? As an enabling constraint, the strata arguably help organise and shape responses. The question then arises as to what extent we, as teachers, allow disruptions and randomness to *interfere*? Do we allow the strata to 'live', acting dynamically to support withness (physical, emotional, musical, material, environmental) or do they become fixed, acting as what would be termed a block in theatre improv?

Blocks in improvisation prevent the performance (or the shared meaning making) from moving forward by stopping lines of exploration. An example in theatrical improv might involve a performer who states, 'That's a lovely scarf you are wearing tonight!', to which the other performer blocks the forward momentum by stating 'I'm not wearing a scarf!'. The first performer in this scenario made an offer and the second performer did not take the offer, but instead refused it, thus making the first performer's offer unidirectional rather than reciprocal. The accepting or blocking of the offer in that moment influences the intra-actions and behaviours that follow.

The question as to whether strata are acting as enabling constraints or blocks is particularly relevant within music education, where the notion of group learning has two particular and particularly different meanings. In Instrumental and Vocal tuition, group learning is associated with a group of learners or roughly the same standard or age being taught together as a group. It was this notion of group tuition which M reacted so negatively towards in reference to figure 3.4 when she wrote '*Horrendous!*' (M hot response workshop 2). While there are many models of group learning which operate in teaching instrumental and vocal skills (Suzuki, Wider Opportunities, El Sistema), there is still a narrative that group learning is about first access and inclusion before moving on to individual lessons when children progress to higher levels of skill. The other form of group learning is that promoted in teacher education based on social constructivism theories developed from Vygotsky's writings, where group work is promoted as a way of developing individual and collective understandings. This is a different form of group learning where emphasis is on child-centred activities and approaches, with the teacher as facilitator.

These two forms of group learning highlight a demarcation of the teacher role; teacher as expert leader in vocal and instrumental settings and teacher as expert facilitator in classroom groupwork. However, S's comment raises the possibility that being together isn't of itself enough to make "with-ness". This leads me to Haraway's use of the term "becoming-with" (Haraway 2016) which she describes as "how partners [both human and material] ... are rendered capable" (Haraway 2016:13). Or as Snaza et al. describe it, as an "emergent praxis" (Snaza et al. 2014:47). This is becoming-with, not being-with, recognising that being suggests a fixity of identity. Instead Haraway argues, "Ontologically heterogenous partners become who and what they are in relational material-semiotic worlding. Natures, cultures, subjects, and objects do not pre-exist their intertwined worldings" (Haraway 2016:13). It is this distinction between becoming-with and being-with which challenges existing views of the teacher.

Firstly, it argues that 'teacher' as something which is fixed and transferable between situations does not exist. Instead 'teacher' is dynamic, ever becoming in their intra-actions with others. There is a whole vocabulary in the education profession of wanting to *be* a teacher or *becoming* a teacher (as referring to the process of education before *being*). Haraway's argument, when considered in this context, would state that all teachers are

becoming-with, and no-one will ever reach the point of *being* a teacher. Instead, as teachers we intra-act with each new entanglement of people and materials, which changes us. Yet, if this was true, if as Snaza et al. argue “we cannot predetermine or know beforehand what will materialize from the relations entered into, nor can we predetermine the relations that will be entered into” (Snaza et al. 2014:47), then this directly challenges Britzman’s myths that “everything depends on the teacher” and that “teachers are self-made” (Britzman 1991).

Secondly, just as posthumanism challenges the fixity of ‘being’ a teacher, it also challenges the linear progression from becoming to being knowledgeable, which in turn challenges the very purposes of education and how we think about it. Where epistemological views of education are rooted in the idea that children *become* knowledgeable and therefore develop into capable adults *from* their educational experiences, posthumanism argues that they *become educated-with* materials, bodies, concepts and environments. They are inextricably shaped by and also shape what they intra-act with (teachers, concepts, materials). This isn’t an education of predicting or predetermining fixed knowledges of what is learnt through a particular exchange but instead foregrounds the *way* they intra-act.

These two challenges are evident in the responses made by the research group to the pictures of the violin lesson and the singing group. The teachers in these two lessons were described by the research group as ‘giving [the pupils] their own advice’ (A response to violin lesson), ‘helping one kid’ (G response to violin lesson), ‘directing what is happening’ (G response to singing group) or ‘teacher led’ (S response to singing group). The children in these two pictures were described as at ‘the beginner stage’ (H response to violin lesson), ‘correcting their fingering’ (G response to violin lesson), or ‘following teacher directions’ (G response to singing group). These responses collectively highlight several terms for what teachers do (advising, directing, leading, correcting) all of which can be in themselves perceived as unidirectional – from the teacher to the child learner. It is of course impossible from a still picture to see whether such offers were accepted, becoming reciprocal, but it is notable that the research group’s responses to the pictures were of teacher’s actions as separated from the materials and the learner’s responses.

An Interlude: Learning to re-see bodies

This project has made me re-see bodies, not as contained, separated beings, but as entangled and enmeshed with others. It has also involved re-seeing materials as bodies, on the same ontological level as human bodies. This learning does not arise from a training course, a manual or top tips for posthumanist researchers. It doesn't only come from reading a few papers and chapters. Instead it has come from my own entangled experiences. I don't think it is insignificant that this learning has occurred in the immediate years after becoming a parent, with my very present experiences of young children's bodies as literally enmeshed with my own, where the realities of becoming together (through the miraculous processes of breastfeeding and adapting to the bodies of each other) cannot but be felt and known and where their changing bodies are so influenced by the material world around them.

Even with these experiences, seeing differently in relation to bodies in Music ITE didn't come easily. It was only through playfully engaging with bodies in different ways that I began to feel more open to the possibilities. These playful episodes included drawing series of bodies in my research notes configured in different ways, with different material relationships. It involved drawing a large body, cutting it up and re-sticking it with materials in and around its parts. It involved paying attention to how my children played with figures and bodies in their imaginative play. And yet, what actually sparked a connection to help me re-see teacher in different ways, moving me away from my own assumptions and dominant images from all my years in music education, was a craft shop window and the idea of silhouette.

Accepting the offer that craft shop window made to me, running with the idea and playing with the materials, allowed me to learn to re-see and therefore make differences.

Variation B: Material teaching (inversion)

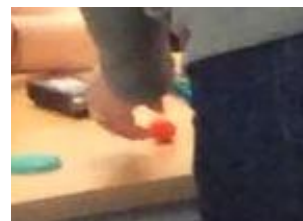
Inversion: the process or result of the reversal of positions, orders, forms or relationships. In music inversion involves reversing the relative position of the notes of a musical interval, chord or phrase (merriam-webster.com accessed 18th November 2019).

Haraway argues that the stories we tell “propose and enact patterns for participants to inhabit” (Haraway 2016:9-10). Arguably ‘teacher’ is a very powerful humanist story which shapes patterns and behaviours. Attempting to change the story is multi-faceted, and multi-species, requiring us to engage in a creative process of trying to see and be differently. In the story ‘He canna help how he grew’ which follows this brief introduction we shift from seeing the human as the teacher to seeing the materials as teacher, challenging some of the patterns and behaviours we project onto the word ‘teacher’ and ‘learner’. Central to this shift is that all stories need characters. In our humanist story of learning, the characters are ‘the teacher’ as a human, singular and adult figure, and ‘the learners’ as individuals. In ‘He canna help how he grew’ the main character is the playdough. Writing from the material is not just a superficial ‘nod’ to a materialist view of our interactions but is a way of shifting our attention, “displacing our gaze” (Masschelein 2010) to see and tell differently.

Below is the story, but before we begin, there is a short prologue:

“I watched with the sound off, just watching what movements you made, how you intra-acted with other materials and bodies. I paid attention to how you changed, what influence you had and how you were treated, ex-posing (Masschelein 2010) what you taught and what sort of teaching you did”.

A story: 'He canna help how he grew'



I was new, I'd never been out of the pot. You were unsure, you took a long time to open the lid, to look inside, to see me. And even longer to try and get me out. I was sticky and sticking, not wanting to come out. You shook and shook, squeezing at the sides.

Once I was out, you rolled me in the shape the pot had given me, passing me from hand to hand without changing me, just touching me as you talked and laughed with the others.

After what feels like a long time of being moved hand to hand, moving but not being moved, you stop and break me into two pieces, then folding me back onto myself. As you did this you weren't watching me, you were looking at what A had made, you didn't see the small pieces of me that dropped to the table and down onto the floor.

You pull me apart again, leaving half of me on the table, and start making the rest of me into a ball. You touch me gingerly, at the ends of your fingers. Even when you start to roll me, you keep me very centrally in your palms, keeping your fingers outstretched as if to keep the skin to skin contact between us at an absolute minimum.

Having made me into a small ball and made me very warm(!), you hesitate, holding me at the ends of your fingertips, unsure what to do next...

...and so you drop me, onto the table. Letting me fall from your fingers from a bit



You make another ball using exactly the same process, a repeating of the actions, while all the time I sit, waiting.

Even when you attach my head to my body, I remain sitting on the table in exactly the same position. Again, you use the very ends of your fingers, and you are so happy when it goes on, pointing to show everyone else on the table. But, the weight of my head changes as it begins to fall, even while you are still showing everyone. You all watch as it falls, leading to lots of laughter.

You try again, this time I feel you grip me tighter, squeezing my body and then you twist my head, pushing down, slightly flattening my body's shape.

This time your hands hover over and around me, making sure that the head is going to stay and ready to respond immediately if it doesn't, but it does.

Now I am slightly less round, but I have a head, but I am still in the exact same place I rolled to, sat in vast space, marooned without touching or being touched other than the flat surface of the desk. And here I sit for four long minutes...

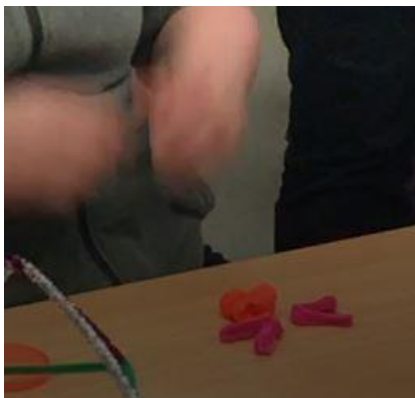
...while you play with pipe cleaners to make me some 'legs'. You try to find scissors but can't, instead you fold and fold, eventually lying the 'legs' near me in the space, but not touching me.

P: Its gonna have big legs because I can't find the scissors, and that's ok

M: maybe that turns him from a little donkey into a big donkey

P: a little donkey whose very tall

M: He canna help how he grew...he canna help his growth spurt



Eventually you have to pick me up. As I lift from the table, I am slightly resistant, having been squashed down for a while and you pull and then pull again. You squeeze my body where you push in the legs, the solidness of the pipe cleaner pushing my body up into my head. You have held me for all of six seconds.

With my front legs in place you try to sit me down, but I fall sideways. You don't try to pick me up, leaving me there, until you are ready to pick me up again to push in my back legs.

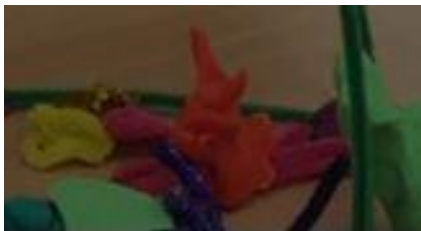
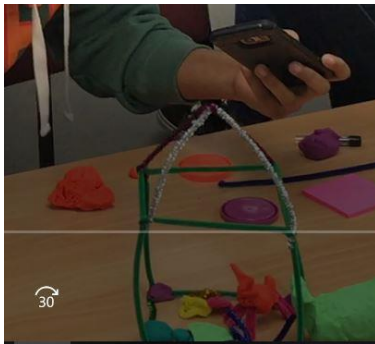
You hold me, adjusting the legs until they stay, all the while, pinching me over the top, again, not letting me get under your fingernails, or have too much contact between our surfaces...

...when you do make me make contact with a surface, it is a shiny, slidey one, where my legs don't have a chance to grip while the weight of my body pushes down on them...

...leading to me collapsing. You quickly move your hands back, as if you take no responsibility, laughing loudly

P: oh god, I need help with my donkey...this is so difficult, one simple task... gee whizz...

P:...oh yes...He's there....Yes!! How bad am I?



You make me some ears, picking me up and attaching them to my head in one motion as you move me into the barn which someone else has built for us.

You take time holding me, moving my legs to balance off the pipe cleaner barn to give me some support, before letting go and quickly walking away.

I stand, having been moved from my position on the table, into my new position, in the barn. I stand, legs beginning to move, body weighing down. I stand, while camera phones are reached for, to record the moment when I am doing what is intended – catch it – quick – E: *'before something falls over'...*

M: Oh no he's collapsed again!

Epilogue:

C: My son is at that stage where if I had given him the playdough at a table he would probably have smeared it, mixed all the colours, pushed it between his fingers and things like that[pause], which I think is a bit similar to how we explored the instruments but it wasn't how we explored the playdough was it.

P: That's really interesting because I wouldn't have done that with playdough, but I would with music, but that went out of my head with playdough, I wanted to make an object, but with music, I never want to make a thing, I just want to process....

'He canna help how he grew' is a story of materials exerting themselves into human actions, teaching us to retry, adapt, re-feel and re-join the ongoingness of the intra-action. Watching and emotionally feeling the sequence, both in real time as it happened and revisiting it using

the video, the moments at the very start of the intra-action are of particular intrigue. The hesitations, the materialdiscursive ‘getting to know each other’ and the slow and repetitive touching to establish the relationship. Underlying all of this was an emotional tension and excitement in our group, most keenly felt when I was observing P and her playdough at the start of the story. Many posthumanism or post-qualitative authors draw on the idea of material potentiality (Springgay 2019, Maclure 2013, Taguchi 2011) as describing the latent qualities or abilities which underlie the possible intra-actions and ‘becomings’ which might occur. It is this potentiality which was ‘felt’. The possibilities, the yet to be explored actions and ideas. Citing Massumi, Maclure (2013) discusses the difference between situations in which “need and utility leads to self-same reproduction” and the “open potentiality in uselessness [which]... lends itself to innovation” (Massumi in Maclure 2013:230). Reading the story from the playdough, alerts us to the extent of the open potentiality at the start. The decisions about what to make weren’t agreed for the first 3:15 minutes while the group played with and got to know the playdough. This space, this unstructured exploration, struck us as unusual long within educational spaces we had encountered, where activities and immediate ways to engage in those activities were established quickly (mainly due to time constraints). As G wrote on a post-it, *“playing with the playdough for a long time was interesting, I didn’t know what we were doing, it felt like a long time...do we ever do this in lessons?”* (G post-it note workshop 1).

G’s comment is fully of latent potential as I sit and play with it, breaking up the phrases, highlighting key words, re-reading the fragments with the images of P playing with the playdough. Several aspects strike me; the tensions involved, the material teaching that occurs and concepts of agency. Tension is one of the emotional affects I picked up on in the room when we were initially doing this activity. Some of these tensions were related to feelings about the material itself (M: *“I don’t like the feeling of it getting it under my nails”* workshop 1), but G picks up on a different tension, that of not having a clearly defined way to engage with the material as she expresses as *“I didn’t know what we were doing”*. Reading this statement with pictures of P playing at the start of ‘He canna help how he grew’ makes me re-read this statement in different ways. Firstly, there is the juxtaposition of I and we within the statement, *“I didn’t know what we were doing”*, making me consider the extent to which as individuals we feel ‘uncoupled’ from ourselves if unexpected things occur and how we feel

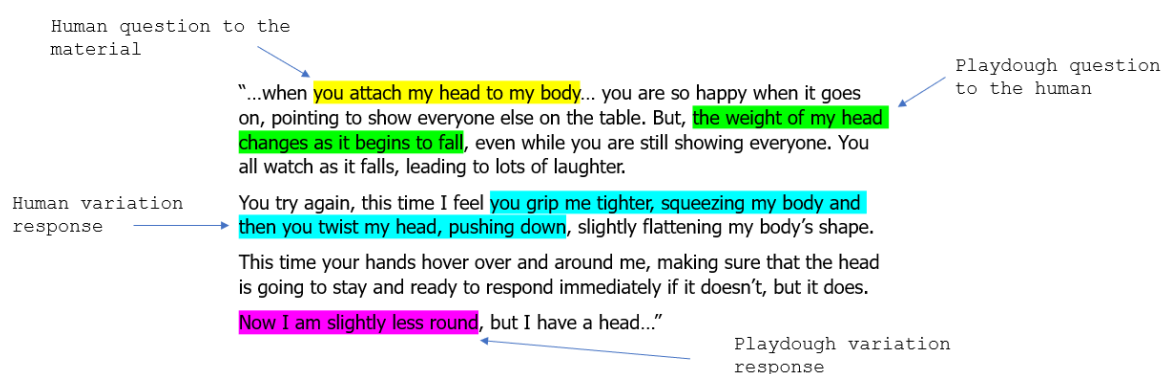
stronger and reassured if we can understand and predict other's behaviours. This was reflected in the moments P experienced where the playdough didn't do as she wanted. Here the statement can be re-read as "I [the human] didn't know what we [human and materials] were doing", emphasising how the playdough was as much an active participating body in what occurred as the human body.

Secondly, there is a tension between what they were asked to *do* (My instructions to the group to "*play with the materials in whatever way you want*") and the idea of '*doing*' as meaning something with direction, with "need or utility" (Massumi in Maclure 2013:230). Doing was occurring all the time, the hands and the playdough moving and exploring each other, but G's statement made me consider to what extent this wasn't considered '*doing*' in her statement as it wasn't considered as moving towards something but was just moving. Doing for doings sake. This type of doing was recognised by P in her concluding statements reflecting her improv background stating that "*I wouldn't have done that with playdough, but I would with music*" (P workshop 1). P's comment makes me consider the material routines we have, how our responses with particular materials are shaped by extensive repetitive ways-of-being with them. These material routines, arguably, are shaped to a large extent by the purpose we *use* the materials for. P has extensive experience of improvisational music in which processing, exploring materials and their potentials are a routine response. Where '*doing*' *is* the purpose. However, for many in the group, whether in the music or playdough improvisation, '*doing*' is the method by which something else is achieved. In itself, '*doing*' with no purpose is implicated as not being enough.

Another aspect of G's comment which strikes me relates to this notion of '*doing*'. That of matter not as an object, but a '*doing*' in its own right. G's statement is one in which there is an implied lack of 'teacher' giving shape, direction and instruction. However, reading 'He canna help how he grew' and G's statement together makes me re-see *who* and *what* is teaching in the story. Not only is the playdough *teaching* P to adjust her responses, but so it the table, the pipe cleaner, the shapes made by the others in her group, the camera, the words of the conversations going on around and with her. In this sense 'teacher' becomes a diffracted term, something which isn't attributable to one 'thing' but the intra-actions, the becoming-with these different and yet entangled elements.

This diffraction is beautifully captured in M's comment *'He canna help how he grew...he canna help his growth spurt'*, making me consider the lack of control attributed to both the material and the human in this statement. The playdough donkey can't help how he grew but it was said in relation to P's lack of control of the outcome as the human in the relationship. This was a statement which saw neither the playdough or the human as having ultimate agency in what happened. Rather, agency, as considered by posthumanist writers, is not something which exists *in* someone or something but is instead an entanglement, existing *in between* (Barad 2003). This is a very different consideration of the term from current educational uses in which we talk of someone 'having agency' or ensuring we 'give agency to' a group of people so that they can act. The posthuman use of this term, as described by Ingold (2016) argues that agency is "not given in advance of action, as cause to effect, but is rather ever forming and transforming from within the action itself – it is always in question" (Ingold 2016:17). There are many moments in the story where the materials and P appear in question with each other, particularly when she attempts to attach the head. Working with a particular section of the story where this occurs highlights to me not only the questions posed by all the participant bodies (materials and human) but also the variations in response that both make (figure 3.10).

Figure 3.10: Playdough question and variation



These questions and variations between all the bodies, don't try to capture all the intra-active element. They don't highlight the role of the table, the temperature of the room, the specific timing of the different actions and reactions. But what they do do is makes me consider

Ingold's argument for us to move away from 'agency' as a 'thing', where we might say that P had agency, towards 'agencing' as something which is active and entangled. Here we might say that P and the playdough, and all the other intra-acting elements in that entanglement were agencing together, each making agency with each other.

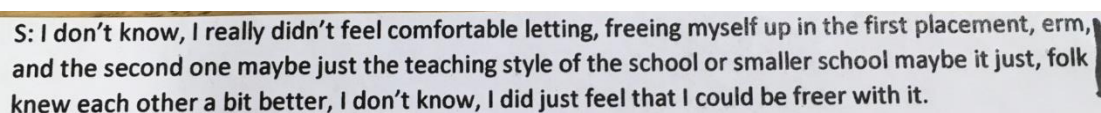
There is an interesting intra-weaving of ideas here, between agencing, variation and improvisation, with Landgraf (2018) stating that "critical improvisation studies...has long noted how improvisation challenges traditional concepts of human agency" (Landgraf 2018:208) stating that central to improvisation is an awareness of the participants of their "loss of authoritorial control" in which they understand that their actions are more than "the execution of a particular intention" (Landgraf 2018:212). It is this lack of a split between thought and action, a merging and intermingling of these which results in not knowing precisely what will occur, that arguably makes us feel vulnerable.

Variation C: Teaching bodies (divergence)

Divergence: Starting from the same point but moving in different directions. A pulling apart of musical materials.

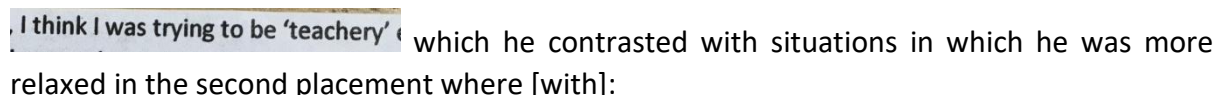
This variation starts from some fragments of conversations. These moments of conversation with S and J, while happening at different times, and not in response to each other, have become stuck together. One set of comments cannot be on a page without the other. They have existed side by side and in different orders, but I keep coming back to their relationship to each other and how they together have pushed me to think about teaching bodies.

Figures 3.11-3.13: Moments from the final conversation with S

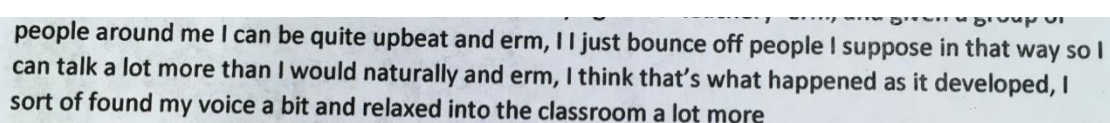


S: I don't know, I really didn't feel comfortable letting, freeing myself up in the first placement, erm, and the second one maybe just the teaching style of the school or smaller school maybe it just, folk knew each other a bit better, I don't know, I did just feel that I could be freer with it.

In relation to the first placement and why he didn't feel comfortable he commented;

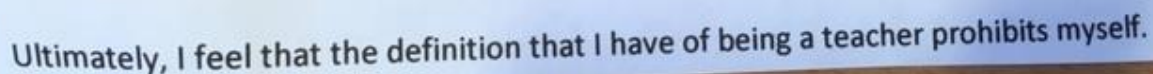


I think I was trying to be 'teachery' which he contrasted with situations in which he was more relaxed in the second placement where [with]:



people around me I can be quite upbeat and erm, I just bounce off people I suppose in that way so I can talk a lot more than I would naturally and erm, I think that's what happened as it developed, I sort of found my voice a bit and relaxed into the classroom a lot more

Figure 3.14: Moment from the final conversation with J



Ultimately, I feel that the definition that I have of being a teacher prohibits myself.

At the core of these statements are ideas of status, but the reason that they have remained in each other's company is the implication of status not being about a label (i.e. 'teacher') but an enacted status, through the body. S's use of the term 'teachery' and J's reference to a definition 'of being a teacher' together have made me explore and play with what it means to enact status and what the implications are of this for teacher education. Theatre improvisation literature recognises this enacted view of status, deliberately exploring and playing with its potential to change the physical and emotional dynamics between characters and their environments (Johnstone 1979). Therefore, this variation draws on this improvisation literature, playing with it in relationship with the responses the group made to the idea of status. Central to this exploration is the divergence between materials and thinking about 'bodies that teach' (how such bodies are perceived and understood) and 'teaching bodies' which explores how we teach bodies to respond.

Bodies that teach

The story of teacher is based in part on images, understandings and observations of what teachers' bodies do when they are teaching. S's comment about 'trying to be teachery', made a distinction between having a cognitive understanding, a linguistic story about 'teacher' and an enacted view of what this story means in the behaviours and actions of teaching. These enacted understandings were evident in many of the responses of the group when discussing music teachers and their behaviours (figure 3.15).

Figure 3.15: The story of teacher's behaviour as described in the initial conversations

E: "you had when she was talking to the class and you were learning things, say your concepts"

E "going round all the instruments and helping everyone out

E: "accompanying me singing"

E: "she would have an input as well as my singing teacher... 'I like this bit or this is something to improve on'"

H: "teacher going round and listening and taking notes"

G: *"she would tell us about the Classical period"*

G: *"she had a lot of patience with me"*

G: *"she would say this is how you do it, this is how you improve your tone"*

J: *"she was very organised, very organised"*

J: *"work[ing] in the classroom, with the xylophones and pianos, and that's what [the teacher] would do"*

These comments arose spontaneously from the group when thinking about their music education backgrounds and responding to the pictures in the initial conversations, meaning not all of the group specifically commented about teacher's behaviour at this point in the project. However, bringing these descriptions of teacher's behaviour together, not as a way of making claims about the group's experiences, but as a source of thinking about bodies that teach, makes me consider some of the similarities in the comments. Noticeably talking and telling were prominent, both in terms of talking *about* music (E: *"you had when she was talking to the class and you were learning things, say your concepts"*) but also telling learners *how to* achieve something (G: *"this is how you improve your tone"*). Another behaviour which is mentioned more than once is that of moving around, working with individuals or small groups (J, E and H), a behaviour deeply rooted not only in music education in schools but also in group instrumental or vocal tuition. These comments about teachers' behaviour rooted in lived experiences of music education contexts, provide an interesting contrast to the responses they gave to the hot response images of music education contexts in workshop 2. In the workshop they weren't asked to specifically comment on the teacher, but to write down whatever they felt was important in that moment. What was particularly notable was just how many of the group solely responded about the teacher, as captured in figure 3.16.

Figure 3.16: The story of teachers in response to pictures of music education in workshop 2¹³



G: "Teacher-led, Teacher at the front directing what is happening. Learners follow the teacher's directions"

E: "Teacher is visible – centre point"

R: "Teacher in charge...regimented almost"



A: "Where is the teacher?"

G: "Can't see the teacher"

While the responses in figure 3.16 to the image of the girls and the teacher with the guitar are assured in tone, there was a sense of concern about the responses to the image of the children playing keyboards where the teacher was absent. In discussion about the keyboard image in a later part of the workshop H stated that she had "imagined the teacher was in front of the keyboards, watching". What intrigues me about these responses is that the teacher playing guitar is sat, physically lower than the girls, but his position, age, ethnicity, dress, posture and those of the girls in comparison, gave clear status indications to the group, leading to no confusion about roles of the people in this scene. In contrast, where there was confusion, as no obvious high-status person was evident (in the keyboard picture), H's comment suggests an ability to 'imagine' how the statuses are operating even if they aren't all evident in the scene. Where there was even more discomfort was in a situation where there was disagreement between the research group about the status roles of those in the picture, as happened when responding to a picture of three people with drums (figure 3.17).

¹³ First image from <https://musicalfuturesblog.wordpress.com/2014/11/02/10-reasons-why-singing-should-be-in-the-music-classroom/>. Second image from <https://mexicanmusicseminar2017.wordpress.com/2017/04/page/2/> (accessed 20th April 2018)

Figure 3.17: Who is teaching?



E: "I took the person taking notes as the teacher...they're working together, it's not as structured but is that teacher taking notes for exam timings and things like that?"

J: "Whereas I've interpreted that person in the blue hoodie on the left as doing the teaching and they've got their logbooks for peer assessing and they're just listening and then off away"

S: "so he's just one of their pals in the classroom..."

Knowing who was teaching was deemed critical to the groups understanding of the situation and dominated all of the discussion time of this image in the workshop. They hadn't been asked to identify this, just to respond to the pictures but they were immediately drawn into this identification process to help them understand what was occurring. The picture confused them. The enacted stories (teacher as expert, everything relies on the teacher and teacher as self-made) and associated behaviours didn't immediately help them in this identification process, their comments about behaviours emphasising their search for physical, behavioural, and status clues all of which arose from examining the bodies involved.

The word status catches my attention, making me think of Johnstone's writings about status in theatre improvisation as being critical to making sense of actions and behaviours (Johnstone 1979). In his chapter titled Status, Johnstone explores how status can operate on a see-saw principle, where being able to raise or lower one's status allows other's statuses to lift or lower in response. Johnstone exemplifies this principle, "Walk into a dressing-room and say 'I got the part' and every- one will congratulate you, but will feel lowered. Say 'They said I was too old' and people commiserate but cheer up perceptibly" (Johnstone 1979:37). He attributes his thinking about the role of statuses specifically to his reflections about three teachers he had as a child;

I remember one teacher, whom we liked but who couldn't keep discipline. [One] lesson we sat in spooky silence for about five minutes, and then one by one we began to fool about – boys jumping from table to table, acetylene-gas exploding in the sink, and so on. Finally, our teacher was given an excellent reference just to get rid of him.... Another teacher, who was generally disliked, never punished and yet exerted a ruthless discipline. Without punishing, or making threats, he filled us with terror...A third teacher, who was much loved, never punished but kept excellent discipline...He would joke with us and then impose a mysterious

stillness...he looked upright, but relaxed, and he smiled easily. I thought about these teachers a lot, but I couldn't understand the forces operating on us. I would now say that the incompetent teacher was a low-status player; he twitched, he made many unnecessary movements...he always seemed like an intruder in the classroom. The one who filled us with terror was a compulsive high-status player. The third was a status expert, raising and lowering his status with great skill...cop[ing] easily with any situation by changing his status first (Johnstone 1979:35-36).

What strikes me from revisiting this description is the association between S's word 'teachery' and Johnstone's description of the compulsive high-status player. Could S's comment that he 'didn't really feel comfortable letting, freeing myself up' be a response to playing a higher status than he felt comfortable with? I was also struck how this notion of status see-sawing was challenged and challenging in their response to the drumming image (figure 3.17). Labelling the three people from left to right A, B, C for ease sake, it is possible to see how Johnstone's claim that "Status is basically territorial... High-status players will allow their space to flow into other people. Low-status players will avoid letting their space flow into other people" (Johnstone 1979:59) intra-acts with the picture.



Person A looks taller in the picture albeit possibly the position from which the photograph has been taken. However, his position within the space and his physical positioning in relation to the instruments emphasises his status aligning with Johnstone's statement that "Status can also be affected by the shape of the space you are in. The corners of couches are usually high-status, and high-status 'winners' are allowed to take them" (Johnstone 1979:60). Even though he has his knees pointing away from person B, he has direct access to and seemingly is playing with all three instruments, leaning around to reach across to the one furthest away from him.

This person is propelling himself (both physically and musically) forward into the space. By twisting around to his left, he is letting his space flow into person B's, but also positioning himself more centrally than the others in the group. This reminds me of the comments about the teachers in the workshop pictures being 'the centre point', 'visible', and 'at the front, leading'. These behaviours are all suggestive of high-status actions, where from the centre, the front, we can allow our space to flow into others.

I play with this idea further by revisiting some of the other images of improvisation we had explored as a group (see figure 3.18). It was striking to me at the time that no-one used the word 'teacher' or 'teaching', or even 'leading' in relation to the series of photos of children playing in workshop 1.

Figure 3.18: Images of improvisational play from workshop 1¹⁴



When you look at these images along with Johnstone's phrases about letting space flow into others, there is an equality of flow between not only the children but also into the materials they are playing with. This was particularly captured by A who in relation to the painting image

¹⁴ Images from <https://www.gettyimages.co.uk/detail/news-photo/young-girl-swings-from-a-rope-wound-around-a-lamppost-in-a-news-photo/613465342>
<https://preschoolstem.wordpress.com/2012/06/14/balls-and-ramps/>;
<https://www.dmacuk.org/contact-improvisation-dance/> (accessed 21st April 2018)

wrote *“creating together, even though the colours are different, they are intertwining and using each other’s spaces”* (A workshop 1). The bodies in this image were not perceived to be teaching, the status positions of each of the children and a knowledge of what this activity might be about, led to comments focusing on the status of the materials as an extension of the bodies. This is very different to image 3.17 where the materials were only mentioned by one person (M *“using the drums to show technique”* workshop 2 hot response). Instead the focus was completely swallowed up in trying to interpret the relationships of the people and trying to assign them into categories or activities. A commented that it *“looks like they’ve chosen their own jobs within the team”* while J assigned the words “listener” to person B and “note taker” to person C (A hot responses workshop 2).

The assigning of ‘listener’ to person B is particularly resonant with ideas about status in western art music, where the relationship between composer, performer and audience (the listeners) has long been critiqued in relation to the nature of music’s place in the curriculum. A particular line of critique has been around the notion of music education as a preparation of future audiences (i.e. listeners) of music as opposed to music makers. This is evident in approaches often cited as ‘music appreciation’ in which a separation exists between ‘the music’ and ‘the listener’ in what has been termed ‘Aesthetic listening’ involving processing the musical materials cognitively and trying to extract the ‘correct meaning’ (Spruce 2007:151). The synergy between this form of behaviour and traditional teacher – pupil behaviours and statuses come to mind when looking at person B. No-one in the research group suggested person B was a teacher. His status is clearly low within the situation seeming physically smaller, sitting back from the instruments, being looked directly at by person A although not returning eye contact and the stillness in his body all could be interpreted as him being a ‘child’, a ‘learner’ in this situation – no confusion arises. He appears to be behaving, and others were behaving, as if he was ‘yet to know’.

E and J’s comments about the ‘note taker’ role (person C) implies another situation in which access and control of the material is an indicator of status. The paper and pen and the act of writing as indicators of judgement and knowing but also of structuring the activity of the others. This reminds me of the comments by the group about teachers as *“going round and listening and taking notes”* (G initial conversation). Physically person C, playing with Johnstone’s descriptions, seems low status, with his body retreated, and little

correspondence to the others, but he was still perceived to be high status enough to be perceived as the teacher in the situation. This makes me question whether the students enacted stories of teacher, as listening to pupils and taking notes, has suggested a level of authority and control within the situation, even though the body language is less forthright than person A.

This makes me re-see the responses to the image not only as responses to the human bodies within the situation as a marker of status, but also the material bodies. Whether suggesting person A (because of the positioning with the drums) or person C (because of the use of pen and paper) are the teacher, re-seeing the role of the materials in making those judgements is to recognise the way that behaviours and spaces are enmeshed. This leads me to reframe the question 'where is the teacher?' or 'who is the teacher?' to 'What is teaching?'.

Returning to consider S and J's comments that propelled this variation forward, 'what is teaching' changes how I read these responses. I see bodies conflicted. Caught between stories of 'teacher', images of teaching, lived experiences of music teachers, and how they themselves want to be. This is an ontological conflict, not an epistemological one. One in which they recognise certain ways of being as 'blocking' what they want to achieve.

I am intrigued by the idea that culturally accepted ways-of-being teacher can in some circumstances, act as a block as it asks the question, what is being blocked? S's comments reveal a little of what he feels stating in his second placement that he can *"be quite upbeat...just bounce off people...I sort of found my voice a bit and relaxed into the classroom"* (S final conversation). Reading these comments with Johnstone's ideas about status in improvisation is to see a responsiveness, a shifting of status positions. Johnstone calls on improvisers to develop a fluidity of status, being able to move their own status (as enacted through their behaviours) up and down in response to the scene in order to keep the improvisation going. While S was able to 'bounce off people' suggesting he had lowered his own status to allow them to be higher status, he was also able to 'find his voice' suggesting to me that he had found a way not only to speak as himself but to be himself in the classroom, summed up by the word 'relaxed'. The question this leads to is how do we teach bodies to be able to more fluid in their status games?

Teaching bodies

“Pedagogy is characterised by well- rehearsed habits. Success in formal teaching and learning has depended, in large measure, on the acquisition of certain routinised patterns of thinking and behaving” (McWilliam 2002:3). McWilliam goes on to argue that we need to unlearn pedagogy in order to address the pressing problems of our time, arguing

“Habits are useful... when the conditions in which they work are predictable and stable. But what happens if and when the bottom falls out of the stable social world in and for which we learn? ...Could it be that the very habits that have served us so well in stable times might actually become impediments to social success” (McWilliam 2002:5).

In preparing our student teachers for a world of highly complex and often competing pressures, the question arises as to whether the high-status behaviours associated with being a teacher (as exemplified through the research groups responses in figures 3.5 and 3.7), might as McWilliam argues actually impede or block a more response-able teaching body, who can “stay with the trouble” (Haraway 2016). Posthumanism encourages us to ‘become-with’, accepting that we are not the sole agents of what occurs, but that through intra-action with people and materials we are constantly in a state of becoming. This is very different from the high-status, fixed-status stories about ‘teacher’, instead asking us to be vulnerable, open and to behave with humility to the others that are intra-acting with us. What was particularly intriguing was the reports by members of the research group where such feelings and behaviours were explored, which are shared here as three vignettes (with comments from my research notes).

Vignette 1: R talking about her experience working with children in a weekend performing arts group (final conversation)

"... it's different, there's not as much structure, and I do think there's a lot of improvising...with the P4-7 class we made our own song, so that in itself, it just, I find that there is less, almost boxes to tick there, so there's so much more free reign and the kids can be so creative so we made this song about the sea and the first thing we did was they choose, they just wrote down all the words they associate with the sea, it didn't matter what it was... so that was completely free in itself, and improvising was massive in actually making that song, because we had no idea what the kids were going to come out with and then asking them to make, pick words that rhymed and having to kind of guide them as well I really found that coz there was no plan there at all, there was just me and the other teacher... and we just had to go on exactly what the kids come up with, we chose the rhythm and things like that, but other than that, it was all down to bouncing off what the kids came up with and they came up with some really creative things which we would never have come up with like they had an obsession with sea lemons, like I don't know, it was very strange, and then we created a whole show out of it, and again the kids were at the centre of it they were the ones making the decisions instead of us and it was amazing what came out at the end, they had glitter, they had created their own little sea scene to hide behind, they chose their own instruments to go along with the song, it was a really theatrical thing...".

Responsibility to external 'boxes'.

Being part of the making but without dominating, challenging separation of teacher and learner.

Destabilising image of teacher as expert.

Plan not as written, but as humans + ideas.

Children at the centre rather than teacher – contrasted with teacher as decision-maker.

Reconfiguring the child as "rich, resilient and resourceful(e)merging through materialdiscursive relationships" (Murriss 2016:36)

"it was very different, just I did find it hard at some points, being able to just come up with ideas on the spot, because they started it all, and we had to go with them so even if we had come up with a tune or something, or we had to, there was no way it could be pre-planned, that was almost a bit scary coz, I was like what if I can't come up with anything, or we end up talking about sea words for the whole hour and a half, so it was scary...". but I think if I was on my own, it would have made it a lot scarier, but knowing we had each other to work off as well as the kids, erm, I don't know, it was comforting, we could share ideas, we could think together".

Lack of trust in own ability to respond

Journeying alongside

"It's very likely that you will increasingly be conditioned into playing the status that you've found an effective defence. You become a status specialist, very good at playing one status, but not very happy or competent at playing the other. Asked to play the 'wrong' status, you'll feel 'undefended'" (Johnstone 1979:43)

Vignette 2: R reflections on teaching as an improvisatory act (final conversation)

R: "acting in the moment, almost kind of, erm, like knowing the people that are around you in order to improvise with them, it's about getting, about not being above the kids it's about being right in with them and erm, helping just.... It's about being right in with the kids..." "and helping them to develop in their own way, whether than be musical or just anything, just any sort of development, if your down at their level and you know them and you know what they need, it's about changing your input and taking their ideas on as well as your own in order to come to an end point.

C: I love this phrase being right in there in with them. Can you expand?

R: I do feel like myself, that I tend to, I don't know if it's like being in control of a class but I definitely feel that when you come down to the kids level and you're not showing this big gap between you and them that they are much more open and willing to try new things, even if they have reservations and might be nervous, if you are right down with them, and even showing that you do them as well, like I think in class if I make a mistake or I'm not afraid to admit it, if I'm accompanying them on piano and they're doing amazing, and I play a million wrong notes I'm not afraid to stop them all and say I'm so sorry I ruined it for you, you're doing amazing, I'm not afraid to look a fool...".

R: if you come down and show that it doesn't matter if you make mistakes, totally open, we've all come from the same place, we all start at the same level. Yeah. It's just being more open I think and not having that 'I am the teacher, you are the pupil' erm, I think that's really important".

Spatial level (up, down, in) as inextricably linked to ability to improvise with others.

Troubling hierarchies of ideas, breaking teacher / learner dichotomy.

Closing the gap both spatially, materially, bodily.

Control as status shifting to vulnerability as status.

"The foolish fool clumsily tries to live by the rules, but is inept, unsophisticated and silly. The great fool, Nisker says, is a rarity...showing us the impossibility of knowing anything for certain and stands in awe of the ordinary, seeing as if for the first time" (Seeley 2010:3).

Vignette 3: H reflections on teaching as improvising (final conversation)

"I've got two more [examples] but that were quite scary...quite horrible...erm, so for one of my S2 classes I was asked to like do an online type lesson, erm, like music tech type thing, but they only had Audacity to work with, so...G sent me over...the booklet and then the audio files....and I changed them all...and uploaded the files onto the shared area to get the kids access to them, and I made sure they worked on the computer I was on which they did, and then when it came to the lesson, this was the worst second year class, the hardest class I had...the audio files didn't work on their computers, and I was stuck, what on earth am I going to do....so my mentor was there trying to fix it or find ways, and actually the technician helped as well, and I was like oh my goodness, trying to keep the boys down, like, under control, like oh my goodness! So turned out that wasn't going to work, I just had to abandon that, but [my mentor] went back to the staff base and she just started uploading drum, guitar, synth loops from a website and put them on the shared area...and then she came through saying that's quite a few loops, so just let them import them into audacity and play around with, It actually turned out really good because the boys really liked it, they're difficult boys and they got on really well like they were really good at pairing and mixing different loops together, and even like making actual structures of songs like quiet to start with, then build up, then drop...

C: so when the loops didn't work right at the start, what were your biggest fears, why did the emotions go....

Improvising as vulnerability.

Expectations of control.

*"Everything relies on the teacher"
(Britzman 1991).*

Exerting status as above the boys.

*Leaving behind planned materials
and actions as failure.*

*Repositioning boys as capable, as
more expert than initially
recognised.*

H: because the really challenging boys were just like 'oh miss, well that's just rubbish, you've not got the stuff for us, its nae working, it's just a shambles' and I was just like oh my god, oh no...(head in hands), what am I going to do with you... that class is quite hard to deal with in a practical lesson, because they are just all over the shop, and even as much as you try and control them it doesn't work, so I was really trying to avoid doing that at all costs, which was annoying, but...

C: you mentioned at the beginning that you thought it was going to be a lesson where you could just hand it over, and maybe that contrast between what was expected and what actually happened made it even more of a shock?

H: exactly, but with the girls, because they didn't get on, or didn't really click with the online thing, I then gave them the 'I've got a feeling', for them to play, and they were really happy with that, 'oh yeah, can we play that?', so they were really happy doing that and the boys were really happy doing the online stuff, and then brought them altogether ..and it ended up being the best lesson with them, the most manic one, and most mismatched lesson, but everyone was kind of calm, and happy doing what they had chosen so, but I would have been scuppered without [my mentor]...and at the end I got them to play the soundtracks at the end of the class, and they were all dead silent, and they were hardly ever silent, it was just funny how they respond to their peers more, when they are actually listening to something they want to listen to, or want to see someone's work which is different or interesting...

Conflict between low status feelings and needing to maintain high status appearance.

Recognising limits of teachers ability to control.

Unexpectedly positive entanglements of materials, bodies, activities and teaching.

R and H's accounts mark moments of unlearning. They are reported from the stance of what was different from what was expected or planned, or what challenged their expectations, suggesting it was a moment of divergence from what they had previously understood or experienced. What is interesting is thinking about what the unlearning involved. This unlearning of enacted habits wasn't taught by someone but by contexts, activities, groups of people and H and R's intra-actions with them. In R's account of her work with the performing arts group, the unlearning arose from becoming-with the context and nature of the organisation, and what the children created. It was an unlearning of being in control, planning everything in advance and driving activity towards a pre-planned outcome. R's account reminded me immediately of the Greek pedagogues, walking alongside, not in front (see p.31). Here she had learnt to be response-able to the children's ideas, their physicality and their material play.

In the second vignette based on her experiences in the classroom, R's unlearning was initiated from becoming-with the young people, developing ways of being in relationship with them. This was unlearning being an expert, always being right and therefore maintaining high-status behaviours, but instead recognising the educational opportunities of reducing her own status level. Her description of 'being right in there with them' and reducing the 'gap' could sit perfectly alongside Johnstone's description of his experiences of a teacher who was an expert in status play. Instead of maintaining her position as expert, sitting up high on the seesaw and keeping the children's status low, she was able to experience and learning from raising the children's' status and lowering her own. This leads to questions as to whether all student teachers have the opportunity and experience of working with children in this way, and if not how this could be facilitated to enable them to understand the role of status in their actions, planning and intra-actions (with children and materials). In H's account this happened as a moment of high stress where her unlearning occurs from a sudden rupture of expectations, and she quickly has to become-with the emerging situation. For H it was a moment of improvising with the materials with the children, where the failure of the technology threatened her status position of being in control of a difficult class, but in letting go and allowing the children to lead what they did and how they did it, recognising some of the pupils abilities in ways that were unexpected. Two others of the group reported improvisational experiences when things went 'wrong', but this then raises the question as to whether

improvisation in teaching is considered significantly in relation to stressful, problematic and unsatisfactory events. If improvisation is only explicitly considered in relation to such events then it may act as a barrier to the types of pre-planned improvisatory (or at least more freely organised) experiences such as those R had, limiting their opportunity for unlearning dominant habits.

What is particularly noticeable in all these vignettes is how they challenge Britzman's myths of "everything relies on the teacher" and "teacher as expert" (Britzman 1991), directly challenging concepts of the teacher as humanist, powerful and child as passive and less powerful. Instead these entanglements of bodies, contexts and ideas 'teach' R and H different ways to be. However, this is not accounted as an easy process, but one of vulnerability, concern, threat, and discomfort. As Braidotti notes, posthumanism "urge[s] us to think critically and creatively about who and what we are actually in the process of becoming" (Braidotti 2013:12). In these vignettes, living a pedagogy (Finney and Philpott 2010) that wasn't based on established cultural myths of 'teacher' as expert and in control, allowed R and H to live, to be, to relate with the children, their ideas and the material environment in different, unexpected ways.

Codetta: Teaching-with

Working with a group of student teachers, it was no surprise that images, descriptions and understandings of 'teacher' were prominent in many of our activities and discussions. However, exploring improvisation with the research group and entangling these experiences with posthuman ideas about the body and learning, has led me to rethink what I mean by the term 'teacher', with each variation contributing to not only a critique of the term but a reimagining of what teacher means.

In Variation A, seeing beyond the teacher by playing with silhouettes, focused attention on the way the presence of the teacher can dominate our gaze, making us less attentive to the material, sound and human relationships. It opened up questions around strata and how as a subject separation between teacher and learner, content and learner, learner and environment are created through the way we organise musical spaces, in our actions but how they are also overcome.

Variation B focused on material teaching, opening up questions as to who but also what a teacher is, where materials have pedagogical power-with humans. This raised the notion of agencing, rather than agency. Something we do rather than something we have, and how this doing is affected by our experiences and learnt ways of being with particular materials.

Variation C explored ideas around how teaching bodies exert status through their use of space, language and materials, as well as body position and stance. This exploration raises questions as to how a body that is teaching-with, rather than teaching to looks and acts. This was explored through R's experiences of a weekend arts group where she had learnt a different way of being a teaching body, and moments of unlearning experienced by some of the group when in school placements which had forced them to act differently, seeing the result.

At the centre of all of these variations was the challenges that thinking about and doing improvisation made to three cultural myths about the teacher (Britzman 1991); everything relies on the teacher, teacher as self-made and teacher as expert. Instead it focuses attention on teacher as a distributed term, as between bodies, materials and concepts. It reconfigures the 'gap' between teacher and learner, where everyone and everything is both, simultaneously. This significantly changes the relationships between teacher, learner and material but also the role of teacher in relation to epistemology and pedagogy, asking us to rethink the language we use for the adult in the entanglement, recognising they are not the sole human contained 'teacher'. This then raises the associated question of what are students on ITE courses becoming?

Making-with

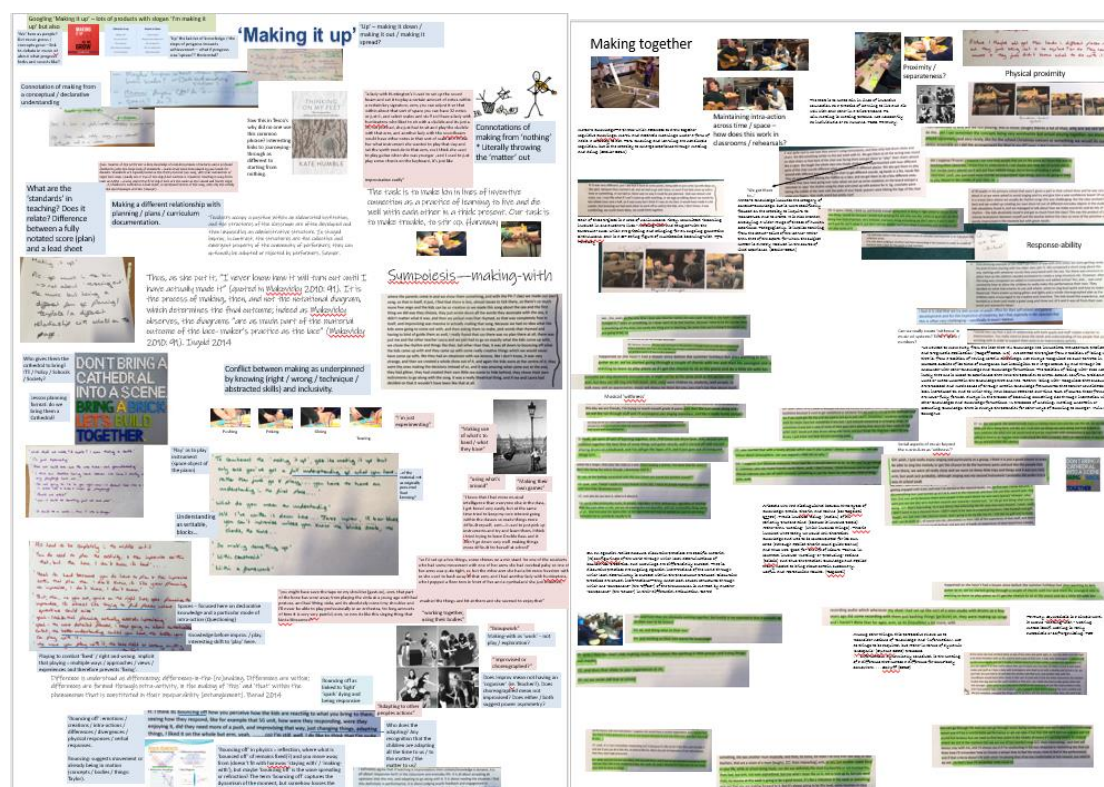
A Note about the Composing of the Theme

The term 'making' has grown in importance throughout this project from the particular entanglements of improvising as a making, playing as making, and arts-based research methods which I initially explored for shaping this project as a form of research making. However, my view of the term and the way it is used in education, music education and initial teacher education has shifted, where improvisation as a 'radical apparatus' has made me re-see it, both theoretically but also practically through the research activities.

Initially this theme developed as two different ideas of making; making it up and making together (see figure 4.1). Making together arose from the active doing we underwent together in the workshops in combination with the contrasting messages about experiences of making together in music education expressed by the research group in conversations. Making it up started as a response to how often this term occurred in our discussions of improvisation. For a while the terms 'together' and 'up' were the focus of my playful PowerPoint spaces, but gradually I couldn't play with one slide without also having the other slide alongside, they became entangled, where the word making turned into something more fundamental to the project, whether it was making up, making with or making together. Therefore, this theme and variations play with the idea of 'making' across the research materials on these two PowerPoint slides, combining, diffracting, weaving to find different ways of thinking with the term in relation to music teacher education.

Statement of the Theme

Figure 4.1: PowerPoint play spaces ‘Making it up’ and ‘Making together’



Education and making

Making as a term arguably has an unsettled relationship within recent school policies and practices. Traditionally perceived making subjects (the Arts and Design Technology) have come under considerable pressure within the British education system in the previous decade, particularly with the introduction of the EBACC umbrella qualification in England¹⁵. This pressure draws on and from a particular view of knowledge and knowing which hierarchically promotes subjects with seemingly declarative, measurable and easily assessable content above subjects that are experiential. Many arguments have been made about these hierarchical view of different subject's importance (see Bleazby 2015, Breslin 2016), but alongside these discussions, making as part of the story of learning and knowledge has exponentially increased in importance in education over the last half century with the rise

¹⁵ The English Baccalaureate (**EBacc**) is an accountability measure in England. It measures the proportion of children who secure a benchmark grade in English, Maths, Science, a humanity and language GCSE. Arts subjects are not included (<https://culturallearningalliance.org.uk/briefings/what-is-the-ebacc/>). There has been considerable concern about the impact of the EBACC on music as a subject (see Bath et al. 2020)

in importance of socio-constructivist theories of learning and the weight given to this within teacher education courses (Liu and Matthews 2005).

Constructivist views of learning, inspired by Vygotsky and Piaget, are arguably “the leading metaphor of human learning since the 1970s” becoming a “buzzword in school education and teacher training in the western part of the world” (Liu and Matthews 2005:386). Constructivism, as argued by Liu and Matthews, has two main variants; cognitive / radical constructivism in which knowledge is “individually and idiosyncratically constructed or discovered” where the social environment and social interaction act only as a stimulus, and social / realist constructivists who argue that the social environment is central to learning, in which learning is considered “situation-specific and context-bound” (Liu and Matthews 2005: 387-388). This is an important, but often overlooked distinction within teacher education, where the key difference is the role of the environment, either as a stimulus or as part of the creation of context specific knowledge. This role of the environment hints towards the new materialist and posthumanist arguments about the active nature of matter and therefore a significant change to the Enlightenment view of knowing as fixed and transferable. However, as Liu and Matthews conclude, constructivism through what they claim is a misinterpretation of Vygotsky’s ideas, has not changed the story of learning (and therefore the story of epistemology) as much as might have been hoped. Instead they argue it has retained a separation between mind and body (and arguably body and matter). It has maintained a focus on language as the key vehicle for construction and teaching strategies deemed as constructivist often maintain existing epistemological views (Liu and Matthews 2005). This can be seen in practice where although constructivist teaching strategies (e.g. group discussion, project-based learning) are used, opportunities for learners to make their own meanings are tightly controlled within the parameters of the task, materials or what is considered as valued outcomes. This experience of making therefore aligns more closely with cognitive constructivists, where materials, environments and possibly bodies are *used* to achieve a cognitive understanding. The outcome is still tightly controlled, and the knowledge acquired is of the mind. This creates a particular understanding of what making involves, shaping the way we plan for learning, the types of making that are considered acceptable or efficient to achieve understanding, and the nature of the interactions we have while we make.

These have influenced every discipline, even within disciplines in which making, and different views of making are arguably at their core, such as in music.

Music education and making

Music is a making subject. We make music together, we make our own composition, we make sounds. We make in similar ways to other arts subjects in which “knowing, doing and being are [in]separable” (Thomson et al. 2012:11). Music-making is such a ubiquitous term in music education that there is little critique and consideration as to what the term making actually relates to, and yet it is widely accepted that “Music-making of all kinds...should be at the centre of the music curriculum” (Elliott 2005:7). And yet we constantly live with the trouble caused by this, whereby not all making is necessarily considered as equal (e.g. making music using loops in Garageband¹⁶ compared to perceptions of instrumentalist performing in a concert), learning through making is difficult to explain explicitly and difficult to account for in terms of progress, and where making in classrooms is often superseded by more tangibly observed, recorded and assessed activities. This difficult relationship with making in music education was reflected in the English Inspectorate report of 2012, which was reported by the BBC with the headline *School Music lessons: Not enough music* (BBC 2012). The article quotes the Chief Inspector of Schools, revealing “Too much use was made of non-musical activities such as writing without any reference to musical sound” (Wilshaw in BBC 2012).

In reading around making in music education it is evident that the term making gets very little attention. Definitions of it are scarce but Lucy Green, in reference to making in informal learning practices, states that “it directly involve[s] producing and manipulating the sonic properties of music and their inter-relationships: that is, making music” (Green 2008:41). This relationship between making and sound is significant, where playing or writing music are considered the acts in which making-music happens, as a performer and as a composer. This is reflected in Gardeners argument that “in the arts, production ought to lie at the centre of any artistic experience” (Gardner 1991:239). It is very difficult to argue with these statements. Making should be central to music education, and sound is central to that making.

¹⁶ Garageband is a free music sequencing programme available with Apple products. It has pre-recorded loops and sounds, but also has the possibilities to record and sequence your own sounds.

However, making, as with other aspects of music education, can fall into the trap of only being considered from within our own western art music and educational experiences, and therefore be at risk of existing within a particular and arguably narrow concept of music-making (Hill 2018). Making in music education, and similarly in other aspects of education, has been co-opted into the stories of Enlightenment epistemology and pedagogy. Playing with the term making leads to a number of lines of critique. These critiques are not considered as separate from each other, but often intermingled in practices, but it is useful to consider making from a variety of perspectives, to diffract it.

One such critique involves the perspective of music-making as a tool through which we achieve understanding. Viewing music-making in this way is to see the medium (music) and the materials involved (instruments, sheet music, environment etc.) as being *used* to achieve an outcome. This is not to argue that understanding does not emerge from music-making, but to argue that seeing music-making only in this way is to portray a linear connection. By playing x you will understand y. This is an outcome driven view of making, in which it is being used not as a place of exploration and diffracting out, but of narrowing in on the planned aim. The nature of this type of music-making, this focusing inwards, making towards a predefined outcome can be seen to align with Hill's argument that in some forms of western art music, "standard modes of ensemble music-making...focus[ed] on a prescribed, even 'right' sound, rather than offering opportunities for rich, divergent sound exploration" (Hill 2018:54). It is easy to see how music student teachers coming from a predominantly western art music context, align these purposes leading to lessons where planning for making involves using making which is controlled, accurate and defined, to linearly lead to achieving a cognitive aim which is pre-determined. Controlled making for a controlled outcome. Allsup (2016) explicitly argues against this kind of music-making by suggesting there is a distinction between students as "making, not merely doing... [where they are] not merely executing the master's bidding" (Allsup 2016:103).

A second critique that runs deep in music education is that of making as a way of developing skills (see Fautley 2018, Fautley and Murphy 2016). The debate in music education around this issue is often phrased as the knowledge versus skills debate, much of which revolves around the distinction of the two as being separate (knowledge involving the head, and skills involving the body and making), and the counter-arguments that they are inseparable. This

separation is predicated on the notion that the body does as the mind tells it, where skilful practice is still cognitively accounted for. The knowledge versus skills debate is constantly reignited by policy and curriculum developments in the UK which recently has seen an explicit shift towards what is promoted as a knowledge-based curricula. According to Fautley knowledge-based curricula invariably “define knowledge almost entirely as being declarative knowledge, with facts being at the centre of these” and leading to skills being “either downplayed or discredited” (Fautley 2018:1). Here skills are seen as secondary to knowing (which is considered the main purpose of education), leading to abstracted skills development to ‘service’ understanding. In his observations of such practices in Brazil, Swanwick notes “The effect of this can be to dampen down immediate and direct response to music... [by] concentrating on increasing technical or notational skills for their own sake” (Swanwick 1999:xi) and whereby “the type [of instrumentalist] which buries itself in instruments is separated from the understanding of musical knowledge” (Swanwick 1999:34). Many music education writers have challenged this separation of skills and knowledge, most notably Elliott in his Praxial philosophy of music education in which he argues that “we can and should develop our students’ musicianship (skills) and creativity simultaneously” (Elliott 2003:7). In this view, making is about integrating skill development, sound production and creativity which “musical understanding integrates so-called mental and practical skills; it brings together doing, making, feeling, and thinking; and it complements action and reflection” (Silverman, Elliot and Davis 2014: 64).

Having considered music-making as a tool which leads to understanding, music-making as a way of developing musical skills, a third purpose of making as revealed in the literature opens another commonly discussed issue within music education, that of making-music as a sound demonstration of learning, a presentation of knowing. The product versus process debate. Here, again, making is *used* to provide a means by which learning can be made explicit, as a sounded signal of completion. In practice, the nature of this type of music-making can emphasis fluency and accuracy (if associated with performing repertoire) as a way of judging success, or if within a composition context, the inclusion of expected conventions, ideas or stylistic clichés. In neither case is the focus on the musical decision making that was made along the way, the ideas that were tried and rejected, how the final ideas developed over time or the problematic aspects that were overcome, but instead it solely focuses on what is

produced. Again, western art music has a particular influence here in the way that the reification of music as aesthetic object (Spruce, 2012; Regelski, 2016) emphasises the value of musical products (CD recordings, sheet music, 'final' performances). However, as noted by Thibeault (2015), there is an inherent tension between music education practices that promote the achievement of a polished product, something which is final, and the notion of an inclusive music education which requires different values and different design (Thibeault 2015). This product view of music education outcomes intersects strongly with equally strong 'product' views of general education as seen through policies (benchmarks and standardisation) and assessment strategies. The resultant tension between arguments of process and product in music education are revealed clearly in the critiques that developed from Elliot's Praxial Philosophy of Music in which he argued for the "building of a philosophy of music and music education by starting with people and people's many ways of doing music (rather than musical products)" (Silverman, Davis, Elliott 2014:56). This attracted criticism from Reimer who stated that "because of this overwhelming focus on process, [there was a] depreciation of the product of the process" (Silverman, Davis, Elliott 2014:57), to which Elliott responded arguing that the Praxial philosophy "conceptualize[s] "music" holistically: as a verb (i.e., processes, as in "musicing" and listening), and a noun (compositions, improvisations, and so forth) and a hub of human interactions (social, cultural, political, and so forth), all of which depend on musical style-communities (social-musical interactions) in which people in different times and places make and listen to music of different kinds" (Silverman, Davis, Elliott 2014:56). Elliott et al.'s counter-argument demonstrates their particular view on the purposes of making, as an integration of process and product, not a dichotomy but what Stublely (in Silverman, Davis and Elliott 2014) describes as a

complex form of thinking-in-action that responds to: (a) the inherent artistic qualities of the music making as a performance; (b) the tonal and syntactical properties of the music's design as form; and (c) the various traditions and standards of the particular practice that the interaction of performance and design evinces (Silverman, Davis and Elliott 2014:61).

Finally, a critique of making in music education is provided by Allsup (2016), who argues that "we have a problem of backward design" (Allsup 2016:16), where achievement and accomplishment is "located in the mastery of observable and measurable skills" which are pre-known, building progressively towards a level of difficulty or standardised notion of what

proficiency involves. As Allsup points out this view of making reserves innovation for those who have already learnt the rules “before they are allowed to break them” (ibid. 16). This critique of making, where patterns of behaviour, responses, and values placed on particular determined outcomes overwhelms other types of responses.

These discussions about the purposes and nature of music-making in schools often hierarchically position students and teachers above, rather than making-with the materials and environments. Whether it is music-making to achieve understanding, to develop skills or to demonstrate learning, knowledge in all these forms of making are discussed as existing ‘in’ the music, where experiencing the music, learning to play the music by developing the skills enables us to ‘bank’ the knowledge, and we can show this by demonstrating it. The word ‘the’ is important here: ‘the’ music, ‘the’ knowledge. In this view of making, the music and the knowledge are maintained as separated from the body, the materials, the environment. By continuing to consider the learning that arises from making as being separated in this way allows for the idea of predictable outcomes and equity of learning for all students who engage in the same task. Many music teachers, including myself, have experienced the result of this, where what are billed as creative making tasks (such as composing) end in whole classes or whole year groups of very similar outcomes. This is in part due to the nature of the tasks and how we control them as teachers but is also due to the way we maintain a separation between the task and the individuals or contexts in which they are occurring.

The role of the body in music making and therefore music education is increasingly becoming prominent with authors such as De Nora (2000) and Bowman and Powell (2007) exploring these issues and raising significant questions for our practices. Bowman and Powell argue (2007) that there is a long history in discussions of the nature and value of music of not paying attention to the body (and I would add, the environmental and materials).

The history of reflection on the nature and value of music is a game of hide and seek: hide the body and its materiality, its subjectivity, its temporality, and its specificity; then seek compensatory value in characteristics deemed durable, objective, and trust-worthy – the formal, the structural, the ideal (Bowman and Powell 2007:1087).

While hiding the body, the environment and materiality, and seeking the formal might be considered characteristic of a subject influenced heavily by Enlightenment epistemology, this divide is further developed by what Ruddock describes as “culturally developed notions that

distance individuals from their intrinsic musicality” (Ruddock 2017:39), where “misconceptions of human musicality in Western communities....[lead to people being labelled] as either musical or non-musical” and where these labels as “Embedded in language [and] cultural influences restrict free musicking...perpetuat[ing] an unnecessary and harmful reduction of human being” (Ruddock 2017:39). These misconceptions, Ruddock argues, impact on members of the teaching profession who are “caught in a social-historical reality.... [in which] we fail to notice historically developed misunderstandings of human nature” (Ruddock 2017:41). It is these misconceptions which play a significant role in how making is seen within initial teacher education.

Music in initial teacher education and making

When music student teachers arrive at the start of their initial teacher education (ITE) course they are proficient makers (musicians) as confirmed by the music degrees they have undertaken and in meeting the performance entry requirements of the course (in the case of the courses the students in the research group were studying the requirements were Grade 8 ABRSM or equivalent on a first instrument and Grade 5 piano). Within western social concepts of being musical (Ruddock 2017), such proficiency leads to expectations that music student teachers will therefore arrive on their ITE course being able to make, understanding what it means to make, and being able to facilitate others to make music. While they have demonstrated excellent skills required for meeting performing and composing assessment criteria, they arguably have specific understandings of making linked to their positioning with western art music. However, as noted by a range of authors including Lamont and Maton, the relatively narrow classical backgrounds of many music teachers “do not equip them well to deal with a range of musical styles and traditions or different teaching methods” (Lamont and Maton 2010:64). This dissonance between music student teachers’ highly developed practical skills within western art music, and the need for different types of making skills in the classroom is exemplified in a conversation I had with G at the start of the project.

G “so it is just like teachers telling you what to do to erm just to make you pass, so I feel like having to do recitals and things has made me a better musician but it’s not really helped with the education side of things, so piano I started really late in school and I needed that intensive like more like classical side, like learning to actually play the piano but really it’s not helped now, coz yeah when I first started uni I was maybe grade 2 or something but last recital I managed to get myself up

to playing a grade 7 piece which I think is quite, yeah quite proud of that, but it doesn't help at all in going into a classroom

C: in what way, what do you mean?

G: I suppose I'll never, I suppose I can now help people that are on the piano so I know that way of teaching them classically, I know how to understand it, I can maybe play little bits of certain pieces that maybe ones I played coz it was just from ABRSM things, but in terms of leading a whole classroom, yeah, you just need more chordal accompaniment type things, you're not going to need to play Mozart in the middle of your class" (Initial conversation with G).

While G contrasts more traditional piano learning with needing different musical skills for in the classroom, this isn't simply substituting the skills, it is a different way of making, a different way of being a maker. Such a change is not easily achieved within the tight course timescales of initial teacher education courses with students arriving with years of socialisation into particular ways of thinking and doing. This is a challenge noted by Philpott and Finney in relation to the increased popularity of Informal Learning Pedagogies (ILP) as developed through the Musical Futures project. Their article argues that in the introduction of Informal Learning Pedagogies within the ITE context in England, and the changes in skills and ways of being in the classroom that result, there has been a danger that student teachers are inducted into ILP "as a 'formula' for working with pupils" (Philpott and Finney 2010:10), which undermines the very pedagogy that it promotes, namely "the process of self-directed learning and 'owned' learning" (Philpott and Finney 2010:11). As they argue, "This has the potential to commodify Musical Futures as a curriculum and pedagogical formula where the informal becomes formalised" (Philpott and Finney 2010:11). This cautionary note aligns strongly with Aldridge's argument for a shift in ITE from sites for the "delivery of knowledge or skills" adopting an epistemological function to an ontological site where what is significant is "what happens to us (both teachers and students) when we learn; [where] in learning, being is transformed" (Aldridge 2015:112-113).

To address the ontological challenges of introducing ILP, Philpott and Finney argue for a meta-pedagogy involving two processes which are arguably about making; living and excavating. Living the pedagogy, they argue is a process of appropriating and owning the pedagogical approach in the same way that ILP expects pupils to appropriate and own their musical knowledge. They argue that, "In parallel to the informal learning of pupils, learning for music teachers is most effective when it is 'lived' as opposed to being 'downloaded'" (Philpott and

Finney 2010:11). This is reflected by Gershon et al.'s observations of student teacher learning, that pedagogical approaches that require "risk-taking, the ability and daring to improvise, and the willingness to make mistakes and be corrected must be internalized by teachers to some degree before they can transfer these values and goals to pupils" (Gershon et al. 2009:8). Equally Wright and Kanellopoulos' (2010) explorations of improvisation activities in Music ITE suggested it was the act of doing improvisation which "made them think and feel" might "be a powerful means in which to forge future teachers' identities through action and reflection that might help them be more open and responsive to their future students" (Wright and Kanellopoulos 2010:83). Underpinning the writings of these authors about 'living' the pedagogy, is an implied role for the body. This is about feel, touch, act not just thinking in the mind. However, 'living' in and of itself isn't necessarily the type of making-with which leads to the changes in stories which posthumanist authors argue so strongly for. It is perfectly possible for a student teacher to 'live' being a teacher in a placement which doesn't challenge or impinge on their existing models and beliefs of teacher education and music education, leading to a (re)cycling of stories about pedagogy, epistemology, materials and the role of the body.

Philpott and Finney (2010) argue that music student teachers therefore also need to undergo a process of "excavation" through reflexive practice to "interrogate their lived experience; to theorise themselves as a result of experience and to encourage the mutual interrogation of theory and experience" (ibid. 11). They argue that the outcomes of such excavating of living the pedagogy might include;

"(i) those who find a dissonance with the implications of this way of working and who do not break or morph their habitus;

(ii) those who work through a productive dissonance and adapt their habitus (on a continuum from epiphany to gradual change)" (Philpott and Finney 2010:12).

It is in these two statements that the associations with Aldridge's argument for Higher Education as an ontologically transformative space are clear. Philpott and Finney are arguing that by making-with materials, theories, practices, dialogues, past assumptions and values, and the present experiences, music student teachers are in a state of becoming, changing and morphing. They argue that although there might be those who struggle to break or morph their habitus, the aims of Music ITE is to provide the conditions in which productive

dissonances lead to change. Arguably at the centre of this call for a different view of Music ITE is the need for a different view of making in education (and ITE) which productively challenges and changes the stories of epistemology and pedagogy. It is here that posthumanist literature and improvisation have created a difference-making force in this project.

Making to making-with

Much of the discussions in the above exploration of making across education, music education and initial teacher education are underpinned by a particular story of making which is rooted in the stories of epistemology explored in Ex-positioning. This is a story which Ingold explores in his article 'The Textility of Making' (2009) in which he notes that "Contemporary discussions of art and technology continue to work on the assumption that making entails the imposition of form upon the material world, by an agent with a design in mind" (Ingold 2009:91). Bringing together matter (hyle) and form (morphe) in the term hylomorphic making, Ingold argues that this model of making has become increasingly embedded but also unbalanced in western thought, rendering matter as passive and inert (Ingold 2009:92) while form being thought of as pre-designed, fixed and implemented.

Posthumanism, via new materialism, provide significant challenge to this hylomorphic view where all matter is movement and vibrations, with nothing static or inert (see Barad 2003). This requires a reframing of both form and matter and making as what happens in-between the two. In this worldview, form is not something which is designed and fixed, but something which enables a series of movements, a starting point to allow for joining in with. Ingold quotes Klee in making this distinction with the quote "Form is the end, death" ... "Form-giving is life" (Klee in Ingold 2009:91). It is a *following*, not a pre-deciding, where the dynamic nature of matter means that "makers have to work in a world that does not stand still" (Ingold 2009:93). This significantly challenges many notions of making in educational contexts, where pre-decided outcomes, the valuing of completed 'products', and the form of the educational experience are often planned in detail (sometimes down to the minute) before the lesson commences. In these scenarios there may be 'making', but the question that arises is whether we allow opportunity for 'making-with'?

As well as reframing form, not as a fixed structure but as a way of giving life, as a momentum and energy, the same reframing is needed for matter. Whereas the hylomorphic view of making holds matter as inert, something to be controlled, manipulated and used for a predetermined end, posthumanist writers see matter as unstoppable, always influencing as well as being influenced. Matter in this posthumanist view of making is “an active participant in the worlds’ becoming” (Barad 2007:136), whereas Lenz Taguchi explains “it has force and power to transform our thinking and being” (Taguchi 2012:4). This dynamic view of matter interferes with epistemological understandings of subject and object as being fundamentally separated, instead seeing both as becoming together, giving each other meaning but also creating a “radical openness, an infinity of possibilities” (Barad 2012:214). The notion that materials are never settled, “always already radically open” and a “dynamic play of in/determinacy” (ibid 2014), is a long way from the inert view of matter of the hylomorphic view of making. This instead is a making which by its very nature of material intra-action requires an attentiveness to what happens, what the materials do and how that exerts influence and possibilities into the making process.

This reframing of both form and matter also repositions making, as a process not of planning, executing and delivering a product, but as a process of making-with. Haraway uses the term *Sympoiesis* in a similar way which she defines as “a word for worlding-with, in company” (Haraway 2016:58). She describes the implications of this term as the realisation that “nothing makes itself; nothing is really autopoietic or self-organising” (Haraway 2016:52) as a “carrier bag for ongoingness, a yoke for becoming-with, for staying with the trouble” (Haraway 2016:125). It is a recognition that making does not only exist in a pre-ordained, completely managed and manageable way but as a dynamic response, rooted not only in a telling of past events, representing and interpreting, but staying in the present, exploring how the materials and relationships make-with us at this moment in time. This is not a making of imposing ideas or a plan onto matter but allowing ideas and actions to surface in the in-between of form and matter, humans and environments. It is about staying with what happens, rather than pushing aside the unexpected, complex or divergent as unimportant.

Sympoiesis challenges Enlightenment epistemology where knowledge cannot be declarative, fixed and universal but where knowledge is instead contingent and constantly in the making-with. This is somewhat different to notions of situated knowledge which promote a view of

knowledge as reflecting historical, social and cultural contexts. Instead sympoiesis, developing from Haraway's particular take on situated knowing, is not a reflection backwards, an indicator of the context, but an active process whereby all knowledges are made, collapsing the divide between epistemology and ontology, knowing and being. Barad (2003) describes how this shift collapses the divide not only between mind and body, but between human and material explaining "knowing cannot be fully claimed as human practices, not simply because we use nonhuman elements in our practices but because knowing is a matter of part of the world making itself intelligible to another part" (Barad 2003:829). In this context Barad instead argues for an "Onto-epistemology—the study of practices of knowing in being" (ibid 829). Arguably such a practice, bringing together knowing and being through forms that allow us momentum and with materials that influence and intra-act with us to make difference, is a practice of making-with in which we can talk of learning as a process of being responsive to what emerges between the form, the materials, and ourselves.

To argue for knowing as sympoiesis runs the danger of implying that making-with has been absent in educational practices, but this is not the case. Making-with, as the exchanging, interpenetrating, interweaving vibrations of being, doing and knowing, cannot be stopped. We make-with our touch, our emotions, our responses, our discussions, our writings constantly. This raises the question as to how far we recognise making-with within music education contexts, and whether reframing knowing as making-with changes the story of education practices, music education and teacher education?

[A Note on the Composition of the Variations](#)

The variations that follow pushed me, more than other variations, to consider the form of writing and how I was engaging with the research materials. This was partly because the stories or narratives the group vocalised in the initial conversations, in the workshops or in reflection on the research activities, did not always align with the experiences of making-with which they then demonstrated when we were making-with instruments, playdough or other materials. Seeing and paying attention to these differences was to train myself to play with the research materials differently, actively, iteratively and in relationship with other ideas or matters. As these variations have had such a profound effect on how I see myself as a researcher, what my role is and how I have acted, I have included explicit discussion in two of

the Variations (b and d) as to how my approach to the research has been coherent with the nature of the theme.

Variation A arose from many separate and quite small moments within conversations and discussions in which the research group identified ways in which bodies, musics, spaces and knowledge was experienced as separated or together. This arose from significant playing with the materials, where individually the fragments of discussion did not immediately make the variation obvious. It was this fragmented nature which drew me to the idea of Hocketing as a technique, where one melody is shared between voices, as it appeared just like this when I lined up all the sentences of the different voices, the stopped being separate and became a conversation, a dialogue within the variation to create something new.

Variation B, making with hands, developed quite differently. Hands had been a constant presence in the research project (and beyond) in my reading of Haraway's account of playing Cat's Cradle and playing the game with my daughter. This was further developed by Korn's evocative accounts of his hands in his book on his carpentry (Korn 2013). By using a troping technique, in which new materials from literature and my own experiences were added with the research materials, generated new ways of seeing how hands played in making.

Variation C became significant in paying attention to the research groups bodies during the musical improvisation, where significant physical acts were related to their response-ability to the sounds themselves, whether leaning in to hear, or turning away from a sound that made them uncomfortable. Creating a countermelody using Lipari's writing on the notion of "listening beings" made different and generative entanglements with the original research materials.

Variation D augments the processes of material play. By augmenting, it slows the pace and takes time to explore the sequences of making in the workshops, paying attention to small moments of the process which may get overlooked in the bustle of the process (for example, the choosing of materials) as well as exploring the tensions between our experiences, experiences of music teacher education and my own experiences.

Variation A: Separate or together (hocketing)

Hocketing: A medieval practice of sharing a melody between two or more voices, whereby one rests while the other plays, creating a conversational sharing of the theme. In this variation the theme of separate or together is shared across the multiple voices of the research group, including my own as a response.

Music is a practical subject, a 'doing', a making. However, making-with, making-together is different to just 'doing'. Listening back to the recordings, I became very conscious of moments where students spoke about separateness or proximity. These moments were highly emotive, where speech was slowed, pauses were evident, or the comment was framed by silence. These silences and pauses highlighted to me where the speaker was hocketing their own experiences, sharing their voice between their experiences and those being discussed or depicted (in the photos used in the initial conversations). They were splitting their voice, giving two sides of the situation.

Hocketing is a process of making with these two voices, leading to something new. In the responses of the research group, some hockets were made instantly in the conversation where the speaker gave both sides within one or two sentences, while the others emerged as I made-with the transcripts, recognising where juxtaposing different people's comments and ideas made me reconsider or re-see.

Playing with different ways of hocketing the ideas and images, I was led by the materials. In the subsection bodies, the text is organised as a call and response following the formatting of a children's play I was reading at the time with my children. In the play, the child reads the text in one colour and the adult responds with the text written in a different colour. In this subsection the text is organised by colour, indent and alignment to show the different voices. For the subsections musics and spaces, it was the complete description by the individuals and the juxtapositions they themselves made which were impactful. Keeping the texts, but hocketing them with images of types of music making and spaces helped diffract the comments, seeing them in a new intensity. For the final subsection, knowledge, it was the hocketing of comments made by members of the research group with my own voice which enabled me to generate a different perspective.

Bodies (Voices A and Voices B)

*R: "kids making music, themselves
[pause] working in little groups, trying
things out maybe..."*

R: "we never did that"

H: "they are working together..."

*H: "but mostly in my experience they'd
probably be on their own [pause] to be
honest"*

*E: "I used to love it when [my teacher]
accompanied me, it was our thing...we
really enjoyed it"*

*J: "The only time we played together was
for the Christmas concert or something
like that"*

*E: "I'd like to learn with the children
and actually playing with and
experimenting with them"*

*R: "I know it still happens everywhere
(referring to a teacher lecturing a class
from the front), [pause] they're on a
totally different level, the teacher"*

It struck me just how often the idea of separation arose in discussions of being with others in learning. This wasn't just in musical learning, where it was evident the picture of the group of children playing together was not representative of the experiences of some of the student teachers, but in perceptions about learning in school in general, as noted in R's comment about observing the maths lesson. In listening back to the conversations and re-reading the transcripts it occurred to me just how much of a refrain the notion of being separate was to their comments, as if speaking with a different voice and body, the voice and body of the experience as different from the present. There was a distinction between music making occurring and making-with others, where peers learning together was unusual. This isn't to

say making-with wasn't occurring in their own making, as established in the discussion above, making-with is about making-with bodies, materials, environments, but the comments highlighted how far the felt physically separated from others in their own musical experiences. In light of the prominence given to constructivist learning theories within teacher education this could reflect a concern that they felt they hadn't experienced making-with others in this way. This was certainly the case with E who stated that

"we were talking about this the other day with my friends like all this, just like informal ways of learning and integrating everything as well¹⁷, like we didn't have that at school, listening was listening, performance was performance, even just learning something to do with understanding musical listening or whatever it was called and then being able to play it, like that would just put it into [that] perspective but we never did this [informal learning] so that's going to be really different going into schools" (E Initial Conversation).

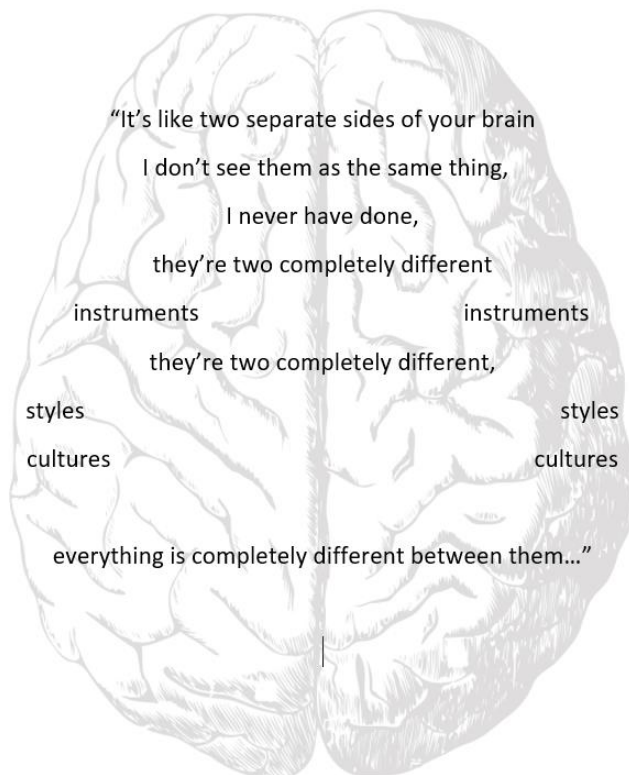
Does this then suggest student teachers have bodies with limited experience of physical making-with other bodies?

The question this then creates is how teachers' bodies matter in making-with. Haraway quoting Van Dooren states, "While we may all *ultimately* be connected to one another, the specificity and proximity of connections matters – *who we are bound up with and in what ways*" (Van Dooren in Haraway 2016:173). Are we 'bound up with' a teacher who is physically and metaphorically on a different level? Does it matter? How could teachers' bodies be more open to being 'bound up with' their pupils, their environments and their responses?

Musics

Figure 4.2: M talking of playing the Traditional Scottish Fiddle and the Violin

¹⁷ The integrated approach to music education – not separating out composing, listening, performing but seeing and experiencing them as interconnected.



"...I was on their waiting list (referring to a HE institution) because I couldn't decide which route I wanted to go down, [Trad fiddle or western art Violin] which I think is ridiculous"

M's discussion of her dual identity as a trad musician and western art violinist resonated with a number of conversations I had both with the research group and with music student teachers across my career thus far. It also resonates with my own experience as I described in a research seminar in 2015;

"Welch et al.'s (2010) research findings who found that music student teachers are likely to have gone through a traditional academic music exam route, achieved ABRSM grade 8 accreditation, play the piano, play in an orchestra or other western art music ensembles, and already have experience of teaching music in one-to-one or small group learning environments.

This is important stuff! This means that nearly all of music student teachers, myself included, have succeeded in 'banking' the 'correct' responses to music required to navigate the system. They have managed to develop their perceptions and been able to converse in the discourse that has allowed them to succeed. Now, I don't mean to be flippant here, because I was one of these people. Except, that like others, I did do other musical activities too, like playing in a folk band doing covers of Fairport Convention and Albyn band song. The thing being, that in more formal music learning environment I separated these aspects of my musical self, I knew how to manage the dissonance

that they created, I knew what was important and valued in each scenario and how to 'be' to fit expectations. I certainly wouldn't have written my folk experiences on my C.V."

This tension or hierarchical positioning between different musical experiences of making was further developed in a conversation with S.

*Figures 4.3 and 4.4: the music of the music department*¹⁸



S: "We did have a little band in school – but we couldn't use the music department or their amps, so we had to bring in our own... It was like, that's not the sort of music we do in the music department...I practiced piano in the department"



M and S's comments led to questions about containerising musicing

me to play with the idea of containerising through which I noted the

- why do we 'containerise' musics?
- how does separating musics out influence making-with in music education contexts?
- how do we 'containerise' music making?

The container metaphor is one of the most important and engrained metaphors in education (Gallagher and Lindgren 2015). Much significance has been drawn to the brain as perceived as a container, exemplified by Freire's critique of the notion of minds "waiting to be filled" (Freire 1970), but what M and S's comments spark is a consideration of how far the container metaphor shapes understandings of subject boundaries and musical practices.

What is particularly interesting in S and M's comments is that their experiences were an embodiment of the container metaphor (Lakoff and Johnson 1980). They embodied the physical movement of equipment and bodies into what was considered an appropriate space, and they embodied the process of having to decide between different types of musics in response to institutional requirements. Their experiences of these musics and the subject boundaries were learnt not as a static, disembodied, "sitting metaphor" (Gallagher and Lindgren 2015), but as an enactivist metaphor: they 'lived' them as separated cognitively,

¹⁸ Images from <https://pxhere.com/en/photo/1290356> and <https://www.publicdomainpictures.net/en/view-image.php?image=109423&picture=playing-the-piano>

physically and environmentally. Interestingly Lakoff and Johnson (1980) argue that the role of embodiment in the formation of metaphors is critical, leading to the development of image-schemas that “transform basic bodily experiences into metaphoric concepts” and act as “structures that recur in our everyday bodily experiences” (Lakoff 1987:267). Such an image-schema was evident in my conversations with J. His comments reflected the container metaphor of different musics occurring in different spaces but in his physical depiction of these containers, made me play with the ideas around hierarchy and interactions between these containers.

Figure 4.5: J’s parallel hands and experiences in the initial conversation

J: “I always thought, classroom music was already confirming what I’d already learnt in orchestra...”

...I always felt orchestra was here [upper hand raised] ...

...classroom was here [lower hand raised] ...

...and it just went on a parallel like that [both hands moving up keeping the same shape and distance apart].

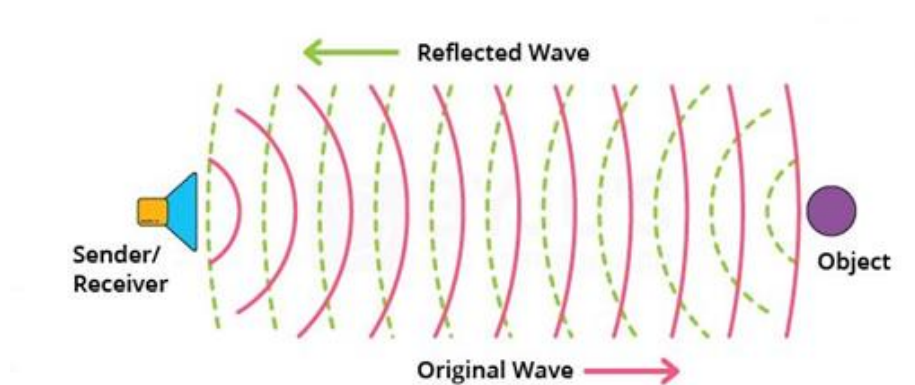


J’s remarks led to me writing initial notes that included statements about J’s perception of knowledge as fixed and transferable between contexts, the evident hierarchy of knowledge and knowing (again ‘up’ signalling more knowledge) and the use of the term ‘classroom music’ as something separate from ‘music’. These notes weren’t about interpreting J’s comments but as an indication of the way in which his comments played with my own experiences, thoughts and readings around music education. While these issues have been discussed in

other places (see Ex-positioning), the key difference in J's comments that led me to consider a different perspective was the use of the term and the physical enactment of 'parallel'.

Parallel as a concept returns me to thinking with diffracted waves (see p. 19). Being parallel involves moving at a distance from each other, just as J describes when using his hands, moving them along at the same distance apart and at the same angle. At the same time, reflecting on each of the music-making contexts (orchestra and classroom music) aren't, I would argue, necessarily going to lead to what J states he wants, to bring one into the other. Reflected waves, return, albeit in a different state, from the object (in this case the material, environmental, relational, musical, behavioural context of the music-making), back towards the sender / receiver. This is the same critique of reflective practices, where reflection does not necessarily lead to different or new.

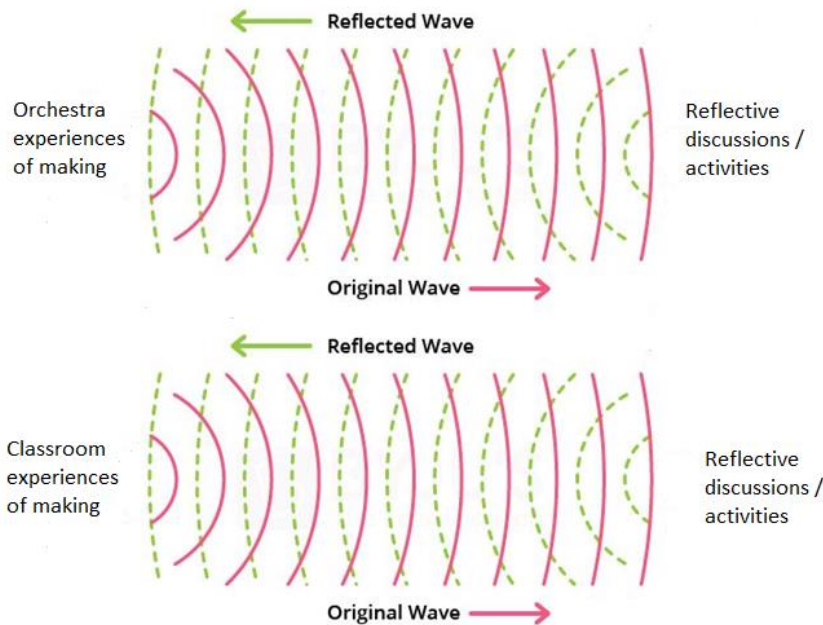
*Figure 4.6: Reflected waves*¹⁹



J's comments, and those by M and S about their similar separated experiences of music-making, make me think of parallel reflections, where each making experience is still seen as contained as illustrated in figure 4.9.

Figure 4.7: Reflected musical experiences of orchestra and classroom

¹⁹ Original image from <https://www.toppr.com/content/story/amp/conditions-for-hearing-echo-75712/>



Where J makes me consider differently is in his subsequent statement in which he says

“going back to this [touching picture of the orchestra]...I feel like I want to make it constantly like this in a classroom [CC:ok] because I want everybody playing [pause] and, I was going to say practicing, but practising musicianship skills as much as you can during the class...” (J initial conversation).

In this statement J prompts me to consider how his understandings of making in music are shaping his responses to the classroom. At this point in his course, J had experienced classroom music in one school, seeing the curriculum in action for a brief time as an observer. At this point, J’s statement suggests his desire to create a synergy between his dominant form of making music (in orchestras) and making in the classroom. However, he regards these two spaces (orchestra and classroom) as far apart (as indicated by his hands), where classroom music is shown as lower. He doesn’t express whether this is an indication that he feels it is less good, less real, less knowledgeable than orchestral making experiences but this is implied through his desire to transfer that type of musicing into the classroom; *“I want to make it constantly like this in a classroom”* (J initial conversation). This isn’t necessarily a wrong or negative aim. J’s enthusiasm and energy as he spoke passionately about the emotional and experiential aspects of his involvement in orchestral playing make a more than reasonable case as to why he wants to make classrooms like what he has undergone. However, it made me consider the types of experiences in Music ITE that we use to disrupt and then diffract these different experiences of making, in different contexts, genres and traditions. What sort

of experiences frame different types of making not as separated or merely transferred but together as a site of creative difference making?

Spaces

The container metaphor and parallel making is enabled and framed by comments made by the research group about spaces. In considering their comments I have read them with Massey (2005), who distinguishes between space as the dimensions in which we live and place which is a specific location or destination. Within this she defines space as “a practiced place” which involves “the sphere of relations, negotiations, practices of engagement, power in all its forms” (Massey 2005:99). Massey’s definition is interesting within a music education context as the term “practiced place” resonates not only with her argument about the intra-actions of people, materials and environments, but also with music making where the word ‘practiced’ holds assumptions and associations. A practiced place indicates learnt ways of being in the space, behaviours that are considered valued and valuable for that practice and something that is reiterated and constantly reconfirmed through practicing.

What is interesting in the conversations with the research group is just how the interactions between space and place come through in describing and exploring their music education. Their comments, along with reflections on my own experiences of music education, are brought together to explore our lived experiences of music education spaces in school.

Figures 4.8 and 4.9: Music spaces in schools: classrooms and practice rooms²⁰



J: “I struggle to remember what we did in each class, but I can remember... like a performing period, I would go into a practice room”

M: “[facial expression] hum [look - laugh], if you already played an instrument, that’s what you went to do [long pause] [CC: where, went where?] ridiculous, in cla, in separate practice rooms on your own, erm, you were expected to join as many clubs as you could”

²⁰ Images from <https://www.flickr.com/photos/uncle-leo/4602105600>

Research notes March 2016: The memory of the magical feeling when you were told you could go off by yourself. You had the skills, the tools, the self-motivation to be left alone all lesson. It was a moment of trust, of feeling grown up, of feeling special. Walking to collect your instrument, a stand, finding the right chair. But turning your back on all your friends, not knowing what they would be doing, and whether in fact that would be more fun.



Thinking with Doreen Massey's writings on space is to re-see this commonly experienced scenario²¹ in a new way. If "a practiced place" involves "the sphere of relations, negotiations, practices of engagement, power in all its forms" (Massey 2005:99), then what does being isolated in a practice room say back to pupils (and future music teachers) about music education in schools and musical learning? What are the 'practiced' relations, negotiations, engagements and powers that develop in a practice room? This reminded me of some of the remarks made by the research group about their perceptions of music in school and their 'practiced' experiences of being separate from the classroom. These comments, all of which arose during the initial conversation, are grouped around knowledge, solitude, making-with, being different.

²¹ On a particular school visit a child re-entered the music classroom with five minutes left of the lesson. The student teacher asked the pupil how she had been getting on, looking at the page of music she had in her hand. In discussion afterwards it became apparent that the child had gone directly to the practice room from the very start of the lesson to practice her piano pieces with no explicit link being made between the activities of the lesson and her solitary practice. This wasn't a particularly unusual example in my experience.

Knowledge:

(Voices of research group)

E “like you obviously had like when she was talking to the class and you were learning things, say your concepts or anything like that, and then you had the chance to go off”

G “our other music teacher who was really lovely, but she would tell you exactly what things are, but she wouldn’t put it in a context for you...like pointing out things and then you’re like ok, just looking in at it...”

J “because you know what you’re doing, so you can go and do it”

(My voice, diffractively playing with the groups comments)

A chance to go off, leaving the talking, learning ‘things’ and concepts in the classroom. ‘Practicing’ a space where there was a division between types of knowing, between declarative and praxial knowledges. You were kept in the classroom for particular types of knowing. Did you know what went on in the classroom when you weren’t there?

I find your comment about ‘just looking in at [knowledge]’ particularly interesting. Did the classroom feel like a window looking ‘at’ a world, where the practice room felt like being part of that world? It feels like there is an abstraction here, where musical knowledge is abstract and separated in time and space from ‘doing’.

So, had you already learnt ‘the knowledge’. Did this make you feel special and able to inhabit a different space to others?

Solitude:

E “it was nice to have that time to do your own thing”

E “there’s more pressure in a one-to-one lesson because it’s just you there...and if you’ve not worked on anything how can they take it any further in a way, whereas in a classroom it’s like that’s your time to work on things”

J “the people that are doing xylophones and pianos and that’s what [the teacher] would go and do”

G “that was me {looking at picture 1 in Appendix E} because I was just sat at a piano for so long for the last two years of school, I was just sitting bashing things out like, just trying to learn like, to get up to uni standard”

You enjoyed the feeling of space as having a distinct time. You mentioned it twice, hinting at the freedom it allowed you. I remember it well, the feeling that time in a practice room was elongated, where lessons felt much longer.

There’s no set agenda, set process to follow, no expectation as to what to produce (other than to be productive). It was ‘your time’. And yet, your comparison here is not between a classroom situation and being alone in a practice room but between your peripatetic lesson. Was the practice room an extension of your flute lesson rather than the classroom? Were your behaviours and ‘practiced’ relationships from beyond school music?

Your comment reminds me that this time in the practice room was not only time separated from the class and what they were working on, but also a separation from the teacher, materials, instruments.

Where E describes the release of pressure that having time alone created, you describe the pressure of having to reach a certain standard in a set timeframe. The picture of the pianist sat alone practicing brought back memories of the emotional response you had about the struggle to get to Grade 5 Piano for university entry requirements. You weren’t alone. M, E and R had also undergone an intensive period of focusing on improving their piano skills.

Making-with others:

E “so this one kind of jumps out at me because it represents the classroom and everyone working on different instruments [cc: so in which context does it relate to your experience of the classroom?] maybe just going back and helping [in the past few months]...I can see that is what the children are doing when I’m there”

E “but then what we are doing in [university] class with [the course leader] sometimes, like what they did at my, like in [the school I was observing in], they would get the kids together like that and they’d experiment and improvise and stuff and I was like oh my god what is this, this is so cool”

S “It’s the constructive, making stuff up, that I enjoy so going into schools now it’s a very different classroom to what I had...we are watching Bohemian Rhapsody...fine (rubs hands) ...comfortable with that”

M “I would end up being the one [at school] who was like ‘come on guys let’s do this’, being that kind of person, very inclusive, everyone doing everything yet don’t worry if you’re stuck we’ll just find, we’ll adapt it, just don’t tell the teacher we’ll just adapt it ourselves, just so long as you can play some of it”

The use of the words ‘I can see’ brings me back to the question as to how much time you have spent seeing (but also hearing and feeling) children working musically together in classroom situations. If your ‘practiced’ space of music education hasn’t been in a classroom of collaborative music making, but a space of isolated practice, have you ‘practiced’ the relationships, negotiations, engagements and powers involved in making-with?

You seem very enthused by your experiences of this so far, like it is somewhat of a revelation.

Whereas for you, the move to more collaborative music-making is less a revelation and more a feeling of being able to ‘fit’ as it plays to the way you like to make music.

You were one of the few to describe making-with others in your classroom days. I was particularly struck with your description, which you framed as taking the lead because of your musical skills, but which describes a very improvisatory, responsive way of being with others in making.

Hogan (1988), writes about the ‘bilocation’ of student teachers as they between schools and universities, where the lived experience of the student teacher is “often the natural outcome of a conflict of worldviews” (Hogan in Aldridge 2015:117). However, arguably such bilocation is a feature of these music students experiences of classroom music too, between the classroom and the practice rooms²². The classroom during lesson time, in terms of practical music making, was not their (or my) space, but one in which they cut in and out of. The effect of this is important to consider as it is likely that some student teachers have little in the way of lived experience of any significant whole class music making. For them, Lortie’s often cited “apprenticeship of observation” (Lortie 1975) in which, it is often argued²³, that student teachers rely on observations of teaching as a pupil to inform their view of teaching, would only apply to certain sections of the lesson (those relating perhaps more to declarative knowledge at the beginning and ends of lessons, or during exam preparation) or to certain phases of music education (namely primary).

However, Massey’s thinking about space (2005), when read with the research materials in this variation made me re-view my first responses, to make something different. unsettle and ‘stir up’ the materials (Haraway 2016). Instead of suppressing this different direction, I go with it. Massey describes her three propositions about space (Massey 2005:9) as;

“to recognise space as the product of interrelations; as constituted through interactions”;

If space is ‘made’, through interactions, then it is arguably not just about the physical space, the four walls, the door, the piano, the stand and the chair of the music room. Instead, space, according to Massey’s proposition is made by the way we interact, or the interrelations we have within the space. How we see, respond to and correspond with materials, people, sound shapes the space, and therefore shapes us. Therefore, the music education space in school is shaped and shapes us through the interactions we have, the relationships we have with materials, other people, places, experiences and musics. For the child sent off to a different place, the space of music education in the school is one in which some relationships are less accessible (playing the glockenspiels, building musical relationships with a variety of peers,

²² I recognise fully that this isn’t everyone’s experience of music education and that some musical learning approaches deliberately avoid this kind of separation through whole class or small group working.

²³ The notion that Lortie was arguing this particular point has been critiqued and established as false. Even though it continues to be cited. See op and Tyminski 2006.

participating in whole class performances), while other relationships are less accessible to their peers who stay in the class (having time alone with no observer, and a looser structure). What is in-the-making is a different relationship with the subject, with the space and therefore the behaviours that are enacted.

Variation B: Making-with hands (Troping)

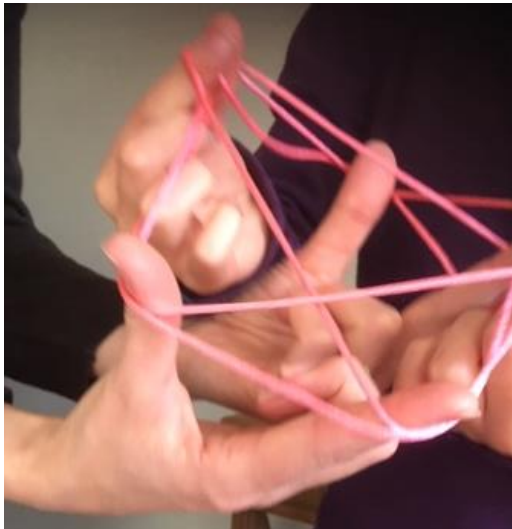
Troping: the adding of new material to a theme (in Medieval music, a plainchant) or part of a theme. In Medieval music, new materials were added either as melisma's (elaborate musical additions without texts), the addition of new texts to pre-existing music, or the addition of a new verse consisting of new music and text. In this variation, the theme of Hands arises directly from pictures used or taken from the research project along with my notes and my reading of Haraway (2016). This theme is then troped, adding new verses using new materials from literature, a radio programme about hands and my notes to create an elaborated version.

In Cat's Cradle "two pairs of hands are needed, and in each successive step, one is 'passive', offering the result of its previous operation, a strong entanglement, for the other to operate, only to become active again at the next step, when the other presents the new entanglement. But it can be said that each time the 'passive' pair is the one that holds, and is held by the entanglement, only to 'let it go' when the other one takes the relay (Stengers in Haraway 2016:34)... this is what I call cultivating response-ability; that is collective knowing and doing, an ecology of practices" (Haraway 2016:34).

In music and music education discussions of how music creates feeling, or how it makes you feel is not uncommon, but to discuss music's relationship with touch and consequently the role of hands in music education is more unusual. Yet hands are essential in the process of making-with, where they form the felt relationship between materials, bodies and environments. I came back to Haraway's description of Cat's Cradle after a summer re-learning how to play it with my daughter in which we constantly got tangled with and in each other's fingers and the thin piece of bright pink cord she had been given by a friend²⁴.

²⁴ The arrival of the pink cord from a friend was complete coincidence. It was only after playing it during the summer that I returned to Haraway's writing and understood the entanglement of life and PhD.

Figure 4.10: Playing Cat's Cradle



Thinking with these frustrations when writing this now, one of the trickiest aspects was as the 'holder' not being able to demonstrate with my own fingers what her next move could be to keep the game going. She needed to physically try different ways of pinching the cord, pulling and pushing through the spaces until she found a way to continue the game.

Verse 1

Figure 4.11: Children and keyboards

Research notes September 2018: Hands in separated spaces. There is a physical boundary on the keyboards dividing the playing area into two separate parts. The hands are controlled by the set-up of the materials. The instrument is experienced in a different way to that of a full-length keyboard.

H response workshop 2: *"All looking down at keys"*

A response workshop 2: *"I don't like it – constraint. Kids playing, learning keys...together"*



Figure 4.12: Guitar, table and singers

Research notes September 2018: Hands keeping still – folded, clasped, hanging. Discomfort. Singing is so different to other musicing, as not made with hands. In contrast, teacher's hands as making, doing, creating.



R response workshop 2: *“pupils don’t look very comfortable. Arms crossed”*

Trope 1

Touching is described as immediate, proximal, and bodily, and as such it has historically been undervalued. Sight, 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 (Barad 2012).

Thinking with Barad’s words, I look again at the images of the keyboard players and the singers. I had originally cropped these images to focus on what the hands were doing in each picture, but re-reading the comments made by the group with Barad’s words was to highlight the interconnection between sight and touch. Bringing the eyes into the pictures with the hands is to think about what is being seen and what is being felt, making me think about the role hands play in music education.

The two images, of keyboard players and singers, respectively show hands in motion and hands as still. And yet these two images and the responses made by the group and my own thinking with them is to consider touch in music education in very different ways.

In the image of the keyboard players, touch is controlled (by the keyboard divider which limits the range of their ‘bit’ of the instrument) but is also repetitive. It doesn’t matter where on the key you press, or how hard or soft, the instrument is designed to create an immediate result of a ‘pure’ note. The keyboard therefore isn’t developing a ‘feeling’ through touching the keys, as there is no difference in touch. Instead it is an aural, visual habit. H’s comment that they are all ‘looking down’ to play the keys (a word used by both H and A) remind me of the dominance of sight in this type of instrument playing, where touch, unless playing on

weighted keys, is about an immediacy of correctness. This sort of touch is not about feeling the resonances of the note, or how to adjust and improvise the pressure of the fingers to achieve a good clarity or tone but is of ensuring the finger hits the key accurately, avoiding hitting two at the same time. This sort of touching is about positioning, which is a visual, an 'I see' and then hear.

This is not only an issue for keyboard playing, but often makes its way into other forms of instrumental playing where sight and visual accuracy is promoted above 'feel' through touch, as discussed by Sennett in his description of Suzuki method Violin playing.

The Suzuki method...solves it [the problem of finding the 'right' pitch on a stringed instrument] instantly by taping thin plastic strips onto the fingerboard. The child violinist places a finger on a color strip to sound a note perfectly in tune...the hand motion is determined by a fixed destination for the fingertip...[which] inspires confidence...In principle, habit should have ingrained accuracy. One might imagine that the fingers would simply go down on the unmarked fingerboard exactly where the tape had been. In fact, habit of this mechanical sort fails – and for a physical reason...[it] has not sensitized the fingertip that actually presses down... Because the fingertip doesn't know the fingerboard, sour notes appear...A further complication ensues if the player looks at the fingerboard...the eye will find no answer (Sennett 2008:156)

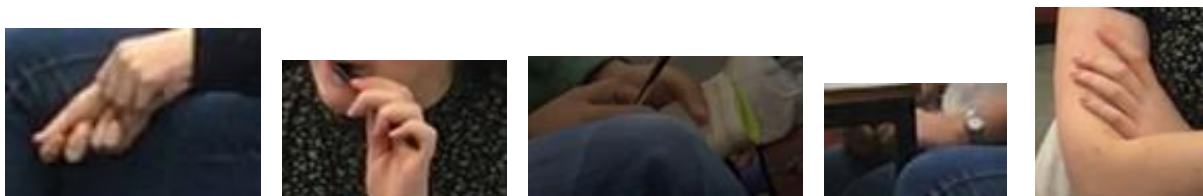
Sennett's argument, that eventually the player has to learn through touch, even if they have initially learned to look, makes me think back to the Cat's Cradle games in which I was the 'holder'. Eventually, I had to accept that I couldn't describe the next steps. Instead my daughter had to 'feel' what to do. With a third pair of hands I would have been able to guide her hands, but even having done this, she would still have had to go through the process of feeling it herself without the support. There was a learning process of feeling the motions, the touch, the pull of the string, in the same way that a strong player has to learn the feel of the instrument without the 'holder' of the taping.

In contrast, singing and the responses to the image of the young singers (figure 4.14) makes for a different perspective on hands in music education. Telling young singers what to do with their hands is often a necessary conversation. It feels odd to stand, hands loose and not engaged in something, unsure what their role is. Singing exposes ourselves (M *"I remember being scared of someone shouting at me for the instrument you naturally have"* Final conversation). It is intimately about us, and our bodies, in the space. R's response to the

image, explicitly linking the arm crossing of one of the girls and the feeling of discomfort, highlights the different role touch has here, as one of providing reassurance, protection or comfort. In a similar way to singing, asking the research group to participate in a verbal improvisation game ‘Yes, and...’ resulted in them feeling exposed and unsure in a way that wasn’t evident in the music improvisation activities.

Revisiting the video from workshop 2 of the ‘Yes, and...’ game it was evident that this tension was clearly observable in the hands as seen in the stretched, contorted positions, the shape of the knuckles and skin being taut, the fiddling with matter whether the post-its, or pens, or a piece of the playdough under the table, or in the pressure of the first finger onto the skin of the arm.

Figures 4.13: Tension in hands.



The image of the singing (figure 4.14) and the tension in the hands during the ‘Yes, and...’ game (figure 4.15) make me question what teachers’ do with their hands, how student teachers learn what to do with their hands, and whether we ‘feel’ as well as see and hear in the classroom.

Verse 2

Figures 4.14 and 4.15: Passing and reaching

Research notes March 2019: Hands passing creations from one to another, reaching, but separated.



Research notes March 2019: All reaching in and forward – hands together. Hands in proximity with materials, each other, table.



Trope 2

The common word I used in relationship with both of these pictures was 'reaching'. Thinking with this word I was reminded of Haraway's descriptions of tentacles as "probing creepers, swelling roots, reaching and climbing tendrilled ones" (Haraway 2016:31) and tentacularity as "about life lived along lines – and such a wealth of lines – not at points, not in spheres". Drawing on Ingold, she quotes "The inhabitants of the world, creatures of all kinds, human and non-human, are wayfarers"; generations are like "a series of interlaced trails" (Ingold in Haraway 2016:32). This is a reaching "towards that which is in-formation or transformation...altering us" (Manning 2007:85).

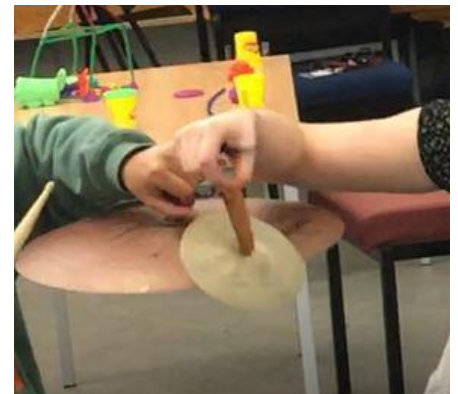
The pictures make me contrast the different experiences of reaching between the two groups. For one, the form at the point this picture was taken was established, the structure was there, and G was reaching to pass her part of the creation into the structure, via the keeper of the structure, S. She is still sat, the reaching involves her extending one arm (one line) from one place to another (one point to another). Here the arms, fingers and materials, are linked through the intention, the shared notion of what was in-formation and the task at hand was to make the intention 'work'.

The other picture, taken at an earlier stage in the process makes me think of tentacularity (Haraway 2016), the messiness of the arms, fingers, materials and tables all reaching in and amongst (a wealth of lines). There was no shared understanding at this point as to what was in-formation, instead, they were allowing play with the materials to alter and develop their ideas. As Manning describes, that "in touch is the ongoing unfolding of difference" (Manning 2007:9). Difference of ideas, difference of intentions, difference of following the materials.

There is a distinct difference between the pictures of what the hands are experiencing, a difference between hands as 'passing' 'holding' and hands as 'in' the material. Tenatularity asks for us to touch, as part of the materialdiscursivity, as part of the dialogue.

Verse 3

Figures 4.16 and 4.17: Coming together



Research notes January 2019: Hands coming together - hesitancy in getting to this point.

Trope 3

Transcorporeality: A 'touching encounter', a co-mingling in which "human and non-human matter composes" (Springgay 2019:59). The "entangled and touching relations between bodies, things and environments [which]...emerges from a sense of fleshy permeability eroding a human-centric understanding of the world (Alaimo in Springgay 2019:59).

The sequence of movement and sound from which these two still pictures are taken capture the slowing of time and the hesitant, awkward pauses which these two students took to explore the bringing together of their bodies, cymbals and therefore sounds. Relative to the messy and sometimes frantic creation of sounds that was going on around them, this sequence, which lasted for 8 seconds, was a highly charged but very slow sensorial moment. I didn't have a cymbal, my hands were not joining with theirs, but I felt their awkwardness, their slow incremental movements towards each other and experienced their facial reactions, as side by side they gradually moved closer to each other.

Co-mingling was not easy, or comfortable. Being entangled was a response, a material response. One born of proximity, environment, and matter. It was one of playful response-ability to the space they were in. The role of the hands was key in allowing this co-mingling

to occur, but they were hesitant. The hands were not completely willing. Wilson suggests there is “an essential reciprocity between action and identity, mediated by the hand” (Wilson 2013:15). Our hands are us, but they are also us in trans-formation. Feeling our way, albeit hesitantly on occasion, to a different way of being with the world.

Verse 4

Figure 4.18: Attaching legs



Pushing in the legs

Oh dear!

Trying again

Trope 4

In music, the ear works in concert with the fingertip to probe...the musician touches the string in different ways, hears a variety of effects, then searches for means to repeat and reproduce the tone he or she wants...Instead of the fingertip acting as a mere servant, this kind of touching moves backwards from sensation to procedure. The principle here is reasoning backwards from consequence to cause (Sennett 2008:156-157).

Sennett calls me to re-see these pictures of the hand. Instead of the hands as repeating the action (of pushing the legs into the playdough) because it had failed the first time, what Sennett asks me to see is the adjustments, the changes which would otherwise go unnoticed, that stops this being a repetition but instead a ‘reasoning backwards’. The fingers not as a servant to the brains command to put the legs back on, but as an essential element of thinking-in-making. This is being itinerant (Ingold 2013:307), a traveller, moving and adjusting with the materials in response to touch. It is no coincidence that both Sennett and Ingold use playing music as their exemplification of this notion of travelling. Ingold, talking as a cellist, talks of playing the same movements of the Bach solo cello suites, over and over again. However, he argues

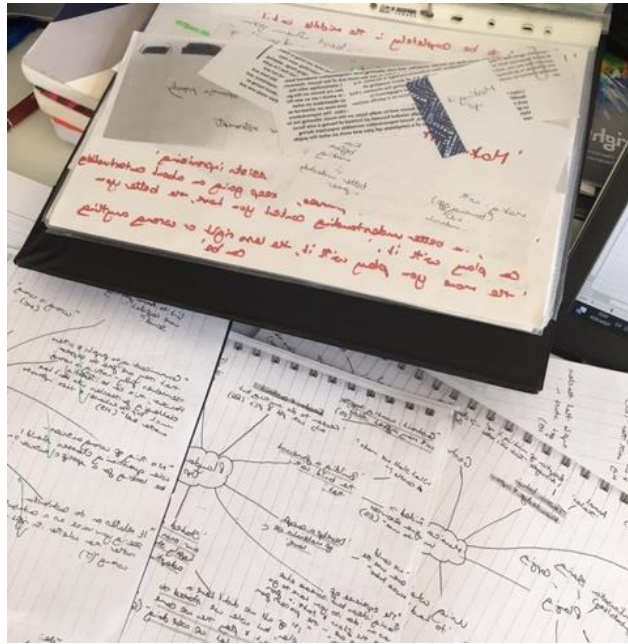
This is not like running off identical copies from a template, whether engraved in memory or on the score. It is not an iteration but an itineration (Deleuze and Guattari 2003:410). For in my consciousness and in my experience, the music lives on as an ever-flowing current. Each time I begin to play I am launched once more into the current, through which I have to feel my way – rather as a

boatman feels the stream – with no assurance of how things will turn out. It is, at every moment, a risky endeavour... I am, when I play, an itinerant, a wayfarer (Ingold 2013:307).

Wayfaring in making-with matter is felt, using the hand in concert with the other senses. However, wayfaring with matter isn't always about maintaining touch, but as Sennett argues, about release, "one can play rapidly and cleanly only by learning how to come off a piano key or how to release the finger on a string or on a valve" (Sennett 2008:152). It is about, as he argues, "dwell[ing] temporarily in mess-wrong moves, false starts, dead ends...[where] the probing craftsman does more than encounter mess; he or she creates it as a means of understanding working procedures" (Sennett 2008:160). P let go of the donkey as the legs pulled themselves away from the playdough body. In letting go, in releasing the matter, she "let go of the problem...in order to see better what it's about" (Sennett 2008:152). She surrendered her control, her grip, allowing the material to teach her. It is the backward relationship of touch and materials exerting themselves, that she considered the variation, the difference-making, and how to respond.

[An Interlude: Making research 'hands on'](#)

At the time that I started my PhD course, I was predominantly spending time at home with my then one-year old son. Reading and thinking with literature around the ideas of play, embodiment and improvisation were done alongside and in between playing with paint, water, playdough, teddies and books. I was constantly struck by how much I thought and felt during these moments of play which contributed to and became part of my writings but also how when we were playing together with materials they were constantly being reshaped, transformed, and dynamically mixed with other toys to create new games (much to my annoyance when trying to sort everything out afterwards!). However, this dynamic mixing together, seeing what emerges from unusual or unexpected combinations has become increasingly important to me as a way of coming to know my research materials and being response-able with them. This has meant writing out, cutting out, photocopying, arranging, re-arranging and mixing together segments of comments, literature, writing and drawings with images, radio programmes, music I have been listening to at the time, comments from my children or from peers. Keeping my hands busy has kept ideas in motion.



Of course, writing or typing this thesis has kept my hands busy in a different way, focused on words, meanings, structures and ideas. And yet, I continue to playfully mix the research materials, literature, images and now feedback on my writings, as I type. The theme and variation form allows me the spaces to be playful, to create and make different combinations, making my hands learn new ways of shaping and forming text in response. This is a different type of ‘hands on’, informed by the physical ‘hands on’ of the earlier phase, which continues to dynamically mix together and therefore see differently.

Variation C: Making-with listening (countermelody)

Countermelody: a secondary melody to be played simultaneously with a more prominent melody. It is distinct from a harmony part in that it can exist as a melody in its own right, and therefore is more elaborative than supportive of the main melody. In this variation, a countermelody is provided by Lipari 2010, whose ideas and arguments about listening are used as a countermelody to the descriptions of experiences of listening within workshop 1. While in a text form it is difficult to create simultaneous reading, the positioning of the texts and pictures encourage the reader to see and re-see the picture using both texts.

Making-with the music improvisation images of workshop 1 and Lipari’s paper ‘Listening, thinking, being’ (Lipari 2010) is to diffract what is a common term in music education where the term ‘listening’ has significant connotations with aesthetic listening and the associated activities of identification of abstracted musical concepts and sounds (e.g. triple time or a

Bassoon). The listener's role in aesthetic listening is "simply to contemplate the work, to try to understand it and to respond to it, but that she or he has nothing to contribute to its meaning" (Small in Spruce 2016:147). This perception of listening as being about receiving works with the notion of knowledge as being of the mind, where as argued by Bowman and Powell (2007) listening to music was and arguably is perceived as making "one smarter, more humane, more noble, and more balanced" where the act of making music "although essential to music's existence, [is of] secondary... importance to mindful perception" (Bowman and Powell 2007:1087). It is in this context that the music appreciation movement developed, creating as they saw it, the next generation of educated audiences who could attend concerts and understand what it was they were hearing. However, hearing is an interesting term.

Reading Lipari with the images of the music improvisation we underwent makes me question whether this is indeed listening or hearing (Lipari 2010), where, as argued by Lipari, the historical roots of these two words matter. Through her analysis of the etymology and modern-day definitions of these words, Lipari argues that "listening comes from a root that emphasizes attention and giving to another, while hearing comes from a root that emphasizes perception and sensation of sound" (Lipari 2010:349). For Lipari, listening is a two-way exchange a give and take, in which attention is not just perceiving, identifying and understanding the sensation of sound as separated from self, but is entwined with being. She states "when I'm listening, really listening as opposed to hearing or interpreting, I AM listening. That is, listening constitutes my being as an ontological experience. Listening is what I AM: Homo Audiens, listening being" (Lipari 2010:359).

Playing with my son when he was pre-verbal gave me a very different perspective on the nature of listening. This was a listening that was forced into a different space, a different way of being which confounded and exposed my previous story as to what listening involved. It couldn't be what Murris describes as "listen-as-usual" practices (Murris 2016:136) or which Kennedy describes as 'ventriloquism' (Kennedy in Murris 2016:105), in which we tend to hear what we expect or know beforehand what is being said, as there was no clearly formed, articulated words (as we understand them) on which to assume anything. Instead, listening was a fully sensitised experience, one that involved the full body, not just the ears. It was a listening of watching, seeing, feeling, hypothesising, material engagement and being pushed and pulled in different directions in quick succession. It was one which involved a suspension

of “the noise of inner discursive thought” (Lipari 2010:355) and instead required an emergent listening in which I suspended my assumptions and plans.

It is this which Lipari terms ‘listening-being’ in which

I come to the conversation empty—not empty of my experience or history—but empty of the belief that my experience or history defines the limits of possible meaning and experience. Thereby, in listening being I am being empty of possession and of all intentions other than the intention of engagement with you and of the what-will-happen. In this way, listening in dialog (sic) is improvisational, it is a make-it-up-as-we-go-along, a recognition of the boundaries of familiar frameworks, and the courage to risk vulnerability, and going beyond (Lipari 2010:355).

It is this particularly powerful quote of Lipari’s words which draws me to re-visit and then play with particular moments in the music improvisation activity in workshop 1. These were moments, and then images, of a listening which challenged intentions, made us vulnerable, pay attention at a heightened level and be ‘with’ each other in sound, material and body. Using Lipari’s words, descriptions of the moments and the images (wrapped together as close as possible) was to make me respond as a listening-being to these moments, going beyond initial stories and ideas about them, and finding different synergies.

Figure 4.19: Listening-with Guiro

“.... this mode of listening being is dangerous because it is otherwise. It resists certainty, closure, categorization” (Lipari 2010:359)



In this moment R was listening with her whole body to what was being played by others. She was physically bent forward, using her eyes as well as her ears to listen. She didn’t once look down to the Guiro, but held it close into her body, playing with the sounds others were making. This was a full

body improvisation, in-the-moment, to what was ongoing.

Figure 4.20: Radical listening

“Listening... involves an encounter with radical alterity that disrupts our everyday understandings and habits of thought” (Lipari 2010:350).

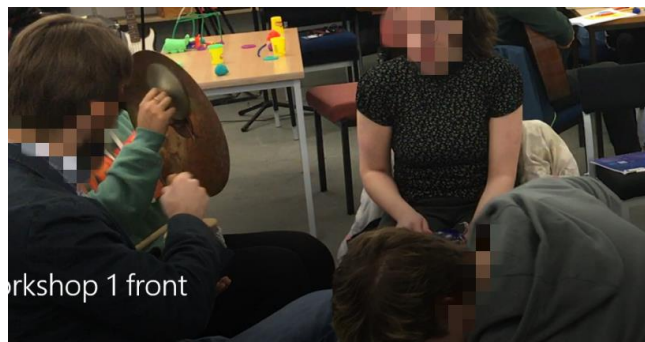


P’s use of the key on the cymbal disrupted expected norms about how to play the cymbal and her role in the group as course leader and therefore ‘expert’ in how to play these instruments. M’s reaction is interesting – a reaction to the sound created, but is

there a reaction through listening to the challenges being posed to what is expected? Listening to the cymbal being played with a beater is unlikely to have led to such a reaction. She turns her head as if disliking the sound, but her ear moves toward, not away from the source. Is this challenging her sight and her perceptions more than her ear

Figure 4.21: Gathered listening

“...to encounter this alterity is not to freeze us into some kind of subject/object relation. Rather, it is to let the “gathered” subject and object lie before us, as reference points, relative to a point of view, a position from which we take up in our engagements in the world” (Lipari 2010:350)



The instruments, the bodies, the musical interactions, the produced sounds and effects. What I ‘listened’ to as an observer (in the moment and on the video a few times after the event) was something completely

entangled, unable to be separated out, attributed, or assigned. Instead the music was gathered around, gathered to, and facilitated all to engage in its ongoingness. Improvising was the ‘gathering’ of instruments, bodies, musical interactions and sounds as one.

Figure 4.22: Listening as letting go

To stand with you, right next to you, and to belong to you, fully present to the ongoing expression of you. Letting go of my ideas about who you are, who I am, what 'should' be. I let all that go, and stay present, attending, aware (Lipari 2010:351).

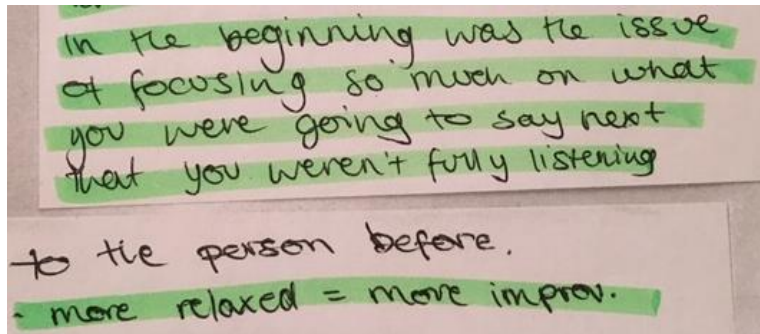


In this moment, listening reached across from one group to the other, with R and J physically leaning to see, but also to 'be with'. They became so attendant that they completely stopped playing themselves, a stray strummed chord on J's guitar a final attempt to stay actively making, but attention was so absorbing and present that it was a lone attempt. This could be considered as them stopping improvising and stopping making, but here the ceasing of playing, and the leaning could be read as a continuation of engagement, a continuation of the dialogue (through sound), a continuation of the making.

In the workshops we explored making improvisations in different ways (with instruments, playdough, language) but I am now aware that the sequences of musical improvisations we did together were the moments in which we were forced to listen with our whole selves, as listening-beings. Like playing with a pre-verbal toddler, making with percussive sound forced listening into a different space and different way of being. Without verbal dialogue, we weren't able to 'listen-as-usual', predicting where patterns of speech or ideas were going based on our own histories and experiences, but instead we were forced to listen with all our senses, responding without pre-defined intention of how the flow of the improvisation was to continue, not knowing how our response would be taken or not taken into the responses that followed.

The difference between improvising with sound and words was explicitly described by some of the group, with R noting that in the verbal improvisation game 'Yes and....' (see page 1) listening was subverted by the contribution of words she was trying to form at the same time.

Figure 4.23: R's reflections on verbal improvisation



R's final comment '*more relaxed = more improv.*' intrigues me. R's description of the processes in 'Yes, and...' highlight a different kind of listening to that the images of the music improvisation create. This listening is of set turn taking, planning what to say in advance, suggesting that in some respects it doesn't matter what went before. In 'Yes, and...' the vulnerability is different. It is a concern of being left without something to say, a concern of not leaving a long pause while thinking of a response. R's description suggests the result of this vulnerability is to not be fully present, not willing to as Lipari argues 'let go' (Lipari 2010:358). 'Yes, and...', in our brief game played into R's ways of being which protected her, using strategies to ensure she was capable.

This reminds me of playing a game of Scrabble yesterday. After each go, I make sure I have seven letters on my rack, ready and waiting for my next go. Often, I form a word while others take their turn, but often can't place it on the board once the person before me takes their turn. The question I constantly play with is whether to make a word I am happy with in advance knowing I face likely disappointment, or do I leave it, making myself vulnerable as it comes to my go, but being more open to being responsive to the board and its possibilities in that moment? While both strategies can work, often having a word blinds me to options that would give me a higher score, while improvising a response can make me more attentive to emerging options, more in the present. This is a material-listening, being responsive and open to listening to the potential that is emerging. It is not hearing, other than the click of the tiles

on the rack and the mutters of the other players, but it is a listening with the whole body to the experience as it develops.

Variation D: Making (with) matter (augmentation)

Augmentation: Literally meaning to increase in size or value, is used as a compositional technique to lengthen note values or intervals. In composition, augmenting note values effectively slows down the theme. Intervallic augmentation can make a theme sound significantly different than the original, almost unsettling it. In this variation, augmentation is used to slow down and unsettle ideas of making with matter. This is done in part by bringing together our experiences of making with instruments, making with playdough, and responses to material play with accounts of making in different spaces, and comments about material play in initial teacher education as explored by the group.

While the material play of workshops is most considered in reference to the playdough task and the musical improvisation moments, material play was already in process. The research workshops, taking place in that particular room, at that particular time, were joining in with the world (Ingold 2013) not creating something contained and separate from it.

The group entering the space, bring with them materials with which they are already in-play; the coffee cup, the scarf, the mobile phone, their clothes. They also are already in-play with the materials in the room, the chairs, the floor, the instruments, whiteboard, computer and desks. All these materials are part of their making-with. These materials in the space lead to particular assumptions as to what is expected to continue to be made-with. The coffee cups go on the floor, tucked carefully underneath chairs, bags and coats are pushed to the side, and pens are retrieved.

Here material play with some types of materials is suspended, paused, until a time when it can be re-engaged with (for example the instruments in the room), while other material engagements are prioritised; finding a seat, getting comfortable and getting a pen ready. These decisions are not only part of the story of the materials they brought with them into the space, but the space itself and the associations, histories and behaviours that they joined in with again as soon as they entered.

Figure 4.24: Material playing before we 'begin'



The pastries were not a deliberate strategy on my part, but in hindsight their presence made the space different. It changed the role of the paper pads a number of the group had got out of their bags. They had done this without prior discussion or indications of the need to write. This was a learnt response to the space they were in, in a Higher Education context, and a teaching space they were used to entering into. But the pastries turned these pads of paper into small tables, disrupting for a short time the idea of receiving information to write down.

Seeing the materials: prehension

The first time the students saw the playdough was when the tubs were removed from a plastic bag and carried to the tables set up behind their seats. The facial and physical reactions show the surprise, if not shock, that this material was present in the music education space. A's reaction caught here in the photograph as the playdough was carried past her reflected her enthusiasm and excitement while others were more hesitant.

Figure 4.25: Playdough moving



I introduced the playdough as contained, in pots, and carried from my bag, by me, to the tables I had set up - therefore my playdough!

A was really excited and immediately sat up and made an excitable noise - it was quite a moment (Research notes).

The body responds. There is a pre-engagement with the material thinking to come, responding to experiences, histories, and associations. Sennett talks of this readiness to touch

and engage as ‘prehension’, citing how the hand is ready to hold a cup, before making the slightest contact with its surface to judge weight, heat or surface. He states “Prehension signals alertness, engagement, and risk-taking all in the act of looking ahead” (Sennett 2008: 154). It is a grasping forward, a reaching towards making contact. A, responding was physical, emotional and forward looking to what was to come.

This contrasted with J’s account of working with his mentors in his two different school placements, where he commented that

“you can’t fully improvise and make your own decisions both in the moment and in preparation towards the moment, if that [ability] is taken away from you...those decisions were taken away from me...I was prohibited in [improvising] at [placement school 1]. I was given every space of that at [placement school 2]” (J final conversation).

I was really interested in the perceived differences J described, thinking with them in relation to Sennett’s use of the term prehension. It made me think of student teachers I had worked with in the past, where their whole bodies were ready to engage as ‘teacher’, shaping how they sat, where they placed themselves, how they handled resources. This was a form of prehension, an anticipated way of behaving in the body, that looked forward to the engagements they were to experience. Where J describes his placement school, it makes me imagine the body anticipating and alert, willing to try things and learn from them, but the suppression J felt when not allowed to physically follow this through. J described the result of this situation as *“I believed what I thought was right, but because of the self-doubt, because every aspect of it felt like it was going against what I believed, I was doubting myself – is that how it is? Is that not ok to have?”* J’s experiences led me to wondering if prehension, when not followed by personal encounters and making with materials, acted as a ‘block’²⁵ to ongoing material making and improvising.

Encountering the materials

I was in the audience for a keynote speech giving by Evelyn Glennie at the International Society of Music Education conference in Glasgow 2017 in which she described her very first

²⁵ A block in improvisation is the opposite to accepting an offer. Instead of the offer being accepted (yes), and then made with to continue the improvisation (and), a block stops the improvisation from moving forward (Johnstone 1979). The words ‘no’ and ‘but’ are associated with strongly blocking and redirecting an improvisation.

percussion lesson. I can't quite bring to mind her exact words but she held the audience completely captivated as she explained how on seeing a snare drum for the first time she wasn't interested in hitting the skin, but instead she was fascinated by all the 'bling' (her word) of the surrounding metallic case. All she wanted to do was touch, feel, experiment with, understand and explore. She described how her teacher allowed her to take the drum home with her and she played with it, all of it, until her lesson the following week.

Evelyn Glennie's description of encountering the drum is one of proximity, of being-with, but also being without (Irwin and Donoghue 2012). Drawing on Rogoff's account of her approach to starting an art project, Irwin and Donoghue quote her stating

Being 'without'...isn't turning your back on, or denying, what you had at your disposal previously. It assumes that you had a model, to begin with...[but] you've now found yourself in a position where you're actively doing without the certitudes you have had, without as yet having produced a hard- and-fast subject or methodology to replace them. For myself, I'm finding the notion of 'with- out' a very productive one because it intimates process rather than method and alludes to a condition in which you might find yourself while doing work (Rogoff and Phelan 2001 in Irwin and Donoghue 2012:226).

Introducing playdough into the music education space and asking the student teachers to 'play with it' at a table in groups involved the student teachers being in close proximity to the materials, getting their hands on and in the playdough. But this was a material which was not recently familiar to most of them. They were experiencing, possibly unusually for that space, being-without. They likely had previous experience of encountering playdough, but not in this space, with these people, and there was no shared model or methodology at this stage, just process.

During the first few moments of their encounter, smell dominated discussions and actions with one group. For M this was explored before getting the dough out of the pot. Both M and A lifted the dough to their faces.

Figures 4.26 and 4.27: Smelling the dough



P: *Who was it who was talking about fushtee playdough yesterday? [A and M pull faces at this comment and tighten their shoulders]*

S: *Yeah me*

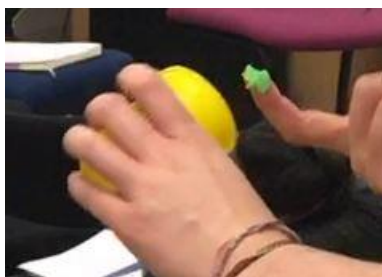
C: *what's that?*



S: *Basically, you get an old Brass instrument that hasn't been out of its case for thirty years, and it's never been cleaned, and you open its case and you get a fushtee playdough [smell]*

Some first encounters were tentative. The playdough was kept at the very tips of fingers or at distance from the body.

Figures 4.28 and 4.29: Fingers



Playdough doesn't stick to the body, remaining in touch, but is containable and separable (Research notes)



When this wasn't the case, when it got under fingernails, was a moment of discomfort and noticing, M: *I don't like it under my nails.*

Figure 4.30: Nails



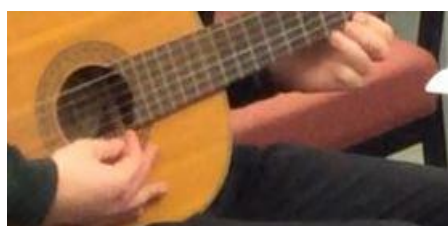
There was discussion about keeping it on the table, E: *I don't want any getting on my shoes.*

Although this sense of being-without was more striking with the playdough as it was an unusual material to introduce and something many of them hadn't experienced for a while, the moment of encounter with the musical instruments was also interesting.

Figures 4.31 and 4.32: Quick and quiet playing



Notes taken watching video: Taking a few seconds to explore, done so quickly others in the room may not have noticed, done in private with the material, done quietly and with reduced physical movements.



Research notes: "a purposeful purposelessness or a purposeless play. This play...is an affirmation of life—not an attempt to bring order out of chaos nor to suggest improvements in creation, but simply a way of waking up to the very life we're living..." (Cage in Hill 2018:59)

Encounter as a 'waking up' of the body, the senses and the materials, making them active together and response-able (Haraway 2016) to each other at this time, in this space, is a moment at which all involved in the encounter join in with each other. This is a different reading from the hylomorphic reading of making (Ingold 2009) where materials succumb to our imposed form and intentions. In these moments of encounter there is little in the way of form and intentions, instead, it is a site of purposeless play in which everything is in flux and as Deleuze and Guattari describe "matter-flow can only be followed" (Deleuze and Guattari 2003:451).

What emerges to me as I write this is how music student teachers encounter the materials of learning to teach. Where is their opportunity for purposeless play? How does the nature of the encounter say 'yes and' or block their explorations?

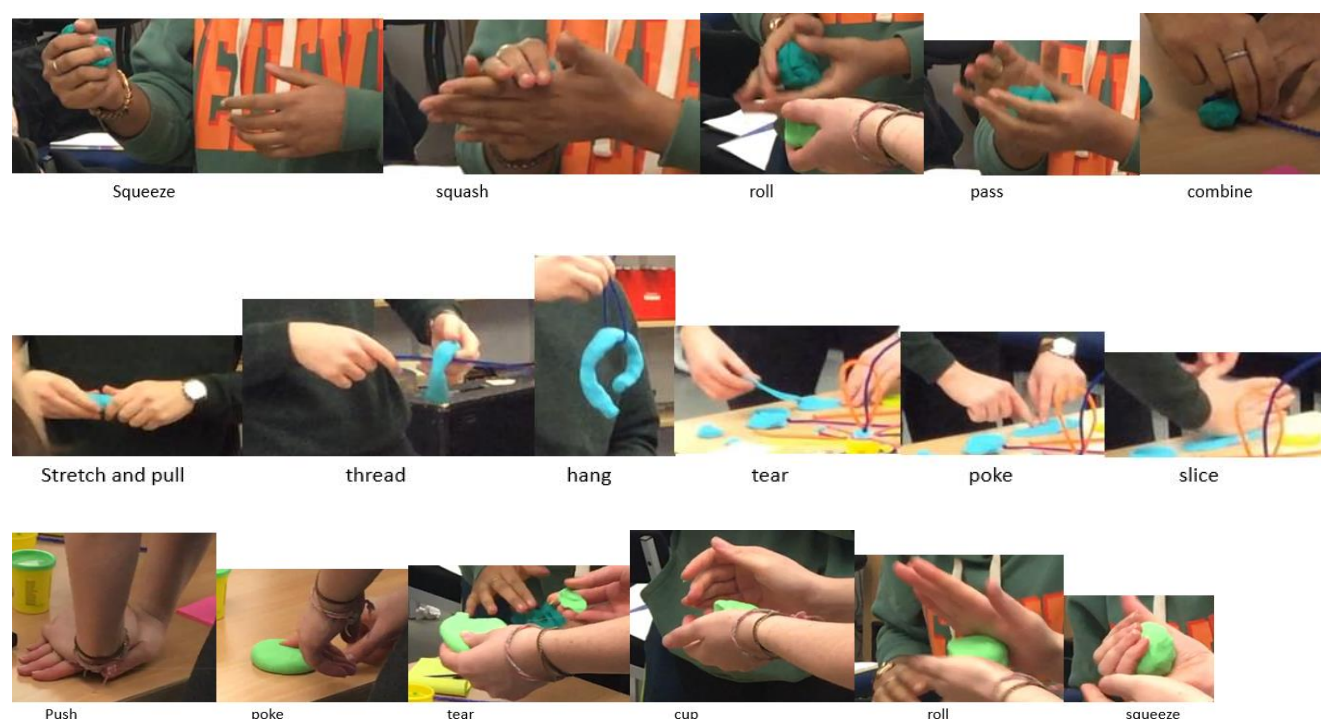
Research notes October 8th, 2018: I introduced my primary student teachers to some slides about the music curriculum today at the end of two hours of music and sound making. I 'debunked' some of the language, I explored some critiques, I had shown them how they could incorporate sound activities into other areas of the curriculum and yet one comment right at the end floored me. One

student said, 'thanks that's really helpful as I now understand how to get some of the curriculum 'ticked off'. The day before I had been writing about the idea of the dancing curriculum (Doll in Fenwick et al. 2011)- dancing to ticks - is that what we do?

Exploring potentiality

While the moments of encounter were of interest, what followed has also become a site of making for me. After the initial encounters, there was then a period of just under three minutes where the groups felt the materials, played with them, explored their properties. During this time the intra-actions were more flowing, but also often repetitive. The groups were talking and laughing with each other while the hands were busy, with no plan yet articulated as to what they were going to do with the playdough. This was unthinking playfulness as captured in sequences of images from A, J and M;

Figures 4.33-4.35: A, J and M exploring the potentiality of playdough



I am interested in the rhythm of the movements of potentiality. These are not merely repetitions creating a pulse, although a pulse is there, but are rhythms, changing and

responding with the playing. Springgay (2016) notes this distinction, with reference to Deleuze and Guattari (1987) in stating that “Rhythm is variation, characterized by speeds and rests. Rhythm is a differential patterning that emerges through the relations between things...rhythm depends on novelty and is therefore concerned with potentiality, immanence and newness” (Springgay 2016:74).

This rhythmic communication isn’t contained within the human but is *between* the materials

Research notes as I watched the video:

Rolling, squashing, making a ball, making a sausage, flattening out, rolling again...

Careful and slow, quick and rhythmic...

Whole hand or just the tips of fingers...

Smell, feeling, laughing, talking ...

Comfortable, uncomfortable...

and bodies. It is not a mechanical, metronomic iteration but is a rhythmic itineration (Ingold 2009:98) in which there are constant adjustments and variations of all bodies (human and material), where different and differing relationships are explored. Will the playdough break as expected, will the hands and playdough work together to create a smoother surface, does the table stick to the playdough changing it as it is pulled upwards?

Research notes: *At first, seeing this as him exploring the materials for their potential, their affordances. Re-seeing this as the way in which the materials allow him to play, responding to his hand shapes, the pressures and pulls that he applies. Seeing the physical responses he makes to the shapes and weights, that the materials make and the role of the contact between surfaces (skin, playdough, table, pipe-cleaner). A bit begins to drop, he moves to catch it. The weight of the playdough makes the pipe cleaner swing forward, he adjusts the position of his arm and the pipe cleaner to re-balance it.*

This reciprocal, ever adjusting and changing relationship between materials and bodies is what Keller (2001) describes as a ‘playing out’ phase, involving “A comprehensive and heterogenous body of recollections, anticipations, image, plans, criteria, resources, techniques and significances are reciprocally coordinated” (Keller 2001:38). What was of note in the workshop was this phase of exploring potentiality was significantly different in the music improvisation activity. In this activity the explorations weren’t kept close to the

individual who was exploring (like the playdough was kept close to the person making with it), but instead explorations were immediately collective, social and relationally entangled. 'Playing out' in the music improvisation is a literal description, in which playing out produced sounds which were immediately released and impacted on the responses of those nearby.

Figure 4.36: E and R 'playing out' in workshop 2



These stills are taken from only 23 seconds of video. E's initial exploration of the drum was done while R was still getting her instrument and sitting down. Within seconds of her sitting and hearing E's initial playing, R reached over and joined in and then they played a call and response rhythm together. The move here from E playing out seemingly alone with her instrument, to becoming entangled with other sounds, materials and bodies was distinctly different from the playdough. Here the qualities of sound as a dynamic material that reaches and pushes out, allowed potentiality to be explored more collectively. The material qualities of sound asked for us to join in with the world (Ingold 2013) being created, as seen in a sequence that happened immediately after the above intra-actions.

Figure 4.37-4.40: Sounds as inviting us to 'join in with the world'



Playing a rhythm, asking a question both with the sound but also with his facial expression. Direct eye contact, a quizzical look, asking for our attention (Research notes).



The question asks for a response, to which E and R join in to provide. The response is not to 'finish' but to continue with the question (Research notes).



The sound qualities of the question reach across the room and realising this J turns to invite others to join in too (Research notes).



The responses to the question has continued the intra-action, everyone has accepted the invitation and joined in (Research notes) .

These sequences of exploring potentiality through ‘playing out’ are not a contained phase, which once past is left aside, but continues to live in the bodies and materials that are entangled. As Korn states “When I am making furniture I think with things; when I am writing I think with words. Both methodologies are powerful tools. Likewise, both coffee table and manuscript embody questions I asked and answers at which I arrived during their creation” (Korn 2013:63). The notion of materials as ‘embodying’ the process is important here, where the physical playing with matter is essential in the understanding of what has been arrived at.

This is a very different conception of a relationship to materials than expressed by the research group in thinking about material skills.

Material skill

The skills debate (see p. 100) never was far from the act of making-with materials in our experiences. However, the debate doesn’t just exist in words but also in the actions of the group as we made-with the materials of the project. Considering these different forms of debate (verbal and then experiential) makes me aware of the different ways’ material skills are portrayed. How the stories of material skills are different when they are being made by hands or made in words.

The verbalised stories of skill which came in our conversations were of mastery over materials, where material skill is one of human control over inert materials and where lack of control is perceived as negative and makes you vulnerable:

P workshop 1: *"How do I get this out?" "I haven't touched playdough for like hundreds of years...do you have to rub it together to activate it?" "I need to get the technique...what's going on here?" "aagh – a bit fell off!" "oh god, I need help with my donkey...this is so difficult, one simple task...gee whizz, how bad am I at playdough donkey's, I haven't even put his ears on!"*

It was a story of banking techniques in order to be skilful:

P workshop 1: *"I need to get the technique...what's going on here?"*

It was also a story of linearity, in which skills were built step by step towards mastery:

M Initial conversation *"I think it's difficult and it's what I am worried about, I don't know everything about every musical instrument you have to teach in the classroom, I am trying, trying my hardest, to learn each instrument, because it's only fair that if they have to learn it I should be trying to keep a step ahead at least"*

In other conversations the story of skill was presented as preceding engagement:

J final conversation: *"to improvise you have to be able to prep, you have to have an excellent understanding of going into the solo to be able to do it, you have to know your skills"*

J's reference to having to 'know your skills' is an interesting part of the story, in which skills are discussed as knowledge units. Something containable, transferable and repeatable. This was also part of M's story of skills in which the verbal storying of skills is talked of as an epistemological matter, not an ontological one.

One voice whose story of skills differed a little from this narrative of human dominance, linearity, skills preceding engagement and skills as knowledge was H, whose verbal story about material skill development was of response-ability and improvisation:

H final conversation *"I think it's going to be quite hard in probation year because...I'll be using a lot of new materials, so I'll be winging it"*

H's comment wasn't necessarily an indication that she held a different story of skill from those aspects explored above, but rather that the notion of being in a very different context, using different materials than she was used to using led to a different story about her relationship with them. This relationship is not one of knowing or learning in advance, but a recognition

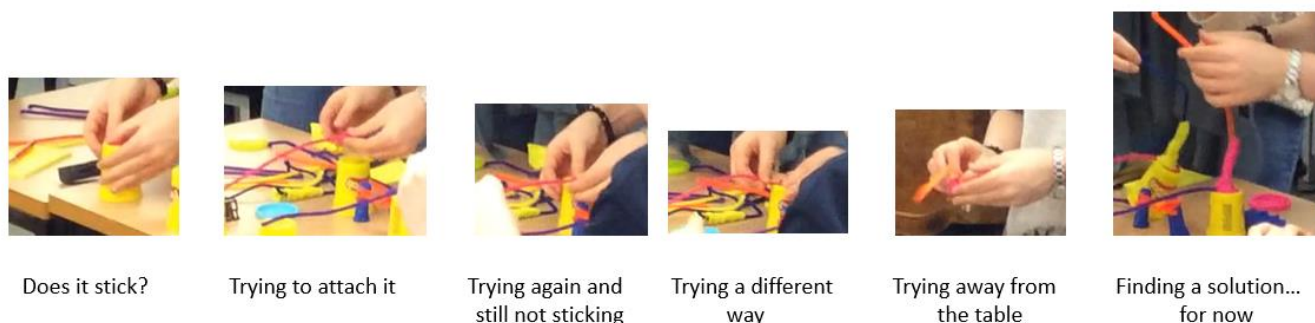
that as Korn argues “Over time he learns to read his material through its response to hand and tool” (Korn 2013:55).

Korn’s use of the expression reading materials through its response is in some sense problematic implying a ‘taking from’ the materials, reading what they say. However, shifting reading to playing changes the sentiment; “Over time he learns to [play] his materials through its response to hand and tool” moves us towards a very different story of skill, and one that was evident in our workshop experiences.

This story of material skill is one of response-ability in-the-moment to how the material is actively shaping the engagement. This isn’t to say prior experiences aren’t present, they are clearly evident in how the instrument is handled, adjusted, explored, but that material skill is not something that is learnt, mastered, banked, linearly progressed, or ticked off. It isn’t separated from exploring, playing, knowing, understanding or engaging, but is a response to this, of “thinking with things” (Korn 2013).

This thinking with things isn’t easily captured in an image or described with words, but E did hint at the beginnings of this story of material skill in her comment after the playdough activity in which she stated “*the playdough let me do some of my ideas but sometimes it didn’t and I changed what I was doing*” (E workshop 1). In her comment, but also most significantly in her actions (figures 4.43), E recognised the participation of the playdough in what she was able to do in response. While the spoken story of skills was often one of human dominance over materials, E’s comment made me aware of how much they felt (through touch and response) the power of the materials with them in making. Here the skill does not reside in the human and applied to the material, but is developed with, as a response. The skill implied in E’s comment was accepting and going with the playdough, adapting and changing in response to its character, much as an improviser adapts and changes their responses to the material, environmental, physical characters. As Ingold (2009) argues, “making is a matter of finding the grain of the world’s becoming and following its course” (Ingold 2009:91). It is skilful making, not only in the sense of developing and applying techniques or strategies, but of following what unfolds in order to keep moving.

Figure 4.41: E 'thinking with things'



This story of material skill is a story of messy, multi-directional learning and unlearning. E's prior skills with playdough or similar materials were an important part of the process. She had some initial ideas of how to proceed and what the materials might be capable of. She had some experience of the touch and feel of the material and how to move her hands. And yet she remained response-able to what the playdough allowed and didn't allow on this occasion, in this place, at this time, allowed her to 'stay with' (Haraway 2016) and 'join in with' (Barad 2012) the materials. This is not to downplay the idea that to learn an instrument requires significant, repetitive, physical learning. Learning how to play double stopped octave scales for my collage exams required me to practice for hours, learning how to extend and adjust my fingers and bow hold to accurately achieve the pure octave sound (if I ever did really achieve that). But repetitive practice of specific skills is not to separate them from all that is going on, to isolate them. Ingold argues instead that keeping moving forward often involves travelling "the same ground over and over again" (Ingold 2013:307). The difference is that this repetition is not to "copy or imitate exemplars" (ibid) but that each repetition is itself a creative joining in with, in which the form (in this case double stopped octave scales) are aligned with the world through "movement which must be felt" (Ingold 2013:308). Therefore, each skill is adjusted, adapted, responsive to what is felt in-the-moment.

It is interesting that there is a distinction between the verbalised story of skills expressed by the group and their experiences of it in practice. While the story of skills as separate containable and knowable units is possibly a useful construct in identifying, observing, teaching and describing practical making, as a story it sets up a humanist perspective (of skills existing in humans and controlling materials) and downplays response-ability and being

vulnerable to joining in with what is made. As Snaza et al. (2014) argue, re-seeing skills in this way, is a critical issue in a sustainable education system where

When education is reduced to the stockpiling of facts and abstracted exercises in “basic skills,” we fail to foreground one of the most important reasons to educate the young in the first place: our world is plagued (or animated!) by innumerable problems for which we do not yet have answers (Snaza et al. 2014:45).

Legitimation to make-with the materials.

Figure 4.42: J “Can it be a Guitar?”



J’s question, coming at the beginning of the music improvisation activity in workshop 1, threw me. I had asked everyone to get an instrument gesturing towards the percussion instruments at the side of the room. The question made me uncomfortable and for a moment I wasn’t sure how to respond. Having said “yes”, the question has continued to play in the project, making with the idea of legitimation to use, touch, and play with materials.

It could be argued that the question contained a set of assumptions. I don’t know whether these were the assumptions J was making but these questions have opened up the issues of legitimation for me. Firstly, I wondered whether J saw the materials in the room as belonging to me or anyone who is teaching in the space. As the space we were in was the groups usual teaching space, established behaviours were evident in some of their responses²⁶. Secondly, the question made me consider that J thought I had an exact plan for the instruments, the roles they would play in the forthcoming activity and how they would be used. This wouldn’t be unreasonable, as in many music education situations there would need to be careful assigning of types of instruments (e.g. needing a bass instrument, melody instrument and chord instrument) for a specific genre or piece. J didn’t know me well and maybe didn’t know

²⁶ When the group entered, four of the group immediately got out pens and notepads to write down information.

whether to trust my looseness of instruction to get an instrument without further specification. Thirdly, I consider whether the question is about not wanting to get something 'wrong', where the power play between perceived teacher and student is one of expert / novice. In thinking back to the moment J asked his question, this is the aspect which I think made me feel uncomfortable at the time, as it brought home to me the difficulties in overcoming the set power relationships and their influence on the making situation.

In this case J's question led to a confirmation that he could go ahead, but the idea of legitimisation and the questions that it raised played out in other ways both in the physical making-with materials that we underwent (G workshop 1: *"so do we have to use all the playdough?"*) but also in the stories of making music that the group shared. Most striking was a discussion with E in the initial conversation about her time as a pupil spent playing in the music department at lunchtimes:

E initial conversation: *"Sometimes it was just a case of some of the guys were playing their pieces for their exam on the guitar and I would just play drums along with them, and just things like that, but I didn't do any drums, I just knew one beat but just jamming away"*

The contradiction in this statement *'I would just play drums'* but *'I didn't do any drums'* is stark, implying a separation of the term 'play' as making, and 'do' as having formally learnt or studied. Harking back to the skills discussion above, in which verbal stories around having skills before joining in are not uncommon (see P comments page 45 and J comments page 46), there is a legitimisation issue suggested by E that you are not really, authentically, skilfully 'doing' without having been taught and identified as someone who 'does' that instrument.

This starkness of distinction is further emphasized by the use of the word 'just' throughout E's comment, and the linking of not doing drums and the idea of jamming. Jamming, an informal term for improvising with other musicians, combined with the word 'just' makes me consider the existence of hierarchies of being able to join in with in music. Where 'just jamming' is maybe considered a less advanced form of joining in than 'accompanying'. Such hierarchical views of joining in are significantly based on the level of formal education received on the instrument, ability and skill level in realising music. For E, this hierarchy is evident in her story of playing drums with her friends, not only as a comment on her perceived skill and the musical quality of what they were engaged in, but as a comment on her legitimisation to be a drummer.

E's comment makes me consider how issues of legitimation to touch, to play, to explore are fundamentally issues of legitimation to make-with.

Response-ability to being lost and found

Gershon and Ben-Horin (2009) in their paper '*Deepening Inquiry: What Processes of Making Music Can Teach Us about Creativity and Ontology for Inquiry Based Science Education*' explore the potential of musical approaches to inquiry which may have implications for other forms of inquiry. What they claim to have found is that

processes of making music helped to foster an important and paradoxical-seeming aspect of inquiry, the liminal moment of simultaneously being lost in process and completely present in that moment (Gershon and Ben-Horin 2009:3).

It is this notion which they go on to describe as the process of being lost and found which plays with my understanding of Haraway's term "response-ability" (Haraway 2016:34) and its role in "staying with the trouble" (Haraway 2016:12). For her,

Relays, string figures, passing patterns back and forth, giving and receiving, patterning, holding the unasked-for pattern in one's hands, response-ability; that is core to what I mean by staying in trouble in serious multispecies worlds. Becoming-with, not becoming, is the name of the game.... [where] Ontologically heterogeneous partners become who and what they are in relational material-semiotic worlding (Haraway 2016:12).

There is a detectable difference between Haraway's position and that of Gershon and Ben-Horin, where to be able to "lose oneself in the moment" (Gershon and Ben-Horin 2009:6) suggests on first reading a shift away from thought or thoughtful action into the purely present. This suggests something different from the term 'response-able' which implies and ability to be responsive and therefore receptive to all and everything. However, Gershon and Ben-Horin go on to describe that is the position of being lost and found in the same moment, simultaneously, which relies on the "ability to be completely present in the process" (2009:8).

This presence is not just a wallowing in the moment, but a response-ability and becoming-with the world (bodies, materials, ideas) which creates a forward momentum. For Ingold this is the difference between abductive processes of creativity which he describes as "recover[ing] a chain of connections, from an end-point to a starting-point, on a route already

travelled" (Ingold 2007:3) and improvising which "follow[s] the ways of the world as they open up" (ibid).

G "It could be something I'm just not sure what"

"It could be a wall...or could it turn into a dragon?"

J "do you want me to put that in there? Will we have a living room?"

G "I don't mind" (Workshop 1 transcript)

G had been leading her group throughout the playdough activity, deciding on a castle theme, suggesting the wall construction and suggesting roles for the group. So far, the exchanges had been more abductive than improvisatory. However, in this exchange with J, G significantly changed her positioning from her previous actions. This was a shift in power. Johnson (1979) describes such shifts in improvisation as involving the see-saw principle; I go up, others go down or I go down and others go up (Johnstone 1979:38). Johnstone argues that even if you are high status (as a teacher might be) you can act low status and raise others by identifying with them, or "sitting on their end of the see saw" (ibid), much akin to Taguchi's arguments about being minoritarian (see p. 44).

G's comments to J about the playdough expanded and elaborated Johnstone's idea. Here G had lowered her status from leader and visionary of what they were all trying to create, to something lower. In this one statement she opened up the process to others taking a higher status. However, G's comments also made me wonder about the see-saw principle in relation to materials. There is a small hint in G's comments that she is in fact raising the status of the material, recognising she doesn't yet know what it'll become, in relation with her and the group. This was arguably a moment of being lost and found with the playdough, open to becoming-with it rather than imposing on it. This was the only such sequence that made me conscious of material status being raised, but arguably this was much more akin to the musical improvisation activities which weren't verbalised. Gershon and Ben-Horin argue this point stating that

Processes of music making are well suited for experiencing this lost/found paradox because they, like all arts, are simultaneously critical and creative in their process

yet, unlike some other art forms, are also immediately explicit—one can hear the sounds one makes (Gershon and Ben-Horin 2009:6).

Figures 4.43 and 4.44: Lost and found in the music in workshop 2



It strikes me watching the video of this improvisation activity and playing with these still images, that while music may be particularly suited to the experience of being lost and found, that music improvisation is even more so. In this short 5 second sequence the materials are leading what is being created. Both M and S change how they are playing their materials (the guitar on S's lap and the water bottle M is holding), and what they are playing (S changes to playing the table and a drum to his side) as a critical and creative response. They are lost in the moment of the piece being created, absorbed and intensely involved. They are lost in the process, not knowing where they are heading and making changes and decisions in-the-moment of playing without explicitly negotiating this with the group. Instead, the group follow the changes to sounds that are made, and therefore they are found, as they are completely present in the moment, reaching forward for something and thoroughly

entangled in the sounds, relationships and becoming-with the experience. This is a sensing of music as a material process which Springgay, citing Katve-Kaisa Kontturi (2014), argues “necessitates giving up the comfort of positioning, the reliance on preconditioned knowledge and a pre-chosen political viewpoint. In a word, it designates giving up a mastering, molar attitude” (Springgay 2016:76). It is this changing in positioning (sitting on a different end of the see-saw) which Gershon and Ben-Horin conclude takes us beyond playing an instrument, in a technical and skilful way, “to a much deeper understanding of the meanings, abstract and others, of what she is playing, of how her mind, emotion, anatomy are collaborating to produce this sound, as well as of the creative processes that had to take place in order for the music she is reading to exist, and perhaps above all, the creativity of improvisation” (Gershon and Ben-Horin 2009:8). This is supported by Prevost’s writings (1995) on improvisation as emphasizing the complex relationship between the emergent sound structures and the on-going moulding of human relationships, when he states;

When we make music we pour ourselves not only into the materials but also into the social continuum that gives the work meaning. A poorly executed or naive performance which understands and projects the social dimension, is greatly preferable to spell-binding technical dexterity which diminishes and thereby harms social objectives (Prevost in Kanellopoulos 2007:107).

An Interlude: Playing with research materials

Regarding the materials of this project not as ‘data’ with all the connotations of fixity and meaning as contained within (see Ex-positioning) but as something to play with and find difference with changes the relationship between the researcher and materials. While I was conscious of the idea that this relationship was a playful, active one, what I hadn’t fully appreciated was the way the materials would exert themselves in the project. Doing different types of improvisation with the research group and reading around posthumanist views of matter have led (and continue to lead) to an appreciation of just how much matter matters, and a gradual reconceptualization of the role of matter as an “active participant in the world’s becoming” (Barad, 2007:136). This exertion of the material’s presence occurred because I was playing and playful, not dominating and controlling, but allowing myself to join in with and be open to where the materials led me.

This playing involved not only making-with the research materials in themselves, but making and re-making them in relationship with other materials (photos 8&9). Making-with the materials in relationship with different literatures, different materials from other parts of the project and my own experiences allows me to encounter the materials in different ways. Sorting, shifting, putting together, inserting something different, organising in lines, circles, piles or webs all involves a dynamic playfulness and a resistance to ‘fix’ meanings, in a process similar to what Ruck and Mannion (2019) call “messy situational mapping” (Ruck and Mannion 2019:12).



The experience of playing with the research materials is not that this is one-sided, where I play with them but they remain at a distance from me, but that in the process of making-with them, I am engaged in what Haraway calls “making kin” (Haraway 2016). It isn’t cyclical, inward looking, processing without purpose. Instead, making kin as Niccolini et al. (2018) describe is “an active and mobile process of encounter which acknowledges and responds to what is carried (the fraught histories, damages, traumas and inequalities) and the risky connections inherent in such work” (Niccolini et al. 2018:336). Haraway herself argues that critical to making kin are the words “resignified, repopulated, and reinhabited” (Haraway 2016:216-217), where making-with materials creates new ways of thinking, being and living.

Codetta: Making-with

This chapter explored making in response to the improvisation activities we engaged in as a group during the project and how we discussed it in conversations. While making is fundamental to music as a practical subject, exploring improvised making made me consider

making from a different and sometimes disruptive perspective, creating different narratives and ideas.

Variation A explored the somewhat surprising level of discussion about experiences of being separated (musically, in space, in knowing). Where posthumanism argues for an entanglement of relationships between materials, bodies and ideas (Haraway 2016), this variation raised questions about the experiences that music student teachers have of creative entanglements.

Variation B explored making with hands, making with the ideas of taping and untaping, reaching, co-mingling and wayfaring. These explorations elevate the role of touch and being 'hands on', raising questions for what activities we engage in in teacher education.

Variation C, making with listening, explores the differences between listening and hearing as defined by Lipari (2010). In making this distinction, listening takes on new meaning involving not only listening to sound, but of being attentive or listening to materials, bodies and environments. It is through this whole-body opening up and being with the world, which Lipari describes as 'listening-being', that questions arise as to in what circumstances is such attentiveness developed.

In Variation D, the role of material-play is considered, exploring how improvised making awakens all the senses to the potentiality of the materials and to our own vulnerability in going with, rather than asserting onto. It highlighted tensions between verbalised stories we give to making (particularly in this case around skill) and how we act, as well as how we feel about our relationships with materials (issues of legitimation to make-with).

Common to all of these variations was the theme of play and being playful with materials, whereby being playful was to act in ways with materials that we performative, minoritarian and difference making. This challenges stories of the role of making in education and music, focusing on response-ability to the material and joining-in a creative process rather than imposing on materials, and skilfully and correctly imitating models of making.

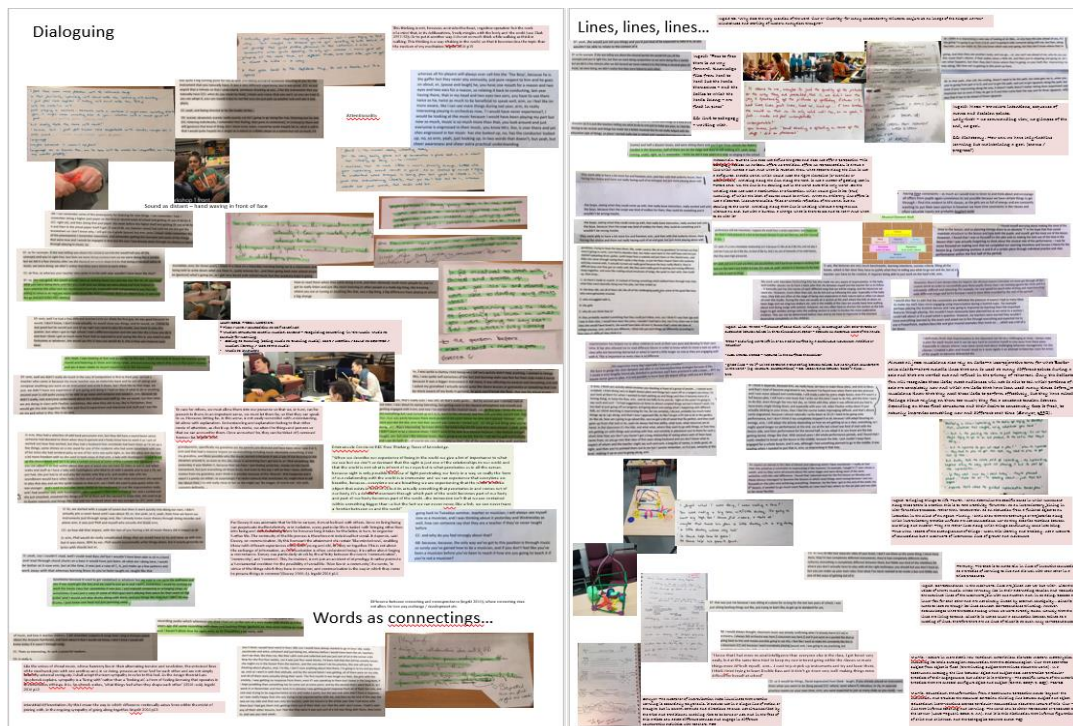
Becoming-with

A Note about the Composition of the Theme

This theme has undergone a number of different titles; dialoguing, words and music, soundings, meandering-with and being-with. This change in title reflects the difficulties of using text to express what is difficult to articulate, but what all of these ideas have had in common is a concern with the types of interactions and relationships that are at the core of initial music teacher education. Relationships, and creating different ways of relating to materials, bodies and environments, is at the heart of posthumanism. While different authors use different terms to describe and explain these relationships, Haraway's term becoming-with (Haraway 2016) accompanied by Ingold's notion of 'with-ness' (Ingold 2016) proved the most generative in thinking with the breadth of relationships which were explored by the research group. Central to explorations in this theme are the ways in which becoming-with, not only in words, but in musical sounds, gesture, senses, and materialdiscursive practices, generate different stories of knowing, relating, teaching and learning.

Statement of the Theme:

Figures 5.1 and 5.2: PowerPoint play spaces 'Dialoguing' and 'Lines'



To 'become' in initial teacher education conjures up ideas of becoming knowledgeable, becoming skilled, becoming a professional, becoming qualified, becoming an expert. Becoming is about change, transformation, and the socialisation of the individual, as a subject. Where Enlightenment views of epistemology are still present, becoming is discussed in terms of gaining cognitive knowledge, where learning, and knowing, and understanding lead to an individual's becoming. Even within current ITE practices separations between knowing, understanding and skills, and the individual in the process are explicitly visualised (e.g. in the ITE standards for qualification). However, looking at how the word 'become' was used by the research group in their conversations made me think of the complexities around the term and the way this becoming is storied through words and actions.

For some, the linear story of learning, knowing, understanding and then becoming something different than now was clear;

G initial conversation: *"I always wanted to become a music teacher... The last three years were frustrating but I'm really pleased to be getting on with becoming a music teacher now"*

S initial conversation: *"my trombone teacher was a big influence... when I said that I wanted to become a musician, he was like ok well lets change the way that erm, he taught, he was like well we're actually going to look at this in a lot greater detail and sort of future proof it a bit, so moved me from Euphonium to trombone, you'll get gigs with the trombone, you can do orchestras you can do jazz..."*

What I found so interesting in these statements was that G and S were already in the processes of becoming-musician and becoming-music teacher. G had done some peripatetic music teaching and S was already learning an instrument (and arguably everyone is already a musician). Arguably, S and G's descriptions of becoming could relate to specific qualifications, processes or goals, but their storying of the term is one of becoming as something in the future, something which is to be undertaken. This view of becoming is contrasted with a statement J made;

J email response: *"How has music performance become a tick box exercise?"*

Here, J talks of becoming as something which has already happened, music performance *has already* become a tick box exercise. In his statement, J raises becoming as a past process, where it has already become, and is now fixed or static. What is interesting is this becoming isn't to do with a person, someone becoming, but is focused on a material, the tick box

exercise. This material focus is reflected in the story M told of the dilemma in choosing which of her instruments to focus on in her application to higher education;

M initial conversation: *"I asked them both [Viola and Fiddle teachers] what should I do, asked them separately, they didn't know each other, and each of them said I see you as the instrument that I teach you, so you become this ins..., so my fiddle teacher was like 'you're a fiddle player, you are not a viola player, you're a fiddle player, I can't see you as a viola player', and it'll be flipped round and said on the other side"*

M's description *almost* included the phrase 'so you become this instrument' but she stopped herself. What I find so generative about M's statement is the description of her becoming with the instruments, but also the physical inhabiting (Ingold 2013) of the instrument in her body as she recalls her teacher saying, 'I can't see you as a Viola player'. Here the becoming is not only material, but in the body. Bringing this comment together with another comment M made towards the end of the project highlights a very contrasting view of becoming;

M final conversation: *"why are we trying to get all the kids to become the same? You're saying we have this curriculum... why are we trying to get the kids to leave school with the same knowledge? We have 30 individuals"*

This story of becoming is starkly different. Here knowing is central to becoming, where the perception is given that the same knowledge, mediated by the same curriculum processes leads to the same becoming. While undoubtedly there are significant counterarguments to M's position about how knowledge and curriculum processes can and do operate in schools, M's statement raises a more significant questions both for schools, but also for ITE.

How do we conceptualise student teacher becoming in ITE? What are the implications for how we think and talk about learning and knowing?

One author who's writing moves us towards the idea of learners as becoming is that of Biesta (2010), who writes of the balancing act between the tripartite aims of education; qualification (equipping students with what they need for future life or activities), socialisation (enabling students to become part of an existing set of practices or ideas, and creating an identity as part of this) and subjectification. While there is plenty of literature around developing the skills and knowledge in ITE (qualification) and the development of student teacher's identities and the tensions within this process (socialisation), there is significant less literature around the notion of subjectification. Subjectification is defined by Biesta as being the opposite of socialisation, in which it isn't "about the insertion of 'newcomer' into existing orders, but

about ways of being that hint at independence from such orders” (Biesta 2010:21) which focus on the qualities of being a subject, which he describes as often captured in “such notions as autonomy, independence, responsibility, criticality and the capacity of judgement” (Biesta 2015:85). Biesta’s term pushes us to consider the aim of ITE as more than the transfer of existing knowledge, or the student as ‘fitting in’ with existing practices. It pushes us to consider what and who the student teacher is becoming through not only their words, but their actions and their developing theories. While Biesta’s term offers a lot to move concepts of epistemology and pedagogy forward, the very term he uses, subjectification, poses a problem for posthumanist authors. The idea of subject(ification) – the becoming of an individual, as separated from and independent from others (human and non-human) is called into question by authors such as Barad, Taguchi, Haraway and Murriss.

Becoming to becoming-with

Taking the Quantum Physics of Neils Bohr as her starting point, Barad (2007) argues that all the world’s matter (human and non-human) is in a constant state of becoming. However, this constant becoming is not individual and bounded, but is a process in which we all mutually entangled, always intra-acting with everything we are entangled with (Barad 2007). It is these entangled becomings which inspired Haraway’s book *When Species Meet* (2013), focused on the notion that becoming is always becoming-with companions, whether human or non-human. The nature of these companion relationships are explored not as being *in* the world, where objects, matter and bodies are separated, but of being *with* the world, living and becoming-with in our intra-actions. As Haraway explains, “Becoming-with, not becoming, is the name of the game; becoming-with is how partners are...rendered capable...in relational material-semiotic worldings” where “companion species [both human and non-human] are relentlessly becoming-with” (Haraway 2016:12). This notion of becoming-with directly challenges the notion of dichotomies such as subject / object, human / non-human, I / other and theory / practice. Instead, as Taguchi argues, “the subject and object *emerge* through intra-actions...they co-exist and are in a state of becoming-with each other” (Taguchi 2010:87).

Taguchi describes the implications of this thinking stating

Everything around us affects everything else, which makes everything change and be in a continuous process of becoming...in these processes there is a central

element of unpredictability, creative and inventive change in the interconnections between different matter and organisms with different potentialities (Taguchi 2010:15).

This reframing of becoming-with changes how we see commonly discussed dichotomies and terminology around knowing and learning, theories and concepts, discourse, relationships and structures.

Becoming-with knowing and learning

As previously discussed, enlightenment views of knowledge as separate, fixed and transferable still loom large in educational systems (see p.28). Posthumanism directly challenges this view of knowledge. As Barad explains, “we don’t obtain knowledge by standing outside the world; we know because we are of the world. We are part of the world and its differential becoming” (Barad 2007:185). This repositions us in relationship *with* others. These relationships aren’t based on what Buber would describe as an ‘I-It’ relationship promoting “interpersonal relationships as causal and occurring between two objects” (Buber in Giles 2011:61). I-It relationships are based on the notion of causality, I do and you learn, in which each partner in the relationship is considered separated and different from each other. Instead, posthumanism frames relationships as co-constitutive, what Haraway calls companionships (Haraway 2016) and Ingold calls co-respondence (Ingold 2016). Both these terms, using Barad’s writing as inspiration, frame becoming-with as multi-directional, in entanglements of relationships with human and non-human bodies. It is, Taguchi argues, in the in-betweens of these entangled relationships and inseparable processes that knowledge emerges (Taguchi 2010). Emergent knowing which cannot be separated from becoming (Barad 2007), which forms the basis of Barad’s argument for onto-epistemology, as “the study of practices of knowing in being” (Barad 2007:185).

There are some significant challenges posed by such a position. Firstly, it is impossible to claim knowing as a human only practice. As Barad argues, this isn’t just because matter is used in our knowledge practices, but “because knowing is a matter of part of the world marking itself intelligible to another part” (Barad 2007:185). While recognising that knowledge is formed *with* the material, animal, environmental world, onto-epistemology also focuses our attention on the *processes* with which we know (Barad 2007), recognising that what we become can’t be considered separated from *how* we know. It also challenges

certainty of knowing, where we don't know what a child or student will become, they have unknown potential and this will be dependent on their own entangled relationships. The fourth and final challenge is the root of onto-epistemological pedagogies, such as Taguchi's intra-active pedagogy, where focus is on the in-between. This is an aspect developed by Ingold who citing Deleuze and Guattari states "A becoming is neither one nor two, not the relation of the two, it is the in-between" (Deleuze and Guattari in Ingold 2016:18). These two aspects together promote becoming-with as an open, undetermined, risky and attentive way of being. It is interesting to consider how infrequently these terms, and their ways of being are associated with teachers and teaching. It is in light of this open, creative, risky, attentive knowing-in-being, that Taguchi argues for a view of learning as an "evolutionary inventive" process (Taguchi 2010:92).

Becoming-with theories and concepts

In ITE the dichotomy between theory and practice is widely discussed, where the bi-location of ITE between the perception of theory-led university and practice-led school placements seems to conceptually widen the divide. As argued by Flores and Day (2006), many student teachers report feelings of "being lost" which they describe as arising from

both inner and practical tensions between the awareness of the 'pedagogical theories' learned at university (which emphasized issues such as constructivism and individualization) and the management of the complex and demanding reality of the classroom [which]... teachers referred to the gap between 'ideals' (as student and as student teachers) and the 'real world' of schools and classrooms (as teachers) (Flores and Day 2006:224-5).

This binary divide structures our thinking and doing where it is simplified to either / or, with a perceived gap in-between. In this world view, theories or concepts are taught as fixed representations, allowing practitioners to 'apply' them to 'real-world' contexts. As noted by Taguchi, teaching theories and concepts as representations is linked to another of Biesta's aims of education (Biesta 2006), socialisation. Murris explains the consequences of such socialisation into representations of theory when she states

we often socialise student teachers into speaking with a representative voice, that is, we socialise them into developmental or social constructivist learning theories, and when doing so (e.g. through particular kinds of assessments) it does not matter who speaks (Murris 2016:106).

This position is fundamentally challenged by posthumanist writers, where theories and concepts can no longer be perceived as separated and human-only endeavours. Instead, as argued by Barad, Taguchi and Murris, theories and concepts are material practices (Barad 2007, Taguchi 2010). Barad explains this argument stating

To theorise is not to leave the material world behind and enter the domain of pure ideas where the lofty space of the mind makes objective reflections possible. Theorising, like experimenting, is a material practice... [They are] dynamic practices of material engagements with the world (Barad 2007:54-55).

Following this argument, Taguchi expands to argue that the theory / practice, either / or binary is a false dichotomy, when practice is already an embodied enactment of theories and concepts (Taguchi 2010). This embodiment of theories and concepts is discussed by Taguchi as routines and habits, in which they become a state of “naturalness” (Taguchi 2010: 22). It is, he argues, in this embodied theory-practice that matter and meaning are so intertwined it becomes impossible to separate “what notions shaped our bodies and motions, or how the material preconditions of our bodies, architecture or organisation of practices shaped or our notion and beliefs” (Taguchi 2010:21-22). This is a significant challenge to the notion of teaching theories and concepts as static, fixed, transmitted content in ITE. Instead, theory and concept as material, embodied practices is to shift focus away from representations of what they tell us, to focus on *what they do*. To borrow and adapt a phrase from Barad (2007), this repositions theory and concepts as a “substance in its intra-active becoming – not a thing but a doing” (Barad 2007:210). It is this dynamic view of theory which Jackson and Mazzei (2013) play with in their article ‘Plugging One Text Into Another: Thinking With Theory in Qualitative Research’, in which they present concepts as “on the move” (ibid. 264), where their dynamism “intervene[s] in a process to diffract, rather than foreclose thought” which helps them to “extend a thinking at the limit” (Jackson and Mazzei 2013:264).

Becoming-with dialogue

Dialogic learning underpins much of ITE practices, where emphasis is placed on professional dialogue between human actors in the school and university context both in terms of spoken conversations but also through written tasks. The dominance of verbal exchanges and interactions in education is not a new phenomenon, but developments within UK education in previous decades arguably has promoted this view of learning even further. These developments arise from two places, which although interlinked and often confused as being

the same, have different underpinning views of the role words have in learning. The first of these developments has been the broad acceptance of sociocultural theories of learning based on Vygotsky's writings in which social interactions are promoted as fundamental to cognitive learning, where there is a process of internalising language. As White argues "Vygotsky's quest is categorically focused on shared understanding [where]...there is an end point...mastery of concepts...[which] is embedded in language, which is viewed as the central tool towards knowledge acquisition" (White 2014:229). As Murriss states, in ITE we often end up socialising our students into using the "common voice of the community...by asking them to reflect back or internalise... theories" (Murriss 2016:25). This view of voice, as becoming similar or the same is different from the second influence on the rise in the importance of language in education, dialogic teaching. While dialogue is a key feature of Vygotsky's sociocultural theories, dialogic teaching developed from a different set of theorists including being substantially influenced by the writings of Bakhtin (White 2014). More recently it has been promoted through writers such as Gröschner, Jähne and Klaß (2020) and Wegerif (2020). Where dialogue for sociocultural theorists was seen as a means to reach mutual understanding of an end point, dialogic teaching promotes verbal exchanges as provoking inquiry and exploration, through which no pre-planned end may be reached but in which the process of meaning-making together is valued (White 2014). It is this lineage of theorists which leads to Freire's notion of dialogic freedom, in which creating our own meanings through words is to liberate ourselves from dominant narratives and the oppression that results (Freire 1998).

Posthumanism shifts attention within dialogic relationships, seeing them both as involving words and humans, but also materials. As with the argument about theories and concepts as being materialised practices (Taguchi 2010), posthumanists also promote the view that discourse is framed, intra-acts with and is co-constituted with our material relationships. Barad therefore argues for a reframing of the term discursive, not only as relating to words and language where meaning resides in linguistic expression, but as materialdiscursive practices (Barad 2003). Framing discourse in this way, argues Barad, moves discourse away from being a "peculiarly human phenomena" (Barad 2003:818) rooted in representationalism, to "expand thinking around who can and should count as legitimate, credible and viable relational partners in dialogism" (Davies and Renshaw 2020:38).

Trausman-Matu (2020) discusses this posthumanist dialogue as a “polyphony of voices” both of humans, but also of matter. This retelling of dialogue, dialogism and discourse aligns with Snaza et al.’s (2014) call for an Object Orientated Ontology (OOO) in which “everything is an object and further, all objects are ‘ecologies’ of machinic relations. Humans, ticks, slime molds, and rocks are objects, capable of constituting unique ecological” (Snaza et al. 2014:47). However, repositioning matter as partners in dialogue is not the only challenge posthumans make, they also argue that materialdiscursive relationships act on what we can say by constraining or enabling our companionships (Barad 2003:819). This is a subtle but important difference, whereby materials, bodies, concepts, structures and environments, and most importantly the intra-actions between them, constrain and enable our ways of being and our ability to respond. This makes us pay attention to *how* materialdialogic relationships act, what they do in dialogue with us to constrain and enable.

Becoming-with structures

As is common across the UK ITE sector, the structures the research group were engaging with included the ITE professional standards, lesson planning forms, reflective lesson evaluation processes, and assignments. Lesson planning and the professional standards were particularly present in the discussions of this project, often raised and debated by the group. While there is increasing literature in the arena of teacher’s interpretations and consequent actions from policy (see Ball 2006), there is very little exploring student teachers and their relationship to policy-led structural processes (Leeferink et al. 2019 and Ceulemans et al.’s work, 2012, on professional standards being notable exceptions). However, Allsup calls the very word ‘structure’ into question, arguing that that the distinction between form and structure needs urgent unpacking. (Allsup 2016:91). He argues that the word structure promotes a view of highly controlled and controlling learning environments and activities, which in turn promotes particular forms of relationships, routinized behaviours and communications about who and what is ‘allowed’ (Allsup 2016:28-29). This argument reiterates the argument that materialdialogic relationships act as constraining and enabling partners.

What is particularly interesting about Allsup’s arguments is that by drawing on art, and therefore music as an example, Allsup demonstrates that works of art “allow for the interplay of overlapping codes and practices of meaning” therefore allowing “even the most highly structured form [to be] open on a basic level” (Allsup 2016:91). Allsup quotes Umberto Eco

stating, “A work of art is a complete and closed form in its uniqueness as a balanced organic whole, while at the same time constituting an open product on account of its susceptibility to countless different interpretations which do not impinge on its unadulterable specificity” (Allsup 2016:91). It is here, in this tension between closed structures and open forms that Allsup extends his argument to Music ITE, arguing that there is a professional mandate to follow stable patterns of actions and thoughts but to be a professional also requires us to ‘let go’, and be willing to question. As he argues,

University music-teacher-preparation programs may indeed value issues of creativity and teacher independence, but the structure of our institutions, the beliefs that animate our courses of study, and the forms we study bring to life ‘stable patterns of action’ more than ‘questioning’ and ‘letting go’ (Allsup 2016:55).

It is exactly this intra-action between structure and freedom, open and closed, stability and vulnerability which posthumanist authors seek to re-tell. As with theories, concepts and discourse, structures are considered a materialdiscursive practice, not a thing but a doing. This, however, is not a story of trying to break down structures, instead arguing it is these very structures which can create the “necessary conditions for the transformation of things, objects and subjects in the inevitable and ongoing events that constitute life and living” (Taguchi 2010:122-123). Taguchi re-sees structures in ITE as the “source of new becoming and change...where things become different in themselves, rather than in a determining and exclusionary way” (Taguchi 2010:122-123). Key to this view of structures, is not to see them as fixed and immovable, but as active and dynamic, where we understand our relationship with them as producing materialdiscursive entanglements, with which we can become-with in different configurations.

This view of structure is not one of closing down options and ways forward, but of opening up, allowing multiple responses. It is one of constant shifting between what is now, the actual, and what might be, the potentiality of the materialdialogic relationship as being generative, difference-making and full of unexplored potential. While Allsup argues that artistic structures, while closed and complete, offer openings through interpretation, Ingold quoting Klee, argues that “Form is the end, death” while “Form-giving is life” (Klee in Ingold 2009: 91). The difference here, argues Ingold is that form (or structure) is not something to replicate as a complete, finished object, idea or image but to “join with those very forces that bring form

into being” (Ingold 2009:91). For those working with posthumanist ideas with student teachers, this notion of form and structure as something to join in with, to become-with, is fundamental to their arguments. For Murris, who works with student teachers in a childhood studies course, collaborative diffractive journaling²⁷ acts as a challenge to existing forms of ITE documentation, where instead of recording or representing what had already happened, through reflection, the journals acted as “a printed, tangible material entity, as apparatus” (Murris 2016:39) which intra-acted with the students making and becoming, pushing outwards into new becomings. Taguchi, working with student teachers in pre-schools, and influenced by the pedagogical documentation of the Reggio approach, also views form and structure as not a process of representation, but as “putting in motion processes of learning and new becoming” (Taguchi 2010:63). For Taguchi, this means re-seeing documentation, and by association form and structures, for what they actively *do* and *perform* in relation to the pedagogical moment (Taguchi 2010:63).

This is a challenge to more static views of structure and form in ITE, instead arguing that form considered as form-giving, and therefore open to all the potentialities of what it may become-with in different entanglements. It becomes-different, becomes-creative, becomes-infinitely open.

An Interlude: Symp-ethical Becoming-with Research

As was explored in ex-positioning, the term symp-ethical brings together the dual aspects of ‘feeling together’ (which is the etymological root of ‘symp’ as in sympathy) and ethical responsibility. Such a re-seeing of ethics in a research project disrupts notions of human exceptionalism and consequential ethics, where ethical procedures are separated in time and space from action. Instead, symp-ethical action manifestly involves becoming-with, where “each and every encounter keeps the matter of ethics open” (Taylor and Hughes 2016:16). This changes ethics from being something procedural which is stated, shared with others, and then described in the thesis, to something which is both considered and emergent, both of

²⁷ Murris describes this diffractive journaling as a “an agential cut that maps ‘the’ history of the multitude of intra-actions as the educators travel the course, rather than just observing their learning from a distance (as in reflection)” (Murris 2016:40). Weaving a rich tapestry of illustrations, photographs, tables, and text the journals as multi-modal living documents “make marks on their/my/our/other bodies, and the documentation maps the effects of difference” (ibid. 39)

the mind and body, and evident in every moment of the project. This messy, non-linear, emergent process in this project can be thought of as relating to four intra-woven 'doings', which are evident throughout the thesis, entangled in the themes and variations. What follows is an exploration of each of these 'doings' as becoming-with, recognising that they cannot be undone from each other, or from the specific contexts in which they occur. However, a few illustrative examples are given, not as a complete representation, or backwards reading of events, but as an opening to thinking about symp-ethical action in practice.

Symp-ethical feeling

Feeling-together (symp), is embedded in this very nature of this project, through its focus on intra-actions with materials, emotional moments and collective sensing. These are considered not only as emotional feelings, but physical feelings (through touch). Feelings are considered, not as internal goings-on, separated from the rest of the project and from others, but as arising in-between, and therefore as a vital part of the projects entanglement. To then add in the ethical, to think with symp-ethical feeling is to then consider our responsibilities to these feelings. This is to recognise that posthumanist ethics is powered by what Taylor argues is "an affective politics" (Taylor 2018:10). Taylor citing Massumi notes that such a politics works "by triggering cues that 'attune bodies while activating their capacities differentially', thereby opening 'minor lines' of 'political potential'" (Massumi in Taylor 2018:10). It is this intra-action between the collective and individual, in the in-between, which brings with it "new potentials for in-forming those bodies in ways which can re-modulate and re-form situations" (Taylor 2018:10). In this way, symp-ethical feeling is a responsibility towards these new potentials, these bodies which are in-forming, and the feelings (both emotional and physical) which are experienced as a result. This responsibility felt particularly vivid in this project, as explored in the following illustrations.

Firstly, as I had recognised in my initial PhD ethical procedures, ITE is already a highly emotionally charged site in which ITE students often undergo a phase of challenge to their beliefs, assumptions and ways of being (see Dolloff 2008, Flores and Day 2006, Miksza and Berg 2013). ITE itself realises "new potentials for in-forming bodies" (Taylor 2018), and this project added an additional set of potentialities into that already turbulent site. It is one thing to note this as an issue on an ethics form, setting out procedures for if a student was struggling

emotional or academically with the ITE course, allowing for conversations with the course leader and the student about possible withdrawal from the project or pausing their involvement. The reality of working with these in-forming bodies was quite another, where the “affective politics” (ibid:10) of ITE poured out and across all aspects of the project, out and across all of our entangled bodies. We all felt the tensions, the contradictions, the tussles between the old and new, traditional and contemporary, what was told and expected, and what was experienced and lived. These are seen throughout the project, set running by words, images, physical responses and how ideas from the in-between took hold and developed.

An added complexity was that the ideas and experiences of the project itself created ‘trouble’ (Haraway 2016). Haraway uses the French derivation of the term trouble, as meaning “to stir up” “to make cloudy”, “to disturb” (Haraway 2016:1). The project not only introduced ideas (teaching as an improvisatory act) which troubled views and ideas of teaching they were being presented with simultaneously in their course and school experience, it also disturbed spaces they knew. For the workshops we used the music education space at the university. This was a space they knew, where they had seminars and workshops. It was also a frequently used rehearsal space for ensembles which some of them had been involved with throughout their degrees. It was a space in which I would simultaneously be researcher and teacher. It was in this space that I introduced materials, ideas, activities and discussions which “stirred up” the space and ways of being with others, both human and non-human while in there.

Symp-ethically feeling in response to these disturbances wasn’t only to pre-plan procedures, but was about working-with, becoming-with, these bodies in-formation. It involved recognising the potential that was being released by these physical and emotional feelings but also balancing that with the weight, the tiring nature and anxiety that such turbulences created. It wasn’t about observing, identifying, labelling and recording feelings. This was about being entangled with the research group in a feeling-together relationship. I am not emotionally and physically separated from, but sensorially entangled, where the emphasis is on recognising *our* symp-ethical feeling together and the differences that are made as a result.

Symp-ethical entangling

Entangling is an ethically different stance to other views of research, where the participants and researcher are kept separated. In this separated stance, the idea of ethics as a protection

against harm is deemed necessary to ensure the actions of the researcher do not disadvantage or damage the 'other'. In entangled posthumanist research, the idea of 'other' as separated is disputed, where skin is not seen as a boundary, between I and it, but as a "porous, permeable sensorium of connectivity" (Taylor and Hughes 2016:15). The implication of this constant, entangled, porous intra-action between all bodies (human and non-human) changes the ethical focus away from 'doing harm to another', to respecting, valuing and being aware of potential harms that emerge between all the bodies in the research. As Barad argues, this isn't an ethics that is applied "through conscious intent" (Barad 2007:392) but is constituent of the ontological entanglements in which we exist. As she states, "we (but not only 'we humans') are always already responsible to the others with whom or which we are entangled" (ibid 392), through the relational process of worlding-with. In this project symp-ethical entangling has involved taking responsibility and responding with what has been set in motion, not only with human bodies but with material bodies.

Entangling with the human bodies in this project (primarily those of the research group) hasn't only involved the usual ethical considerations of who was approached, how they were approached and how consent was attained (see appendix D for details of these procedures), but a responsibility for the ongoing consequences of their involvement and entanglement with others in the group. Worlding-with the group and being responsible for what has been set in motion with them changes the dynamics of the relationships in three ways. Firstly, it focuses attention on allowing space and time for collective decision-making recognising how the entanglements we are part of are a shared responsibility. We collectively decide how to approach activities and conversations leaving space and time for 'different than imagined' responses. We negotiate ways of keeping in touch (e.g. using Facebook and being responsive to suggestions of online conversations to fit around paid work etc.). Secondly, it involves paying attention and responding symp-ethically to the relationships within the group. This has included recognising existing relational ways of being between individuals (tensions, friendship groups, different year groups) and how these influence and change over time during the project, respecting the group's dynamics as relating to the stage of their own relationship building as an ITE cohort (e.g. at the start of the project they had only had a few weeks together as part of a larger group) and acknowledging characteristics of behaviours that come from beyond and then intra-act with the project (e.g. conductor-player

relationships). Thirdly, it acknowledges how the project seeps beyond the project events and activities. The entanglements of this group with each other and with myself grew over the course of the project as I became involved in aspects of their course (namely doing school visits). This wasn't a large part of discussions in my original ethics documentation as my involvement as a tutor wasn't confirmed at that point. Instead, this was ethics-in-motion.

While a traditional ethical stance might have approached this from a perspective of maintaining boundaries, containing project seepage, and mitigating for adverse effects from both course to project and project to course, symp-ethically entangling challenges these narratives. This involved making decisions in-the-moment about conversations and experiences with research group members on school visits or conversations in the project workshops which referred to lessons I observed them teaching. It also involved recognising the additional relational impacts of being researcher and tutor, of seeing them in school as teachers, and being with them at moments of high vulnerability and stress (through the ITE assessment processes). This was particularly significant with one member of the group who I had to give negative feedback to on their school observation, and who I spent individual time with to support. To try to ignore, stop, suppress or mitigate against such intra-actions would be disingenuous and incoherent with the nature of this project. We all became-with these real life worldings, becoming more entangled, more relational, more together and sometimes different. While these human to human entanglements involved in the moment symp-ethical decision making, they resulted in material entanglements, whether through notes made, recordings or pictures. These bodily entanglements made material entanglements, which, within a posthumanist view of ethics require just as much respect and responsibility towards as entangling with human bodies.

Symp-ethical entangling with materials as a dynamic and agentic element of this project broadens traditional notions of ethical responsibility. In this project being responsible to materials, and our entanglements with them, has involved both respecting their multiplicity and potentiality, and valuing their challenges both to the form and writing of this thesis, but also to the ideas of the thesis as they have developed. In terms of respecting materials for their multiplicity and potentiality, much of this is woven into the processes this project has engaged with, namely a diffractive playing with materials in different combinations, in different times and spaces, and with different people. This diffracting with the materials

through play has held open the potentiality of the materials, to allow them to become-with the project in numerous iterations. This is evident in the use of variations as a form, but also in the way certain materials thread through the project, appearing on more than one occasion.

Valuing the materials for the challenges they create has been a constant source of symp-ethical decision making in this project. With nearly each variation the materials themselves have made me wish I had better drawing, designing and IT skills, as I am constrained, and on some occasions completely stopped from allowing the materials in the entanglement from guiding the nature of the writing and how the intra-actions happen. Returning to the idea of harm as emerging in the in-between, I have also found on occasion that the in-between of materials and the research group as young professionals as caused tensions, particularly in relation to the use of images in the project. Capturing discomfort, anxiety, movement from video can sometimes lead to images which the individuals would not select themselves to be in the public domain. Sometimes they are pulling an unusual face or moving in an awkward way. Therefore, in some cases I have balanced the way the materials have played, with the potential harm that the research group might feel from their inclusion in the project. This has involved carefully balancing a respect for the materials in the entanglement, with what was actually important, what could be cropped or changed for another image, and what was actually irresponsible to include.

Threading throughout being symp-ethical are decisions and actions made from feelings of concern. While some feminist and new materialist writers talk of an ethics of care, Taylor argues that 'to care for' implies a vulnerability and lack of power in the people (in humanist framings) being cared for. Instead, an "ethics of concern" (Taylor 2018:11) reframes the relationship as one of shared response-ability (Haraway 2016). It is a 'doing' which is embodied and enacted. Taylor quotes Shaviro in explaining that "When something concerns me, I cannot ignore it or walk away from it. It presses upon my being and compels me to respond" (Shaviro in Taylor 2018:11). Therefore concern, which we cannot help but respond to, Taylor argues, "opens me, in spite of myself, to the outside" (Shaviro in Taylor and Hughes 2016:11). Within this project, symp-ethically feeling and entangling is threaded with concern for the materials, for the people, for the ideas and the project and concern for what emerges

in-between. These concerns weren't concerns in advance, mitigated against and strategies applied, but emerged and become-with the project.

A Note on Composing the Variations

The variations for this theme play with the idea of becoming-with in three ways; becoming-with sound, becoming-with expression, and becoming-with form.

Variation A plays with a particular activity of musical improvisation that we undertook in workshop 1. Deliberately relegating words as the main 'voices' in the sequence and playing with the idea of voice as being intra-animated by the materials, bodies, environment re-sees how sound works within the sequence. This is then starkly contrasted with use of words through a discussion with the group after the musical improvising, opening up questions around the use of the term dialogic.

Variation B focuses on three particular expressions the research group used. These expressions occurred in more than one place or space, with different contributions from different members of the group. Exploring these expressions not only as verbal utterances, but as embodied, enacted ways of being focuses our attention on expressions we become-with and the different ways of conceptualising vulnerability that they create.

Variation C plays with the idea of form, in particular the lesson planning form, as again shaping not only how we think, but how we speak, how we act, how we respond. It opens up questions of how forms intra-act with the ideas of emergent entanglements, how forms promote paying particular forms of attention, how learning intentions create tensions, the lesson plan as creating intentions and success criteria for teachers, and the notion of space within forms.

Variation D explores how music student teachers become-with material embodiments, particularly those of musical instruments. Evidence of 'space objects' (a term from theatre improvisation for objects which are mimed) in conversations and intra-actions is considered where becoming-with crosses time and spaces.

Variation A: Becoming-with sound (polyphony)

Polyphony: Polyphony in music is a texture which involves two or more simultaneous melodies. This term has been adopted in literature to mean a multi-voiced text. Polyphony is a form of correspondence, where it is the resultant effect, the sound that is created in between the lines, which keeps the momentum of something new being created.

For this variation I have played with two particular arguments. Firstly Trausan-Matu's argument for a polyphonic view of collaborating in relationships, where there are many "interanimating voices" (Trausan-Matu 2020:455) with which I have viewed the term voice as equally belonging to humans, materials and spaces. Taking this argument with posthumanist thinking is to consider these voices as "intra-animating". The second argument is that developed by Gershon (2013) in which he promotes the importance of sound (encompassing talk, noise and music) as "theoretically and materially consequential" where "if everything vibrates, then everything – literally every object, ecology, feeling, idea, ideal, process, experience, event – has the potential to affect and be affected by another aspect of everything" (Gershon 2013:258). Gershon develops his argument stating that "Sounds...not only interrupt commonly held metaphors but can also be utilised to queer the pitch of contemporary notions of thought and practice...[where] the sonic constantly informs our everyday ways of being and knowing" (Gershon 2013:258).

These two arguments, polyphonic interanimating voices and for sound as a difference-making process, have played with a particular sequence of improvisation from workshop 1, in which the group used instruments, their bodies and other materials to respond to each other. Playing with this sequence of improvising as a polyphony of voices (material, human, bodily, sensorial) has been to engage deeply with the audio visuals. What follows is a storyboard of the particular improvised sequence. This is not included as a representation of what happened, and obviously does not capture the audio and dynamic visuals of the sequence which is the main focus of this variation. Instead it is used as a visual illustration (with the still images chosen to capture key moments of relationships with materials and others), with brief descriptions, of the voices 'in play', with which I have then added commentary for sections of improvisation within the sequence.

Sound sequence 1



Workshop 1 front
Listening as a circle: M watching P, P watching A, S watching A



A double hit of the drum - shifting attention, moving of heads



Workshop 1 front
Sharing the sound of the cymbal – trying to recreate it or imitate it on the maraca and the Cabasa



Listening with gestures. Flattened hands away from the drums surface and a still body – a pause.



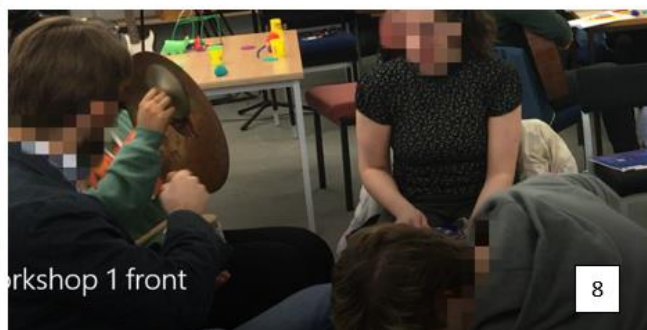
Resuming playing: a double hit of the drum.



Listening with eyes to an unknown sound.



Running fingers over the drum's surface with sustained eye contact towards M.



Workshop 1 front
Listening around the circle as P bows down.

Commentary section 1

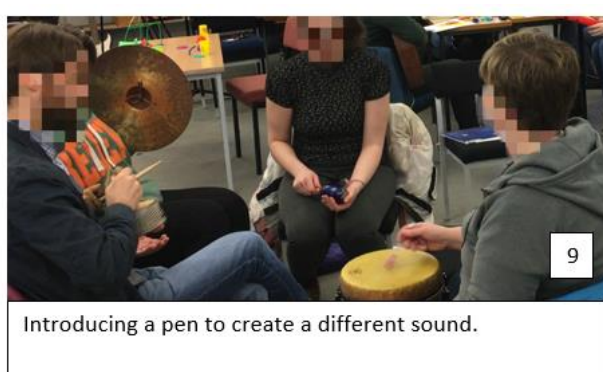
Listening carefully to this sequence (through watching, listening to the audio, looking at the stills, remembering the event, attentiveness to my emotions and physical responses), is to begin to see, hear and feel the 'interanimating' polyphonic voices. While there is no dialogue (with words), the materialdiscursive is seen and heard in;

- The material instruments, each with its own timbre, ability to project, interfere with and lead (e.g. the way the drum both sounds as a leader as in picture 2, but also in its silence in picture 4, allows its resonance to speak).
- The sounds being made (e.g. the passing of rhythms in picture 3, where the exploration of sound leads into a sequence of imitation in the group).
- The eyes, to listen with and respond to the materials, following closely the physical as well as aural ways in which the sounds have been created (e.g. in pictures 3 and 6, the eyes watch *how* the body+material make the sound in order to be able to understand and respond).
- The hands, as listening through touch, adapting their response in dialogue with the material feel and material sound (e.g. in picture 3, the imitation of the sound made by A on the cymbal is immediately physically interanimated in S and P's hands, where they lift their fingers to change their material contact and therefore sound production to imitate the timbre of the cymbal. These imitations are not a repetition, or a representation of the original, they are a felt exploration. Interestingly M pushes against the limitations of the maraca, where she struggles to change her physical touch of the instruments materiality to imitate the sound, settling for lightening her touch to vary the dynamics but visibly and audibly finding it more difficult than the other instruments).
- The bodies, in their position, attention, alignment and stance (e.g. In picture 1 there is an openness of all the bodies to all the other bodies, the attention is across and between all the bodies and the way they were intra-acting with the materials. This was different in picture 2, where the voice of the drum propelled forward into the space, accompanied by P's physical stance as a leader, showing the others what she wanted them to do. As course leader but also within a musical environment of

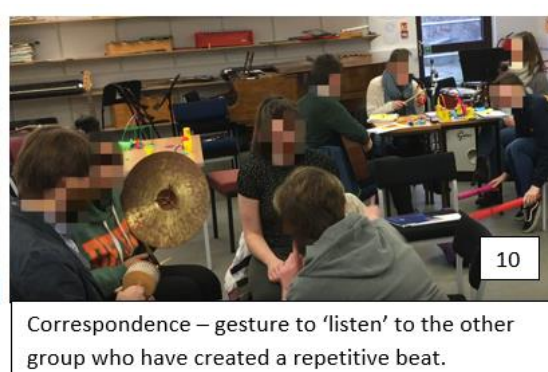
leadership through conducting, the routinised behaviours of the others to respond, created a shift in bodily position towards the drum and P, and away from each other).

Re-seeing this improvisatory sequence as a polyphony of voices (of instruments, sounds, eyes, hands and bodies) is to pay attention to what is being intra-animated and therefore the potential of this experience to 'queer notions of thought and practice', particularly the separation of body / matter, theory / practice, open / closed forms, voice / meaning and many more.

Sound sequence 2



Introducing a pen to create a different sound.



Correspondence – gesture to 'listen' to the other group who have created a repetitive beat.



Physical, relational and musical correspondence between the groups.



Hesitation at using a pen on the cymbal.

Commentary section 2

Having thought about the different intra-animating voices in the materialdiscursive space of this improvisation, this second sequence radically shifted these voices.

Firstly, P introduced a pen onto the surface of the drum (picture 9), which was imitated by M (picture 12). The emotional response of the group to the introduction of the pen was clearly different from the emotions of the previous sequence, where smiles and my own experience of intrigue in watching what was going to happen next, animated the bodies of the group. However, the pen did more than emotionally intrigue us, it changed the materialdiscursive

relationships which had been established in sequence 1. The pen, an object which is synonymous with classroom environments and learning, was “already part of the dialogue” (Hetherington and Wegerif 2018:31), however, changing the use of the pen to being an active voice in a musical improvisation was not only to change its role, but it interfered with who or what is allowed (Allsup 2016). It changed the story of ‘instrument’ and ‘sound’, queering previous expectations, routinised behaviours and concepts. M’s choice to also find a pen a little while later is interesting. While P made difference by introducing the pen, M decides to join in with this difference, wanting to experience the ‘new’ herself, propelling forward. However, picture 12 and my memory of watching the events unfold, was of her hesitation. This was a moment of some tension, between the old ways of being and the new, between expected behaviours and new behaviours. This could be considered the “letting go” which Allsup describes, but also aligns with Hetherington and Wegerif’s argument that we need to allow student teachers to play with materials to experience and explore their potential. M’s response shows that such play isn’t just about knowing the materials, their potentiality and their possible role, but it is also about physically learning how to respond in-the-moment to what occurs.

The other aspect of this sequence that radically shifts the experience of the group is the way the sounds, and then the physical responses of the bodies, begin to reach across and between the two groups in the room. This challenges established notions and practices of contained groups during activities and again challenges notions of who or what is allowed (Allsup 2016) to participate in the developing activity. While picture 10 shows P indicating to the group to listen to the others at the back of the room, it is evident on the video and in the image, that the other group have already begun to reach out, physically positioning themselves more openly towards the front of the room and looking across the space. When watching the video it is evident that the sound of the drum in picture 5, was the moment where some of the other group started becoming-with what was happening at the front of the room, where there was correspondence (Ingold 2016) between the different voices (sounds, materials, bodies). Emotionally there was a lot of joy in the sharing of the dialogue across the space as seen in the smiling faces, it felt as I watched, a powerful moment of connection.

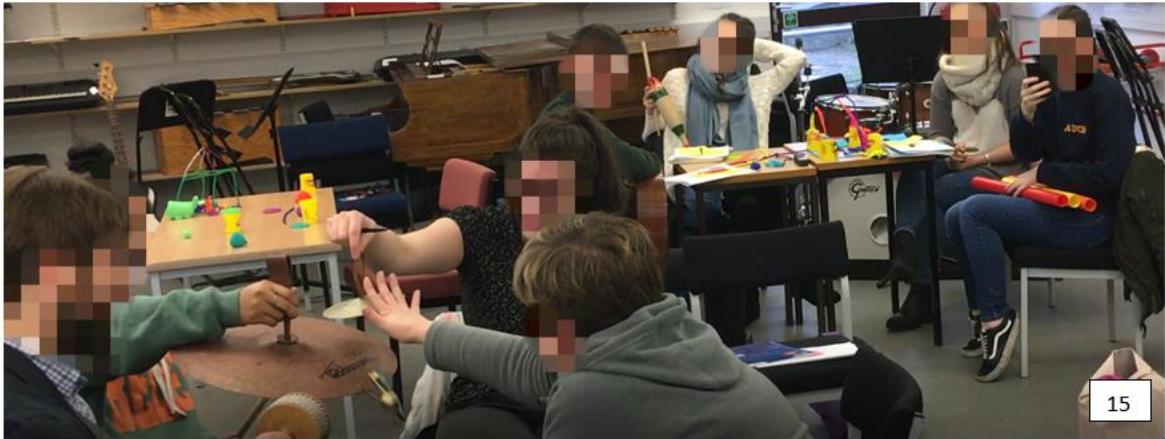
Sound sequence 3



P introduces a key and explores the small cymbal with it. The novelty of the approach maintains the attention of the group behind, leaning to listen with their eyes.



The sound causes a strong emotional response.



P drops the keys, letting them fall over the small cymbal, onto the large cymbal and then onto the ground. By this time, G has started recording the events on her phone.



orkshop 1 front

16

M then imitates P's dropping of the keys by dropping the small cymbal, more carefully, onto the floor.



17

A mimics dropping the large cymbal to follow on but stops herself.



orkshop 1 front

18

The final pause, all silent and still.

Commentary section 3

In this sequence, following the previous shared experience of bringing a pen into the dialogue, the bringing of the keys seemed less of a shocking moment emotionally. Having opened up the pedagogical relationships beyond what was expected, the keys were a continuation of the playing. However, the final moment of dropping the keys again created an emotional response. The emotional response to this event, when considered as a moment of polyphonic voices has a number of features;

- The keys as having ‘become’ an instrument and therefore the queering of practice in dropping them to the floor (picture 15).
- The aleatory nature of the sound created as the different keys on the bunch hit each other, the cymbal and the floor in an uncontrolled, seemingly random sequence, challenging the notion of musical control (picture 15).
- The notion of P as leader, whereby her dropping the keys, thereby having no way of joining in, signalled the beginning of the end of the improvisation, where she had communicated the structure through non-participation (pictures 16-18).
- The physical imitation (or miming of imitation) of dropping instruments as blocked by learnt ways of being with the musical instruments and an unwillingness to completely ‘let go’ (metaphorically and physically) (pictures 16 and 17).

While the final sequence of this improvisation continues to align with Gershon’s idea of sound as being of theoretical and material consequence in relationships (Gershon 2013), there is a cautionary note in the way the keys had become-instrument, and therefore expected to be treated and behave as such, but also that M and A were still tied by their previous experiences and behaviours. This isn’t surprising given the short amount of playful time we had but it raises the question as to how far playful exploration of difference then become adopted into structures we already know and behave within? And how much does it take to truly open up to the potential? While there was a sense of response-ability and exploration of ambiguity in the group, much of this was instigated, led and promoted by the course leader, rather than organically occurring.

Reflections on becoming-with sound

While there was no verbal dialogue during the sequence of musical improvisation in workshop 1 (pictured above), I was struck by the tone of the discussion afterwards, about the relative experiences of improvising with words or sound. These weren't voices during the improvisation, but arguably they were present, informing actions, response-ability and perceptions of what was emerging. The conversation was largely between A and S, which I immediately felt was a glow moment (Maclure 2013) within the research;

A: I felt there was more freedom with the instruments though

S: Is that familiarity, improvising with sound rather than improvising with something...

A: I just feel more confident in talking with sound rather than talking

S: with the voice or with...

A: Just saying a sentence [pause] because with a sentence it might mean something else to you, it might mean something else to you, whereas with a sound you're all just.... [hand gestures flow, sweeping, projecting across and forwards]

S: but surely that's the same with sound?

A: I know, but I just felt, I was more comfortable with sounds, maybe coz it was more.... [moves hand in front of face]

Figure 5.3: A moves hand in front of face



S: language as a barrier then, as to how will the words be interpreted, am I saying the words properly...'

G: I actually felt more comfortable using an instrument but I was trying to think why..but maybe its because you've got something to hide behind, its not yourself that you're putting forward, its that instrument and also in conversation when you're speaking, its only you whereas in music you're all playing at the same time, at different times, over each other, you've got a chance to hide in a way...

S: and that goes back to the confidence thing, it's not a barrier, but it's a space.

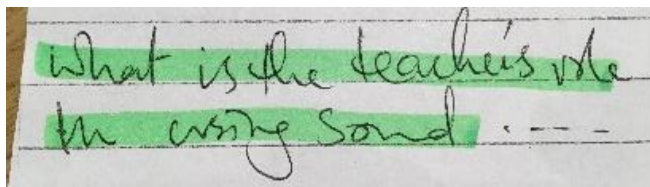
There is much about this conversation which has continued to make me play with the ideas of relationships, sound and material dialogues and student teacher's becoming-with. In particular, I was intrigued that A herself perceived the musical improvisation as a different form of 'talking', thinking of it as a dialogic space. However, there was a sense from all of those in this conversation that they felt a keen separation between sounds produced via the human voice, and those sounds produced as music. Underpinning this separation were two particular issues raised in the conversation. Firstly, the notion of exposure in dialogue where you as an individual are exposed through your words. A's concern around this was the notion of being misinterpreted. Her physical gestures in this section of the conversation contrasted flowing, sweeping movements when talking about engaging in musical improvisation, and a flat hand as a barrier in front of her face when talking about talking with words. To me, A's gestures and annunciation of the words made me consider how she portrayed herself as feeling constrained by words, where she was concerned about how words might be considered right or wrong. For G, it was a literal exposure within the texture of the polyphony, where when speaking you are left the space without interruption which she portrays as being something more intimidating than the weaving of sounds in musical improvisation.

The second issue raised by the group in their conversation is an alignment with Allsup's argument that teacher education balances an inherent tension between structures and accepted ways of being, and the freedom required to question, see differently and let go of the current (Allsup 2016). This was most clearly highlighted to me in A's statement that she felt freer with instruments which prompted me to consider the playfulness of relationships with words and sounds, bringing this thought together with John Cage's call, as explored by Hill (2018) of "purposeless play" and "purposeful purposelessness" with which we might "orient our goals toward making students more attentive to and invested in the world of

sound” (Hill 2018:46). As Cage himself describes, this form of playing is “not an attempt to bring order out of chaos..., but simply a way of waking up to the very life we’re living, which is so excellent once one gets one’s mind and one’s desires out of its way and lets it act of its own accord” (Cage in Hill 2018:59). This quote makes with A’s notion of freedom, asking me to consider whether words are so strongly associated with intention, accuracy of thought and representation of ourselves, that we are less able to play with them than we are with sound which is considered abstract, open to interpretation and less ‘fixed’.

The most profound voice from beyond the immediate experience of the improvisation was a post-it note written by A and left for me at the end of the session.

Figure 5.4: A’s post-it note



This one question, coming from an exploration of musical improvisation alone raises significant questions about how we create a materialdiscursive space in Music ITE that promotes music student teachers to explore, play with and ultimately become-with sounds. Using A’s distinction between words and sounds in her early comments, makes me read this statement in two ways. Teacher’s relationship with words is more immediately evident, it ‘fits’ with perceptions of teachers as knowledge givers (see Teaching-with) and is an embodiment of ‘dialogic’ learning theories. The second reading of A’s statement is that a teacher’s relationship with sound (musical or otherwise), is far less obvious.

Variation B: Becoming-with expression (rubato)

Rubato: The term Rubato is generally used in music to describe the way in which performers make changes to the tempo of the music (speeding up or slowing down) to add to the expressive nature of the music. This is often at the performers discretion, not being noted on the score or if it is, allowing for in-the-moment, intuitive responses as to how to play with the tempo. The term itself originates from the idea of ‘stolen time’ (Italian), or as is commonly described, to ‘borrow time’. In this variation playing with speeding and slowing down materials adds to their expressive affect. The materials themselves are grouped around the expressive responses to improvising that the group explored. These expressive responses are about how they ‘felt’ improvisation, as a process, a metaphor, a term, and as an emotional response. Sometimes passages are shortened to intensify the feelings, with the terms coming in quicker succession, sometimes they are lengthened by exploring additional materials and

ideas, and sometimes it alternates between shortening and lengthening, creating the rubato effect of 'borrowing time' from one place to add it to another.

'Bouncing off'

'Bouncing off' was mentioned by three different members of the research group, in three different contexts. We hadn't discussed it in the initial workshops. It wasn't written in any of the research documentation. It emerged and grew in significance as a way of making their feelings of improvising known. As a metaphor it was a verbal expression but playing with it opened up what was 'felt'.

"...bouncing off how you perceive the kids are reacting to what you bring"

"...bouncing off them... their ideas, their music, ...their enthusiasm"

"...bouncing off what they came up with"

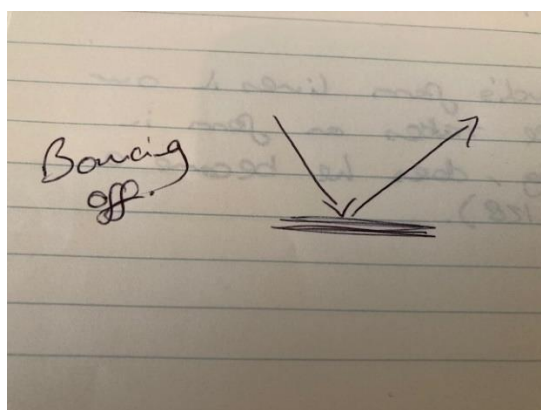
(taken from emails and final discussions with H, R and A)

I immediately associate it with images and literature to diffractively play with the metaphor.

... 'bouncing off' suggests a deflection or rebound. It suggests receiving something back, an idea, sounds or energy (Research notes October 2017).

My initial response was to draw 'bouncing off' as a deflection, a moving away from, where there is little trace of the moment of meeting. In first hearing the term I focused on what the individual had gained *from* others in the relationship, what they had bounced away *with*.

Figure 5.5: Bouncing off



However, I was unsatisfied with this conceptualisation of the term as I noted in my research notes.

The term 'bouncing off' captures the dynamism of the moment, but somehow loses the matter or the ongoingness of the 'thing'. (PowerPoint play space)

I begin to play with the term 'bouncing off', not as 'bouncing' away, deflect or rebound from, but to 'bounce with'. Looking again at the words the members of the research group had used to describe bouncing off, and the way they had said it, the inflections and feelings they had used in the statement, the involvement of reactions, emotions, ideas and sounds became clearer. This changes the way I hear the term, shifting towards bouncing off as relating to sensorial feedback. I note the challenge this poses in my research notes.

So, if 'bouncing off' others is central to teaching as improvising, then how does this challenge 'set piece' feedback strategies that I see in classrooms all the time? How does writing one learning outcome on a post-it note as an exit pass allow for 'bouncing off' or 'bouncing-with'? (Research notes December 2018)

Returning to these notes as I write this section of my thesis, is to also see that what was not mentioned at the time, it was a very humanist conception of becoming-with. As E stated, "*I needed them to 'bounce off'*" (E email conversation), where I – them is a human relationship. However, materials are explicitly mentioned in the comments, both in relation to "what you bring" as being the source of children responses, but also in bouncing off "their ideas, their music" and "what they come up with" (H, R, A emails and final discussions). This reframes E's use of the word 'needed'. She doesn't elaborate in what ways she needed them, but this was a word loaded with emphasis and feeling, where the pupil's *and their music* was deemed essential as part of her own ability to be response-able. This isn't therefore a quick deflection which leaves little trace of the contact as I had initially considered. Instead this is a sensorial entanglement, which rendered her capable (Haraway 2016:12). This was about recognising the critical role matter, sounds and bodies played in the group's own becoming, and the vulnerability this creates in not being fully in control as a teacher.

Light dying

The importance of materials, sounds and bodies in student teachers own becoming-with in the classroom was further emphasised by the comments of two members of the group who used verbal expressions relating to light and sparks.

R email conversation: *"I could see the light and attention dying across the room as the class began to get restless and clearly lost focus. So instead of continuing on the planned explanation, I instead sent them all to the keyboards to let them have an 'explore' and try out all the buttons. Although this was not planned and took about 5 minutes out of my lesson, this actually allowed for a more productive lesson"*

A email conversation: *"I was teaching S1 theory...I could see the spark slowly dying and a lot of yawning! So, I had to improvise and make the lesson less about the mathematics of theory and more about engagement (e.g. incorporating clapping, I added breaks where they would swap seats or stretch, I got them marching, someone keeping the beat etc.)."*

These comments highlighted a level of response-ability to the physical and emotional states of the human bodies in the room. What is interesting is the use of light and dying as the metaphors, where to keep things (including bodies) in motion, to keep things entangled and entangling is central to what Haraway describes as "Mak[ing] kin in lines of inventive connection as a practice of learning to live and die well with each other in a thick present" (Haraway 2016: 1). It is through this living and dying well, where we learn to world with each other, that learning remains truly present, and we "stay with the trouble" (Haraway 2016: 1). Bringing R and A's comments into contact with Haraway's comments is to highlight the response-abilities the two student teachers had developed to ensure they stayed with the trouble that the bodies presented to them. Their responses, while of course rooted in care for the individuals, highlight another way of seeing these events. It asks us to consider feelings of vulnerability (A "so I had to improvise") when the invention connection, the motion and being present with that motion is lost or waning. This is a recognition of vulnerability not as a negative, but as a space to be response-able.

'Right or wrong'

Improvisation as a 'radical apparatus' troubled notions of right and wrong from the very first workshop and continued as a discussion thread throughout. This was particularly evident in comments made by G throughout the different research activities.

G workshop 1 final reflections: *"I was **worried** when you said improvise... it's just the thought / term that I find **daunting**"*

G workshop 2: *"the video [about the improv game 'Yes, and'] said about not wanting to contribute as **scared** your ideas were 'wrong'. That really resonated with me"*

G email exchange: *"I find improvising difficult to do as I'm always **worried** I 'get it wrong' – I have always found the same with improvising musically"*

G final workshop: *"I found it so much easier, when the [mentor] teacher wasn't in the room, to be like oh you guys can you hear this? Look! Like 'I'll show you this', I don't know, maybe it's because when the teacher was in the room, I was **scared** of getting it wrong...I'm just so **scared, scared** of getting it wrong....I know it's me, I just need to get myself out of this mindset, like I just find it easier to do when it was just me"*

P "And who would say it was wrong anyway?"

G: "No – I know"

As Allsup argues, music as a subject is "an inheritance of closed or routinized expertise where highly coded practices – safe and predictable practices" (Allsup 2016:51), in which "teachers traffic in musical rights and musical wrongs, saying no more than yes, exercising authority and demanding submission" (Allsup 2016:55). Given this context, and G's extensive experience of it as a learner, and now student teacher, it is unsurprising that improvisation challenged G's felt response to 'wrongness'. As Landgraf (2018) states, the process of improvisation

makes the 'agent' aware of his/her loss of authorial control, of his/her actions being more than the execution of a particular intention... leading to a decentring of the artist, infringing on cherished Enlightenment ideals of agency, autonomy, and of conscious and rational control of one's doings (Landgraf 2018:212).

The loss and infringement caused by improvisation led to accentuated expressions of concern by G which contrast with S's description of improvising

S: *"When it came to learning how to improvise, I wasn't worried about getting things wrong coz I was used to making things up....so when I first did improvisations I could just sit in on a session and they're like 'you need to make some space' 'oh ok', like I was maybe going into it a bit more, like trying to do too many things...and it was like ok, nae bother, and then learning how it all works by giving it a go..."*

Denmead argues that, "not knowing is an intentional pursuit" in which artists "dwell in blind recesses, stand upon shifting terrain and welcome chance encounters" (Denmead 2015:27). S's account of improvisation, as feeling settled within a space of "not knowing" is very different from G's uncomfortable expression of "not knowing". S's expression of contentedness with not knowing suggests, through his experiences of musical improvisation, a different kind of relationship with music as a more open system. Others in the group expressed a dissatisfaction with notions of right and wrong and played with disrupting narratives of how 'wrongness' is felt.

J workshop 2: *“the more your away with it [content], the more you play with it, the less right or wrong anything can be”*

M workshop 2: *“improvising gives space and freedom to show kids, to communicate that nothing is wrong, just to try it and see where it takes you, just to experiment...the word wrong is so uncomfortable to me, so uncomfortable, I hate with teaching children that there is a wrong and a right within what you can feel, like what your emotions, like what your naturally like and your being told you’re not allowed to like that”*

H email exchange: *“...communicating to pupils that they are free to express themselves fully – nothing is wrong. However, this can be challenging for teachers who don’t have much experience to enhance and take improvisation to another level”*

E email exchange: *“We improvise based on pupils responses without knowing and this becomes more relaxed and easier when relationships are built and when we stop judging ourselves”*

These playful explorations are a different expression of ‘wrongness’. They express tension, but also of following, joining in with and allowing things to develop. These align with Fisher and Fortnum’s suggestion that artists have particular methods for being prepared to follow during action including “distraction, relinquishing control, embracing chance, collaboration, following a hunch [and] privileging the senses over the intellect” (Fisher and Fortnum in Denmead 2015:27).

In the final conversation with J, he asks me some questions which continue to play with me and this variation;

J final conversation: *“What does ‘wrong’ mean anyway? Is improvising a way to get people out of thinking that there is right and wrong? Surely whatever you do is a contribution?”*

J’s questions make me consider how reframing ‘wrong’. As Kanellopoulos (in Allsup 2016:124) states “you might like what is wrong better than what is right”. This is ‘wrong, and...’, where right / wrong as a dichotomy is challenged and instead each contribution as J described it, is an opportunity to move forward. Where “not knowing” is a strength in staying open and attentive to what happens.

Comfort / discomfort?

“Do we keep the old warm as a comfort to ourselves?” (Allsup 2016:64)

M workshop 2: *“uncomfortable? - Being fully open and in the moment- you do have to immerse yourself to fully improvise...sometimes this can be hard”*

In disturbing the comfortable, new inventions are often called for (Allsup 2016:113).

A final conversation: “It takes a lot of effort, being open enough. It’s like being strong enough and weak enough at the same time...that makes no sense, but I don’t know, I do think improvising is like that”

“...the burden is on all of us, not just the Master, to embrace the discomfort of the new (Allsup 2016:74).

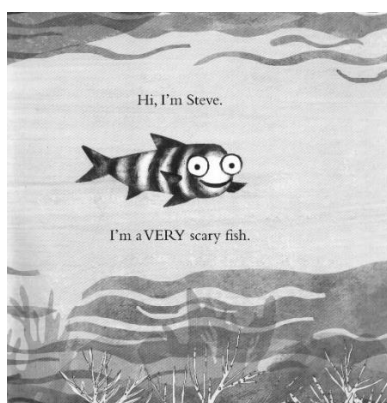
J initial conversation: “you can go through life and you can go through music being comfortable and we’ll take it at a comfortable speed and it’ll be a comfortable performance, or we can take it too fast and we’ll just run a wreck and it’ll sound horrendous, but we need to find that point in the middle of where it’s exciting, where it’s anxious, where we are in the moment but we are out of our comfort zone.... that’s how I’ll remember what music is”

The group’s expressions of their felt discomfort, interwoven with Allsup’s calls to embrace discomfort, is to re-see the expression not as problematic, to be overcome, but as an opening, a weakness, an anxious excitement about what happens and what emerges next.

Variation C: Becoming-with form (ostinato)

Ostinato: Ostinato is a motif or phrase that repeats for a long part of a composition in the same voice (e.g. in the bass). As well as being an important composition technique in notated forms of music, including theme and variations where ostinato can be derived from thematic material or provide different material over which thematic ideas are explored, it also has a significance in improvised music. In improvisation, ostinati are often referred to as a riff or vamp. In this variation the ostinato is based on the near-constant presence of form as part of the conversation of becoming-with. This covers structures in ITE that provide form (specifically the lesson planning form but also broader educational forms such as exams, parental expectations, educational policies etc.). The imagining of the ostinato in this variation was developed while reading Megan Brewis’s book ‘Steve, Terror of the Seas’ (2019) to my son. In the story we meet Steve.

Figure 5.6: Steve²⁸



On each page, he tells us how he scares away the little fish, the big fish, and other sea creatures. Eventually he states, “I’m not even sure what it is that makes me so scary”. It is only on the final pages of the book that we are introduced to his friend George who has been on every page, as the dark grey shadow, and is a shark. Steve is a pilot fish! What intrigued me so much was how the grey shadow of

²⁸ Image from Brewis (2019)

George the shark was prominent on every page as a material ostinato, affecting not only how Steve was perceived, but how he felt, how he acted, and how he related (or didn't relate) to others. For this variation I played with the idea of the lesson planning form as being a little like George the Shark, always close by (as a material ostinato), always impacting on the research group's comments and ideas, affecting how they became-with forms in ITE. I play with the groups comments by physically cutting them apart and playing with them in the lesson planning form. These intra-actions between the form, the groups comments and myself diffracts how I see the form, its titles, its spaces, its process. It also diffracts how I read and create with the groups comments, leading to more openings to explore, more questions to consider. The diffractive entanglements that follow, with the lesson plan still visible as a watermark 'trouble' how student teachers become-with forms.

The lesson planning form

I have worked with student teachers in five higher education ITE programmes. Each has its own lesson planning form which students are generally expected to use or adapt. Each have similar features. The one I have chosen to use is the form the student teachers in the research group used (figure 5. 7). Student teachers are encouraged to complete a form for every lesson they teach, adapting the boxes and spaces to meet their own needs. Some students I observe create lesson plans stretching to three pages long while others complete it as one side of A4.

Figure 5.7: Lesson planning form

LESSON PLAN		Period:
		Level:
1 Prior Learning <i>Evidence from teacher's records of progress and your own observations</i>		
2 CfE (BGE) Experiences and Outcomes and CfE Design Principles		
3 & 4 Learning Intentions and related Success Criteria		
Learning intentions (<i>I/we will</i>)		Success Criteria (<i>I/we can</i>)
5 Learning and Teaching Activities (embedded AifL strategies) and links to theory		
<i>(Introduction / starter activity, Main Section, Plenary, any extension activities, individual pupil support?)</i>		
Introduction		
Main Section		
Plenary		
End		
6 Resources and climate for learning – materials / space / organisation / positive behaviour management		

Section A: Workshop 1: responses to images of children playing (see appendix F)

J: "... if they went 'mum can I paint today?'... they've planned ahead...that's the bit I'm speaking about...just that bit before.

S: I suppose that's where the guided improvisation comes from"

J: "but to improvise do you not need a plan?"

S: not necessarily

J: plan to improvise...for example, that [streetlight] up there, they need to plan to get that rope, they need to plan to get that up there, how are we going to get to the top of the streetlight...

M: but surely that's the whole point of improvising, surely you walk down the street and you go, "I'm kind of bored", let's do this, oh there's a bit of rope over there, now how are we going to do this, and the improvisation happens along the way, you're not planning it but it's part of the improvising...

S: Oooo – a cardboard box, what will we do with this? Dad can you fix this to that, we want to make a boat?"

Figure 5.8: Improvised activity in the lesson planning form

I play with these two fragments of conversation within the particular spaces of the lesson plan form; the learning intentions box, the main section of activities and the resources box, annotating the way the form + words pull and push each other, disturbing and re-seeing with each other.

The boxes, intra-acting with the group's comments, diffracts and generates, leading to many new questions;

3 & 4 Learning Intentions and related Success Criteria	
Learning Intentions (i/we will)	Success Criteria (i/we can)
J: "... if they went 'mum can I paint today?'... they've planned ahead...that's the bit I'm speaking about...just that bit before" S: "I suppose that's where the guided improvisation comes from"	planning in - the - moment Planning just - in - time. time in planning.
5 Learning and Teaching Activities (embedded AifL strategies) and links to theory	
(Introduction / starter activity, Main Section, Plenary, any extension activities, individual pupil support?)	
Introduction	
Main Section	
J: "plan to improvise...for example, that [lamppost] up there, they need to plan to get that rope, they need to plan..."	
Plenary	
End	
...to get that up there, how are we going to get to the top of the streetlight..."	
6 Resources and climate for learning – materials / space / organisation / positive behaviour management	
M: "but surely that's the whole point of improvising, surely you walk down the street and you go, "I'm kind of bored", let's do this, oh there's a bit of rope over there, now how are we going to do this, and the improvisation happens along the way, you're not planning it but it's part of the improvising..." S: "Oooo – a cardboard box, what will we do with this? Dad can you fix this to that, we want to make a boat?"	

"mum can I paint today?" is an expression of the child's intention – who's intentions are expressed on a lesson planning form? Is it problematic that the answer to this question in general is from one person (the teacher), guided by external influences (curriculum or exam syllabi)? Where is the room for intentions that are co-created, between humans, between humans and non-humans?

"...that's the bit I'm speaking about...just that bit before" makes me consider the role of time in planning. J's comment is not of planning in-the-moment, but it does suggest a more emergent planning (just before action), than written lesson plans. Lesson plan writing is neither in-the-moment or just before, but occupies a third time-space, that of prediction. Do we articulate and explore different time-spaces of planning within ITE and how might that impact on students perceptions of the teaching processes and teacher roles?

"plan to improvise". Playing with this one small section of text in the main activities boxes on the lesson planning form made me question how we encourage student teachers to plan to improvise. Thinking with the lesson plans for musical improvisation that I have lying around my desk from recent school visits, I see the way the students meticulously frame improvised sections of the lesson by writing about the materials for improvisation they will use. But these plans are descriptions of how to get the children to improvise – not child-adult – material improvisations, although in practice when observing this is what generally in the reality.

"...oh there's a bit of rope" + "Oooo- a cardboard box, what will we do with this?" M and S's comments, played with in the 'Resources' box on the lesson planning form, made me question the function and nature of the box itself. In one institution who I have done lesson observations for, this box has the guidance to 'Create a checklist of ALL that is required in the classroom', a somewhat difficult task if allowing or a plethora of emergent possibilities. What M and S's comments remind me of is Barad's notion of spacetimemattering (Barad 2014, where space, time and matter are intra-actively entangled. In this view, the rope and the box are intra-actively entangled with that moment, those people, the meanings and ideas that are generated in the *in-between*. This changes how I read the 'resources and climate for learning' box. It changes the materials of the lesson from a checklist of what will be used to an account of pre-planned encounters. It is the space in which teacher-pupil-content-ideas-material encounters are considered. And yet, these encounters are physically written (or typed) as separated entities, as a checklist. Where do the rope and the cardboard box of M and S's

comments 'fit' in this form? Neither are separated, listed and used alone, but are spacetime-matterings, where it is what is made in-between which is of significance. This raises questions for ITE including, how do we encourage student teachers to explore what is made in the in-betweens of different types of entanglements? How do we encourage them to become-with forms that allows spacetime-mattering intra-actions? And, how do we encourage student teachers to allow for emergent material engagements to become-with the form, where the form doesn't limit action or sight or responsiveness?

Date:		Period:	
Class:		Level:	
2 CFE (BGE) Es and Os and CFE Design Principles		3 & 4 Learning Intentions and related Success Criteria	
Learning intentions (I/we will)		Success Criteria (I/we can)	
5 Learning and Teaching Activities (embedded AifL strategies) and links to theory			
(Introduction / starter activity, Main Section, Plenary, any extension activities, individual pupil support?)			
Introduction			
Main Section			
Plenary			
End			
6 Resources and climate for learning – materials / space / organisation / positive behaviour management			

Section B: M final conversation and J email conversations:

M: "I think it is improvising a new way of looking at an idea,...so you have this plan ahead of you, it's like going 'I'm going to go from A to B, and I'm going to take someone along with me', but then, along the road, like you know which way you're going, but they don't know where they're going, and then they see another route, and you go..... 'er, you can't see ahead of me, why do you see this route as clearer?', if that makes sense a little bit, and then you're adapting and going 'ok, let's see what happens', but then they don't know where they're going, so you're both like improvising the way along, like how we're getting to this point up here

C: that's really interesting because my initial project started out looking at the word pedagogy, and if you trace pedagogy right back its about walking alongside, it was about Greek mentors, effectively, people employed by the family to walk their children to school, and the educational value was about walking along side...

M: Ped -huh!

C: Yes ped exactly, it's that your walking alongside each other, because if you're, if the student or pupil goes slightly wayward, they improvise a way through, and you're trying to improvise along that same path, I'm going to have to play around with that, because there's something in that, because it's being responsive to where the pupil is going, and at the same time, making sure that you're still...

M: in that path...that still, the ending, doesn't need to be this path, but what gets me is...when you, you're going from part A to B, and you've got this path, and you've got signposts along this path, even if your improvising along the way, it doesn't really doesn't matter letting them experiment and improvise, as even if they do get to B and then come back the way and hit those signposts, who says that B has to be ahead of those signposts?

C: but doesn't that create an absolute tension with how you are taught to teach?

M: Yeah, absolutely, oh my goodness, absolutely...it's kind of like exams, we need to hit all these signposts before you do the exam, and when you do the exam you know that you know this topic inside out, but why are those signposts the knowledge you need, those signposts are just a very small part of that final ex, that topic..."

J email conversation:

"A well-structured lesson plan prepares a lesson like a pathway down a road. This is the path and only path, so we have blinkers on subconsciously because this is the path and we might miss something else that could happen. But I find myself that I am standing and there are different pathways all around me. I feel some of them are better than others, some also bring a similar outcome, but which one do I pick????? CAROLYN WHICH ONE DO I PICK?"

Figure 5.9: Journeying in the lesson planning form

I play with these two striking passages of conversation, both independently bringing the metaphor of paths and roads to the project. I play with these discussions in the lesson planning form, finding that they diffract and generate with many of the boxes.

Principles	
3 & 4 Learning Intentions and related Success Criteria	
Learning Intentions (I/we will)	Success Criteria (I/we can)
"going to go from A to B, and I'm going to take someone along with me"	"getting to this point up here" "exams, we need to hit all these signposts"
5 Learning and Teaching Activities (embedded AifL strategies) and links to theory	
(Introduction / starter activity, Main Section, Plenary, any extension activities, individual pupil support?)	
Introduction	
Main Section	
...so you have this plan ahead of you, it's like going I'm going to go from A to B, and I'm going to take someone along with me, but then, along the road, like you know which way you're going, but they don't know where they're going, and then they see another route, and you go.... "er, you can't see ahead of me, why do you see this route as clearer?", if that makes sense a little bit, and then you're adapting and going "ok, let's see what happens", but then they don't know where they're going, so your both like improvising the way along, like how we're getting to this point up here. Pull up ultimate intention still pulling attention back. in that path...that still, the ending, doesn't need to be this path, but what gets me is...when you, you're going from part A to B, and you've got this path, and you've got signposts along this path, but even if your improvising along the way, it doesn't really doesn't matter letting them experiment and improvise as even if they do get to B and then come back the way and hit those signposts, who says that B has to be ahead of those signposts C: but doesn't that create a tension with how you are taught to teach? M: Yeah, absolutely, oh my goodness, absolutely...it's kind of like exams, we need to hit all these signposts before you do the exam, and when you do the exam	
Plenary	
End	
6 Resources and climate for learning – materials / space / organisation / positive behaviour management	
"A well-structured lesson plan prepares a lesson like a pathway down a road. This is the path and only path, so we have blinkers on subconsciously because this is the path and we might miss something else that could happen. But I find myself that I am standing and there are different pathways all around me. I feel some of them are better than others, some also bring a similar outcome, but which one do I pick???? CAROLYN WHICH ONE DO I PICK?"	

"I'm going to go from A to B and I'm going to take someone along with me". I play with M's comment in the intentions box on the lesson planning form. The word 'I'm' jumps off the page. It is a word we don't usually see in this box, where learning intentions tend to either be depersonalised (e.g. To begin to explore the pentatonic scale) or be aimed at the pupils (e.g. Pupils will, we will or you will). The word 'I'm' plays with the box. Are the intentions only of the teacher – where *they* are going and going to take others? Does the word 'I'm' suggest the teacher is travelling the route anew? They are also 'going', travelling-with. The use of the word in the phrase 'I'm going to take someone...' plays with the box in a different way. Is the teacher choosing those who will accompany her? Is it only 'someone' or also 'somethings'?

that are taken with them? This comment, in this box, also starts to open up thoughts about intentions as a journey between A and B, two identifiable, declarative points. What happens when we re-see journeying not as a binary movement, but as a messy, rhizomatic, entangled movement? What happens to learning intentions in a posthumanist frame, where what occurs in entanglements cannot be predicted in advance?

“getting up here”, “how [are we] getting to this point up here”. M’s expressions of ‘up here’ play with the notion of success criteria in planning. Within these comments, up, makes me think of Lakoff and Johnson’s analysis of ‘up’ as relating to greater knowledge, and progress (Lakoff and Johnson 1980). Success is reaching ‘up’. The tension M poses in her comments about ‘up here’, is how, ‘*getting* here’ in non-linear, exploratory, improvised ways, is reconciled with what seem to be fixed ‘points’ which are deemed ‘success’. This tension plays strongly with my thoughts about the success criteria box. I often watch student teachers at the end of a lesson return to the success criteria and ask pupils to say whether or not they have met the success criteria. M’s comments with my own experiences and the form illuminate the way the success criteria box acts. While M’s comments show a willingness to join in with pupils as they explore, ultimately the intentions of the lesson and their corresponding success criteria, pull her attention back to the end point, ‘getting *here*’. This leads me to further questions about how success criteria and improvisatory acts of teaching intra-act. How could they be “enabling constraints” (Manning and Massumi 2014) which are form-giving (Ingold 2013)? How do we create forms, and boxes within them, which allow student teachers to become-with in creative, experimental, responsive ways?

“why are those signposts the knowledge you need?” “who says that B has to be ahead of those signposts?”. M’s questioning of the form she is becoming-with illuminates a struggle. A struggle with who decides what knowing is important, a struggle with knowledge as fixed in particular spaces, by what M describes as signposts (which as a term conjures up images of physical directional markers, to show you the way through a landscape), and a struggle with knowledge as a singular line.

This same tension is reflected by J’s comment “this is the path and only path”, who asks me to think about how that plays with his attentionality. Being focused on the intentions of travelling along *one* pre-determined, intention-filled path, J suggests that this impedes our ability to pay attention to what else is going on. If the intention of a lesson is to get from A to

B, as suggested by M's comments, then are we as J suggests 'blinkered'? Where emergent intentions do arise M's comment "er, you can't see ahead of me. Why do you see this route as clearer?" suggests moments of tension. Where the intentions of the teacher, the form are in-tension with the pupil, the material, the space and the time.

This reminds me of Masschelein's article 'E-ducating the gaze: the idea of a poor pedagogy' (2010). Instead of considering education as 'educare', as teaching, leading to a particular perspective or position, Masschelein argues for 'e-ducere' as meaning to lead or reach out. As he summarises, "E-ducating the gaze is not about getting at a liberated or critical view, but about liberating or displacing our view. It is not about becoming conscious or aware, but about becoming attentive, about paying attention" (Masschelein 2010:43). The term gaze here is important. J and M's comments suggest form as narrowing the gaze, where attention is paid to what gets us (both teacher and pupil) from A to B in the most efficient manner. Efficiency, as minimising disruption to the procedure, is to keep attention on the intention. However, both M and J express how the form (with its efficiency of process, its pre-determined path and clear intention) and their experiences of reality ("why do you see this route as clearer?", "I find myself that I am standing and there are different pathways all around me... but which one do I pick?") disrupt their gaze, making them become vulnerable.

Section C: E email conversation and discussion in final workshop:

E: *"the constraints are definitely the pressure of exams! I had so many ideas to make my Nat5 class more engaging using improvisation during a Scottish topic – for example perhaps playing the Scottish dances and I was going to teach them the important features through playing, this wouldn't necessarily be planned, by as we came to a section we could talk about it and try it out. However, my teachers were worried they wouldn't have everything learned by the exam, and asked me to fire through everything and expected me to use a PowerPoint, explain / describe and give musical example and then move on...which was a bit of a let-down"*

Figure 5.10: Who's planning

Initially playing with E's comments, I focused on the box for linking to curriculum documents and exam syllabi. However, as I played, moving the statements around in different boxes, different questions and issues were foregrounded. Playing opened up E's statement, diffracted it in different ways, making me re-read it with different parts of the form. What is captured in this picture and the comments that follow are just one iteration of a process.

2 CfE (BGE) Es and Os and CfE Design Principles	E: "the constraints are definitely the pressure of exams! I had so many ideas to make my nat5 class more engaging using improvisation during a Scottish topic."	
3 & 4 Learning Intentions and related Success Criteria		
Learning intentions (I/we will)		Success Criteria (I/we can)
Teacher intention: E: my teachers were worried they wouldn't have everything learned by the exam		to fire through everything Teacher Success!
5 Learning and Teaching Activities (embedded AifL strategies) and links to theory		
(Introduction / starter activity, Main Section, Plenary, any extension activities, individual pupil support?)		
Introduction		
Main Section		
E: I was going to teach them the important features through playing, this wouldn't necessarily be planned, but as we came to a section we could talk about it and try it out.		
[instead] they asked me to fire through everything and expected me to use a PowerPoint, explain / describe and give musical example and then move on...which was a bit of a let-down"		
Plenary		
End		
6 Resources and climate for learning – materials / space / organisation / positive behaviour management		
Powerpoint Musical examples		

"my teachers were worried they wouldn't have everything learned by the exam". I knew as soon as E made this comment that I would play with it with two different readings. Firstly with 'they' as meaning the pupils, which is what I assume was intended. A second way of reading the sentence is with 'they' as meaning the teachers, where the teachers are the ones who have to learn everything. This plays with the meanings of the learning intentions box. It plays with my thoughts about where learning intention come from, and who they are for. Stating that the learning intentions are for the teachers is to shift the attention. Where learning intentions are for pupils, the attention is on how the pupils respond and learn. E's comment shifts attention to whether the intention of the lesson (getting through everything) is achieved by the teacher.

I add "to fire through everything" as the success criteria, as the measure by which learning intentions are assessed. Doing this raises questions for me not only about who lesson plans are written for, but for who, and how they 'act' with student teachers such as E in shaping

not only how they think and feel, but how they *are*. To “fire through everything” sets up not only a success criteria for content transfer, but also a way of being with the pupils and the materials. E’s description of being told to “explain / describe...give...and move on” makes me consider the elements of speed, time and space, all of which can be seen to be indicated by these short phrases. While the description of the events points to many of the Enlightenment views of knowledge (fixed, transactional), E’s comments focus me more on the materials involved. Using the materials box of the planning form, adding the musical examples and PowerPoint as the two materials E mentions, is to see how the form itself makes them passive, sitting alone, in a list, to be collected and used as a singular entity. If meaning and matter are intra-active in their becoming (Barad 2007), then the *process* of their intra-action is important. The question arises as to how student teacher’s becoming-with this form see matter and meaning as intra-active? How do they plan for and explore *how* the materials are to be involved in the learning?

Section D: Final workshop:

The following excerpt comes from a conversation in the final workshop around the idea of possibility thinking, which started from M stating “what else can we use a table and a drum for?”. This idea was developed through conversation among the group using the words ‘trying out’.

M: *“I suppose I mean try out in a traditional and a contemporary sense, taking something and working it in a new way”*

J: *“...school with traditional values with a contemporary approach...it goes back to the system, it’s the way it’s done, but everything is invented, it’s like different ideas towards the same value...so it’s the approach which is important, the process, getting away from the traditional and trying different ideas...”*

S: *“but tradition is stuck on there so people don’t get scared...so tradition might not be that great”*

J: *“so, [primary school name], old Victorian building, P1 on the ground floor, P7 made to climb the stairs to the top and a massive open space in the middle, with a net across the gap, that’s the space, the structure they work in. Take [name of new build school], community spaces, one room, one environment for all, all open plan, all on one floor, that’s the language they use today for designing schools....that’s exactly the same as the Victorian space, just a different approach.....we [as student teachers] are asking for space to try out new things, but it might not be so new...”*

M: "but is that not tradition and curriculum getting in the way? So, we have 30 individuals, we let them experiment and improvise, and they're creating their own knowledge, but we might end up over there, not where we need them to be"

S: "and we go back to space"

M: "yeah, whether we have any really?"

Figure 5.11: Spaces in the planning form

I was fascinated by this turn of the conversation. For many months I struggled to play with this part of the discussion, appearing so focused on more general tensions around schools as institutions. I couldn't see what to play this discussion with, how to open it up and explore it in relation to becoming-with. And then I happened to have a copy of this discussion on the table along with the blank lesson plan. By playing with the conversation with the form diffracted the conversation to illuminate a different focus, that of spaces, improvising with traditions, and established processes.

1 Prior Learning Evidence from teachers' records of progress and your own observations	J: it goes back to the system, it's the way it's done, but everything is invented, it's like different ideas towards the same value...
2 CFE (BGE) Es and Os and CFE Design Principles	"but is that not tradition and curriculum getting in the way? So we have 30 individuals, we let them experiment and improvise, and they're creating their own knowledge, but we might end up over there, not where we need them to be" S: "and we go back to space" M: "yeah, whether we have any really?" which 'we' -> extend why 'need' (or at least view of it).
3 & 4 Learning Intentions and related Success Criteria	
Learning intentions (We will)	Success Criteria (We can)
5 Learning and Teaching Activities (embedded AifL strategies) and links to theory	
(Introduction / starter activity, Main Section, Plenary, any extension activities, individual pupil support?) Introduction Main Section it's the approach which is important, the process, <u>getting away from the traditional and trying different ideas...</u> we [as student teachers] are <u>asking</u> for space to try out new things, but it might not be so new... Plenary Does the lesson plan act in our way? How could different processes lead to difference-making? End	
6 Resources and climate for learning – materials / space / organisation / positive behaviour management	
so, [primary school name], old Victorian building, P1 on the ground floor, P7 made to climb the stairs to the top and a massive open space in the middle, with a net across the gap, <u>that's the space, the structure they work in</u>. Take [name of new build school], community spaces, one room, one environment for all, all open plan, all on one floor, <u>that's the language they use today for designing schools....that's exactly the same as the Victorian space, just a different approach</u> challenge to radical spaces that really shift how we become-with?	

One particular thread in this conversation, that of space, pulls at my attention. In the first iteration of this thread, space is discussed between M and S.

M: "we might end up over there, not where we need them to be"

S: "And so we go back to space"

M: "yeah, and whether we have any really?"

M and S's exchange, situated in a discussion about curriculum and traditions, makes me consider how they are using the term space as a constraining set of boundaries. They discuss the space of learning, as being constrained and where there is a possibility to end up beyond. They discuss the notion of personal space to make decisions as having or not having space. These discussions align with Barad's argument that, "spatiality is often thought of geometrically, particularly in terms of the characteristics of enclosures (like size and shape)" (Barad 2003:825). Their conceptualisation of the spaces of curriculum and traditions is one of limits, edges, ends. These boundaries of which M and S talk are not only seen and thought, but they are felt. There is emotion in how they speak of feeling contained within these geometric spaces. There is much to be played with in this one statement, but my immediate response is to play with their comments and consider the spaces of the lesson planning form itself, as a series of limits, edges and ends. J's comments play further with this idea;

J "that's the space, the structure they work in"

J "that's exactly the same as the Victorian space, just a different approach"

J's comments suggest an idea of spaces as essentially remaining the same, but that the way we can be in the space changes. This intrigues me. It raises questions as to whether the spaces on the lesson planning form are "exactly the same" through time. Massey's conceptualisation of space as "a practised place" involving "the sphere of relations, negotiations, practices of engagement, power in all its forms" (Massey 2005:99), disputes this idea of space as fixed. Where J is separating space from ways of being, Massey's argument reframes space as 'made'. Barad and the posthumanists extend this view of space, to argue that how it is made is inseparable from time and matter, spacetime mattering (Barad 2007). From this perspective, how we are in a space, our ontology, in itself through our intra-actions with time, space and matter creates anew. We fundamentally change the space from being in it and yet for J the boundaries and edges of the spaces seem permanently fixed. This idea of permanency is given a slightly different twist by M whose comment "we [as student teachers] are asking for space to try out new things", makes me play with the idea of space as something which can be requested and given, as like handing over a geometric shape to use.

M's comment plays with the lesson planning form raising questions about how thinking with improvisation has surfaced feelings about spaces, their ability to become-with these spaces and the tensions the boundaries create. Becoming-with forms in this way is to become

vulnerable to these tensions, allowing form to be disruptive and therefore generative. As Klee states, these conversations have allowed us to “take [the lines of the form] for a walk” (Klee in Ingold 2013).

An Interlude: The role of the ostinato

The presence of the lesson planning form as an ostinato throughout this variation has worked on me in two ways. Firstly, it has acted as an ostinato pattern, a recurring material, formal, and spatial element which aligns with the presence of this ostinato pattern throughout the project. A little like Ceuleman et al.’s use of the term ‘tracings’ in relation to their work on teacher professional standards (Ceuleman et al. 2012), this ostinato exerted itself in a variety of ways; as a mobilisation of discussion, disagreement, debate and ideas; as a positioning of the group in relation with the profession, policies and curricula, each other, school based colleagues, and the ideas of the project; and as a way of creating associations across varied practices, from children’s play, to classroom practices and most importantly as a diffraction of the key concern, teaching as improvising. As well as the ostinato working as a background pattern, it became foregrounded as a playful material. Writing the research group’s ideas into the planning form troubled existing ways of seeing and being with that form, helping me re-read both the comments and how the form ‘acted’ on the project.

Variation D: Becoming-with materially embodied spaces (Thematic Fragments)

Thematic fragments: In musical composition taking a fragment of the theme and reworking it into something new and different is often used as a variation technique. Choosing a fragment for this variation happened without me purposefully setting out to do so. Instead, very early on in playing with the research materials I realised the presence of space objects. These space objects²⁹ were a conceptual, material, embodied response to what had previously been, and therefore what the student teachers had become-with.

²⁹ Space object: “An object that’s used in the scene but which doesn’t really exist. A mimed object” www.improvcyclopedia.org

Space objects in the initial conversation

I was sitting in a meeting room on the sixth floor of the School of Education, with nothing but a large desk and chairs, no reference to music or musicing in the space or materials of the room. They knew I was a music educationalist, but had never seen me musicing, I'd never played music with them, never been present when they played music. And yet the conversation S and I had, the intra-actions, were with matter which wasn't in the room. We were with instruments, with sound, with other people. We were 'making with' these materials which we had become-with, despite the separation in time and distance from the events described.

The pictures of the space objects he enacted isn't just a representation of instrument (as could be imagined from these still pictures) but is part of a dynamic flow of physical movements and started sentences in which the music, the instrument and thoughts come in a flurry of response. The following section of conversation involved not only the presence of the instruments (as shown in the still pictures), but also **other participants voices which S spoke** and *S's physical and verbal responses to these*. It is interesting to note that this conversation happened before I had shared with the group that my focus was on improvisation.

S: I wasn't worried about getting things wrong because I'm used to making things up so when I first did, I did my first sort of improvisations in like a sort of pub basement in Aberdeen in 1999 having not really done it before, it was like:

(Looking to the side as if a musician in the session is talking to S) "ok, you can just sit in on a session and play"



(Loosely miming the warming up of the trombone, quick movement of slide)

(Mimes playing the trombone)

(Looks back to the side) "oh ok, you need to make some space, so dinna play all the time"

S: "Oh, ok sorry"

The picture of S 'trombone-ing' isn't creating a representation of the instrument, the instrument is most definitely there with us, leading S to flex his muscles, creating the tension in his fingers and arms, responding in the moment to the changes in action needed

by the improvisation. This is habitual embodied becoming-with, a continuation of the playing he has done for years as part of the here and now. This is most obviously the case in the moment in which he ‘warms up’ the instrument before the session begins, a habit uninterrupted by the lack of a physical instrument. The instrument is enmeshed in the moment, inseparable from the goings on. It is as much about the bodily responses to the events, the movements, the gestures, the way the body and materials intra-act with each other. This was evident in other moments of the conversation where he re-told experiences of ‘just having a go’ with a clarinet, the experience of vamping chords on a keyboard and trying out three guitar chords with his children, all weaving physical responses, verbal description and affective statements, where one was inseparable from the others.

Figures 5.12-5.14: Materially embodied spaces



‘Clarinet-ing’



Keyboard vamping



‘Guitar-ing’

Interestingly, there was a moment when the physical making of the instrument spilled over into the gestures associated with the verbal responses that followed. The movement of S’s hands when discussing the words ‘more’ and ‘too’ in relation to playing in the improvisation were accompanied with a long flowing arm movement forward’s and down. This wasn’t the trombone instrument which S had played seconds earlier, which had shape and tension, but the movement of the arm was distinctly aligned to that of the trombone slide, where gestures for playing music and trombone-ing are inseparable.

The intra-actions with the other people that have joined us are also interesting. They exist to the side of us, not to our front, as there is no ‘front’ only an in between as we sit opposite each other. These people, their actions and responses are important to S’s account, and casts new light on the original starting point for this section of the conversation in which S said he ‘wasn’t worried about getting things wrong’. The notion of right and wrong is a common thread through much of the conversations we had across the project as explored in the previous variation, but here S is intermingling a different of approach to ‘being wrong’.

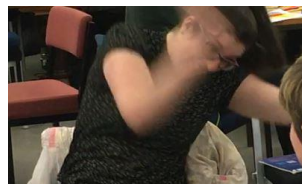
The account of him filling the space too much during the improvisation, and the subsequent interactions with the others in the improv are of voices alongside, interestingly starts with the other voice saying 'oh ok', an affirmative note accepting what S had given to the situation, much akin to the 'yes, and' theatre improv game (Johnston 1979) which we were to explore in the workshops.

Materially embodied spaces, where materials and our physical becoming-with them are fundamental to our spatial relationships, weren't limited to S's initial conversation with me. Space objects, particularly space instruments were evident throughout our workshops.

Figure 5.15-5.17: Space instruments



Space Piano



Space Cymbals



Space Conducting

These additional materially embodied intra-actions were habitual, physical enactments across timespacematter (Barad 2007). They were a part of now, part of the performative state of becoming-with our conversations and our activities. They are an embodiment of pedagogy, of learning, of becoming, asking questions of how we learn to move and become-with differently when we are so physically entrained?

[Codetta: Becoming-with](#)

This Theme and Variations focused my attention on three interconnected relationships in the Music ITE environment; sound, verbal expression and form. These relationships are not solely human but are material and conceptual.

Exploring them as sites of becoming-with was to see the tensions that are embedded in these relationships, not as a result of entangling with improvisation, but as foregrounded by the particular aspects of improvisation that we explored. In other words, improvisation as a 'radical apparatus' didn't *cause* these tensions but enabled them to be explored and played with. It is of note that all three of the relationships foregrounded by improvisation (sound,

expression, and form), all have strong *musical* connotations and associations. This is undoubtedly not a coincidence but opens up the particular ways music student teachers entangle and become with Music ITE.

Variation A explores ideas of intra-animating polyphonic voices between matter, bodies and spaces. Through playing diffractively with a particular sequence of musical improvisation, these intra-animated voices can be seen blurring boundaries between human and non-humans, where the sequence developed open, playful and exploratory possibilities. In doing so they are actively (re)-shaping the relationships between us. This contrasts with the group's discussions about improvising with words where verbal sound was seen as exposing rather than playful. The tensions of the relationships of music student teachers with sound were evident not only in their verbalised thoughts, but also their actions, and ultimately the question posed by A who asked, "*what is the teacher's role in using sound?*".

Variation B illuminates four verbalised expressions or metaphors which became-with the project's discussions of improvisation. These expressions (bouncing off, light dying, right or wrong, comfort/discomfort), each highlight ways in which thinking with improvisation led to relationships with materials, sounds and bodies as set in motion, challenging enlightenment views of knowing, but also creating different concepts of vulnerability as a space of possibilities.

Variation C plays with the idea of form (in this specific case the lesson planning form) as a site of tension as structuring a defined path, but also in defining relationships with materials, other teachers, spaces and in shaping their own ontological identities as teachers. Form as imposed, fixed, and inert is challenged in this variation, seeing the form as an active participant in the student teachers becoming.

Variation D explores the evidence of materially embodied intra-actions on our becoming-with. The intensity of these fragments asks us to re-see becoming-with not only becoming-with 'things' in the present (sounds, metaphors, words, forms), but recognising the role of our prior material intra-actions in *how* we become-with in the present.

Coda

A coda in music is often used as a concluding passage to a composition, however it isn't a restatement of what has occurred in the piece, or a bringing together of all the different strands which have been introduced. Instead a coda in a musical work is usually an addition to what has gone before, something that adds to the structure. Etymologically the term coda comes from the Italian *cauda*, meaning 'tail', a tail made of threads, or maybe in this thesis it should be a 'tale of threads'. This tail / tale therefore isn't a summary chapter, reviewing and discussing what has gone before. It is not a looking backwards. It is not a chapter which finally fixes what has been found and leaves you as a reader with *an* understanding. Instead it focus on two main sets of questions. Firstly, what was set in motion by thinking and playing with improvisation, posthumanism and Music ITE? What did entangling with improvisation and posthumanism 'do' in this project? The second question is what difference-making occurred as a result of these 'doings'? What challenges, issues or ideas emerged? Where else do these take us?

What has been Set in Motion?

Research, as Taylor and Hughes (2016) argue, cannot be conducted or carried out, it can only be "activated, enacted, instantiated...setting in motion a cacophonous ecology of bodies, objects, materialities, affects, sensations, movements and forces" (Taylor and Hughes 2016:20-21). What has been 'set in motion' in this project has been a particular entanglement of Music ITE (including us as the research group) *with* improvisation *with* posthumanism. This entanglement has been activated not only through a planned process, based on decisions made months or even years before the project started, but also by what this entanglement between Music ITE + Improvisation + Posthumanism 'did'. What occurred in the moment, in between. These intra-active 'doings', which were material-sensorial-embodiments, is where difference-making occurred, where we did thinking, making, teaching, being differently than we otherwise would have. It was where concepts and ideas were opened up to different ways of thinking, where habitual behaviours were disturbed, where new material intra-actions were made, where processes and notions of learning and teaching were re-storied in different ways. Central to these 'doings' was the way Music ITE *with* improvisation *with* posthumanism created its own material-sensorial spaces.

Right at the very beginning of my PhD, I came across Doreen Massey's work on space (2005) as a practiced place (Massey 2005). Her three propositions resonate strongly here with the space of this project's entanglement. Firstly, the spaces of this entanglement is a product of the intra-relations. It does not exist without the particular coming together of the ideas, people, bodies, materials in this time, in this place. Secondly, "multiplicity and space are co-constitutive...without space there is no multiplicity" (Massey 2005:9), where potentialities for difference, new, possibilities are allowed to become. Thirdly, "space is always under construction...never finished, never closed" (ibid. 9). The entangled spaces in this project weren't planned, created and then existed to us as a group as something we were 'inside'. The spaces were constantly breathing, moving in and out, reaching across and between, sometimes jumping, making a leap into another area of my living, teaching, thinking. They are still playing with me as I type these words, yet again changing the nature of the space.

The intra-relations of the entanglement of Music ITE *with* Improvisation *with* Posthumanism and their 'doings', have made a different type of space. One which has different characteristics to other Music ITE spaces, other forms of research space, one which is unique to the timespace-matterings of this project. These characteristics are considered as; spaces for different vocabularies, spaces for materials as participants, spaces to open up concepts, spaces to re-imagine bodies, and spaces for playful diffractions. These characteristics of the entangled space are a manifestation of the entanglements 'doings', where differences have been made, and where the contribution of the project emerges from.

Spaces for different vocabularies

Both improvisation and posthumanism brought into the entanglement a plethora of words and phrases. These vocabularies haven't remained separated, fixed in meaning by their original entry point, but have intra-acted, constantly morphing and moving with(in) the space. It has continually struck me throughout the project how easily these vocabularies intra-acted, setting in motion new depths of meanings. For example, one of the defining characteristics of improvisation, as openness to what happens in the moment, has continually resonated with the theatre improvisation ideas of 'accepting offers' (Johnstone 1979) but also with Haraway's notion of "staying with the trouble" and "response-ability" (Haraway 2016), Ingold's writings on "attentionality" (Ingold 2016) and Barad's term "bodymind" (Barad 2007). It is this entangling of the vocabularies (as depicted in figure 6.1), the meanings they have created in

relationship with each other which have contributed to the space of this project being practiced, talked about, and thought about in a unique way.

Figure 6.1: Entangled vocabularies



Spaces for materials as participants

The intra-action between Improvisation and posthumanism changes our relationships with materials and therefore makes for a different type of space. Improvisation makes us consider the potentiality of materials, and the desire to explore this constantly in-the-moment. With posthumanism, it is the shift to an ontological levelling of materials as active and equal partners in our spaces. The intra-action of improvisation and posthumanism in this project has set in motion a broad range of materials which have shaped, contributed, challenged and (per)formed the space. Some materials ‘troubled’ our bodyminds (notably the trouble playdough created in the music ITE space), while sometimes materials that were familiar became troubling (notably the keys which became an instrument, troubling what was perceived as musical). Sometimes materials changed the way we considered other materials (for example, S’s collaged picture of the piano with coloured threads of wool), while other materials thrust themselves into the project space (such as the Cat’s Cradle silk thread or watching the diffracted ripples on the lake).

‘Accepting the offers’ (Johnstone 1979) materials made in this project, allowing them to ‘do’, made the space *feel* as a material-sensorial experience, significantly different. It allowed

thinking and making to occur that wouldn't otherwise. It allowed ideas and concepts to be opened up, explored, re-seen, felt and embodied. It brought the conceptual into 'lived' experiences.

Spaces as opening up concepts

This sense of 'holding open' is particularly relevant to the 'doings' of concepts in this project space. As Barad (2007), Taguchi (2012) and Murris (2016) argue, concepts can no longer be considered separated and human-only constructions. Instead, they are material practices, arising from, and acting on our material entanglements. A notable example in this project has been my thinking with the term diffraction. This concept, as something I initially read about in posthumanist literature (Bozalek and Zembylas 2017) has not remained an abstracted, separated concept, only on the page or in the mind. Instead this concept has materially lived not only with water (watching the ripples on the lake, wild swimming, thinking as I watch the waves of the sea in my local harbour), but with sound (in the musical improvisation activities, when listening to my children playing in different rooms of the house) and with light (through watching changes in the weather, the photographs I have taken for the project, and in thinking with the research group's mentions of light metaphors in learning – see p. 178). It is through these material-sensorial intra-actions that it has been possible to look, see, feel and think with from multiple perspectives in this space. It is multi-dimensional and therefore multi-perspective. The material doings of these concepts have 'held open' the possibilities of their role, making with us to think, do, see and feel differently.

Spaces to reimagine bodies

Both improvisation and posthumanism have required a reconsideration of what bodies are, and how they make with the space of the project. Improvisation, with one of its defining characteristics being the notion of non-hierarchical positionings of others in relation to the self has raised questions of status, power, authority and positioning. These have intra-acted with posthumanist ideas of 'being minoritarian' (Taguchi 2012), opening up interesting spaces to think, speak about, but also embody, how both improvisation and posthumanism disrupt bodily habits and learnt behaviours. While it could be considered that key to this space has been to 'set bodies in motion' (through physical, embodied activities), Barad (2007) argues that all bodies are already in motion. Taylor and Hughes add to this view arguing that we need to "recognizing skin not as a barrier-boundary but as a porous, permeable sensorium of

connectivity with/in a universe of dynamic co-constitutive and differential becomings” (Taylor and Hughes 2016:15). This posthumanist thinking plays with the improvisatory, making us consider bodies as both human and non-human, and as porous with / in the space. The bodies are the space, the space is the bodies. No one body was set in motion, but what was set in motion was these bodies *together*. It isn’t therefore a space in which we can tell a story of what happened to one person, but it is the story of how the entanglement made differences in-between moving bodies (both human and non-human).

Spaces for playful diffractions

Another key characteristic of the spaces made by this project is that it is playful. The entanglement itself is not a static object, waiting for things to be discovered. It is only through playful diffracting of the materials, literature, experiences, embodiments and life, that the space has been made as it is, and made differently from other forms of research. Play, as a way of ‘pushing out’, keeps the space in motion, keeps the ideas, thinking and experiences dynamic, and therefore has allowed for a richness of intra-relations to make the space (Massey 2005). A notable example of these playful diffractions has been the use of image and different forms of writing in the thesis. My playing with combining image and text, has kept the materials active, literally kept them mobile and entangled with different literatures, ideas and experiences (hence why some materials appear more than one in the thesis). Throughout the process of writing I have wished I had better illustration skills, better IT skills, to be able to play with images even more, to refine how I use them and to make the images come alive more in the text. However, this is a performative playful space, where the raw edges of the playful entanglements (particularly in the variations) are an important part of the process, where I am not trying to ‘represent’ neatly arranged objects and arguments, but be transparent in the way the playful diffractions have unfolded, which includes being transparent about my own limitations. As well as limitations with creative drawing and making, another key limitation has been the ability to feel playful. As I write this sentence, my children break up for the summer holidays from school after three and a half months in lockdown due to Covid-19. This event, and the subsequent impact it has had on my family’s life, has changed the space of the project, and particularly my ability to intra-act with the space. Playfully diffracting with the materials and literature has been difficult, in a reduced physical space (working in a room adjacent to children chatting and laughing and learning

online) and a reduced mental space where emotionally the struggles of staying in, not being able to be with extended family, or have access to my usual mechanisms for feeling playful such as being in the bustle of a coffee shop temporarily stopped me writing. And yet, being playful, with my children, making together and improvising (both musically, physically through play, and with materials sent by the school) has been a completely entangled living of the project's ideals. While these limitations (my artistic skills and feeling playful) have sometimes felt frustrating, they themselves have been playful diffractions of the project space. I have had to adapt, be response-able in the moment, playfully diffract, not to block the limitations but to accept them and keep the entanglement moving.

Thinking about how the space of the project was characterised at this point in the process, is to realise how much was in motion, constant, unstoppable motion. Moving us all (human and non-human) backwards and forwards, across and between, in and out. It was the movement of this living and breathing entanglement which made the spaces of this PhD *feel* different, and as a result difference-making emerged. These differences aren't represented as conclusion, full stops or an end. They are beginnings. They are where this thesis has arrived at for now, but knowing that the movement, and therefore the difference making will carry on beyond the last words.

What Difference-Making Emerges from these Entanglements?

To notice difference-making is not always an easy process. It requires being a 'listening-being' (Lipari 2010), sensorially attentive to what emerges from the playful intra-actions and how they 'trouble' existing stories. To recognise the difference-making potential of this project has involved e-ducating my gaze (Masschelein 2010). This isn't an education to be able to see what is 'really' going on, to try and find some sort of truth. Instead e-ducating my gaze has been about liberating my gaze, allowing it to be displaced from existing stories, existing forms of behaviour, existing relationships and vocabulary (ibid) and to therefore be response-able and attentive to where we are. These are accounted for here as diffractions, where existing stories of Music ITE have been 'troubled' by the project, pushing them outward to diffract their meanings, opening them up to difference. Each diffraction is told in three parts; a brief outline of how the project has diffracted existing stories, a middle section which explores

where the thesis has led us to, and a final part exploring how this diffraction displaces our gaze forwards, towards future diffractive playing.

Diffracting (music student) teacher

Posthumanism and its intra-action with improvisation in this thesis has diffracted the term music student teacher (and indeed student teacher, and teacher) opening it up to considerable potential. Firstly, posthumanism repositions human body not as a container, separated from the world. It can no longer tolerate notions of bounded individualism or exceptionalism (Haraway 2016), instead arguing that bodies are porous, tentacularly intertwined with the world (ibid), breaking down barriers of I-it, them-us, nature-culture, object-subject. These arguments diffract music student teacher, making us consider the term not as a label for an individual body, or for a cohort of bodies, all individually receiving (or consuming) the course. Instead the diffractions focus our attention on music student teachers as entangled bodies, where the richness of these entanglements in and beyond the course, in and beyond the subject, shifts attention to what Music ITE is joining in with. As Haraway argues, “Tentacularity is about life lived along lines—and such a wealth of lines—not at points, not in spheres” (Haraway 2016:32). This challenges notions of music student teachers both as contained bodies, but also containerised within the boundaries of a course, instead seeing them as *of* and *in* the world.

In this project the research group’s experiences intra-acted with these arguments, not as evidence of, or examples, but as lived diffractions of them. One such lived diffraction was the extent to which the group were already becoming-teachers, through their peripatetic teaching, work with arts groups, their own children or through work with other community settings. Discussions with the group around improvising, and teaching as an improvisatory act, drew heavily at times on these other, beyond course, lived experiences. While such beyond-course experiences are discussed in other research (see Welch et al. 2010), it is often in association with assumptions, beliefs and identities that may be brought into or transferred into Music ITE. Posthumanism challenges this bounded separation, seeing Music ITE as entangling with and joining in with these lived experiences. This is not only the music student teachers as joining in with a course, but the course joining in with the music student teachers.

This argument may be misread as what is commonly discussed as ‘starting from where the students are’, with strategies at the start of a course to benchmark and discuss beliefs,

assumptions or notions of identity which can then inform how the course is tailored for the learner. Much of this work is done through the spoken and written word. However, the argument here is subtly different. Here, what was striking about the research group's responses, even when speaking using words, was their entangled *ontological identities* and how these were embodied in both discussion and musical activity. These ontological identities weren't internalised, separated and individual, they were what occurred in entanglements with matter, other bodies, and spaces. These identities were evident in the group's physical playing-out of instrumental ways-of-being musical, such as S's trombone improvisation during our initial conversation (see page 192). They were also evident in how the group intra-acted in the musical improvisation activity, both where their ontological identities were comfortable (such as A's use of the cymbals) and moments of discomfort (for example G 'hiding' behind her instrument, see page 90). There was also significant verbal discussion of these ontological identities whether when discussing their bodily habits and relationships with their instruments (see M's description on page 155), their ways-of-being in musicing (see J's description on page 113), or musical experiences which had significantly challenged their ways-of-being music teachers (see R's description on page 90, or J's description on page 113).

Also surfaced through this project was recognitions by the group themselves of the limitations of their ontological identities. This included moments where the group highlighted feeling that a lack of experience in particular ways-of-being musical or being-teacher limited their response-ability as student teachers (see G's comments about piano skills on p. 118, J's comment about lack of making-together experiences on p. 109 or the discussion about being separated from classroom music learning on p. 115). These ontological identities (both their potentialities and the perceived limitations) were unstoppable, flooding into the spaces and intra-acting both with each other, and with the project's ideas and activities.

What was particularly interesting was the tensions these caused with notions of 'teacher', despite the fact many were already music teachers in different settings. Many of these embodied and verbalised ontological identities felt as moments where, as Giles notes in his article about comportment, "The teacher is not trying to be in a teacher's way of being but appears to be 'who he was as a person', 'a real person'" where "the teacher is teaching out who he is" where they reveal "his own-most, his most essential, way-of-being" (Giles 2011:64). This idea of an ontological coherence with self resonates with Murris's ideas of ITE

as a space which can ask student teachers to speak with a “representative voice” (Murriss 2016:25). The question being, do we also ask student teachers to be with an ontologically ‘representative body’?

Certainly, the moments where the group responded to images of teachers revealed the importance of physical being in not only deciding who was the teacher (see p.85), but also in how the group’s gaze was drawn. When we were exploring the images of music teachers, the hot responses made by the group were overwhelmingly focused on the teacher in the image, even though this wasn’t explicitly asked of them. The focusing of their gaze on the teacher in the pictures was interesting. In many ways it fitted with Britzman’s cultural myths (Britzman 1991), particularly that “everything relies on the teacher”, and therefore to look at what is occurring in a music classroom is to focus on the teacher and what they are doing. However, this dominance of gaze towards the teacher, is not only to lose sight of what else is going on, but arguably may illuminate an additional cultural myth to add to Britzman’s three; teacher as separated. It was only by playing with the images that the research group had responded to (using silhouette and lines, see p. 67), that the entanglements, but also the spaces of separation (strata, gaze) came into focus. What was intriguing about the image which the research group struggled to locate the teacher, was that these separation spaces, and associated status clues weren’t available, and yet plenty of the group had ontological identities which included the kind of collaborative music-making seen in the picture. This raises the question as to if we want to move away from Enlightenment views of teacher, what sort of images that depict status, strata, separates differently, are needed to challenge these assumptions. It also raises questions as to what sorts of *musical* ontological identities align strongly with the story of ‘teacher’ (i.e. those related to Britzman’s myths and traditional views of teacher / student relationships) and what it takes to re-story what ‘teacher’ is? Even though the group had experiences and had embodied other ways-of-being, there was ultimately still a struggle to ‘see’ these in a classroom setting.

While there is a significant lack of literature around ontological identities, or the associated role of embodied experiences in ITE as part of professional learning, there is a significant amount of literature on student teachers’ identities (including a comparatively large body on music student teachers). The raising of ontological identities as an important aspect of joining in with music student teachers, ‘troubles’ this existing literature, pulling focus away from

humanist beliefs and assumptions student teachers enter Music ITE with and exploring how these are challenged during ITE. Instead, ontological identities leads us to questions about the types of materials, bodies, environments, spaces, sounds that not only have shaped, but are continuing to entangle with Music student teachers throughout, and beyond the Music ITE course. This in turn asks us to pay attention to the nature of these ontological identities. What is embodied, ontologically coherent with existing ways-of-being, and what sort of experiences and materials are likely to disrupt these ontologies, to what effect and with what consequences for becoming-student teacher and ultimately becoming-teacher. These questions require us to fundamentally (re)consider what 'work' intra-actions within and beyond ITE are 'doing' to how music student teachers become. This awareness of ontological identities and what different intra-actions 'do' is central to diffracting Music ITE learning.

[Diffracting music ITE learning](#)

Posthumanism and improvisation in this project have joined in with and continued the threads of feminist and new materialist views of learning as contingent, situated, felt and embodied. This shifts the gaze from learning as an epistemological process to an onto-epistemological practice (see p. 106), where knowledge isn't separated from the world, but as knowing-in-being, as a practice of worlding-with (Haraway 2016). This notion of worlding-with creates particular questions for Music ITE and specifically the bi-location of ITE programmes between schools and Higher Education (HE) institutions (see p. 201). Traditionally, there has been a conceptual (and probably sometimes literal) divide between ITE in Higher Education as being the space for theories, discussion and the development of critical reflection skills, and schools as the site of experience, of doing and becoming. This separated characterisation isn't wholly true for many music ITE courses, where doing music and experiencing different forms of music making within the Higher Education institution is a central part of the course, and arguably theory-soaked practice in schools blurs the boundaries. In this project posthumanism and improvisation have shone particular light onto re-seeing musical doings in the HE element of teacher education not only as musical skill building in preparation for going into schools, not only as examples of materials or approaches, and not only as introductions to different musics that student teachers may not have experienced prior to the course. Instead, it reframes Higher Education within ITE as 'also' a site of ontological experiences, as a place where the body, and ways of being are explored,

not only conceptually but physically, through embodiment. This argument in itself isn't new, with authors such as Aldridge (2015) and Taylor (2018) exploring these very issues. What is different within this project is how improvisation as a 'radical apparatus', has illuminated particular aspects of ontological learning which we might consider important for further consideration within ITE³⁰. Central to this re-thinking of ITE learning is the idea of response-ability.

Developing response-ability

While posthumanism shifts us to think of learning as a process of being responsive to what emerges between the form, the materials, and ourselves, questions are then raised about how we develop this response-ability. This isn't a question of having epistemological knowledge of how to respond, but onto-epistemological abilities to respond to what emerges through what Merrell calls "bodymind" (Merrell in Taguchi 2012:267). This response-ability has been explored and considered throughout this project with the research group, as improvisation as a 'radical apparatus' opened up thinking-with and experiencing the ways in which the research group felt response-able or response-limited. What was interesting about these moments of exploring with the group (whether in the playdough and musical improvisation tasks or through discussion), was the role of three particular factors; histories, spaces and legitimacy.

Throughout the project, the group's ontological identities as a product of their histories, past experiences and entanglements, was evident. What was surprising was just how much the group themselves discussed how these ontologies impacted on their response-ability. Whether it was feeling they were limited by their musical experiences as forming particular ways of responding (see pages 116 and 119), thinking how particular experiences in or beyond music education have formed their response-abilities (see S's comments page 179, or R's comments on page 92), or considering how lack of experiences within certain types of pedagogic relationships limited their abilities to respond (see E's comments on page 110).

³⁰ With all these arguments, I am not suggesting that developments of this nature do not currently exist, but that explicitly identifying and opening up the ideas to comment and critique will enable us to think more purposefully with the idea of ontology in ITE.

Having spaces to be response-able was also a common thread. Interestingly there was an association here in the comments made by J about the idea of being considered *responsible* enough (having enough knowledge, experience and being trusted) to be response-able (see page 136). Some key aspects of these discussions were the role of the mentor or other professional colleagues in schools to make space for student teachers to use their abilities to respond (see J page 136, G page 179, H page 93). Another aspect was systems, processes and activities as being open enough to be able to go with, and be response-able with, what emerges (see page 43). The third aspect which was explicitly discussed was that of spaces which made them aware enough, to pay attention, to be “listening-beings” (Lipari 2010) to what is emerging rather than what was expected (see A page 180, R page 90). This idea of openness to what was emerging, as a bodymind concern which involved having space to respond, was also explored in relation to feelings of legitimacy or lack of legitimacy to respond. This included legitimacy to plan (see E page 188), legitimacy with materials (see J page 146), and legitimacy to act in-the-moment (see G page 179).

While histories, spaces and legitimacy to be response-able emerged as important parts of the discussions and activities of the project, playing with these ideas continues to set in motion questions for Music ITE. Most critically, it raises the question as to how we join in with student teacher’s ontological identities, recognising that their past experiences manifest in their abilities to respond in certain ways. Within the research group there were many different examples of the group’s response-abilities. Sometimes these were expressed as an aid to classroom teaching (see R page 92), while for some it felt that these abilities were at odds with what was being asked of them (see S page 90). There was a significant thread of discussion which explored how the experiences of Music ITE was challenging and changing the groups response-abilities (see pages 30 and 43), shifting away from assumptions and stereotypes of how teachers are (what might be thought of as a representative ontology) to a performative ontology, in which they felt able to respond in ways which were congruent with their ways of being.

Thinking with response-ability is to open up considerations as to how far our Music ITE courses provide experiences to explore different ways-of-being response-able. How often in Music ITE, particularly within higher education and through ITE processes, do we provide opportunity to explore other ways of being response-able, from beyond the formal education

world? Some particular experiences emerged from this project as having potential for (re)engaging our response-abilities in different ways. One such experience was that of different musical practices, with the most notable examples being the influence of Jazz improvisation on S's response-abilities (see page 7), M's experiences of Scottish traditional music (see page 110) and R's experiences of community music (see page 90). What was particularly notable about these experiences in this project was the way that improvisation as a 'radical apparatus' opened up the potentials of these 'already experienced practices' to help explore what they were experiencing, feeling or thinking. While engaging with different musical practices has been a common feature of the ITE courses that I have worked within, this shifts the focus away from exploring these in terms of strategies, activities, assessment issues and how they support curriculum aims. Instead, the focus is on how these musical practices changes relationships between teachers, learners, musical ideas, materials and environments. They open up these relationships to a lived critique, an embodiment of different response-abilities to all those who are involved. While the focus here is on musical practices, some different experiences arose as important in developing different types of response-abilities. One such opportunity emerged directly from the experiences of the group, that of playing with young children. Both S (see page 7 and 51), R (see page 51) and myself (see page 6) explored how our response-abilities in-the-moment were influenced by our experiences of being with children, being led by, and playing alongside. Another was the experiences of being a maker, which instigated different types of being response-able. This is an areas which has already begun to be explored, most notably by Burnard (2011) who explores the impact of creative partnerships between teachers and artists, in which she finds that through a process of mutual tuning in and a co-creation of a pedagogy, such partnerships "model the more improvised and less formulaic and fixed approaches to teaching" (Burnard 2011:69). While this project didn't engage student teachers in co-creation with artists, the experiences of making (via playdough, instruments, words) together in itself made spaces for different ways of being response-able (see pages 76-79, 131-134, 173-174, 91, 126).

This leads to questions of why these activities created spaces for exploring different ways of being response-able, and what the implications are for rethinking Music ITE learning. Three particular aspects of being response-able have become more visible through this project; status fluidity, gaze displacement, and playfulness.

a. developing status fluidity

Part of exploring the groups response-abilities (and limits of response-ability) and the materials of this project, has been the emergence of the idea of status fluidity. While the ideas of status and power were an undercurrent throughout much of the project, what has become increasingly evident is the ways in which response-ability relies in part on the ability to actively change status roles in relation with people or objects. Johnstone, in his descriptions of status in theatre improvisation, talks of the importance of recognising status not as something someone 'has' but as something someone does – something enacted (Johnstone 1979:36). This was clearly seen in the group's responses to the hot response pictures (see page 59-60) in which a lack of enacted status led to confusion about who the teacher was in a picture. They perceived teacher status as embodied in a particular stance and particular physical attributes. What was interesting was this image of teacher status as embodied and the contrast between this response and their own reflections of improvising within the classroom as involving them changing their own status. This was evident in conversations with R (page 92), H (page 93-94) and M (page 179) Their comments reminded me of what Johnstone describes as the "see-saw principle" (Johnstone 1979:37). Just as his theatre improvisation students had discovered, the group began to explicitly recognise that they could deliberately alter their own status, raising or lowering it to change the status of others. As Johnstone states, "I go up and you go down. Walk into a dressing-room and say 'I got the part' and everyone will congratulate you, but will feel lowered. Say 'They said I was too old' and people commiserate but cheer up perceptibly" (ibid.37). Johnstone argues that paying attention to our own status and how we embody it and understand how to change it (by deliberately lowering or raising it) allows us to give space and create power-with others. To maintain high status, with power-over others, is arguably to reduce our response-ability to what happens. The image of theatre improvisors deliberately learning how to switch their status, deliberately lifting up the status of others (which in a posthumanist frame would include materials as well as other humans), and to be attentive to how to play their bodies, actions, verbal exchanges to achieve this, is to open up a different way of thinking about how we help music student teachers to be response-able.

In developing our abilities to have status fluidity, to be response-able *with* other bodies and materials, we are promoting a very different story of knowing and learning. This is a story

where what is learnt will involve a teacher's ability to respond in the moment, allowing different elements of the entanglement (pupils, teacher, materials, content, ideas) to come into the foreground, be active and shape the pedagogical relationship. This therefore shifts how the term pedagogy is used with student teachers, moving away from notions of pedagogy as either strategies or specific pedagogical approaches to be experimented with, or pedagogy as a broad, holistic term regarding all relationships in the classroom. Instead, a posthumanist Music ITE pedagogy focuses on the *specific enacting* of power and status within humans / material entanglements. It asks us to explore how different status block or allow learning to move forward. It asks us to make explicit how status blocks or allows the potential of humans and materials to act.

[b. developing gaze displacement](#)

Inextricably linked with this new story of pedagogy is the role of materials within the entanglement, recognising how our relationships with materials shape our present responses, and how exploring new relationships with materials opens up potential for different learning. However, this involves learning to displace our gaze away from the humanist and linear, to other aspects of becoming. Learning to 'see beyond' the limitations of gaze that we have inhabited for so long is not an easy process. In particular this project has explored displacing our gaze as a broadening out of what is important and active in our pedagogical relationships. This has involved broadening out from teacher as a singular human to consider what else is doing the teaching (see page 76-79), broadening out from humans as using inert materials to materials as active participants, and from linear learning intentions to seeing the potentialities of moving in different directions and movements (see page 185). What was of interest in the research groups explorations was how far improvisation as a 'radical apparatus' did create spaces to learn to displace their gaze, but also how challenging and uncomfortable this was (see page 180, 191).

Being able to see differently, by allowing our gaze to see *all* relationships in the entanglement, is to be able to see the potential, see ways forward that would otherwise be closed, to allow us to travel with others in non-linear, iterative ways. A posthumanist pedagogy in music ITE equally involves being able to hear, as well as see, potential in this way. It asks us to reconsider the role of sound not as a representation or record of action, but as a moment of taking the journey forward. It asks us to develop in music student teachers the awareness of

material/sound/human intra-action as a critical part of pedagogy, requiring them to be sensorially attentive to all that the entanglement offers. It asks us to think differently about how we portray materials and sounds in music education, not as static inert tools, but active participants in our pedagogical relationships.

c. developing playfulness

Playfulness isn't a word often thought of in relation to ITE learning and yet in this project being playful and being response-able, have become together. As Haraway argues, "Play [is] the most powerful and diverse activity for rearranging old things and proposing new things, new patterns of feeling and action, and for crafting safe enough ways to tangle with each other in conflict and collaboration" (Haraway 2016:150). There were many aspects of this project which asked us as a group to consider how open to being playful we really were. This was highlighted through our response-ability with the playdough activity and the music improvisation activities but also through our consideration of being improvisatory in the classroom. What was particularly striking about being playful with the group was the impact of going beyond response-ability as involving verbal exchanges, as promoted in dialogic views of learning. Instead our responses, and our ability to make those responses, also involving bodies, materials, emotions, touch and most importantly for Music ITE, sound. To develop playful learning in Music ITE (and arguably in education in general) and move away from the dominance of words is to critique the etymology of the word dia-logic. 'Dia' means across or between, a reaching, stretching to meet. 'Logic' arises from two meanings, from the ancient Greek root of 'logos' meaning word, reason or discourse, and from the Greek verb 'legein' which means 'to speak' (<https://www.etymonline.com>). Posthumanism, with its entangled dynamic intra-animated voices, as seen in the research group's improvisation (see page 169), is to question this 'logic' element, where 'plegian' meaning play (as in Diaplegian), would account better for the breadth of non-verbal responses that we are aiming to develop. In this project, the physical embodied activities of the workshops, alongside the physical embodied activities both within and beyond the course, along with our explorations of improvisation, have allowed these playful responses to come to the fore. In turn, this asks questions of Music ITE learning, including how do we legitimise playful exploration as part of the ITE curriculum? How do we encourage student teachers to co-mingle with others (human and material) in ways that help them to 'let go' of habitual ways of being and explore potentiality. As Allsup

states, “the impulse to make, to mess around with, rearrange – should be available to all learners, regardless of age or ability” (Allsup 2016: 92-93). Central to creating this playfulness is the nature of form, not as an imposed fixed entity onto a situation or onto matter, but as something which allows movement. Remembering Klee’s words, “form... is death; form-giving is life” (Klee in Ingold 2009: 91).

Diffracting music ITE materials

The nature of our intra-actions with materials in Music ITE is a significantly under-theorised area. Allsup in arguing for an *Open Philosophy of Music Education* (Allsup 2016), asks us to find “openings in [what is perceived as] the closed and categorical” (ibid. iv). What has been particularly evident in this project has been the way in which improvisation as a ‘radical apparatus’ and posthumanism have intra-acted to open up our material relationships to be (re)considered. This project has begun a conversation, making an offer, for this area to be further explored although a number of areas have begun to emerge as key sites for this conversation to continue. These include the role of musical instruments (see page 155), the role of Music ITE forms and processes (see pages 182-192), material intra-actions within the course (both in school placements and within higher education) (see pages 43, 182) and beyond course material intra-actions (see pages 90, 43, 155). These material intra-actions raise two particular questions as to how we can support student teachers, creating opportunities for material encounters, and processes which help material understanding both in their own learning but also in how they see materials in their own classrooms. The first question is one of developing sympoietic relationships (Haraway 2016) with materials, where not only do we acknowledge the effect (and affect) materials have with our becoming, but also that we account for their influence, making explicit their role within ITE. The second is a question of re-seeing pedagogical documentation as a diffractive practice which allows for materialdiscursivity and the perpetual movement that is created by it. At the centre of both these questions is how to support student teachers to see how matter makes us.

Sympoietic relationships

Haraway uses the term sympoiesis (Haraway 2016) to refer to the entangled, collective-producing, and constantly becoming systems in which, we live our lives. These are systems that don’t have clearly defined temporal or spatial boundaries, where change is constant and intra-dependent. To view our material relationships in this way is to illuminate ways in which

our material relationships are formed (see page 194) but also where these relationships continue to influence our thinking and actions (see page 192-194). What is particularly interesting about this view of material relationships with a group of music student teachers, is the way in which material relationships had formed very specific bodily, physical and habitual responses (see pages 192-194). What materials (particularly instruments) had done to the research group was often discussed or demonstrated very explicitly. However, there was also times in which these significant sympoietic material relationships led to a somewhat fixed or frozen embodiment of the relationship. This was notable where challenges were made to what they considered to be instruments or not instruments (see page 173), or where instruments were played with in unexpected ways (see page 176). Exploring improvisation using the playdough moved the majority of the group away from the strong sympoietic material relationships they had with musical instruments to a medium with which there was little in the way of pre-developed responses. This created space for exploring emerging material relationships, in which we experienced the ways in which the materials made early attempts to shape us (see page 76). These experiences of established sympoietic relationships which have a secure influence on our responses, and those material relationships which are earlier in development, raise questions for Music ITE. It asks us to think about how existing material relationships influence how and what student teachers do, and whether there is opportunity to explicitly explore these influences to become attentive to the role they play in our learning. Re-seeing materials, particularly instruments, but also learning materials, and classroom environments, as what has made us and therefore what makes us do as do and think as we think, seems a fundamental element in exploring who we are becoming as teachers in light of this project. It also asks us to consider whether for some student teachers a process of re-imagining their established material relationships (particularly with instruments) might open up new possibilities of how to be with instruments in the classroom. This was a developing conversation around the role of piano skills in ITE with the group. Finally, it asks us to consider how we encourage student teachers to make relationships with new materials, exploring their potentialities and allowing the materials to make with them. Asking student teachers to think what particular materials 'do' in the classroom, or to think about the way they unconsciously promote particular responses, is to become more aware of children's own material relationships, and how these impact on their abilities to explore.

Material discursivity

While the sympoietic relationships between the group members and musical instruments was clearly evident, what became of greater interest was to way members of the group discussed their relationships with Music ITE forms. The term form here relates not only to the lesson planning form which became a particular focus of playing in becoming-with, but also forms of activity (within the Higher Education institute, the form of the school based experiences, their experiences of other forms of doing beyond the course). Consistent in all these encounters with ITE forms was the way the group discussed or embodied particular types of relationships with them as materials. For some, there was an initial acceptance to be guided by the relationship that was being created (see page 30, 43). For others, over time, there was a realisation of the particular ways the forms of activity or templates were creating a particular narrative (see pages 90, 139, 155, 188), while for others they talked of rejecting given forms (see page 185) while in practice developing their own forms (see page 30, 92). The project, and its use of improvisation as a 'radical apparatus', troubled these forms, highlighting a series of tensions, which arguable arose from the student teachers encountering of the forms as a materialdiscursive practice (Hetherington and Wegerif 2018), in which both matter and meaning are produced (Barad 2007). These were mostly clearly seen in contrasting the discussions of the planning and evaluation forms and the improvisatory forms of the activities in the workshops.

Firstly, it highlighted tensions between conceptualisations of forms as static and inert, to be worked within, and form as a material relationship which was constantly dynamic. This tension was particularly evident in the ways that deviation from the ITE forms was either seen as a failure or something which was incorrect (see pages 188, 43), and those that became-with these forms in a material-dialogic relationship (see pages 92-94). These material-dialogues were evident where relationships with forms were open and evolving *with* the student teacher and the context they were working within. Form as open and evolving was a key element of the playdough and musical improvisation activities of the workshops, where form was a negotiated process between people, materials, space and time (see pages 142-143, 145, 149).

A second tension that emerged was the ways in which forms acted in controlling specific elements of the relationships with others or with materials. This was most evident in the

group's discussions of how the lesson planning form acted on them, with the metaphor of planning as being about moving from A to B along a linear path, road or line (see pages 185-186). The impact of this metaphor was explicitly noted by J who argued that it acted as a blinkering of sight (see page 185), which narrows our response-ability (because of what is deemed important, valued or valuable), and promote specific ways of being with others (humans and materials). Here, materials were *used* to achieve movement along this defined path. They were used to achieve the form which had been pre-determined. This material determinism (it has a specific role, it will be used in this particular way, it will help achieve this specific outcome) was very different from the relationship of the group to materials in the improvisatory activities of the workshops (see pages 144-145) or the way they discussed moments of improvising with materials and children (see pages 90-93). Here materials didn't have a determined role, a particular expectation as to what they would do, or how they would be used. Instead by not imposing a particular form, the materials were played with, explored, joined in with to see what would happen. It was a process of exploring the potentialities of the materials (see page 140).

A third tension which emerged through the discussions and activities was between conceptualisations of forms in Music ITE (with specific reference to paper-based templates for lesson planning, evaluating) as being representative rather than performative. As with Murris's argument that in ITE we create the conditions for student teachers to speak with a representative voice, there was in discussions with the research group a sense that the forms acted to create a representation of teaching, one in which different forms were excluded (see page 91) and where forms were separated in space and time from lived experiences (see pages 144-145, 186-187). What was particularly interesting was the way in which the improvisatory activities in the workshops felt uncomfortable to some (see pages 30, 124, 178), where there was no representative form or voice to occupy (Ingold 2010:5), but instead it relied on their personal response-ability to the situation.

The troubling of form in Music ITE raises a number of issues and questions which make us reconsider or re-see form in Music ITE, all of which are underpinned by a shift from form (as inert, fixed and imposed) to form-giving, which Klee argues is "movement, action... is life" (Klee in Ingold 2013:313). To achieve this isn't to only rethink the design and function of forms we use, but to re-story what these forms do, what they set in motion and what they limit. To

explore these questions is to very deliberately open up forms which are perceived as fixed and immovable. Opening them up to be played with, diffracted and lived with. Allsup makes this very argument in relation to musical forms, arguing that by making forms open and evolving is to “necessarily enact a different set of human and sonic relationships” (Allsup 2016:iv). In this project, experiencing improvising (not only as musical but verbal and physical) began to make open the ideas around planning and evaluating. It sparked discussions as to the nature of the relationships between the group members and the material forms. However, what we didn’t have the opportunity to explore more thoroughly was how opening up the ITE forms might manifest in different forms, different stories of planning, different ways to scaffold and support beginner teachers. This would be an interesting area for further thinking with some particular questions in mind; by making student teachers conscious of the way material forms act, shaping our relationships and ways of being in the classroom, what sort of relationships are instigated by using different types of forms and; how do we enable student teachers to play and explore these different types of forms?

In deliberately opening up forms, allowing different relationships with matter and meaning to emerge and to see them as sites of movement, is to (re)consider them as performative. This shift challenges many assumptions embedded in Music ITE, whether intentional or not, about the relationship of music student teachers to these forms. Improvisation as a ‘radical apparatus’ troubles notions of planning as existing purely in advance of the lesson, separated in time from the lived experience of becoming-with children, materials and the lesson ideas in the moment. This isn’t to argue against planning in advance, but as noted by S in his workshop comments it is about how we can “*plan for improvising*” (S workshop 2), allowing space for emergent and improvised planning in the moment. This changes the relationship of the student teacher to the planning form, where planning is not to fix a route, but to deliberately plan for encounters between people, materials and ideas, allowing space to explore what happens. Planning for encounters is to plan for a non-linear space, negotiated, lived and therefore open to not only pre-planned but also emergent intentions. To plan for encounters is to re-see the role of materials in those encounters as an active participant in negotiating, changing, and performing the form, as the playdough and the keys did in the improvised activities of the workshops. To plan for musical encounters, and emergent outcomes, is to more explicitly (and authentically) see form as evolving *in* relationships with

children and matter. This also refocuses attention in observing and assessing student teachers not on their ability to stick tightly and rigidly to a pre-determined set of actions but instead on their abilities to respond, join in with and make-with what occurs during these encounters. This discussion leads to further questions about the ways we support music student teachers to develop appropriate and meaningful encounters. It asks us to consider how we allow for planned *and* emergent intentions, and how we support student teachers to value the sympoietic relationships with children and materials that arise from such encounters.

An Offer to Tell a Different Story

The aim of this project was to use improvisation to ‘trouble’ ideas about music teaching, knowing and learning, and what this means for how music student teachers are, what they do and therefore what music ITE does in response. It was to deliberately make difference, and in doing so the opportunity arises to tell different stories, ones which go beyond previous debates, and open up different ways forward. I return to Haraway’s quote which has been so influential to this project; “It matters what matters we use to think other matters with; it matters what stories we tell other stories with...it matters what stories make worlds, what worlds make stories” (Haraway 2016:12). In doing so a different story begins to emerge from this project, told here as an offer to take forward, play with and make differences with. It is a story of learning, teaching, pedagogy, music education and initial teacher education.

Yes, and what if...

Yes, and what if learning is no longer considered as something I can give you, where knowledge cannot be transferred, but something which happens *in between* us, you, me, the materials and ideas that we play with?

Yes, and what if learning is not something individually owned or possessed, where teacher as expert does not have power-over others (pupils or materials), but is a mutual partner in the entanglement?

Yes, and what if we think of learning as being made by entanglements, where entanglements are doing the teaching?

Yes, and therefore, what if we shift attention from teachers as human bodies, to teachers as any entangled combination which results in learning?

Yes, and what if we shift from thinking about adult humans in the classroom as 'teachers' with all the connotations of expertise, control and power-over, to 'pedagogues'?

Yes, and what if music pedagogues are makers, metaphorically walking with, being part of the entanglements (including musicing), travelling with and paying attention to what is being made along the way?

Yes, and what if, as music pedagogues, we recognise that these journeys with others (humans and material) as part of an entanglement, are neither wholly predictable or completely linear, but require a balancing of open and closed, control and freedom to allow all in the entanglement to make?

Yes, and therefore, what if the aims of Music ITE are refocused on developing attentionality to what emerges along the way, response-ability to what is opened up and becomes possible, and being sympoietic to what is being made collectively?

Yes, and what if Music ITE, in shifting to these aims, pays more attention to student teachers ontological identities, both as ways of understanding their histories, their responses to the current and for future-making though exploring different ways-of-being?

Yes, and what if Music ITE is (re)-considered as a site of entangled encounters, where ontologies are explored through and with sound, materials and others?

Yes, and what if, in supporting music student teachers, we start valuing the moments they improvise, whether in deliberately changing their status, in creating space for emergent explorations, in deliberately planning for moments of being responsive to what is happening?

Yes, and what if as a field we create, find, and share more images of music pedagogues as being 'listening-beings', makers with children, minoritarian in status and entangled in the space and strata?

Yes, and what if, as a practice, we start asking questions about what the materials are 'doing' in the entanglement and the subsequent learning that occurs?

Yes, and what if we pay more attention ourselves to materials, not as something to be used for a particular planned outcome, but as something we are setting in motion by bringing it into the entanglement?

Yes, and, what if, we as researchers, re-see ourselves as makers? Where we are response-able to the ever-changing entanglements of the research, “knowing from the inside” (Ingold 2013: 3), learning *with* not about, moving learning forward, not learning *from*, therefore creating an impetus to transform, not document?

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Appendix A: Information sheet for participants

Music Student Teacher Experiences Project (MSTEP)

This document outlines the MSTEP research project to help you decide whether you would like to participate and to understand the implications of that decision. It contains important information about the project whether or not you decide to get involved and should be kept to hand for reference. Once you have read the document, and asked any questions for clarification, you will be asked if you would like to participate and complete the formal permissions document.

Project Overview

This project is a development of my work as a music teacher and music education lecturer. I am interested in the development of student teachers' views about teaching, music as a subject, what musical knowledge is, and how learning occurs. I have some ideas about supporting music student teachers to explore their views about these issues, but I am looking for a group of music student teachers to help form a research project group (the MSTEP team) to work with me to develop my ideas further.

The MSTEP team will work with me to explore these ideas and to create rich experiences and stories about how the ideas did or did not relate to the ITE experiences they have during the year. The project isn't aiming to prove or disprove the ideas, but to use them as a stimulus for thinking and discussions.

Project Procedures (subject to development by the MSTEP team)

Phase 1: Introducing (October 2017-December 2017)

- Introducing yourselves (45min): conversations with myself about your music education background and thoughts on music education;
- Introducing the ideas (2hr): workshop to introduce the project ideas, gather initial impressions and discuss the nature of how they may or may not relate to your real-life experiences in music education.

Phase 2: 'Living' the project ideas (January 2018 – April 2018)

- Exploring the ideas (1.5hrs): practical sound workshop to explore the ideas of the project through doing, creating, experiencing and therefore developing a richer understanding of the concepts;
- Living the ideas (January – April): E-communication with myself and the rest of the MSTEP team to share and respond to how the ideas are or are not relating to your everyday experiences during the course.

Phase 3: Reflection (May 2018)

- Reflective workshop (1.5hrs): MSTEP team reflections on the project and the key learning that has arisen from it.

Data Collection Methods

- Videos of workshops and conversations
- Electronic documentation of e-communications
- Photographs of handwritten notes, diagrams, reflections

Data Storage

Electronic data including videos, pictures, documents and transcripts will be stored on an external hard drive. The raw data will be kept for five years after the completion of the project and then deleted.

Confidentiality

Pseudonyms will be used for the purposes of reporting the research and details associating members of the team to particular schools, teacher mentors, university staff and this course will be made anonymous or removed.

Benefits

Team members will be involved with their peers and the researcher in opportunities for critical reflection, discussion and practical workshops. They will have 5.45 hours of focused music education discussions and experiences beyond the course workload and additional regular contact with the researcher and the research team during their placements. Team members will help to create narratives and thick descriptions of their course experiences and of their opinions and beliefs about the ideas that are being developed. The experiences of the project are highly likely to support a deep level of reflection and learning about issues pertinent to their course, and therefore will likely feed into assignments, professional reflections and learning.

Risks

This project is running concurrently with a course which is highly intensive and time demanding. In creating the MSTEP team, decisions about the precise nature of the project and how it is conducted will be open to discussion and suggestions to make it practical for team members but it will require time above and beyond the course requirements.

Rights as a volunteer participant

Participation in this project is entirely voluntary and you can withdraw at any point. If the course leader feels that withdrawal from the project is necessary to ensure successful completion of the course then participation will stop with immediate effect.

Rights as a non-participant

Choosing not to participate in this project in no way affects your ability to successfully complete your course and will have no negative impact on the support you receive. To ensure equity of opportunity, non-participants are very warmly invited to participate in the workshops and receive the e-communications during the 'living' phase of the project. If participating as a non-volunteer, responses and inputs will not be used directly in reporting

the research. If at any point a non-volunteer feels the project is having a negative impact on their course experiences then they should contact the researcher or course leader directly.

Dissemination of research findings

This project will be written up as a PhD thesis and will form the basis of a journal articles and conference presentations. The completed PhD thesis will be available through the Aberdeen University library and can be sent on request to any music education student via email on completion.

Contacting the researcher

Name: Carolyn Cooke Email:

Phone calls, Facetime or Skype meetings can be arranged via email.

Googleing 'Making it up' – lots of products with slogan 'I'm making it up' but also

'We're here as people? But music grows / concepts grow – link to debate in music ed about what progress looks and sounds like?

MAKING IT UP

Up – making it down / making it out / making it spread?

'Making it up'

Self-expression
Making up something – to be creative
Experimenting
Playing to each other's strengths

Connotation of making from a conceptual / declarative understanding

Maybe 'making' is about what you know scales? – (Jack said something similar)
Huntington: Anyone CAN do it.
+ SHOULD do it.

Here I have a full/complete understanding of scales
Oh, this scale, really, funny, you should be happy and in a sense

Some records of the performer a deep knowledge of complex harmonic structures, and a profound understanding of the long history of standards – pieces that have been played by jazz bands for decades. Standards are typically based on the thirty-two bar pop song, with four sections of eight bars each. Usually one or two of the eight bar sections is repeated, resulting in song forms such as AABA – a song where the first eight bars are the same as the second and fourth eight. A standard is written as a ballad, a short story, a short film version of the song, with only the melody and chord changes written. (Grove)

Saw this in Tesco's why did no one use this common phrase? interesting links to journeying through as different to starting from nothing.

THINKING ON MY FEET
KATE HUMBLE

"a lady with Huntington's I used to set up the sound beam and set it to play a certain amount of notes within a certain key signature, erm, you can adjust it so that within about that sort of space you can have 32 notes or just 6, and select scales and stuff so I have a lady with huntingtons who liked to sit with a ukulele and its just a C6, we just had, she just had to sit and play the ukulele with that erm, and another lady with the soundbeam would have other notes in that sort of scale and I'd ask her what instrument she wanted to play that day and set the synth module to that erm, coz I think she used to play guitar when she was younger, and I used to just play some chords on the keyboard, it's just like

Connotations of making from 'nothing'
* Literally throwing the 'matter' out

improvisation really"

The task is to make kin in lines of inventive connection as a practice of learning to live and die well with each other in a thick present. Our task is to make trouble, to stir up. Haraway

What are the 'standards' in teaching? Does it relate? Difference between a fully notated score (plan) and a lead sheet

Making a different relationship with planning / plans / curriculum documentation.

Teachers occupy a position within an elaborated institution, and the structures of the classroom are often developed and then imposed by an administrative structure. In staged improv, in contrast, the structures are the collective and emergent property of the community of performers; they can optionally be adopted or rejected by performers. Sawyer.

Thus, as she put it, "I never know how it will turn out until I have actually made it" (quoted in Makovsky 2010: 91). It is the process of making, then, and not the notational diagram, which determines the final outcome; indeed as Makovsky observes, the diagrams "are as much part of the material outcome of the lace-maker's practice as the lace" (Makovsky 2010: 91). Ingold 2014

Sympoiesis—making-with

where the parents come in and we show them something, and with the P4-7 class we made our own song, so that in itself, it just, I find that there is less, almost boxes to tick there, so there's so much more free reign and the kids can be so creative so we made this song about the sea and the first thing we did was they choose, they just wrote down all the words they associate with the sea, it didn't matter what it was, and then we picked ones that rhymed, so that was completely free in itself, and improvising was massive in actually making that song, because we had no idea what the kids were going to come out with, and then asking them to make, pick words that rhymed and having to kind of guide them as well, I really found that coz there was no plan there at all, there was just me and the other teacher Laura and we just had to go on exactly what the kids came up with, we chose the rhythm and things like that, but other than that, it was all down to bouncing off what the kids came up with and they came up with some really creative things which we would never have come up with, like they had an obsession with sea lemons, like I don't know, it was very strange, and then we created a whole show out of it, and again the kids were at the centre of it, they were the ones making the decisions instead of us, and it was amazing what came out at the end, they had glitter, they had created their own little sea scene to hide behind, they chose their own instruments to go along with the song, it was a really theatrical thing, and if me and Laura had decided on that it wouldn't have been like that at all.

Conflict between making as underpinned by knowing (right / wrong / technique / abstracted skills) and inclusivity.

Pushing Poking Slicing Tearing

"I'm just experimenting"

"Making use of what's to hand / what they have"

"using what's around"

"Making their own games"

"I knew that I had more musical intelligence than everyone else in the class, I got bored very easily, but at the same time tried to keep my own interest going within the classes so made things more difficult myself, erm... I used to just pick up instruments and try and learn them, I think I tried trying to learn Double Bass and it didn't go down very well making things more difficult for herself at school"

"So I'd set up a few things, some chimes on a stand across from one of the residents who had some movement with one of her arms she had cerebral palsy so one of her arms was quite tight, er, but the other arm she had a lot more freedom with so she used to bash away at that erm, and I had another lady with huntingtons, who I popped a floor tom in front of her and a cymbal and she just smashed,

"smashed the things and hit at them and she seemed to enjoy that"

"working together, using their bodies"

"Groupwork"

Making-with as 'work' – not play / exploration?

"Improvised or choreographed?"

Does Improv mean not having an 'organiser' (ie. Teacher?). Does choreographed mean not improvised? Does either / both suggest power asymmetry?

Bouncing off as linked to 'light' 'spark' dying and being responsive

"Adapting to other peoples actions"

Who does the adapting? Any recognition that the children are adapting all the time to us / to the matter / the matter to us?

I definitely agree that if teaching is improvisatory then content/knowledge is dynamic. It is all about responses both in the classroom and everyday life. It is all about accepting all opinions into the mix, and adapting to go along with it. It is about reading the situation, finding this definitely in performance, it is about judging pupils feedback and engagement in deciding whether to continue with performance or take a break or focus on a specific section etc.

H: I think its **bouncing off** how you perceive how the kids are reacting to what you bring to them, seeing how they respond, like for example that SG unit, how were they responding, were they enjoying it, did they need more of a push, and improvising that way, just changing things, adapting things, I liked it on the whole but erm, yeah, ...coz I'm still, well, I do like to think that I'm quite

Wave diagrams

'Bouncing off' in physics = reflection, where what is 'bounced off' of remains fixed(?) and you move away from (doesn't fit with haraway 'staying with' / 'making-with'), but maybe 'bouncing off' is the wave spreading or refraction? The term 'bouncing off' captures the dynamism of the moment, but somehow loses the matter or the ongoingness of the 'thing'.

Difference is understood as differencing; differences-in-the-(re)making. Differences are within; differences are formed through intra-activity, in the making of 'this' and 'that' within the phenomenon that is constituted in their inseparability (entanglement). Barad 2014

'Bouncing off': emotions / creations / intra-actions / differences / divergences / physical responses / verbal responses.

Bouncing: suggests movement or already being in motion (concepts / bodies / things: Taylor).

Who gives them the cathedral to bring? ITE / Policy / Schools / Society?

Lesson planning format: do we bring them a Cathedral?

DON'T BRING A CATHEDRAL INTO A SCENE
BRING A BRICK
LET'S BUILD TOGETHER.

"What shall we make? A castle? I saw making a castle!"
"It's just improvising"
"What we could make was the sea and sea and groundmaking..."
"I think our castles having more lemons, like lemon, really, - my playthings have sea..."
"The sea going to the sea you might know it doesn't have the sea... it's really like a sea of lemons of playthings"
"Should we add?"
"Yes, it could be something, just not more what..."
"It could be a world... then it's like a dragon!"

'Play' as to play instrument (space object of the piano)

To contrast the 'making it up', yes its making it up but only once you've got a full understanding of what you have... rather than just go & play... you have to have an understanding: the first place...

What do you mean an understanding?
"Well I've written it down here... Jazz improv, it's bar blues you can't improvise unless you know the blues scale, the chords, the time..."

Understanding as writable, blocks...

So making something up
With constraints
With a framework

Spaces – focused here on declarative knowledge and a particular mode of intra-action (Questioning)

Knowledge before improv / play. Interesting shift to 'play' here.

Playing to combat 'fixed' / right and wrong. Implicit that playing = multiple ways / approaches / views / experiences and therefore prevents 'fixing'.

Appendix C: CV forms

Short CV: Music education background

This CV is to give me an overview of your music education up to this point. Please use the final box to add anything you feel doesn't 'fit' into the format but is important to your musical background.

School music qualifications e.g. Higher Music	
University e.g. BMus	

Instruments played including those that you have 'given up' or weren't formally taught	Level achieved or number of years played e.g. Grade 5 Trinity Jazz or 8yrs

Ensembles you have played in (including peer led / organised / conducted)	Role (e.g. percussion, first violins, conductor, arranger)

Other music education experiences you feel are important to your background (Inc. composing, audience member, organiser, within family / community / own home etc.)

Appendix D: Ethics Approval Process

MSTEP accompanying notes for ethics submission

The MSTEP participant information and project timetable give an overview of the nature of the research. These notes address the specific items on the ethics checklist, with numbers corresponding to the checklist items.

1. The project involves working with music student teachers in their final year and the course leader.

2. My involvement with this group of students and the course leader isn't solely as a researcher, but also as part of the tutor team for school visits and writing assessment reports for the students. It is unclear as to whether there will be a crossover between my tutees and those interested in being part of the MSTEP team until consent forms are completed. To mitigate any confusion, explicit conversations will be had with any students that are involved with me in both roles. No data collection for the project will be conducted during the school visits. Students will be encouraged to send different e-communications regarding tutoring issues and the project. Students who may reveal difficulties or issues about the course / their progress through e-communication channels will be advised that the information needs to be discussed with their tutor / course leader or I will contact them as their tutor in a separate correspondence (see procedures table).

11-16. Procedures for obtaining informed consent involve a short meeting with the student cohort which will involve a short PowerPoint presentation about the research project, an opportunity to ask questions and then a time to go through the consent forms (see participant documents attached). They will be given time to consider their answer and respond before the first workshop to which all students will be invited regardless of whether or not they wish to join the research group.

Students who opt not to be involved in the project team will be given the opportunity to participate in the workshops and receive the e-communication stimuli during the 'living' phase of the project. Responses made during their participation will not be used as data. This ensures all students are able to access the increased face-to-face time, opportunities for critical reflection and engagement with the research ideas thereby helping mitigate the notion that those not in the team are at a perceived disadvantage.

17. There is potential that the ideas explored in the project may be at odds with experiences in real life, which may feel uncomfortable. This may be particularly true if the school placement practices are significantly different to the ideas in the project about the nature of musical learning and the nature of the learning experiences developed in light of this. The participant information and the initial meeting will highlight this as a potential risk and reassurance given that the project is not setting out to change what is happening and there will be no expectation on the student teachers to somehow create changes in practice. As I will be in regular contact both with the students and the course leader, any such dissonances of experiences with the project should come to light fairly quickly and

expectations reiterated that for the purposes of the project reflections on how the ideas and practice don't match is highly valuable.

18. The final year of the BMUSEd course and the PGDE are highly pressurised with heavy time and workload commitments. The research project has been designed with this in mind, and the collaborative nature of the project means that the exact nature / timing of the project interactions will be negotiated as a research group. Procedures are in place to ensure any student who begins to show signs of struggling with their core course commitments will leave the research via a three-way conversation between the course leader, myself and the student (see procedures).

19. Data collected will include electronic communications which may include personalised information, video, photos, individual short C. Vs, and written notes made by the team during workshops. All data will be stored on an external hard drive for the duration of the research project and for 5 years after that. All handwritten notes / diagrams / post-its will be photographed and then added to the hard drive before being destroyed. E-communications will be copied and pasted into documents relating to the individuals involved and then deleted.

Appendix E: Images for Initial Conversation

The following images were placed on the table on separate cards for us to play with and move into different sequences during the conversation. The question mark was explained as a holder for any other significant experience which they wanted to discuss that wasn't captured in the other images.



Appendix F: Workshop 1 and 2 Hot response Images

Photos A to D were used in workshop 1 to elicit 'hot responses' on post-its to the notion of improvisation as play. Photos E to H were explored in workshop 2 when we moved onto discussing improvisation and music education.

Photo A



Photo B



Photo C



Photo D



Photo E



Photo F



Photo G



Photo H

