Fertile Ground of Negative Spaces:

Material Methodologies for (Education) Leadership

Volume 1 of 2

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Abstract

This thesis critically explores leadership during the Covid-19 pandemic, to challenge conventions of theorising the managerial and leadership structures of education and set methodological possibilities in motion. In seeking to contribute to new ways of re-thinking and re-making leadership and the very real problems of imagining affirmative, equitable futures, I propose a practice research approach to methodologically conceive the visual-material as spatial and becoming. The necessary architecture is constructed through a Deleuzian-informed assemblage (Deleuze & Guattari, 1994) presenting heterogeneous possibilities for the synchronous and asynchronous leadership practice of now. The purpose of this is threefold: in the first instance, through an interdisciplinary, practice research with Deleuze and abstract expressionism, emergent material methodologies will de-centre the canon for agential and spatial education becoming. Secondly, in doing so, I intend to show that by disrupting linguistic paradigms through a visio-tacit lens, leadership practice can be liberated and affirmatively re-made as an immaterial becoming. Lastly, I aim to evidence that if schools are to educate for unimaginable futures, matters of practice are fertile ground for re-making equitable, post -pandemic education.

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See Fertile Ground of Negative Spaces Exhibition Catalogue for the fully illustrated documentation of the research including the seven methodologies.

Research questions

What are the affordances
of contemporary art
methods for re-making
leadership?

What are the leadership

materials of resistance?

In what ways can the

immaterial re-make

immanent education

futures?
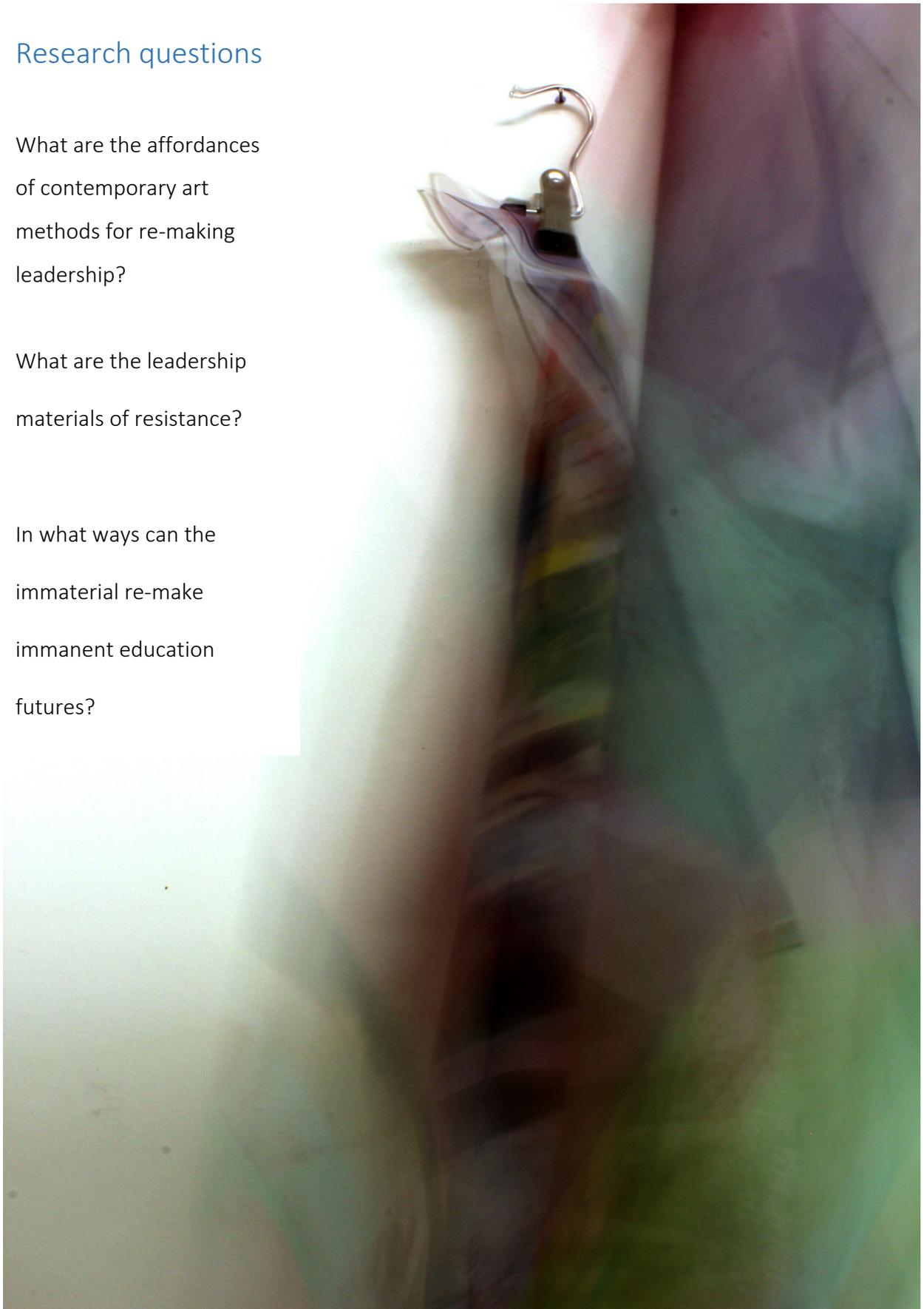
Figure 1. Digital Composition of No.1 Hyper-feminine fabric assemblage print in motion

SECTION ONE: The case for material methodologies for (education) leadership

Chapter One

1.1 Introduction

This thesis critically explores leadership at a time of unprecedented global challenges, challenging conventions of theorising the managerial structures of education and seeking material methodological innovation. The Covid-19 pandemic, at a time of increased technological innovation and environmental concern, has exacerbated the need for new thinking for education leadership to support the realisation of equitable education. Given the importance of leadership in the time of crisis, current managerialism within English marketized education appears ossified and in urgent need of radical intervention. However, re-imagining education beyond the current standpoint at a time of great social, environmental and economic pressure is problematic.

Collins' question of, 'where are the interesting suggestions about the look of our education and welfare systems, 30 years hence?' (Collins, 2020) implies a lack of new ways of thinking. To counter this suggested void of alternative models, different approaches for leadership with plural, digital native Generation Z[1] (Gen Z) are needed. Where Mulgan identifies this to be due to 'the deficit of social imagination' (Mulgan, 2020) it could be contested that this view is limited by existing education constructs, research models and the canon. In highlighting the value of imagination, Mulgan presents

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[1] Gen Z are 'the first generation of true #digital natives' (Francis & Hoefel, 2018)

the case that 'societies need a wide range of ideas and options to help them adjust, particularly to big challenges like climate change' (Mulgan, 2020, p.3). Whilst this resonates with the challenges facing education (leaders, communities, and policy makers alike), the privilege of singular, Modernist approaches has impaired innovative thinking. As we will see in chapter two, fundamental uncertainty about the future should shape policy and education leadership. This is to ensure that working through and recovery from the Covid-19 pandemic does not mean a return to the status quo, but addresses systemic inequalities highlighted by the crisis.

In backgrounding the deficit narrative, a Practice Research (PR) approach to making methodologies as a generative practice lab looks to addressing the very real problems of equitable education futures (section 2). The architecture for this research is mobilised as a Deleuzian-informed assemblage (appendix 1)(Deleuze, 1994) presenting quantum and heterogeneous possibilities for the synchronous and asynchronous practice of now. The purpose of this is threefold: in the first instance, material methodologies will disrupt human-centric leadership and de-centre the canon for alternative ways of re-conceiving education. Secondly, I show that by disrupting linguistic paradigms through the visio-tacit lens, leadership practice can be liberated and affirmatively re-made as an immaterial becoming[2]. Lastly, in section 3, I aim to evidence that if schools are to educate for unimaginable futures, matters of practice are fertile ground for re-making equitable, post -pandemic education.

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[2] Becoming is the dynamic state of change and coming about in time and space, it is active beyond fixed entities and objects.

An exhibition of the Fertile Ground of Negative Spaces and an exhibition catalogue accompanies this literature. Collectively this tri-part approach, performs an examination of the nature of practice and theory and is collectively, to be considered an education assemblage. The exhibition is a mode to showcase the making processes and material methodologies. These exhibits demonstrate arts practice as a generative research mode of enquiry and dissemination. They promote understandings of the ways in which knowledge emerges, functions, performs. In sum, this PR offers suggestions and provocations to make and re-make leadership futures.

1.1i 21st Century Education Context

English education in the early 2020s is situated in the ever-narrowing framework of marketised economic models and its 'wicked problems' (Benzie, Price, and Smith, 2016), spotlighted for its inequalities through the pandemic implications of the Anthropocene[3]. In its marking of environmental challenges, unprecedented events, and emergencies, it directs us to consider how socio-economic and politico-environmental acts are fundamentally entangled. These significant challenges contextualise the entangled, complex practice of education (Lave & Wenger, 1991: Eisner, 1981) and locates the focus of this research on the inter-relational and agential concerns of leadership futures. Covid-19 has accelerated the digital revolution, with the emergence of new technologies and digital practice presenting a further entanglement to transformative possibilities for

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[3] The Anthropocene is a term coined for the current geological era that describes the historical complex of human impact with the world and includes the climate emergency.

Gen Z. These digital natives have not known a time without continuous online connectivity and social networks, accessing knowledge and data bases via smart phones 24/7. The expanded access to information and communication is contextualised by societal upheavals as 'they've only known a world of terrorism, recession, racial unrest, corporate scandals, under-employment and uncertainty…where they are more about coping and hoping' (Elmore, 2017). From this worldview Gen Z naturally co-exists across shifting physical, virtual, spatial, and temporal realities, whilst most leaders are Gen X-ers, often challenged to translate 20th century pedagogies, curricula and education models into their second language.

The 'digital surge' (De' et al, 2020) of ubiquitous technologies, simultaneously presents opportunities and problematizes: connectivity facilitates 'work from home' pandemic models and decentralised information whilst we witness 'the erosion of fact-based knowledge' (Smith, 2021) and 'the data divide' (Ada Lovelace Institute, 2021). This divide is not new however, Covid-19 has moved physical centres of education to individualised, personal hotspots for learning that challenge traditional English pedagogy and thus, leadership.

Simultaneously, government policies turn to artificial intelligences (AI) which further reduce plurality and difference into bluntly standardised, performance metrics and exacerbate inequalities (Lamont, 2021). Revolutionising leadership with technologies may be possible but firstly, better ethical and decolonising practices are needed. In sum, this rising plural, diaspora, digital generation presents interesting challenges to leadership through their relationship with technology and global challenges.

In seeking ways to practice inclusively amid these significant forces there is need for leadership tools to interrupt exclusionary management, education, and theoretical models. In the acknowledgement that 'there is no longer a one best system and that a plurality of approach is probably relevant' (Coulby & Jones, 1995, p. 145) it can be argued that education, as other subjects, can no longer be examined as a discreet discipline. Furthermore, from postcolonial studies Huggan and Tiffin (2015, p. 10) signal the need for, 'an investigation of the category of the 'human' itself and the multiple ways in which this anthropocentric construction has been and is complicit in racism, imperialism and colonialism' (Huggan & Tiffin, 2015, p. 7). Working with these anthropocentric entanglements, this research will consider methodological re-making in the fertile ground of inter-spaces, thresholds, and peripheries of arts and education. The arts are identified to 'have sought to engage with an increasingly pluralistic environment' (Lange-Berndt, 2015, p. 5) and in seeking alternative modes for production in complexity and multiplicity, there is potential to innovate with arts practice, and this will be examined in the following chapter.

1.1ii A picture of current education conventions

Prior to the pandemic Braidotti defined the 21st century experience to be, 'permanent states of transition, hybridization, and nomadic mobility, in emancipated (post-feminist), multi-ethnic societies with high degrees of technological intervention' (Braidotti, 2013, p. 184). Across English rural, coastal, and urban environments, this flux and fluidity of ever-increasingly plural communities embody this definition, and contrast with the rigid

systems and structures of traditional English education. Simultaneously, the reported '64% of UK children experience high life satisfaction – the lowest figure of 24 countries surveyed by the OECD' (Topping, 2020, p. 2) demonstrates the impact of these material (human, geographic and virtual) instabilities. Furthermore, when indicators from the pre-pandemic OECD data highlight 'the rise in UK child poverty and school pressures' (ibid), it can be assumed that the situation may worsen. Therefore, the inter-relating concerns affecting Gen Z and rising generations demand a radical re-thinking of education.

The current status quo can be viewed in several ways and taken as necessary points of departure. Firstly, education centres have become 'public institutions that are being privatised through both funding arrangements and the model of organisational leadership that equates the role with measurable productivity only' (Gunter, 2005, p. 186). And so, management models within the performativity frameworks of the knowledge economy are the norm and evidenced in literature across educational theories (Ball, 2003; Shields, 2003; Gunter, 2001; Gulson, Clarke & Peterson, 2015); the implications of which will be discussed in chapter two. Secondly, it is almost two decades since education **moved** 'from being a pillar of the welfare state to being a prop for a global market economy' (Tomlinson, 2005, p. 11), and the significant challenge of locating ways of resistance remains. Covid-19 has further exacerbated structural and systemic inequalities and beyond management, countering England's problematised education system and its free-market pressures require new and different modes of (approaching) leadership.

1.1iii Challenging conventions of theorising the managerial and leadership structures.

Key thinkers from feminist, social and cultural, European, political and critical race theory including Butler, 2004; de Certeau, 1997; Bourdieu, 1990; Foucault, 1980; Deleuze and Guattari, 1987; hooks, 1995, 2003; Irigaray, 1997 and Cole, 2017 present multiple perspectives and encounters to assist with challenging the managerial. As a major contributor to education research Ball (1990; 2003; 2013; 2016; 2017) presents the perspective that,

> 'theory provides the possibility of a different language which is not caught
> up with the assumptions and inscriptions of policymakers ......It offers a
> potential location outside of prevailing discourses of policy and a way of
> struggling against 'incorporation'

(Ball, 1997, p. 26).

Ball's discourse analysis suggests theorising resistance to counter governmentality such as Ofsted (2021, 2022) and NPQH[4] assessment frameworks but to what effect? The 2020 NPQH claim, 'great school leadership is a shared, evidence-informed understanding of what works' (DfE, 2020, p. 5). Critically when great school leadership is defined by the government's 'Organisational Management' policy (ibid, pp.55-56), possibilities are limited.   Furthermore, where theory deconstructs and analyses education policy, actualising alternatives for resistance are seldom realised. This problematizes the impact of existing singular 20th century theory, the centre of academic elites. Gulson et al call for, 'new theories and theorisations ... in order to remain alert to new ways of conceiving of

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[4] National Professional Qualifications for Headship

and conducting [policy] research' (2015, p. 6) suggest different ways to produce knowledge are needed. However, the danger of theory and policy perpetuating the challenges is cautioned, 'recognising the possibility that education policy itself (or education discourses more widely) is part of the problem as well as the potential solution' (ibid). In practice and prior to Covid-19 complexity, Sutherland highlights 'a growing cry for ways of approaching management and leadership development that embrace the complex, dynamic, chaotic, and highly subjective, interactional environments of contemporary organisational contexts' (Sutherland, 2012, p. 25) to underscore the need for tools to assist with the messy reality of now. A different approach with entangled, anti-oppressive ways for re-thinking seeks to 'address questions that target anthropocentric, sexist, and racist practices' (Charteris, Nye & Jones, 2019, p. 911) and critically challenge theorising leadership. Looking to alternatives at the 'margins' of knowledge production (Hooks, 2000), a move from theory to methodological innovation sets this interdisciplinary practice to work beyond the managerial in re-making leadership in motion, as a becoming.

1.2 Hypothesis

Addressing Mulgan's concerns of the lack of social imagination and deficit models is a point of focus amidst the significant complex challenges that affect us all. In acknowledging this complexity, and eschewing historic oppressive systems and ossified paradigmatic approaches, if we are to educate for the unimaginable futures, I suggest a different and dynamic leadership must be set in motion.

Deleuze (1995; 2008; & Guattari, 1987; 1994; & Parnet, 2006) presents ways to thinking differently across the arts, new materialisms and education research and creative analysis and beyond representation. Working as 'assemblage' (Deleuze, 1994) assists with the dynamic framing for this immanent, inter-disciplinary research and provides the interspace to actualise re-making education. Using my position as artist-leader-researcher, this PR using visual arts methods will contribute to differently re-conceiving leadership as a generative enquiry. This practice attends to Arts Based Research (ABR) methodologies which already contribute to educational research, in areas of pedagogies and teaching, but hitherto, less so as arts practice for leadership (to be fully discussed in chapter two).

Arts practice as the production of knowledge in action, draws upon materialist thinking. In doing so, human-nonhuman-time-matter-non-matter-space inter-relations of education are considered. Through this approach, I seek to address Mulgan's concerns and mine the fertile ground of inter-spatial, non-dualistic and affirmative ways of re-thinking and re-making. Drawing upon key thinkers (Carter, 2004; Braidotti, 2013; Coole & Frost, 2010; Barrett & Bolt, 2019; Hickey-Moody & Page, 2016; Page, 2020) I seek to create the case of how making matters methodologically for education.

Through a series of methodological investigations, I seek to contribute to new materialist literature in the domains of the arts and culture (Kolton, 2015; Lyle Skains, 2018) and of teaching and pedagogies (Brooks & Waters, 2018; Poveda, Thomson & Ferro, 2018; Charteris, Nye & Jones, 2019). Furthermore, leadership within complex heterogeneous enactments offers rich ground to test vibrancy at the interplay of domains and extend

existing theoretical Deleuzian encounters with education (Snir, 2017; Harris, 2016; Dillon, 2016; Cuming, 2015; Honan, 2004). Where ABR and education, new materialism and education and Deleuzian concepts with education are already enacted, there is a productive space at the peripheries and thresholds of inter-relating disciplines that can be identified as a methodological gap in the research.

To advance this claim, I will evidence the interspatial and immaterial as a generative lab and name this the fertile ground of negative space. To evidence the affirmative possibilities of this impower, a visual arts practice will create a series of methodological prototyping. A continuous meta discourse in my sketchbook will demonstrate the conceptual framing of how practice operates to produce new understandings. In doing so, new and different contributions to the field are generated for anti-oppressive education futures. It is within the interspaces of a material-immaterial assemblage, that I consider making and re-making education leadership in an investigation of:

- What are the affordances of contemporary art methods for re-making leadership?
- What are the leadership materials of resistance?
- In what ways can the immaterial re-make immanent education futures?

This PR produces an exhibition of studio processes, material tests and prototypes, an accompanying exhibition catalogue and this written thesis (consisting of nine chapters). All three manifestations are of equal contribution to the research and are to be considered an education assemblage. Therefore, it is through arts practice that this thesis

contributes to new knowledge by expanding methodological possibilities in a re-making of leadership as assemblage.

1.3 Structure of the thesis

This thesis is formed of three sections.

- Section One: The case for material methodologies for (education) leadership

This section (two chapters) identifies the challenge for education leadership, the gap in existing research and the methods, materials and methodology for the research.

Chapter One locates the focus of this research, identifying the challenge for education leadership, the hypothesis and the research questions. The structure of this PR is introduced to clarify the contribution of the three elements of the practice-theory approach and its contribution to leadership becomings, equitable education futures and original thought.

Chapter Two investigates the educational context and leadership challenge that this thesis seeks to address. In taking deficit, binary and exclusionary acts as points of departure, it is acknowledged that these may also contribute to developing acts of resistance and agential modes of making. This research draws equally upon two reviews: a literature review collectivises education, practice research (with and without education) and new materialist disciplines as an assemblage to extend the field; and a practice

review of visual art genres validates the selection of methods, materials and methodology for this practice.

- Section Two: Making Methodologies

This section (six chapters) documents the making of seven material methodologies as emergent prototypes for (education) leadership. Through a series of creative processes as assemblage – abstraction, collage, and installation, the developing methodologies surface possibilities of making, matter and our intelligent bodies for re-imagining and to produce resistance. Each material investigation is introduced, clearly stating its aims and inter-relations with existing needs and knowledge. How the methodological possibilities build upon existing artist's methodologies, methods and practices of the creative disciplines (Haseman & Mafe, 2009) is articulated followed by a case study focused on practice. A critical reflection ends each chapter.

Chapter Three focuses on the making of the Micro Education Assemblage, (catalogue, p. 61). This methodology tests the generative possibilities of re-making education as acts of resistance. This small-scale (micro) prototype attends to the Deleuzian concept of assemblage and its concepts of linkages, plurality, embodiment and affect as a dynamic framework for de-centring human and structural hierarchies. Marden's printmaking techniques and Abstract Expressionist methods inform the modes of enquiry and shape the making of micro-compositions.

Chapter Four examines leadership material in Covid-19 lockdown 2020. Building upon the findings of the Micro Education Assemblage, a disruption of the hegemony of language is performed using collage methods. Informed by the work of Warhol and Kruger, linguistic paradigms are cut through in an assemblage of juxtaposed visuals and text as motif. Becoming playful with education futures presents serious collage ways for leaders to critically challenge assumptions in the Leadership Gamification, wordplay for leaders in lockdown, (catalogue, p. 83).

Chapter Five develops individual gamifications as multiplicities to produce interspatial and temporal manifestations of synchronous and asynchronous modes of leadership becoming. A Deleuzian-informed architecture generates an interactive, paper concertina assemblage - the Heterotopic Education Vessel, (catalogue, p. 89) for critical, reflexive questioning. The emergent interspatial becomings are then considered.

Chapter Six examines gender and material codes in the production of Material Cartographies of Education. Two hyper-feminine fabric assemblages - a fabric book and digital print, softly surface the de-materialisation of education as an impact of the free market economy. This leads to a reflection on the intersectional implications of re-gendering leadership training and professional development. A critical reflection concludes this chapter, and ways of re-materialising education are set in motion, (catalogue, p. 116).

Chapter Seven moves from linguistic disruption to spatial matters of resistance. Our intelligent bodies are set to work in the transformation of a Micro Education Assemblage

dataset to a more-than-human scale. The Performance Assemblage, explores ways that affective, embodied, inter-relating practices can be re-made as an x-d material-immaterial assemblage. Building upon the installation findings, considerations of policy enactments are examined through embodied interactions and evaluated for their situatedness and worldings (Haraway, 1988), (catalogue, p. 140).

Chapter Eight. Void of the Voids, an immaterial assemblage, explores the vibrant possibilities of non-data and the productive interplay of education immaterialities. These education inter-intra-relations are materially interrogated, and the emergent immaterial and impower revelations are considered, (catalogue, p. 162). Reflections on the processes, practices and knowledge surfaced through these immaterial encounters conclude how immateriality informs leadership in a concrete way.

- Section Three: Conclusion -the Fertile Ground of Negative Spaces

This section (one chapter) draws the PR to a close with an analysis and summary findings, conclusion and personal reflection.

Chapter Nine. A mode of critical material analysis is produced to analyse and evaluate the emergent findings of the prototypes for re-making leadership and their contribution to new knowledge. In doing so, this research advances the claim for affective, dynamic material methodologies, with a suggested pathway to further research and (policy) recommendations. Lastly, the challenges and limitations of practice approaches to leadership and leadership re-making practice are critically discussed. A closing personal

reflection documents the necessity and complexity of practice research within the pandemic framing of the university.

Chapter Two

2.1 Introduction

In considering ways to re-make leadership, the methodology of a literature and practice reviews outlines the approach taken (2.1i). The reviews examine gaps and under-investigated areas in the existing research milieu and ways to contribute to new knowledge. A literature review of existing research (2.2) examines managerial constructs within education free market and leadership development to evidence the need for different, critical alternatives. A review of Practice Research (PR) within the broad field of Arts Based Research (ABR) (2.2i) validates the approach as an effective conceptual framework. Examining existing PR with education reveals leadership and critical modes for leadership development as under-investigated areas of research (2.2ii). A review of emergent new materialisms with Deleuze at the thresholds of art practice and education reveals the relevance and claims for the productiveness of practice and the methodological approach at the inter-disciplines of art–education-new materialism (2.2iii).

Rather than a monographic approach, a practice review (2.3) of visual artists (1920-2020) from the genres of abstraction (2.3i), collage (2.3ii), and installation (2.3iii) informs an assemblage of dynamic modes and materials for methodological possibilities. A material study of artworks and artists processes are then analysed to assess the validity of the selected methods of research.

The methodology of the practice approach (2.4) defines studio practice (2.4i), modes of data collection (2.4ii), and the methods of making ways and ways of making (2.4iii). It is with these understandings that the making of material methodologies for leadership are mobilised.

2.1i Methodology for the literature and practice review

The methodology of the literature review utilises a significant online content due to Covid-19 lockdowns during the research period. It includes publications, online conferences, emerging grey literature and literature collected throughout my doctoral studies (pre-pandemic), leadership and studio practice. The practice review includes an assemblage of artists' collages, paintings, prints and installations from physical and virtual exhibition visits in addition to publications and monographs. By drawing upon these inter-disciplines, I aim to evidence the leadership challenge; identify the gap in existing literature, practice and somewhere in the in-between; validate the selection of methods and materials to produce new ways of making leadership and contribute to original thought.

2.2 Literature Review

This interdisciplinary practice examines literature across domains of education leadership, PR and the wider Arts Based Research domain and New Materialism with Deleuze.

2.2i Educational Leadership

A comprehensive body of education research literature (Foucault, 1980; Ball, 2016, 2017; Davies & Bansel, 2007; Gulson, Rawolle & Linguard, 2015; Strom & Martin, 2017; Youdell, 2015) evidence individualism, governance, performativity, and managerialism as policy enactments of the education economy. It is important to acknowledge the extent to which Covid-19 impacted English education and performatives cultures which have 'pervaded schools across many countries of the Global North over recent decades' (Brooks & Waters, 2018, p. 42). An online search reveals CPD[5] programmes for managerial accountability and performative competencies for schools and multi-academy trusts have been prioritised (appendix 2) which highlights the modes perpetuating policy impact and headship identities. Youdell identifies the wider implications, 'education policy tendencies that embed Neoliberal forms of governance and transform the public sector into a commodity and the public into individualised consumers have shifted what education is and what it means and are implicated in the ordering of students and the creation of educational inequalities' (Youdell, 2015, p. 110). This is underscored by Ball who holds neoliberalism responsible for, 'determining how we should act and who we are' (Ball, 2013, p. 15).

Where managerial constructs, performance and identities are well-documented through established theoretical lenses (Ball et al), leadership understandings are hitherto, under-investigated. Bennis and Nanus report the challenges,

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[5] Continuous Professional Development

'decades of academic analysis have given us more than 350 definitions

of leadership. Literally thousands of empirical investigations of leaders

have been conducted...but no clear and unequivocal understanding exists

as to what distinguishes leaders from non-leaders and perhaps more

importantly, what distinguishes effective leaders from ineffective leaders'

(Bennis & Nanus, 1985, p. 4).

Current modes of analysis are not providing clarity or definition and where counter narratives of leadership resistance are evidenced (Freire, 1998: Elliott, 2015), it is critiqued by Fuller to be limited. She claims, 'research into policy resistance has focused on a binary model of compliance and resistance' (Fuller, 2019, p. 47). Furthermore, a critical view of binary approaches concludes that it, 'simplifies analysis dangerously' (Delgado & Stefanic, 2001, p. 70). This is not a new claim but advances thinking for plurality in approaches.

In reviewing the literature there are calls 'to bring about change and advancement through educational endeavour and achievement' (Elliott, 2015, p. 318) but this is to ignore the systemic inequalities of education rendered visible by the pandemic. At an online CHEAD[6] conference, 'WeAreFace' (figure 2) state, 'Education
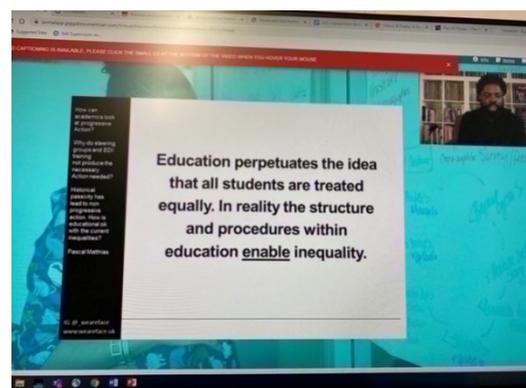
Figure 2. WeAreFace zoom slide capture, 2020

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[6] The Council for Higher Education in Art & Design

perpetuates the idea that all students are treated equally. In reality the structure and procedures within education <u>enable</u> inequality' (WeAreFace, 2020). Whilst this evidence is situated in the higher education sector, it demonstrates the need for different approaches to address organisational power imbalances, systemic oppressions and structural inequalities. Furthermore, different ways to engage, support and develop leaders, and would-be leaders, are required.

An online search of management and leadership reveals identities of the 'great man' (Ford, 2005), the heroic leader (Grint, 2010; Morrow, 1999), the imperial and colonial (hooks, 1995 & 2003; Gillborn, 2008; Sullivan, 2014) and the prototypical leader to be white and male (Sullivan, 2014); which can be acknowledged as features of the modernist patriarchal ideology. Furthermore, O'Conor reports, '38% of the workforce are male and 62% are female. But when you look at headteachers, the numbers are reversed: just 36% are women' (O' Conor, 2015), which highlights the gender disparity in secondary schools and outlined in the 2016 workforce statistics (DfE, 2018). This considers the relationship between modernism and patriarchy and how these power interrelations produce limiting effects on leadership futures. Modernism was constructed upon the central assumptions of the Enlightenment with notions of reason as scientific privilege, universals and grand narratives. These notions and dualisms of mind and matter promote singularity and difference, and are framed through historic, masculine identifications of the feminine as a literary subject of inferiority, a passive subordinate and within art history, the object of the male gaze for example, Ingres' Grand Odalisque (1814). The history of patriarchy extends beyond modernism and the focus of this research however, from Woolf's

relational exploration of patriarchy within the domestic setting (Three Guineas, 1938) to women's entry into the workplace during the industrial revolution, the dominant masculine narrative defines the position of women and in society. Therefore, possibilities for female emancipation within modernist claims for progress are limited.

Irigaray's writings on cultural difference argue that 'the project of modernity has not been constructed to include women' (Irigaray, 1974, p.201) and therefore, modernism can be understood as a male experience, producing relations of inequality. Willette summarises Irigaray's writings to assert, 'the enlightenment and all its philosophies of the modern are engendered male and modernism is the discourse of the male subject' (Willette, 2013). However, the critique of modernist-patriarchal relations is performed across genders; Giroux contributes to the critical discourse stating Habermas's 'view of modernity is too complicitous with a notion of reason that is used to legitimate the superiority of a culture primarily white, male and Eurocentric' (Giroux, 1990, p. 13). And in doing so, positions Habermas as, 'not only of being patriarchal but also of not adequately engaging the relationship between discourse and power and the messy, material relation of class, race and gender' (ibid) to address the limitations of modernist reason and dualities.

Across the field of late 20th century literature, theorists from a range of perspectives (Irigaray, 1974; Minh-ha, 1988; Giroux, 1990; Said, 1993; Cixous & Clement, 1996; Ringrose et al, 2018) have interrogated the ways modernist socio-politico-economics constructed mechanics of domination as hierarchies, borders and lineages of subordination across geographical, industrial, gender and cultural domains to produce a centre and margins and the politics of identity, underscored by privileging Eurocentricity which brings into question the modes for resistance.

Millet's 1970's analysis found patriarchy to be a pervasive ideology, evident across the workplace, reinforced in socio-cultural norms and structures (Millet, 1970). In examining the complexity of resistance to male monoculture Whitford cites Irigaray, 'the problem is that there is no alterity in masculine discourse- or in relation to masculine discourse' (Whitford, 1991, p22), which presents the limitations inflicted by universal reason and the void of alternatives. And so, the omnipresent male construct of the feminine and female subjectivity remains as Minh-ha states, 'it is often assumed, for example, that women's enemy is the intellect, that their apprehension of life can only wind and unwind around a cooking pot, a baby's diaper, or matters of the heart' (Minh-ha, T., 1988).

Within education Ball critically analyses performative acts of neoliberalism (2013), but Campbell's expanded view of the impact of global economics and hyper individualism claims it has 'led to yet more extreme forms of oppression' which she names 'neoliberal neopatriarchy' (2013). The literature evidences the perpetuation of modernist ideologies in its limitations of leadership identities. 'The Age of Patriarchy' (2018) charts patriarchy from modernism and shifting socio- politico-economic and digital change up to the #metoo and social media movements. Higgins concludes 'feminists are increasingly using the tool of patriarchy to recognise the subtle depth of the forces that keep oppression in pace, from the expectations about the behaviour of women in the workplace to the way they are portrayed in fiction' (Higgins, 2018) to highlight the contemporary issues of male managerial constructs within the free market.

These constructions can be seen to limit leadership development as Ely highlights that male hierarchies and masculine leadership identities are a result of 'policies and practices that communicate a mismatch between how women are seen and the qualities and

experiences people tend to associate with leaders' (Ely et al, 2011). To this point, online education discourse highlights 'the subtle gender bias that persists in organizations and in society disrupts the learning cycle at the heart of becoming a leader' (Ibarra et al, 2013). The 2016 workforce data (DfE, 2018) highlights the gender disparity in secondary schools and demonstrates elements of masculinity reinforce male identities that perpetuate asymmetrical gender relations in organisational life (Alvesson, 1996; Coleman, 1996; Ford, 2005; Gaucher, Friesen & Kay, 2011). When leadership is understood as transactional, based upon roles of authority and subordination, a top-down hierarchy and standardised modes of operation that require rigid systems of conformance tends to historically-deemed definitions of masculinity and femininity. The literature brings to light the limitations of male defined, modernist territories and the need to advance Minh-ha's 'attempts at undermining patriarchal systems of value' (1988) and produce critical leadership alternatives.

In addition to gender, racial inequalities are evidenced, 'White British people made up 92.7% of headteachers, 89.7% of deputy or assistant headteachers and 84.9% of classroom teachers' (School Teacher Workforce 2021). This disconnects with national representation (DfE, 2018) reiterates the urgent need to equitably re-balance leadership, develop 'racial literacy' (Joseph-Salisbury, 2020) address issues of leadership development. Furthermore, singular research approaches have allowed intersectional oppressions to remain hidden and therefore, different tools for intersectional change management within institutions are required. In challenging the status quo Koro-Ljungberg and Cannella question, 'how do critical methodologies address contemporary power contexts/material circumstances/lives and the immediate need for just

transformations (and direct action)?' (Koro-Ljungberg & Cannella, 2017: p. 332) which suggests that interdisciplinary, material methodologies may be useful.

Education researchers are, 'resisting the tendency for endless critique of past experience and bodies of knowledge' (Irwin, 2013, p. 198) and suggest 'part of resisting dominant structures is resisting the prevailing anthropocentric notions of power' (MacDonald & Wiens, 2019, p. 382). In countering the human-centric and anthropocentric, St Pierre calls for researchers to, 'experiment and create something new and different that might not be recognizable in existing structures of intelligibility' (St. Pierre, 2019, p. 4). In reviewing the new and different within the literature there is a move away from theory where, 'Baradian and Deleuzoguattarian philosophies free up possibilities for post anthropocentric departures and a capacity for re-imagining methodology' (Charteris, Nye & Jones, 2019, p. 910). Taking leadership as a point for departure through these philosophies liberates methodological innovation to be inter-connecting and inter-relating post-human elements of education.

This moves leadership towards the Deleuze and Guattarian understandings that, 'we are not in the world, we become with the world; we become by contemplating it. Everything is vision, becoming. We become universes. Becoming animal, plant molecular, becoming zero' (Deleuze & Guattari, 1994, p. 169). This assists with framing leadership becoming, and methodological possibilities as, 'knowledge production practices in a post-humanist education landscape' (Charteris, Nye & Jones, 2019, p. 910); moving the needle to a position of immanence transcending fixed histories.

A review of the literature finds leadership becoming can be situated as 'an ontology of immanence, [where] one becomes less interested in what is and more interested in what might be and what is coming into being' (St. Pierre, 2019, p. 4). However, when education policy directs management constructs, it is important to consider what methods and methodologies may mobilise leadership becoming and actualise alternatives.

An examination of the field provides evidence of vibrant interdisciplinary research where Deleuzian concepts cross-pollinating with arts methods re-imagine education pedagogies (Youdell, 2015, Honan, 2015; Charteris, Nye & Jones, 2019; Hickey-Moody & Page, 2016) but there is less evidence regarding leadership. Strom and Martin (2017), Strom (2018), and Strom and Lupinacci (2019) were found to work with Deleuzian concepts as post-human possibilities for leadership within higher education but advancing this assemblage research for the secondary sector needs attention. A review of existing practice methods to inform ways of making for post- anthropocentric departures now follows.

Figure 3. Studio sketchbook, 2021, p.45-46.

2. 2ii Practice Research - Arts Based Research

Reviewing the intersection of the arts, materialism and education surfaces the diverse knowledges produced through PR and highlights the possibilities of these interplays for leadership. This review begins with an initial examination of PR within the wider field of Arts Based Research (ABR); this follows with an inspection of existing ways of working within and outside of education and highlights the use of arts methods for leadership development, leading to the identification of a gap in the research.

The expanding field of intersecting and overlapping ABR domains demonstrate a myriad of creative approaches to knowledge production (appendix 3). These rich fields of practice draw 'upon diverse and complex matter as a process of investigation to develop new insights into clearly communicated outcomes that can be effectively shared' (REF 2014). Leavy describes the impact of this practice providing 'capacity to evoke emotions, promote reflections and transform the way people think' (Leavy, 2014, p.255) which illuminates the ways of producing knowledge with and beyond scientific domains.

Within the broad field of ABR, PR works in complexity in ways that 'piece[s] together multiple practices in order to provide solutions to concrete and conceptual problems' (Bolt, 2013, p. 12). Hickey-Moody adds to this understanding as a mode of, 'practical invention and evaluation, via processes that draw upon multiple fields' (2015, p. 169). Furthermore, there is evidence of contemporary arts re-making the world materially and relationally (Hickey-Moody and Page, 2015). Practice as a mode working with and

through materials (education matter and art media) inter-relates with new materialist thinking, both with Deleuze productively entangled in the milieu.

ABR however, often remains within the realm of representation, a topic of considerable research (Kristeva, 1980; Bolt, 2004; O'Sullivan, 2006). Furthermore, ABR outputs (paintings, prints) that relate to art market economics can limit its research possibilities. To examine ways of working with PR but not to be limited by these notions, Berger assists with ways of seeing that evidence how, 'seeing comes before words' (1972, p. 33). Not only does this counter art market concerns but foregrounds visual language. In so doing, we can, 'begin to define experiences more precisely in areas where words are inadequate' (ibid) which suggests modes for expressive and embodied experience and production.

The literature reveals 'a strong tradition examining the arts and creative production as methodological resources for socio-educational inquiry' (Poveda et al, 2018, p. 269) and evidence that practice is 'always in the process of creation' (Springgay 2002, p. 20). This demonstrates its generative and transferable nature as an emergent way of knowledge production. Its methods and methodologies present a lens on participation, power relations and social justice (Barone & Eisner, 1997; Finley 2008; Leavy, 2015; Capous-Desyllas & Morgaine, 2018), from which to liberate possibilities for making resistance. As art, 'does not produce concepts, though it does address problems and provocations' (Deleuze, 2008, p. 1) it presents possibilities to catalyse novel and useful approaches. Further to this thinking, Hickey-Moody & Page claim that 'the arts have the capacity to operate in terms of general rather than fixed limits' (Hickey-Moody & Page, 2016, p. 13).

The impact of this capability is evidenced by researchers, 'navigating the ontological turn in educational research have increasingly looked to art as an alternative to conventional modes of qualitative inquiry' (Rousell, 2019, p. 887) demonstrating the transferability of PR methodologies.

2.2iia Practice Research and Education

In looking to affirmative possibilities Eisner states, 'We come to understand the world in many ways; the arts are among these many ways. Their virtual absence in the methodology of educational research is a significant shortcoming in the way in which we may be able to understand what goes on' (Eisner, 2008, p. 11). To understand this absence, a review of PR and education suggest the field of Arts-based Educational Research (appendix 3) has made progress beyond the point of validation against traditional theoretical models. Rolling advocates that 'methodologies are characteristically emergent, imagined, and derivative from an artist/researcher's practice or arts praxis inquiry models' (Rolling, 2010, p. 110). This highlights the generative potential of arts methodologies, but the debate often remains caught in legitimising the nature of praxis within the arts education context and a marginalisation of the field.

The review identified BERA's[7] focus on for creative methods to innovate teaching and research but leadership was found to be under-investigated (BERA Bites, 2019). E-journal 'Critical Approaches to Arts Based Research' (Harris, Hunter & Hall, 2015) promotes multi-

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[7] British Educational Research Association (BERA), a UK membership association committed to advancing knowledge of education that accepts contributions from diverse perspectives and approaches.

disciplinary research in the Arts and Education 'to highlight its ever-expanding possibilities... [and the] ...the interdisciplinary application of performative and practice-led research in transferable methodological models' (ibid p. ii). Its global ABR community has ambitions beyond validation and scientific/art binaries. Critically, it foregrounds 'the layered and multimodal complexity of arts based 'outputs or artefacts is one of its rich distinguishing features, and it requires commitment from editors and publishers to not always demand a 'reduction' back into text-based forms, a diminishment of many forms of ABR' (ibid). The collected practice applications and modes of critical analysis extend across objects and subjects but not to leadership.

A/r/tography provides possible ways of leadership re-thinking (appendix 3). Where 'a/r/tography is premised on artist/researcher/teacher, with the slash denoting the multiple roles held by educational researchers' (Sinner, 2017, p. 39) there is potential to expand this approach to test artist/leader/researcher praxis. It is evidenced that 'moving between disciplinary, artistic and medial boundaries is now common and has strong institutional backing' (Brook, Mussgnug, & Pieri, 2017, p. 381). However, it is noted that where inter-disciplinarity, 'has become the dominant discourse, it remains under-theorised' (ibid) and setting this to work with my distinct artist-leader-researcher positionality (the slash moving to hyphen denotes the inter-relating practices) suggests that an interdisciplinary methodological approach to leadership with arts methods will further extend the field.

The Arts-based and Embodied Methods (ABE) of Leadership Development report by Woods et al (2020) present a comprehensive report of arts methods in motion in

European projects and evidences the lack of leadership development research. Whilst this looks beyond the English locale of this research, the following points from the summary findings are pertinent to this research:

- 'a critical perspective is missing from most studies into ABE methods of leadership development – that is, issues of power and inequalities and the effects of social positioning according to factors such as gender, ethnicity and social class' (ibid, p.6).

- 'Providing an alternative leadership development route in which planned activities of noticing and reflection are used to support analysis and critique, leading to openness to new ideas and to challenging pre-conceived ideas and accepted solutions' (ibid, p.6).

- 'Developing ABE methods' potential to allow for the growth of a nuanced understanding of webs of power and their impact, fostering the surfacing of affordances and barriers to leadership development' (ibid, p.7).

Where the literature demonstrates existing research with the arts are already in motion (Sutherland, 2012: Ladkin & Taylor, 2010; Roberts & Woods, 2018; Woods et al, 2020), there are gaps for critical modes that resist managerialisms, rebalance webs of powers imbalances and background systemic inequalities. Building upon this evidence and a foundation of 'how embodied, located acts of making can materially disrupt cultural hegemony and suggest different ways the world might materialise' (Hickey-Moody & Page, 2016, p.7), suggests a material re-making of anti-oppressive leadership would contribute to a gap in the research and critical leadership development.

2.2iii Material thinking

Interdisciplinary investigations exploring power relations, politics, and the arts are collectively considered by Barrett & Bolt to demonstrate how 'new materialism help[s] to shift the focus from representationalism and the hegemony of language/signification in our understandings of discursive practices, material processes and the production of knowledge' (2013, p. xi). Significantly this brings into question the knowledge producing act of making and inter-relational understandings of art and materiality.

New materialism as 'a method, a conceptual framework and a political stand, … refuses the linguistic paradigm, stressing instead the concrete yet complex materiality of bodies immersed in social relations of power' (Braidotti, 2022, p. 21) which presents possibilities with the visual arts to materialise different ways for re-making leadership. New materialisms (in plural to note the multiple possibilities) afford embodied-affective-politico-material possibilities that problematise simplistic notions and communicate complexity simply. Already a practice in motion, crossing disciplines and the thresholds between them, Barad identifies matter to be 'a dynamic and shifting entanglement of relations, rather than…a property of things' (Barad, 2007, p. 224) which assists in conceiving ways of remaking education as assemblage. Furthermore, 'matter teaches us through resisting dominant discourses, showing us ways of being' (Hickey-Moody & Page, 2016, p. 5). Whilst matter produces a re-making of the world in a 'making seeming being' (Massumi, 2002, p. 64), in seeking education change, a productive material methodology for leadership becoming is required.

The literature evidences the expanding field of developing feminist materialisms (Barad, 2007; Coole & Frost, 2010; Barrett & Bolt, 2012; Braidotti, 2013; Hickey-Moody & Page, 2016; Coleman, Page & Palmer, 2019) that set critical materialisms to work with critical, interrelating and affirmative practice with arts methods. The meaning of matter can be understood as the mediums of making, the tangible and intangible elements of practice and being in the world and those that become through practice (Barrett & Bolt). Beyond an adaptation of a/r/tography to mobilise praxical knowledge of the artist-leader-researcher, the literature evidences the existing entanglements of studio practice with Deleuze as materialisms for different ways of making.

This can be contextualised in the wider studies of material encounters with Deleuzian concepts in the work of Carter (2004), Coleman & Ringrose (2013), Springgay et al (2008) and Strom (2018). Carter identifies Deleuzo-Guattarian becomings with arts practice as material thinking to present affirmative, generative possibilities. Deleuze (1994, 1995), with or without Guattari (1987, 1994) and Parnet (2006) has had significant effect across domains including education and this is despite their disputing their philosophies as a mode for application. However, 'everybody's Deleuzian nowadays' (Beighton, 2013, p. 1294) and concepts of assemblage, rhizome, line of flight, territories and multiplicity and difference have contributed to ways to work with the messy, complex and entangled. Through a collection of essays, Coleman & Ringrose evidence Deleuze-inspired research practice is 'addressing the need for methodologies capable of attending to the social and cultural world' (2013, p.2). However, they highlight the ''practical' dimensions of Deleuze's philosophy and approach to the empirical is largely neglected' (ibid, p.1). Deleuze-informed materialisms are now setting these concepts to work with developing

methods, feminist methodologies, and the development of practice research (Carter, 2004; Barrett & Bolt, 2007; Coole & Frost, 2010; Tamboukoo, 2010; Hickey-Moody & Page, 2015).

New materialism highlights the 'embodied, affective, relational understanding of the research process' (Hickey-Moody & Page, 2016, p. 7) within arts education and pedagogical practice. Tamboukoo's research looks at experience within the linguistic paradigm; the 'art education assemblage' (Tamboukoo, 2010) maps the existence and experiences of becoming-artist of the female art educator in arts education but the productive affordances of material assemblages for leadership are an under-examined territory. Where examples of immanent assemblages as entanglements for rethinking exist (Sandvik, 2010; Tamboukoo, 2010; Heimans, 2015; Youdell, 2015), Brooks & Water state that, ''the material' remains poorly theorised and under-studied in work on education, despite a recent interest in this domain' (2018, p. 2) which is to identify an under-investigated area of research.

Productive possibilities of assemblage in Youdell's analysis of Deleuzo-Guattarian informed assemblages foreground 'the utility of the notions of lines of flight for considering the immanence of resistance' (Youdell, 2015, p. 11). In looking to evidence of how these notions are materialised, Barad presents the case that, 'if agency is understood as an enactment and not something someone has, then it seems not only appropriate but important to consider nonhuman and cyborgian forms of agency as well as human ones." (Barad, 1998, p.112). This suggests assemblage designs for methodological becomings to entangle human-space-time-technological-matter-non-

matter as inter-spatial, inter-relational education matters of resistance will contribute to new thinking and making.

In reviewing potential materialist modalities for leadership methodologies, Page's workings of Freire's critical pedagogical identities (Page, 2016, p. 14) evidence dynamic becomings as 'entangled with wider, global, discourses and power relations' (Hickey-Moody & Page, 2016, p. 15). In reconceiving Page's assemblage approach (appendix 5), leadership can be repositioned, and entanglements of resistance created. Therefore, if power structures are materially re-imagined through assemblage becoming, then education materiality requires different investigation. However, where Page's model works with language, there are different possibilities with PR. Carter highlights, 'the language of creative research is related to the goal of material thinking, and both look beyond the making process to the local reinvention of social relations' (Carter, 2004, p. 10) to underscore the productive interrelations of PR and materialism to reinvent education.

In conclusion, the literature reveals PR to set new materialist concepts to work and produce different approaches to disrupt dominant education power discourses (policy and language). Materialisms are found to generate an alternative making that matters; how they operate, what they produce and what they set in motion for leadership will be explored in section two. The relevant modes for this PR production will now be examined in the practice review.

2.3 Practice Review

The literature review revealed the need for new and different ways for re-making leadership becoming. How this enquiry addresses this gap is shaped by 'the notion of art practice as a mode of enquiry and knowledge production' (Barrett, 2013, p. 63). In addition to the traditional academic literature review, an assemblage of arts practice considers the collective becoming of selected artists for three trajectories of methodological production – assemblage, soft matter, and radical immateriality, to inform the selection of relevant materials, methods and methodologies of making. Additional information on the selected artists can be found in appendix six.

2.3i Abstraction

Firstly, and beyond representation (Berger, 1972; Bolt, 2014), an initial review examines sixty years of Western abstraction and material research. Artists Blow, Marden, Martin, Twombly, Steir and Lovelace O'Neal (figures 4-9) are reviewed to consider how their practice can direct studio methodology and modes of making.

Figures 4-9. Blow, 2006; Martin, 1991; Marden, 1986; Lovelace O'Neal, 1973; Twombly, 1968; Steir, 2018.

Eschewing figurative and representational subject matter, the selected artists developed a language of mark making and material concerns within the picture plane of the canvas or paper ground; the drawn, cut, etched, painted action of graphite, charcoal, inks, oil, and acrylic paint expand temporal-spatial notions to create material, quantum spaces. Creative processes range from the gestural and intuitive to minimalist and reductive mark making in a shallow pictorial space as an interrogation of material becoming. Marden highlights how painted layers present, 'veils of feeling…. Each layer was colour, a feeling…a concentration of feelings in layers' (Marden, 1988, p. 31) foregrounding ways of seeing through material culture and the relational, embodiment of materialist practice. Furthermore, the artists' mediums and colour palette are minimal if not monochromatic and emphasise the physicality of the etched marks, poured glazes and dense material surfaces. This act of materiality transcending object and subject presents new sensory, embodied understandings.

In addition to the artists' painting methods, processes of printmaking that metamorphosise drawn images into alternative becomings present useful mechanisms through which to disrupt oppressive education structures. These transformational methods produce mirrored, positive images of negative marks and demand further review. A closer inspection of the intaglio process of etching reveals the engraving of a metal ground (such as copper, steel or zinc) either by dry point processes or with acid into a resistant ground; a process of simultaneous creation and erasure, a positive act of negative mark making. These inter-intra-actions catalyse the image creation of positive inky statements on paper materials. The negative, etched lines have altered into raised formations, sitting proudly above the paper surfaces. Every image is unique through its

material behaviours for example, differences occur due to the dampness of the paper within the weather conditions at the time of printing and the number within an edition. Additionally, effects of the pressure of the press in its printing of the paper, the drying time, and the sunlight exposure on the print over years demonstrate how a singular image is transforming throughout its being and therefore, continuously becoming.

The material becoming shapes the viewers' experience which in turn, informs new readings of human-material interactions and suggests methodological possibilities for leadership. Beyond the printmaking examples, the choreography of reflexive human–material practices are generative not just in the summative creation of an artwork but also in the actualisation of material becoming, and thus create the case for these methods to re-make education as an abstract assemblage.

2.3ii Collage

Figures 10-13. Schwitters & van Doesburg, 1922; Sandberg, 1956; Warhol, 1986; Holzer, 1933.

A review of collage[8] from 1922 and assemblage[9] from 1953 to now builds upon the 'value of collage as a methodological approach' (Roberts & Woods, 2018, p.626) to examine modes of making for a second series of methodologies.

As an art genre and method, collage, 'allows the opening up of conscious, which is very direct…it's also a way of looking at what you are consuming all the time' (Stezaker, 2020) and suggests critical ways of engagement. The application of collage in exploring education leadership was found to enable 'the accessing and sharing of profound levels of experience not accessible through word alone and considers the impact of the physicality of collage on its potential to release these profound insights' (Roberts & Woods, 2018, p. 626). Whilst this contributes to the empirical foundation of PR methodological thinking, the focus on the illuminative and experiential potential of collage methodologies for reflective leadership practice indicates that the affordances of collage as a contemporary art practice for critical leadership are under-investigated. Furthermore, participants within the studies were tasked to, 'highlight the aspect or aspects of leadership important in their minds and feelings as they created their collage' (ibid p. 630). Critically, this use of collage is not informed by artists or practice, which is not to question who can or cannot use arts materials, but I argue that the exclusion of

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[8] Collage describes the method of collected materials (paper, photographs, fabric, and other ephemera) are arranged in a new composition and stuck down on a supporting ground and the resulting artwork. With emerging new technologies, a digital transformation of these methods is developing e.g., Photoshop, Illustrator and translates collage into e.g., LED systems.

[9] Assemblage describes the method of utilising fragments of natural or preformed material and the resulting artwork, coined as a type of collage method in 1953 by artist Jean Debuffet (appendices 1).

arts practice is to limit critical opportunities to examine the affective language of leadership. The opportunities of arts practice are introduced by Craig-Martin,

> 'A lot of contemporary art…tries to engage us directly by addressing current issues and using existing languages that come from elsewhere: from advertising, the cinema, magazines, newspapers, television, the internet, et cetera. Many artists today take such a language and subvert it or give it a twist to make it visible…. The viewer has immediate access to the work because they arrive with some prior understanding of its language'

> (Craig-Martin, 2015, p. 263).

In seeking to extend the productive possibilities of collage and contribute to gaps in existing research, artists Sandberg, Schwitters and van Doesburg, Warhol, Holzer, Kruger and Landgraf (figures 10-14) are selected to inform this research trajectory.

With the aim to de-centre language, the creative acts of Dadaist collage (Schwitters & van Doesburg 1922), American slogans juxtaposed with imagery (Warhol, 1976; Kruger 1987) and more recently, site specific provocations (Holzer, 1987) present provocative research methods. Collectively, these artists examine the use of language as a method of communication but also of concealment and control and in doing so, reveal and contest societal power enactments and exclusionary practices. Their collected practice demonstrates re-making with appropriated media, found images, lexical matter, and slogans as socio-politico propagandist material relevant to disrupting the status quo.

These practices physically perform a tearing apart of power constructs to disrupt image and language from a dataset of pre-existing media. Creative acts juxtapose words against words and visuals to create critical, material provocations and communicate new meanings. Re-imagined compositions present a thought-provoking awareness of a particular problem within social fabric (Sandberg). Collage informed future genres of political propaganda (Dadaists), the 'ready mades'[10] (Duchamp) and the birth of conceptual arts. Carefully selected motifs and materials of recycled and appropriated text and fonts emphasise that compositional content is not to be considered neutral but socio-politically and artistically coded.

Warhol's use of low-art methods and materials, accessible and appropriated subject matter challenged audience assumptions of what is art. In consideration of environmental and sustainability concerns, the use of upcycled and recycled matter ensures that the art canon does not privilege through use of materials. Moreover, the use of newspaper imagery, bright colours, text, and slogan presents a user-friendly visual communication that could be argued as relevant to today's Instagram users and raises important considerations for methodological innovation.

Using text as provocative statements and motif through technologies Holzer, Kruger, and Landgraf inform a re-reading of language with a range of situated media and scale that breaks existing codes. Kruger's situated artworks (appendix 10) juxtapose appropriated imagery and text to create critical slogans and dialogic statements as a method for break open sentences. Whilst Holzer's 'Truisms' (1987), present site-specific methods of using

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[10] Ready-made is a term coined by artist Marcel Duchamp in 1915. It describes prefabricated objects, usually mass-produced items that have been dislocated from their usual context and purpose. They are then designated as art by the artist.

language to reveal concealed power and challenge established assumptions (appendix 10).

Figures 14 -15. Kruger, 1983; Landgraf, 2018.

The review reveals that from Sandberg to Landgraf decades of collage practice employs skilfully crafted acts of cutting to challenge oppressive governmentalities through clearly communicated visio-text provocations. In a closer examination of contemporary practice Landgraf's collage methods (appendix 6) visually challenge, 'colonial ideas of partitioning and rationally separating things reconfigured as an elegy to what indigenous Hawaiians Kanaka Maoh- have lost' (McDougall, 2018, p. 103). She presents a collage approach to re-making leadership through time, place, and space for plural communities and critically addresses historic oppressions. Her anti-oppressive methods inform ways to produce agential material encounters but where these remain mostly within the arts domain, there are possibilities to set these in motion with gendered and racialised education system to perform as dialogic tools for the anti-oppressive leadership of Gen Z.

Drawing upon modes and materials of advertising material that inspired their practice suggests the reimagining of leadership CPD through colour and design as marketised materials in the knowledge economy. This is to develop playful methodologies to subvert

free market power enactments. In doing so, this liberates ways of thinking beyond managerialism and governmentality and sets collage to work in previously underexplored areas of research.

2.3iii Installation

In reviewing art practices and considering the affective nature of material, Lange-Berndt outlines that, 'clearly materials have agency, they can move as well as act and have a life of their own, challenging an anthropocentric post-Enlightenment intellectual tradition' (Lange-Berndt, 2015, p. 16). How these immanent, agential material possibilities are used beyond the flat picture plane and paper surfaces of abstract art and collage suggest that the creation of large-scale installations and spatial dimensions may be productive in unforeseen ways. A review of installation practices in the past twenty years reveals possibilities for re-making leadership becoming.

Figure 16. Schwitters Merzbau, 1933.

Installation artworks afford large-scale environments that invite participation. 'Merzbau' by Schwitters (1933), is an early installation example where rooms in his house were filled with art to create an environment. The immersive inter-relations between viewer-audience-participant and the artwork are central to the concept of installation, moving spatial matter beyond the genre of sculpture.

Contemporary installations employ a range of materials from the found object to the ephemeral, from recycled materials to virtual technologies (appendix 10). In reviewing the field, Parker's installation '*Cold Dark Matter: An Exploded View (1991)*' suspends time through the performative act of an exploding building in motion. Understandings of solid, static wooden containers are liberated through arts practice to take flight, disrupting notions of gravity, weight and structure. I return to Lange-Berndt to consider Parker's methods in terms of "what does it mean to give agency to the material, to follow the material, and to act *with* the material?" (Lange-Berndt, 2015, p. 13). The agential transformation of matter from everyday norms to expanded world building frames possibilities for material methodological disruption with education power constructs.

Figures 17-20. Simmons, 2019; Hirschorn, 2015; Yang, 2015; Parker, 1991.

Following the material and challenging the canon within art history reveals contemporary material environments reconstructed with low-tech media such as tape, cardboard and upcycled paper in Hirschorn's installation, 'Roof Off' (2015). Importantly, in addition to

Hirschorn's work at the Venice Biennale[11] (2015), these practices were widely adopted. The use of everyday materials demonstrates anthropocentric practice and suggest the importance of material and media selection for methodological prototyping. Additionally, Simmons 'Fade to Black' (2017) and 'Sol LeWitt Upside Down' by Yang (2015) present contemporary examples referencing Duchamp's conceptual art to technologically reconceive existing art works as three-dimensional iterations, thus presenting digital ways of re-making education. These practices evidence how installation art allows the unimaginable to be conceived, realised and experienced, and in doing so present new possibilities for transferring material thinking beyond the arts domain. These spatially expanded ways of making suggest architectural scales to de-centre the human and the canon, thus, managerialism can be subverted in a material re-worlding of education.

In conclusion, reviewing practice has evidenced that from abstract printmaking and collage provocations to the temporal-spatial concerns of site-specific installation, arts methods and media present ways to radically transform methodological production. Critically the focus is on process not product, it is generative and catalytic rather than metaphorical, retrospective documentary or illustrative. Where the western, patriarchal traditions of oil on canvas are referenced as 'old master painting', domestic materials, and craft-based media have been adopted by feminist researchers for critique and intervention we are reminded that visual materials are not neutral. They are to be

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[11] Venice Biennale is an international contemporary art exhibition held every two years in Venice. In the 2015 exhibition, '136 artists from 53 countries investigating how the tensions of the outside world act on the sensitivities and the vital and expressive energies of art' (labiennale.org, 2015).

acknowledged as coded and laden with human centric, oppressive histories that require dismantling. In contrast, contemporary digital and data driven technologies present novel tools but these demand critical and ethical interrogation to surface emergent material understandings. Therefore, a heterogeneous practice that entangles contested traditions with the new and becoming as an education assemblage will set to work and re-make leadership.

In considering a materialist practice for leadership, I acknowledge that art methodologies are not widely adopted in English education. This may be since only 2% of school leaders are from a specialist arts background (DfE, 2018, p. 45) (appendix 4). However, this underscores the need for the design of innovative tools for leaders to be accessible and inclusive, ensuring real world impact beyond the domain of the arts. The critical, practical and ethical considerations of making will now be discussed (2.4).

2.4 A practice approach to re-making leadership

2.4i Studio Practice

Based upon the findings of the practice and literature review, and working through Covid-19 disruption, this research seeks to methodologically challenge management within the marketised knowledge economy, and in the absence of disciplines beyond managerialism, consider what the leadership materials for resistance are. To bravely shake off the shackles of governmentality (performativity, managerialism, and accountability), leadership demands new nodes for critical reflexive questioning, re-imagining, and re-making. Previous methodological enquiry in my doctoral studies has tested physical, paper modes of Deleuzian-inspired rhizomatic approaches for dialogic, participatory interaction and embodied, materialist analysis (appendices 8 and 9). Working with these understandings, the affordances of a Deleuzian-inspired assemblage with visual arts work with the selected methods and materials validated in the practice review. These spatially investigate inter-relating matters and inform possibilities for renegotiating equitable leadership becoming.

The developing assemblages will evidence the productive nature of the interspatial and immaterial, as a compositional construct in the arts domain and a theoretical affective, liminal and intra-space which I consider performing as a generative lab and name as the fertile ground of negative space. The investigative lab will produce three broad concepts: assemblage, soft matter and radical immateriality. All of which contribute to vibrant, anti-oppressive education futures and the developing interdisciplinary field.

Central to this PR is the studio as the site for the material investigations and production. As a making mode of research, the position of praxis (practice and theory) comes into question. Graeme Sullivan presents a strong case that practice makes research and a written exegesis is unnecessary (Sullivan, 2005). However, the literature evidence urgent need for social re-imagination (Mulgan, 2020) and as most leaders do not have a background in the arts (DfE, 2018) it is vital that those situated within the linguistic, positivist paradigms to move to a position of becoming assemblage. Without the previous knowledge of the arts, new materialisms or practice through Deleuzian concepts, it could be argued that these emergent tools for leadership may be inaccessible without written documentation.

Bolt advocates the written exegesis as a valuable accompaniment to studio practice. She proports, 'it is much more concerned with articulating what has emerged or what has been realised through the process of handling materials and ideas, and what this emergent knowledge brings to bear on the discipline' (Barrett & Bolt, 2019, p. 34). And in returning to the pressing concerns for education futures and the contribution of the arts beyond its domain, a written articulation of the ways practice produces knowledge has assured me of its value and shapes the tri-part approach to this research.

2.4ii Data collection

The data collection for the practice research is facilitated through my artist-leader-researcher praxis. This provides an original, interdisciplinary dataset for the education assemblage to afford points of methodological comparative analysis and includes:

- primary sources of leadership fora (via leadership practice, training and CPD)

- paintings, prints and site-specific installations (via public exhibitions)

- grey literature (art, new materialist research, education, policy).

The distinct focus of this study seeks to inform new applications of the research for artists-leaders-researchers but also demonstrates how practice informs theory and practice as theory (see catalogue).

2.4iii Methodology: Making ways and ways of making

Based upon the literature, this research contributes to extending the field of developing feminist new materialisms in the production of material methodologies, as material prototypes as possible tools and tools for possibility. The making of these methodologies demonstrates different ways of knowledge production as a meta-discourse of studio processes. These surface and develop critical understandings of, 'what allows us to articulate what creative research actually does?' (Bolt, 2014, p. 23), and what it can produce for leadership.

The selected research approach draws upon my professional arts practice and fine arts education (appendix 7), bringing a rigorous, disciplinary firmness to the inter-disciplinary approach of this research. The sketchbook is an accessible and handleable artist's tool; a central method of 'Art & Design' delivery in English public examination assessment criteria (GCSE; A level). As a methodological mode, it performs a meta discourse: the continuous documentation of personal narratives, data collection, data production, material investigation, critical reflections and reflexive questioning as integral elements of arts practice. It provides a systematic and critical perspective on the productive inter-

relations between professional practice, theory and research through making and reflexive enquiry. Furthermore, it captures emergent findings and reflexively questions significant moments; develops understandings of the dynamic inter-intra-relationships between matter, making and the knowledges created as practice; and produces revelations to generate the re-making of leadership.

Material tests (brainstorming, toiles and developing leadership merchandise samples) demonstrate the iterative studio processes that reflexively inform the selected methods,
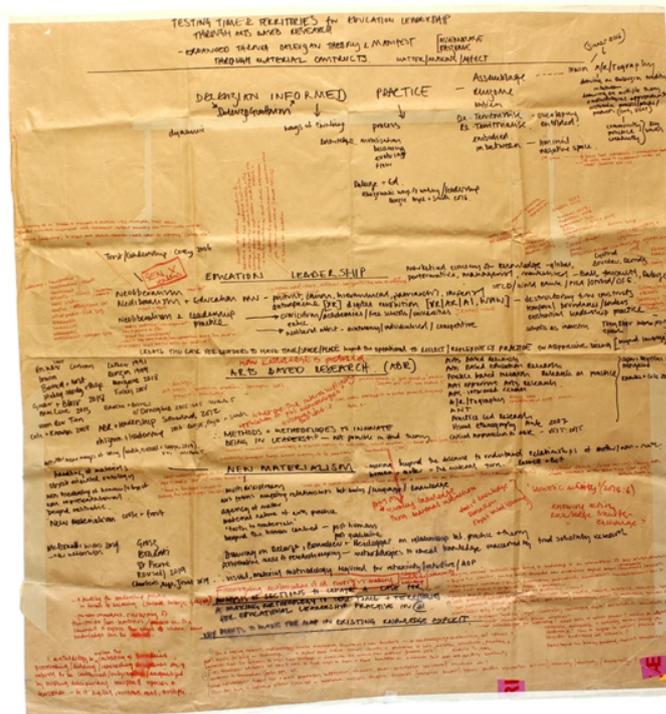
materials, and methodological developments of this research.

Figure 21. Brown map, 2020.

Seven emergent methodological prototypes (section 2) test ways of re-making leadership and are fully illustrated in the catalogue. Additional images capture the assemblage in

motion, in situ and the significant findings. Each exhibit contributes to displaying how this visual arts practice operates materially and immaterially and promotes understandings of the way in which knowledge emerges, functions and performs.

The complete research materials are exhibited to showcase what PR produces as a mode of enquiry and provides access to the ways of new knowledge production for leadership becoming. In doing so, the exhibition contributes to re-making the field and interesting suggestions for anti-oppressive education futures.

It is hoped that the exhibition is physically encountered and, through embodied interactions with the audiences, that emergent material-immaterial-human-non-human understandings can be surfaced and analysed. Visitors may be artists, teachers, leaders, education community, Gen Z, researchers and the public and all will bring their positionalities, knowledges and lived experience as education encounters and their engagement will extend the potential of these dynamic producers. The emergent material knowledge aims to inform analytical strategies, policy creation and shape future research. The exhibition and its accompanying catalogue (the second manifestation of the research) documents the making and its outputs to provide the widest possible access and dissemination of the research; the catalogue performs an alternative mode to encounter the research beyond interaction with the physical exhibition in situ. The third manifestation of this research is a written exegesis of the research, this textual thesis. The written document acknowledges that practice and theory are reciprocal; critical practice generates theory and theory informs practice (Gray, 1996). All three parts of the research are equal and contribute to the education assemblage and leadership becoming.

In sum, they demonstrate what arts practice is and what practice, as the production of

knowledge and theory, can set in motion.

SECTION TWO: Making Methodologies

The following chapters document seven case studies that set art methods and materials of three trajectories (abstraction, collage and installation) to work for education and demonstrate the affective possibilities of a materialist methodology through a Deleuzian-informed assemblage. Each assemblage prototype is situated in a distinct education challenge and its creative processes are summarised. The series elicits ways of developing reflexive and agential understandings for leadership becoming, and what creative practice as the production of knowledge can set in motion. A critical reflection on the research findings concludes the chapter, with implications of interdisciplinary possibilities for practice, analysis of claims to impact and its potential for advancement of the field.

Chapter Three

3.2 Introduction

This material methodology explores ways to disrupt human-centric, education hierarchies, heterogeneous power, and policy enactments (1.1i, p. 17). Informed by the literature review, a dataset of leadership fora training documentation (NPQH), professional development (Studio Schools Trust, DfE, Ofsted) and practice (personal documentation of secondary school structures and systems) is collected. Drawing upon the practice review, the selected methods of abstract mark making of Martin, Marden and Blow (appendix 6), are used to surface material understandings as an alternative way of working with education fora. A material investigation of management and leadership understandings and their complex inter-relations begins in my sketchbook (catalogue, p.6), as a practice research mode of data collection, ideation, development and analysis. Visually locating leaders and their education communities within English school structures and systems, affords different ways to critically question what leadership enacts, who with, and for whom, and in doing so, considers methodological ways of resistance.

3.2. Micro Education Assemblage

The creative process begins with a visual analysis of English school operating models. In a review of active online examples, hierarchical structures are found to be the dominant model including the widely adopted, pyramid education organisation model (sketchbook pp. 22). These are examined as instructional infographics to consider organisational power dynamics. This situates staff and students within hierarchical power structures and excludes governance and community; the diagrams box and contain school actors in uniform shapes, limited by stages and reductive directions of progress in binary directions. Busher has explored the coded power relations and forces within institutional structures to, 'extract the essence of that complexity to indicate what forces are interacting dynamically through the agency of people in schools' (2005, pp. 15-16). This is to assume firstly, that there is agency for actors in schools and secondly, that the direction of complex, hegemonic powers can be revealed through imagery.
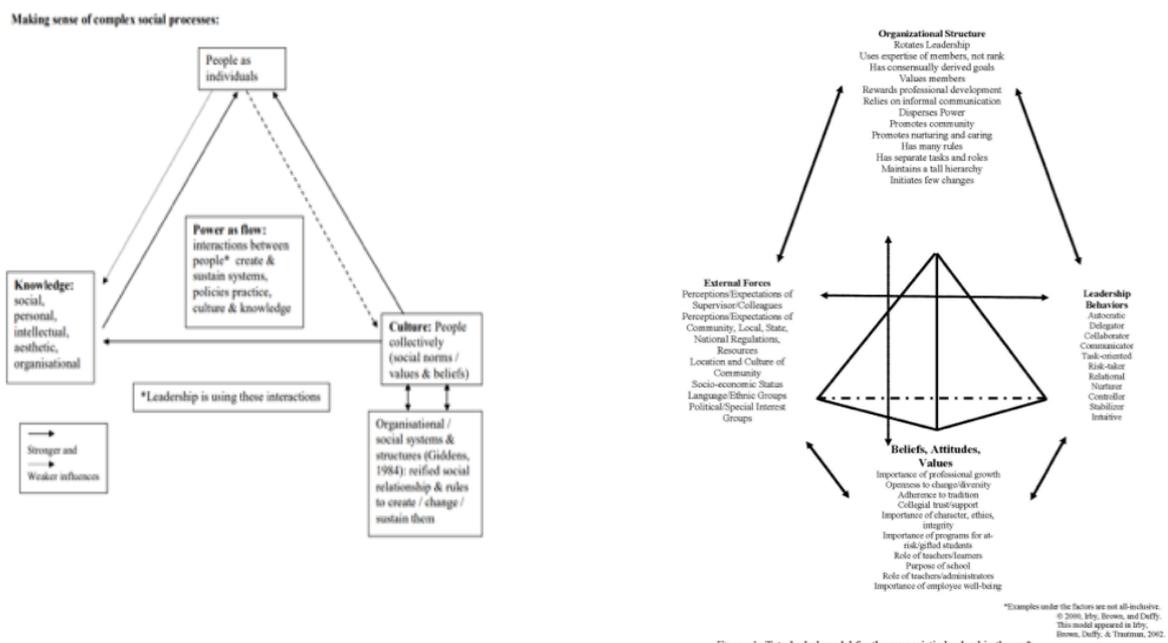
Figure 22 -23. Busher, 2005; Irby, Brown, Duffy & Trautman, 2002

Working with these assumptions, Busher illustrates 'interactions between people create

and sustain systems, policies, practice, culture and knowledge' (ibid) in a diagram of

power as flow (figure 22). These inform his leadership understandings of issues arising

from the exclusion of students. He highlights those students excluded from the

construction of their education are, 'likely to feel alienated from the processes of

knowledge construction as well as from the prescribed knowledge itself, wondering what

is its relevance to them, their values, or their anticipated lives' (Busher, 2005, p. 17).

Busher utilises this inter-relational model of power dynamics to present an alternative

case for an inclusive learning community. Potentially, Busher's case for student' agency

is equally true for leadership and the act of visually mapping power can be transferable.

However, despite the claims of the Busher model, the power can be seen to flow only in

binary directions within the constraints of the rigid framework.

Alternatives such as the synergistic leadership theory model (Irby & Brown, 2002, p. 313)

present a tetrahedron model of an operational structure (figure 23). This illustrates the

power dynamics of leadership (leadership behaviour, organisational structure, external

forces, and attitudes, beliefs, and values). However, channelling leaders into previously

constructed channels does not need repeating. Alternatively, disrupting existing power

dynamics beyond closed, rigid structures through a visual arts methodology opens new

possibilities.

3.3 Case study: Micro Education Assemblage
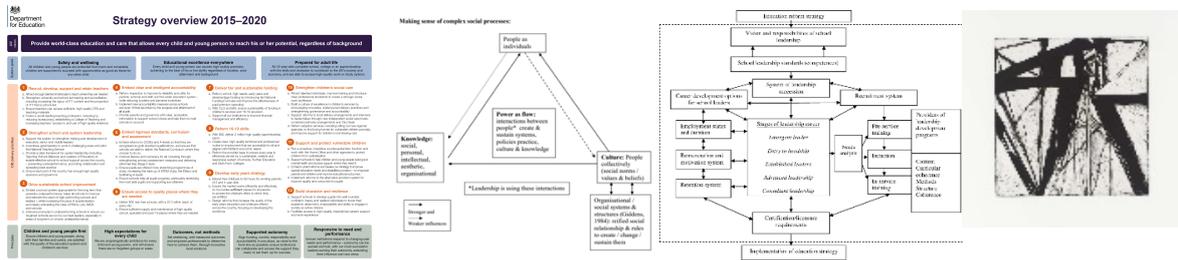
Figure 24-27. DfE, 2016; Busher, 2005; Kontautienė & Melnikova, 2010; Marden, 1986.

Working with the selected Abstract Expressionist methods presents disruptive ways to interrogate government discourse and catalyse alternative leadership understandings. Using this approach, a critical visual analysis of the Department for Education's 2015-2020 strategy (DfE,2016.), education models (Busher, 2005; Kontautienė & Melnikova, 2010) and Marden's Rexroth etching (1986) examines the interplay of power as line and text. Mingling policy aims, theory and art as a materialist act facilitates school structures becoming creative compositions; managerial hierarchies are critiqued as line, motif and symbol to elicit new understandings, agential alternatives and points for departure. These ways of seeing inform a productive interrogation of English education, tested through sketchbook processes (catalogue, p. 6).

Using drawing methods, an investigation of existing structural power inter-relations within education settings identified and communicated directions and flow of omnipotent forces (figure 28). Colour coding and layering of mixed media allowed for a differentiation of human and non-human inter-actions within the force fields.

This initiated a series of questions such as:

What and who is not revealed in the fixed lines?

Who and what is between the lines?

How do material acts

(removing/cutting/inverting lines) matter for

leadership resistance?

Beyond the straight, fixed lines what are the

possibilities afforded by different lineages and

furthermore, what understandings are activated

through this visual process?
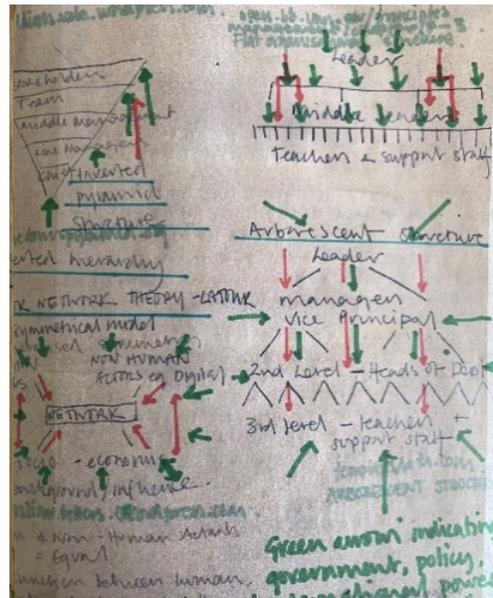
Figure 28. Drawing power inter-relations of education structures, sketchbook, p. 22.

Working these emergent visual understandings produced in my sketchbook catalysed the production of a series of individual printed compositions. Informed by Martin, Twombly and Marden's printmaking methods (1961-1991) pyramid, inverted pyramid, flat education structures were technologically produced (carbon printing, ghosting, etching, lithography, silkscreen and collaged combinations of these processes) to facilitate a re-making of the lines of power within education structures.
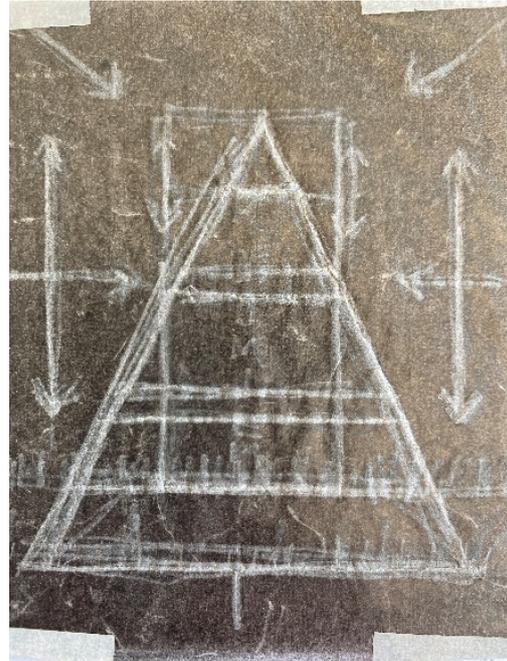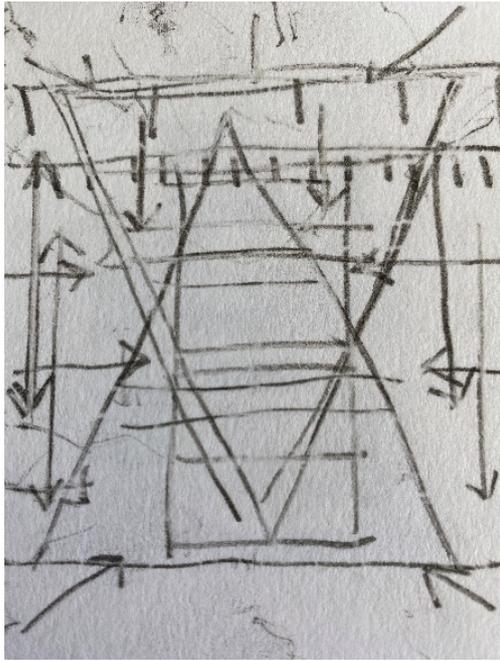
Figure 29-30. Micro Education Assemblage, Prints 11 and 14, 2020.

Reflecting on each unique composition, the dynamics of power as a printed line allowed for further questions to be asked. The inescapable direction of the line from a to b, entrapped within its form and constrained within its boundaries allowed systems of staffing within school to be visually analysed. As Busher's 'power as flow' (2005) (figure 22) findings suggest, the lines within the compositions reveal heterogeneous linkages of power but additionally, at closer inspection, the spaces of impower are visually revealed and critically suggest spatial resistance. Furthermore, the inky quality of the lines – originally seen to be hard, functional, and oppressive are transformed through printing methods, to be soft, flowing and vibrant. Working with these material transformations affords different ways of re-thinking structural oppressions. For example, if the standard education model maintains power hierarchies such as white, patriarchal management, new considerations of how liminal spaces and the soft edges of carbon lines actualise a decentralised, gender-balanced model are set in motion.

Figure 31-32. Micro Education Assemblage, Prints 17 and 28, 2020.

These findings informed the following compositional and material development. In the making, micro printed compositions combined multiple lines, and each line can be seen to materially perform power enactments but beyond this, suggests different ways to re-think relational power. Each printed mark, be it sharp, messy, layered or connecting, and each scalpel cut of the collage process materialised new thresholds to produce a collective composition for agential education possibilities.

These revelations are produced through making in the studio but being cognisant of the need for new knowledge creation to move beyond the understandings of the maker, the material methodology requires interaction with leaders and contribute to the wider education field. Therefore, rather than a collection of singular compositions, an architecture that reflects the iterative and generative studio processes were developed. Drawing on Deleuzian concepts, designing a mode for leadership interaction with

multiple linkages and lines of flights shaped the making of an inter-relating functioning tool where the individual compositions are bound as a multiplicity. This spiral-bound Micro Education Assemblage (catalogue, p. 58) performs a continuous, dynamic questioning of structural modelling whilst the tactile surfaces of handmade papers present material inter-intra-actions to employ tacit leadership knowledge and catalyse reflexive provocations.

Where the Busher and Irby et al models examined power within existing fixed models, the Micro Education Assemblage produces dynamic, material ways to re-think education structures as inter-relational opportunities in motion. Leaders can, therefore, use this dialogic tool to critically reflect on existing managerial structures and possibilities of the new. This is to be considered significant as established pyramid/inverted pyramid education structures are embedded within education matter (be it via schools, leadership training or online), perpetuate their existence, and maintain inequalities. Therefore, the Micro Education Assemblage presents leaders with a critical tool to challenge the status quo.

3.4 Critical Reflection

Education research and free-market management structures that may have seemed concretely robust until Covid-19 are now to be considered redundant. A material investigation of dynamic ways to re-think and re-make anti-oppressive leadership for Gen Z has been found necessary. The Micro Education Assemblage materially interrogated management structures through printmaking techniques and processes. Methods and materials informed by Marden have transformed managerial hierarchies into abstract motifs in micro compositions: pyramid constructs of school staff, students and governors were re-made with lithographic stones and carbon ghosting to re-configure patterns of power relations and demonstrate new ways of structuring communities.

Working beyond representation, materially processing education data contributed to innovative methodological re-making. Torn, blurred, inter-relating and collaged lines interrupt existing power enactments to become the point for reflexivity and dialogic interactions and produce alternative education models. In the making process, different kinds of questions surfaced to compose further research questions that demand different kinds of analysis and practice creation.

Where this material methodology relies upon abstract mark making to catalyse critical reflective questioning of education structures, its impact may be questioned in its reliance on the participant's visual literacy. However, Berger's claim that, 'seeing comes before words' (1972, p. 7) may disabuse this concern. Furthermore, the wide adoption of technologies employing advanced visual communication methods such as Instagram,

suggests that the sole use of visual language will not limit understandings or the adoption of this methodology. However, further testing of text-image compositions will present opportunities for comparative analysis and develop further thinking for agential methodologies.

In conclusion, the material methodological investigation has produced a tiny tool with potential to disrupt the perpetuation of structural oppression and actualise leadership resistance. This iterative material assemblage frames messy contagions of nuanced education phenomena as novel ways of addressing challenges and acts as a material provocation to contribute new ways of thinking for leadership and the wider field of education research.
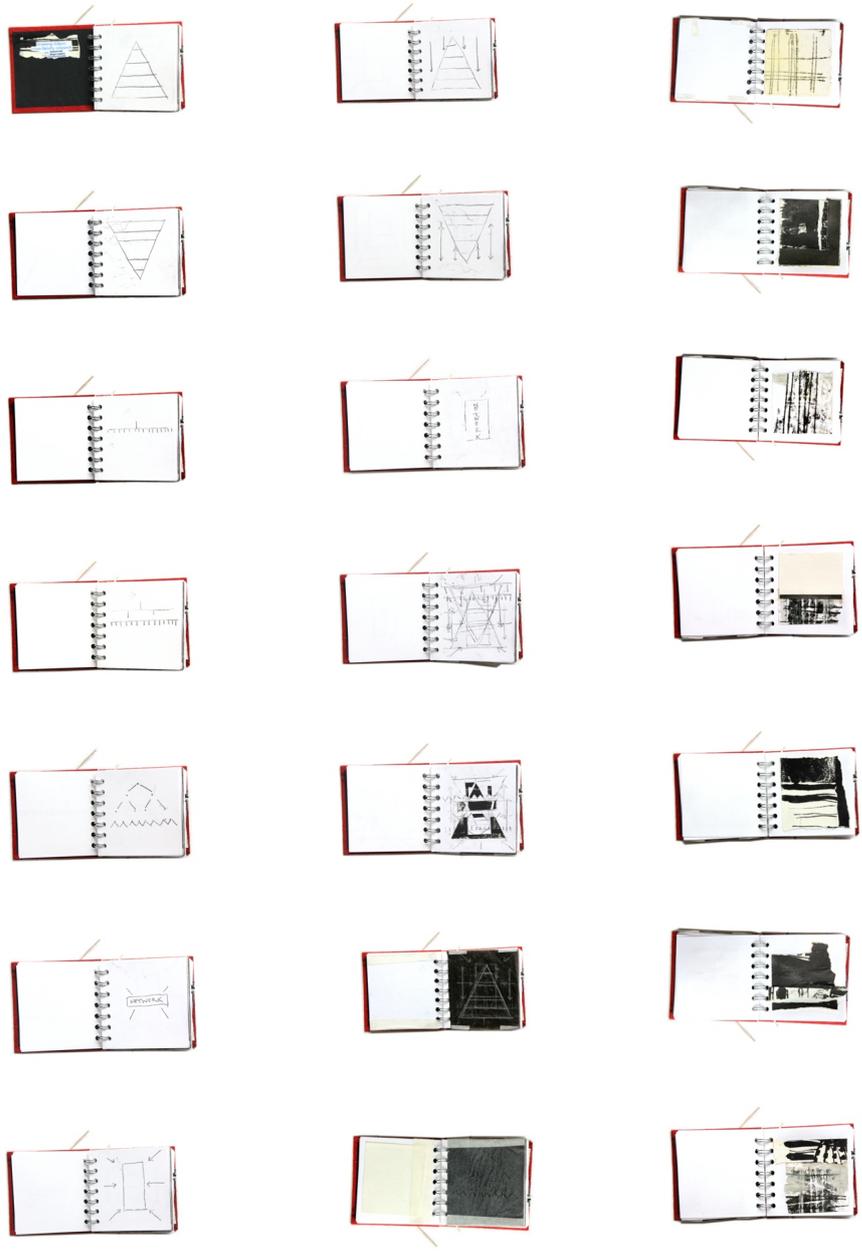
Figure 33.Micro Education Assemblage, layout no. 1, 2020.
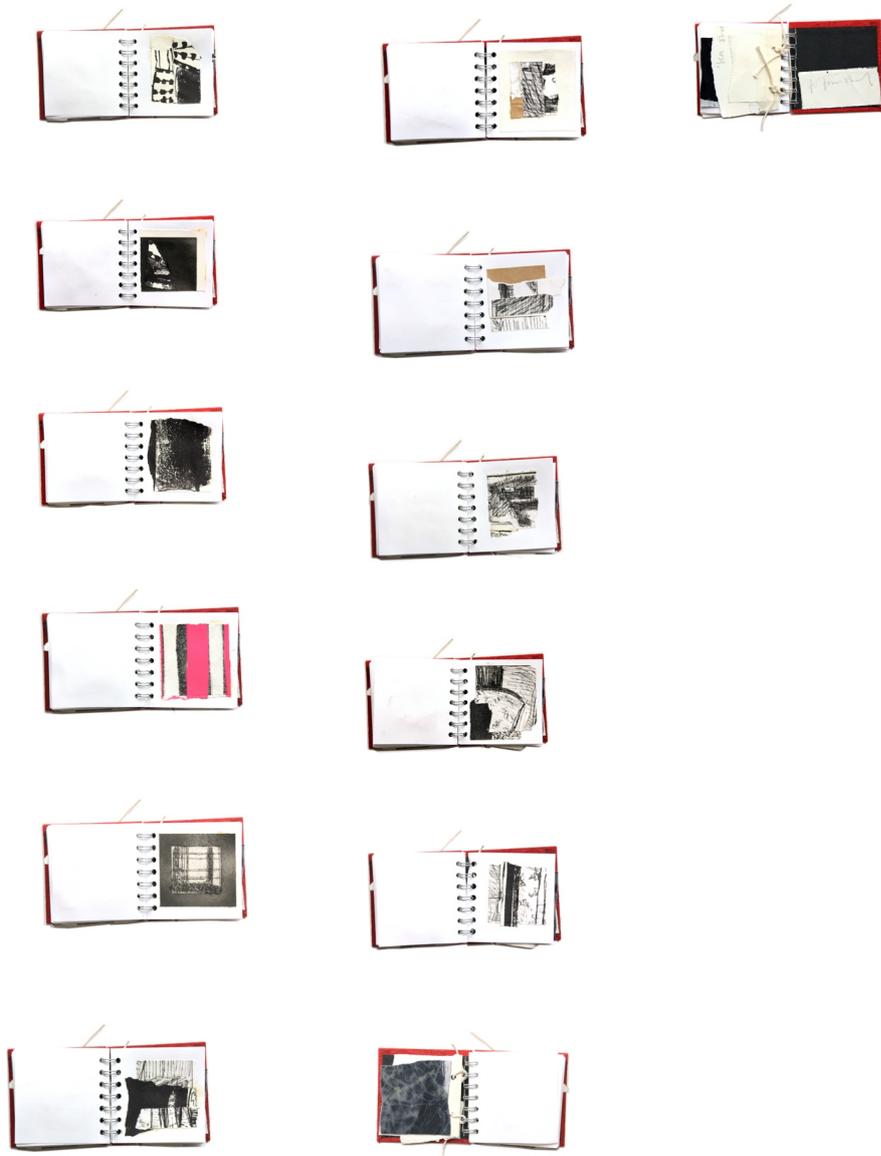
Figure 34. Micro Education Assemblage, layout no. 2, 2020.

Chapter Four

4.1 Introduction

Sketchbook processes demonstrate modes of making as materialisms to de-centre linguistic privilege, the canon and inform anti-oppressive leadership becoming. Playfully testing leadership assumptions expands the theorising the value of collage (Roberts & Woods, 2018) to present different ways of critically thinking through pandemic implications of education (4.2). A case study demonstrates how collage methods of Warhol, Kruger and Landgraf are used to challenge leadership assumptions and the disruption of language is actualised by an assemblage of visuals and text to consider gender, identity, and practice (4.3). The chapter concludes with a critical reflection of emergent collage ways of remaking education and its potential impact to the field (4.4).

4.2 Leadership gamification, word play for leaders in lockdown

Re-making education for unimaginable futures begins by developing critical leadership understandings concerning issues of power and inequalities. This practice seeks to expand Roberts and Woods' use of collage as a methodological approach to exploring experiences of leadership (2018). It presents an alternative practice with contemporary collage as a critical mode for disrupting managerial assumptions and catalysing reflexive questioning. The developing material methodology for re-making leadership mobilises words of affective, becoming, embodied, entanglement, affect and affective, line of flight, point of departure, space-time-matter, and intra-action (Deleuze & Guattari, 1994; Massumi, 2002; Barad, 2007; Braidotti, 2013; Lather, 2013; Hickey-Moody & Page, 2016; Koro-Ljungberg, 2015) and contributes to a gap in the education research.
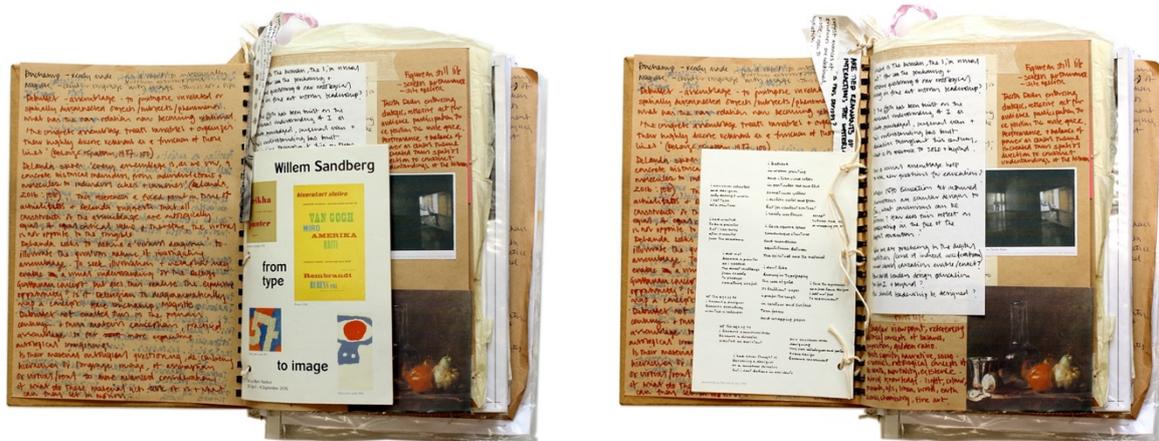
Figures 35-36. Studio sketchbook, p. 2-2a, 2020.

Informed by the practice and literature review, my (artist-leader-researcher) studio practice sets the transformative action of materials to work with the problematised language of education. The methodological investigation began with identifying an

interdisciplinary dataset. The data collection mined my leadership materials to include training documentation (NPQH) professional development (Studio Schools Trust, DfE, Ofsted) and practice (personal documentation of secondary school structures and systems). My leadership portfolio was filled with A4 documents (handouts and downloads) describing traits, behaviours, styles, and competencies of leadership from SELNET, NPQH, National College and more.

Figures 37-38. Studio sketchbook, p. 13-14 & 15, 2020.

Based upon these findings, studio investigations began an interrogation of language. Words were investigated as motif and symbol and endlessly reconfigurable in a quantum, technological shift as a mechanism to resist hegemonic, linguistic powers and counter systemic inequalities. The material selection of found objects (recycling papers, fabrics, tape, cardboard) were tacitly examined to surface which materials matters.

Significantly, this research was situated within 2020-22, the first UK Covid-19 lockdown, and assemblage thinking for leadership was enacted and shaped through a screen interface of the enforced digital existence. Set against a backdrop of

headteachers negotiating synchronous and asynchronous educational delivery in pandemic circumstance, I was struck by the contrast of standardised education literature to the proliferation of creative playful activities emerging online (figures 37-38). Art organisations such as the Royal Academy of Arts, London presented creative online content (#RA Daily Doodle, 2020) to inspire socially distanced communities and support wellbeing through creativity.

These online tools addressed the intrinsic human need to be creative, playful and interacting with materials, albeit mediated through technology. Whilst leadership of traditional curricula and assessments pivoting to technological delivery was problematised by outmoded pedagogies and the digital divide felt by societal disadvantaged groups, the nation's anxieties were offered playful, reflective activities. Receiving these contrasting lockdown experiences simultaneously through technological interfaces highlighted the lack of time and space, and tools for leaders to play and reflect on their leadership. This brings into question that when leadership has been found to be autonomous, performative, and managerial, what are the affordances of materialist methodologies to support the reflexive questioning and self-analysis needed for crisis decision-making or business as usual.

Responding to this provocation, this PR tested modes to challenge leadership assumptions and disrupt power hierarchies. Working with the collected data, an examination of leadership fora revealed the traditional, serious, standardised material of leadership to be black printed text formatted in a Word document on A4 paper (coded by historic conventions and linguistic privilege). Its stark contrast to the

playfulness of creative activities buoying the nation highlighted the coded matter of

managerialism and the lack of play in rigorous education research. Perhaps the lack

of play in leadership research is to return us back to the power enactments of

managerial constructs. However, the literature reveals 'serious play may provide a way

to develop practically wise organisational leaders' (Holliday, Statler, & Flanders, 2007, p.

129) and that arts-based methods for leadership development require the 'facilitation of

playful participation' (Woods et al, 2020). Therefore, I argue that play and creativity are

also serious acts for education leaders and present new modalities of thinking and

making in response to pandemic needs.

Figures 39-40. Material tests: Mask for leaders in lockdown, 2020.

An early investigation utilised a Covid-19 mask structure to develop leadership

understandings (figures 39-40). This examination of the new daily phenomena of mask

wearing as a pandemic safety measure produced a possible way to embody education

matters. A comparative visual analysis of lockdown fora (leadership training documents, creative pandemic downloads, material prototypes) revealed the differences in material, format, textual and visual representation (appendix 10).

 This practice method affords the questioning of underlying assumptions and meanings, which was to challenge my thinking on what was relevant for the serious business of educational research. Through this act my own assumptions of leadership – the nature, identity and discourse and the actual materiality of leadership ephemera were brought into question. It was in researching leadership as a new materialist practice that questioning leadership material became central to methodological thinking and in turn, brought to light the visible and invisible materiality of management. Beyond this, possibilities for re-making leadership through playful encounters were catalysed.
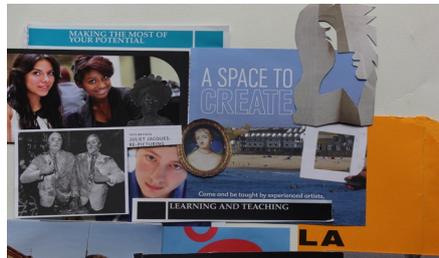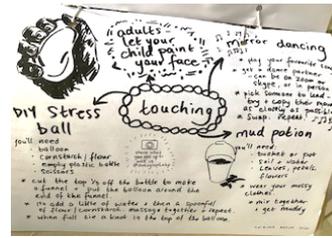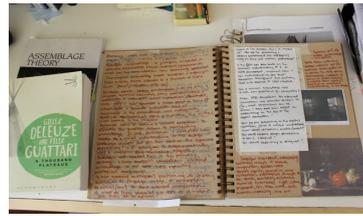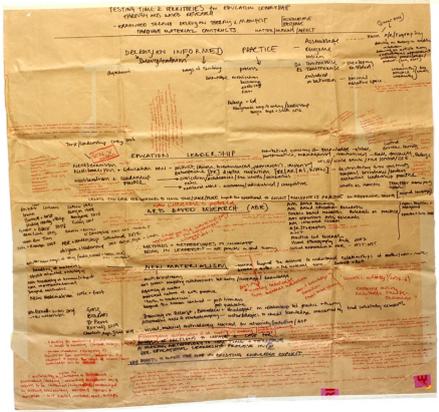
Figure 41. Education material tests, 2020

4.3 Case study: Leadership Gamification, word play for leaders in lockdown

Early ideation and material tests of the nature of leadership material informed a prototype education assemblage as a material methodology; this conceived the Leadership Wordplay prototype, a gamification of notions of leadership and linguistic power relations.

In questioning leadership materials, education language was interrogated through the Deleuzian statement, 'we have to break open words or sentences, too, and find what's uttered in them.... (language is always unstable)' (Deleuze, 1995, p. 96). Methods of disrupting language to reveal hidden power and remake the broken lexical material is evidenced across art genres. Bowie described his method, 'I'll take articles out of newspapers, poems that I've written, pieces of other people's books, and put them all into this little warehouse, this container of information, and then hit the random button and it will randomise everything' (Far Out Magazine, 2020). This articulates his use of the cut-up writing technique developed by William Burroughs (1950s and 60s), which in turn was influenced by Dada-ists, Schwitters and van Doesburg (1920s onwards). Bowie explained the catalytic nature of the emergent juxtapositions, 'if you put three or four dissociated ideas together and create awkward relationships with them, the unconscious intelligence that comes from those pairings is really quite startling sometimes, quite provocative' (ibid). This demonstrates how lexical provocations can re-make meaning; the transfer of methods from literature to song writing suggests a further transfer to the visual arts to be productive. Based upon this assumption, methods of collage were employed to break open sentences, test (hidden) leadership understandings and surface opportunities in this instability. Making the (visual) language of leadership visible,

accessible and the focus for critical thinking informed the methods and materials of an interactive gaming methodology.
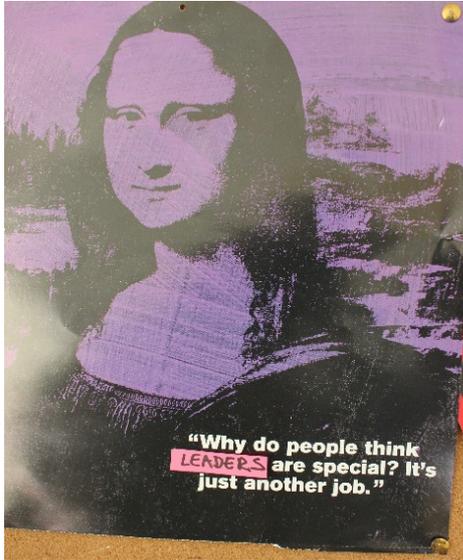
Figure 42. Education materials test: Warhol wordplay, 2020.

In making ways to disrupt the managerial, leadership was playfully situated with ready-mades from my studio. A Warhol appropriated image of the Mona Lisa was taken from a readily available calendar. This original screen print had been appropriated as gallery merchandise with an accompanying Warhol statement which was pinned on the studio wall. Reflecting on the artist's quotation, 'Why do people think artists are special? It's just another job' (Warhol, 1975) I employed a Deleuzian-informed act of breaking open sentences by replacing the word 'artist' with 'leaders', to reveal its potential meaning. Through this material act using lexical motifs, an initial provocation put the role of leadership into question (figure 42).

Analysing the implications of situating leadership in new and unexpected spaces informed subsequent material acts. Further compositions examined how collage methods of cutting up and sticking lexical matter onto existing discourse disrupt education meanings and power inter-relations, challenge assumptions and generate leadership provocations. Firstly, a wordplay lexicon of 'education', 'leadership' and 'education leadership' was handwritten on pink post-it notes. Then selected textual material (publications, fliers, marketing merchandise) from daily practice within university and arts settings (based

upon my positionality) were re-made with the post-it notes to create a portfolio of wordplays for leaders in lockdown.
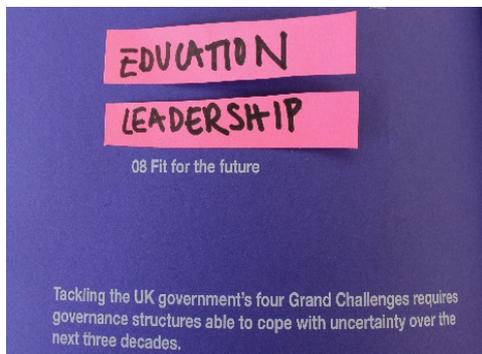
Figure 43. Leadership gamification, wordplay for leaders in lockdown, no. 5, 2020.

This low budget, new materialist practice employed upcycled materials, paper, glue and post-it notes. Materials were sourced and collected from the studio, drawing upon artist-leader-researcher fora (postcards, fliers, exhibition invites, research publications, university brochures, calendars, and leadership training literature). Post-it notes allude to swift thought processing but also de-centre privilege of printed text and materials. Handwritten 'education leadership' post-it notes are stuck onto ready-made statements to test understandings of who is leadership. The conscious selection of materials and easy-to –use 'post-its' facilitated agile gaming with meaning. The lively interaction with leadership notions created a flexible, playful, dynamic process in motion. Emergent artworks led me to question if playful acts seriously challenge education hierarchies or are they provocations for raising consciousness in the ever-increasing marketised, managerialist education models. Using throw–away comments or language to critically challenge meaning, these individual material assemblages act as a leadership wordplay to explore who and what is leadership, what does it do and how is this disrupted when juxtaposed with a found object, image, or article?

Gaming leadership assumptions liberated ways to approach strictures of management and performativity. The selection and visual comparative analysis of data in the process

of making and the emergent outputs informed a dialogic relationship with the material. I was continuously exploring the (hidden) meaning of the text, then text and image to question my own assumptions. Significantly, the process developed materialist understandings for leadership and the affordances of the Leadership Gamification as an affective methodological tool.

4.5 Critical Reflection

The making of the methodology presents several significant learnings. The swift and reflexive studio methods informed by the practice review produced relevant, playful, and engaging material encounters with leadership data. Moreover, the material and tacit knowledges surfaced in the dynamic process operate beyond the linear processes of traditional ontologies. This emergent practice, reliant on my praxical knowledge and material encounters in the studio, demonstrates that this personal, subjective praxis produces new ways of thinking that could not have been conceived via traditional research approaches. This tends to Carter suggestion that 'material thinking' (Carter, 2004, p. 184) creates a record of the process, which Barrett understands as the 'means of creating new relations of knowledge subsequent to production' (Barrett & Bolt, 2019, p. 143). Understanding methodology making in these terms is to value the immanent and emergent processes of PR for education. Furthermore, the methodological outcome responds to Carter's, 'call to discursive arms'(ibid) and in moving the research beyond the studio it demonstrates how material thinking can contribute in new and different ways.

The use of Deleuzo-Warholian methods was found to provide an accessible mode for leaders' participation and their engagement is to situate their positionality as assemblage, and therefore, as a subsequent becoming. The impact of performative engagement and its potential contribution to new knowledge for leaders will be examined later (section 3) but renegotiating the language and construction of leadership through the gamification methodology has highlighted potential reframing of what education is and does.

In considering how the gamification methodology surfaces new ways of producing different questions for education, the composition no.13 'Healthy Leadership Development' (catalogue, p. 87) provides a useful example. This collage appropriated concerns of the built environment for education in an interdisciplinary material act and in doing so, raises important questions as to what is meant by healthy leadership development in a pandemic, and who those leaders are? Furthermore, what is healthy leadership development for marginalised groups identified in the literature review such as the 6% of school leaders identify(ing) as BAME (Benjamin-Lewis, 2020)? The action of collaging images and text as a mode for re-thinking education challenges surfaces big questions for education policy, in this case to highlight the need to reform systems and create safe spaces for equitable practice and governance.

Furthermore, the catalytic action of changing a single word within the material assemblage sketches out the vibrant becoming of collage and signals the contribution of methodologies to reveal the spatial constraints in the manifestations created so far. It

was important therefore, to consider disrupting these constraints and further testing of

the hypothesis through spatial dimensions and fabrications was set in motion.

Figure 44. Leadership Gamification, wordplay for leaders in lockdown,
nos. 6, 15, 24, 16, 8, 10 and 12 (left to right), 2020.

Chapter Five

5.1 Introduction

Against the backdrop of outmoded education norms, thinking critically and differently for leadership becoming demands practical tools for the challenges of the working day and the very real need for more time and space. Beyond managerialism, this methodological prototype aimed to innovate for anti-oppressive leadership by expanding spatial and temporal possibilities through collage methods (5.2). Where traditional formats of book shapes of handleable scale have shaped methodological opportunities, this prototype practically questioned if this has spatially limited possibilities for education and new knowledge creation. Furthermore, where singular theoretical approaches have been argued as redundant, a material assemblage for interdisciplinary, inter-relational alternatives is produced. For agential leadership, Hooks states, 'think critically, not to passively agree but to think and question' (Hooks, 2003, p. 195) and so, the modalities of the arts methodology catalyses critical (self-reflexive) questioning for leaders (5.3). A reflection on the methodology concludes the chapter (5.4).

5.2. Spatial and temporal manifestations of leadership in motion: a Heterotopic Education Vessel

Figure 45-49. Sandberg, 1943; Warhol, 1976; Holzer, 1987; Kruger, 1987 and Landgraf, 2016.

The following practice spatially expands individual compositions from the Leadership Gamification to develop modes of critical methodology for leadership development and contribute to the existing gap in the research (Woods et al, 2020, p. 6). Selected artists practising with visual and linguistic matter (Schwitters & Van Doesburg, Sandberg, Warhol, Holzer, Kruger, Landgraf) informed the methods through which the possibilities and ethics of rendering methodological thinking materially and immaterially were tested. As already stated, this does not attempt to create further binary positions of alternate onto-epistemologies to humanist- linguistic traditions for additionally boundaried acts of partition but to explore interdisciplinary assemblages as inter-spatial points for departure.

Making with the Deleuzian concept of assemblage facilitates an immanent inter-relating framework. Working with this spatial architecture liberates leadership materialisms to perform co-functioning acts of connecting and re-connecting, juxtaposing, and interfacing, traversing territories and dimensions. In consideration of the expansive nature of assemblage becoming and a shift beyond the structural norms (education models, publication formats), the design of a material methodological vessel for

dialogically performing learning cultures and anti-oppressive leadership was set in motion. Importantly for its inception, Deleuze and Guattari highlight 'When a methodology...changes dimension, it necessarily changes in nature as well, undergoes a metamorphosis' (Deleuze & Guattari, 1987, p. 21) and thus, this methodology performs as a transformative tool and tends to a metamorphic becoming. As an assemblage prototype it tested its function as an imminent, interactive hybrid of positive and negative provocations; and, making safe spaces for play and criticality as a multi-directional, plural and re-configuring tool. Noting, 'the assemblage's only unity... that of a co-functioning: it is a symbiosis' (Deleuze & Parnet, 2006, p. 69), the making of this inter-spatial symbiosis considered the leadership materials for resistance.
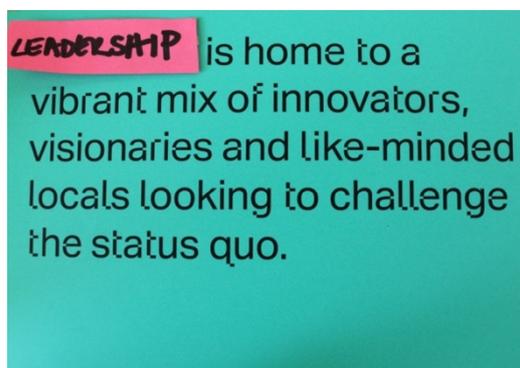
Figure 50. Developing methodology for Heterotopic Education Vessel, 2020

Where the singular and expanded compositions operate within the qualitative, emergent and tacit knowledges (Barrett & Bolt, 2019: Newell, 1988) present significant implications for re-making leadership. The perpetual and metamorphic nature of this concertina assemblage facilitates the physical handling and reconstructing of real-world complexities. In doing so, it expands Heidegger's theory of handleability (Heidegger, 1962), object-based learning (Chatterjee & Hannan, 2010, 2016*)* and object-oriented ontology (Harman, 2018) to spatially consider emergent ways of knowing through the methodological object. This is underpinned by Barrett & Bolt understandings, 'We come to the world theoretically only after we have come to understand it through handling. Thus, the new can be seen to emerge in the involvement with materials, methods, tools and ideas of practice' (Barrett & Bolt, 2019, p. 143).

Figure 51. Heterotopic Education Vessel, 2020

Constructing the imagery, colour and text as a paper concertina locates education and its people (centred and marginalised) in time and space; and significantly, its architecture collapses the binary condition of reading as its spatial interruptions suspend norms. To

avoid repeating exclusionary acts, traditions of book formats remain within the design just as historic education traditions enfold within the appropriated imagery. This positioning is however, situated simultaneously with abstract re-imaginings and inter-relating material fantasies. Therefore, it was important to consider affective inter-intra-actions with leadership data and what dialogic interactions with Gen Z visuals juxtapositions against oppressive governmentalities set in motion for equitable futures.
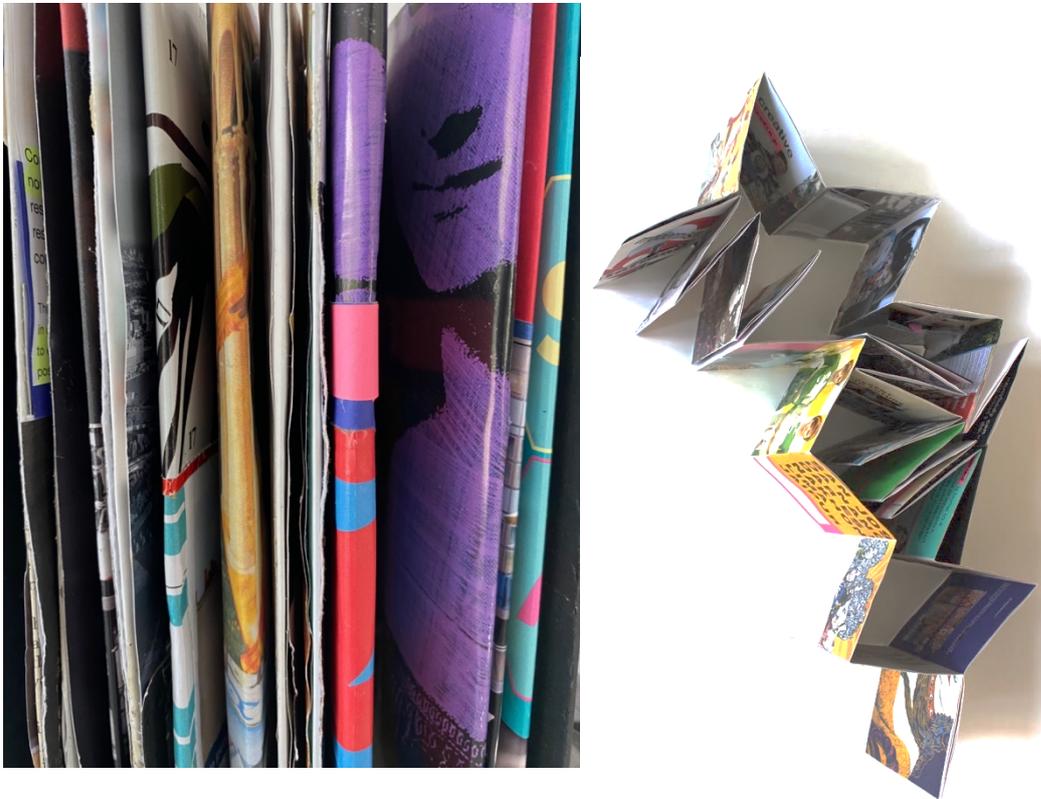
Figures 51-52. Heterotopic Education Vessel closed (side perspective), and in motion (bird's eye view), 2020.

5.3 Case study: Spatial and temporal manifestations of leadership in motion, a Heterotopic Education Vessel.

In the development of material innovation, a heavy, hand-made paper was selected for this interactive methodology as a malleable and transformative medium to mobilise space, for this performative methodology. Recycled, upcycled and low-budget materials were used for environmental sustainability and to ensure the art canon does not privilege through materials. Whilst each image-text-paper-space assemblage generates critical leadership questions, spatially expanding the assemblage beyond the traditional picture plane suggests ways to quantumly negotiate leadership in motion. These findings informed the concertina construction to host both positive and negative grounds as a functioning heterotopic vessel for assemblage multiplicity. Pages are constructed to contain, fold and enfold for multiple re-configurations and re-modelling of the existing and yet, unimagined.

Working across media and scale, structural and systemic notions of leadership were materially performed and (re)constructed across multiple dimensions using data as material methods. Data collated from across disciplines (education, grey literature, leadership training and practice, schools' merchandise and discourse, contemporary artworks and periodicals, commercial advertising, gallery ephemera, architecture, fashion, performance) was re-mediated materially and digitally. In addition, visual representations of England's plural, intersectional communities are foregrounded to rebalance oppressive power asymmetries; these were then labelled with Ofsted accountability measures and government assessment metrics to catalyse critical reflexive

practice. This material thinking produced multiple collage compositions in layers and juxtapositions that connect-disconnect and transform. It is in and through practice as research and reflexively research as practice that material negotiations for leadership were generated.

The book format playfully references and capitalises on knowledge of research and publishers favoured formats but once opened, the pandora's box of Gen Z colour field collages demand action, inviting bodies to perform with material data. Landgraf's decolonising and agential act of cutting through informed the editing of old masters with interventions of 2020 imagery to quantumly compose temporal disruptions, affective encounters and catalyse new possibilities.
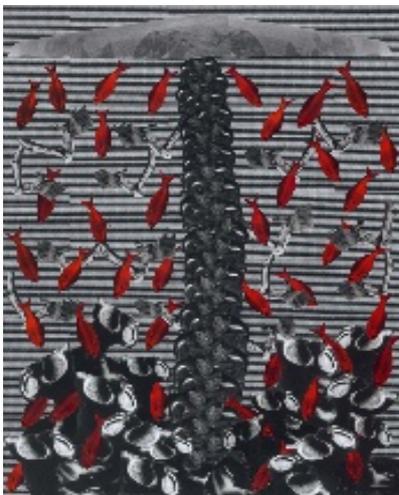
Figure 54. Landgraf, K. (2016) *Ho'okahi Po'ohiwi (be of one shoulder).*

It is with material acts and agential cuts that Landgraf demonstrates the socio-political act of contemporary collage (figure 54) and underscores the relevance of collage practice for the assemblage methodology. Using these methods, the wordplay of the Leadership Gamification was expanded into complex provocations combining image and text.

Developing this further, provocations were produced with multiple negative spaces, structural voids and colour field gaps; these immaterial architectures were designed to erase managerialist performativity and practically, actualise the creation of time and space for alternative leadership ideation and critical reflection. Intense colour references

art history but also social media platforms for the visually literate Gen Z. The rise of visual online platforms such as Instagram demarcate the preferences of #digital natives (Prensky, 2001) whose learning environments are equally visio-textual, synchronous, and

asynchronous and beyond binary definition.

Pages once situated within a bookbinding, now take lines of flight across positive and negative spaces in bright colours with imagery and motifs to engage and critically challenge the viewer (figure 55). Visual research juxtaposes contemporary artworks, text, leadership competencies and provocations from disparate domains to collectively perform within the assemblage. The emergent, expanding compositions test further

Figure 55. Heterotopic Education Vessel, in motion (ii), 2020.

visio-textual ways to challenge leadership assumptions and re-make education. The re-positioning of power relations is folded and enfolded, layered and physically cut through for positive and negative becoming in this material manifestation. Here, the interplay of assemblage spaces, non-spaces, dynamic edges, and dimensions enrich encounters beyond linear traditions of singular approaches. Furthermore, where the wordplay added the lexical matter of *leadership* and *education* as nodes for disruption, new compositions use Landgraf's scalpel cuts to examine opportunities of removing data.

This emergent embodied, affective methodology is portable and interactive. The subjects are continuously inter-relating with structures and architectures to challenge understandings of the self, leadership and default anthropocentric positions. Furthermore, it is through these concertina inter-intra-actions that affective immaterialism can contribute to addressing imagination deficiencies (Mulgan, 2020) and alternative leadership becoming. This is to emphasise material ways to practise with constelled power relations and their constituencies for immanent leadership. The creation of negative spaces within compositions and structures of the artwork, lead to multi-modalities of material and immaterial becomings.
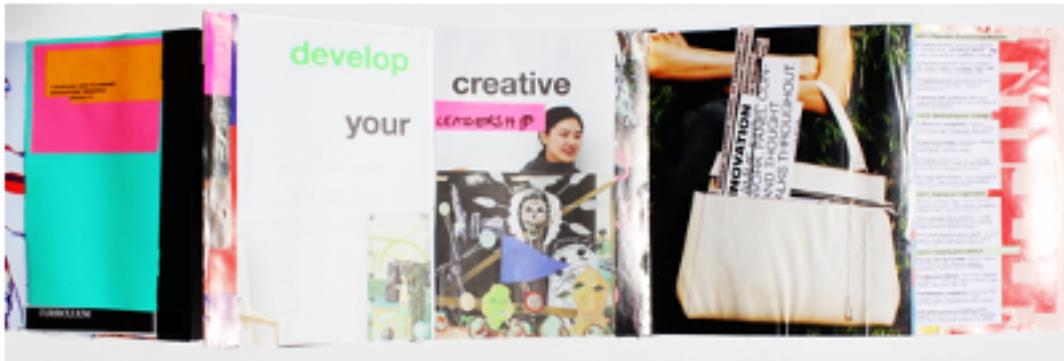
Figure 56. Heterotopic Education Vessel composite, 2020.

5.4 Critical Reflection

On reflection, the extent to which this methodology disrupts norms may be questioned and demands evaluation in the real world. Contesting language but still referencing a book format may be a minimal break with tradition (figure 57) and critically may reinforce norms it seeks to challenge. I look to Deleuze and Guattari's criticism of language for not being 'abstract enough…. they do not reach the abstract machine that connects a language to the semantic and pragmatic contents of statements, to collective assemblages of enunciation, to a whole micro-politics of a social field' (Deleuze and Guattari, 1987, p. 7). Critically, it could be argued these findings are not abstract enough however, the emergent negative spaces and voids present positive heterogeneous connections, liminal linkages and non-spaces beyond linguistic actualities to demonstrate the generative acts of assemblage.

Figure 57. Detail from Heterotopic Education Vessel, p. 25, 2020.

These performing spatial and temporal manifestations of leadership becoming were constructed to quantumly expand and collapse back into a manageable scale and format,

affording portable methodologies for leadership development and disseminating research. Critically, I caution that language remains throughout and return to Deleuzo-Guattarian thinking to consider whether the assemblage prototype is abstract enough.
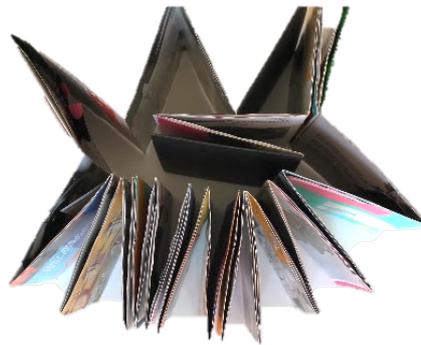
Figure 58. Heterotopic Education Vessel, bird's eye view (ii), 2020.

Beyond the aesthetics and visual provocations of each assemblage, it is through making processes that new knowledge creation was immaterially-materially surfaced and actualised. The paper architecture allows participatory performance with the education data to create multiple combinations of imagery, text, meanings, matter, and non-matter in novel combinations connecting subjects and creating relationships in spaces that could not otherwise be conceived (figure 58). Moreover, co-designing alternative realities, safe and equitable learning and leadership spaces, always with Gen Z foregrounded, develops a dialogic, reflexive relationship with the education data. This dynamic relationship was designed through the material architecture of voids, overlaps and non-spaces for new imaginings for modes of leadership to be shaped by performers in motion. The concertina action presents symbiotic, positive, and negative opportunities to entangle and mingle, where matter acts with matter to counter norms and catalyse further action (figure 59). To seek conclusions was not the aim, the structure of the concertina vessel is fluid and

dynamic, its motion, inter-intra-action-re-action is to test, critique, reflect and activate. Furthermore, architectural notions informed spatial and temporal manifestations for leadership becoming and advanced methodological thinking as assemblage.

The prototype tested practice approaches to decentre power relations of marketisation, gender and language through colour, form, text, motif and image. Through these material acts transformative re-thinking was set in motion and contributes to materialist understandings as outlined by Bolt, 'the performative potential of images involves a productive materiality, not just a shift in modes of thought' (Bolt, 2004:9). Within this methodology visual and material acts dialogically question the impact of policy and decisions of leaders. The physical folding, enfolding, and overlapping of global communities references worldwide connectivity whilst countering the sensory deprivation of screen existence through Covid-19. Whilst geographies and times have collapsed through our technological existence, these material architectures produce possibilities across matter and dimensions to quantumly consider re-making education.

In the making process, I became interested in the potential of vibrant edges revealed in the material de-centring from binary routes of a to b; these present spatial understandings through which futures can be conceived and performed. Whilst this could potentially be countered by technologically mediated practice for example via photoshop, the embodied collage practices of cutting up and cutting through revealed peripheries, thresholds and interplays as new understandings for leadership.

This interactive assemblage of dialogues, matter, language, and cultures is a methodology to be continuously in motion, performed individually, in pairs, or in groups. Leaders performing with the data facilitate a physical and sensory shift, an act generating, 'an awareness of place and relativity in the body' (McDougall, 2018, p. 167) to co-produce a catalytic becoming with situated knowledge in motion. In a leadership turn to performing with the assemblage as an inter-active process of reflexively and dialogically intra-acting with materials, this immanence can be framed as becoming education assemblage.

Beyond the assemblage, what can be mobilised by these voids and vessels of fertile possibilities? Reflecting on the emergent findings and new knowledge created through this methodology informed the re-composition of education as a soft cartography to consider the gendering of leadership matters and the implications of this developing knowledge (chapter 6).

Figure 59. Heterotopic Education Vessel, side one in motion, 2020.

Figure 60. Generating Material Cartographies of Education, 2021.

Chapter Six

6.1 Introduction

The gender oppressions and hidden bias of current education systems highlighted in the literature review, are brought into question, 'In the absence of gender equality at senior level, what norms is our education system subliminally supporting?' (www.dodsdiversity.com). This chapter utilises arts methods to interrogate the subliminal act performed by gendered linguistic leadership resources (Gaucher, Frieson & Kay, 2011). Education assemblage thinking has produced inter-relating possibilities with the traditional, contemporary and emergent, but in questioning the affective potential for leadership, gendered materiality within education remains less investigated. This materialist prototype demonstrates ways of re-making with collage; it advances different knowledges through material inter-intra-actions emerging of arts and technologies (6.2). Softly setting assemblage methodologies to work as a Material Cartography of Education considers the re-gendering of leadership (6.3) and outlines the developing methodologies in two hyper-feminine fabric assemblage case studies: No. 1 Fabric Book (6.3i) and No. 2 Digital Print (6.3ii). This is followed by a critical reflection on their potential impact for leadership professional development (6.4).

6.2 Material Cartographies of Education, soft matters of assemblage

Reflexive questioning catalysed through PR raised concerns regarding the relevant look and feel of innovative leadership tools. The handling of the studio materials surfaced questions on patriarchal leadership identities and provided a critical lens to reveal the gendered codes of education management literature within the materiality of education discourse. Sketchbook ideations informed further research and development and produced a series of tests to surface subliminal gender imbalances within English education systems and fabricate alternatives to rebalance oppression. Where workforce statistics reveal 62% of England's leadership are male (DODS Diversity & Inclusion, 2020), a re-making of leadership resources may positively contribute to equitable and inclusive leadership development.
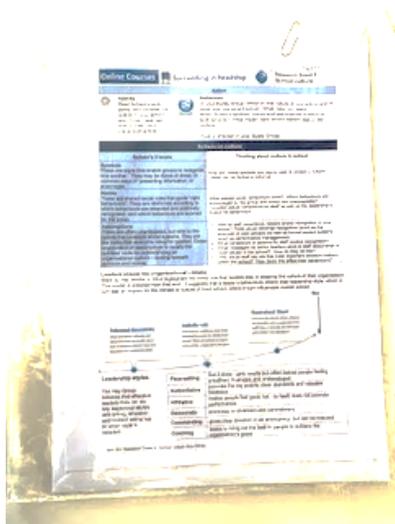
Figures 61-62. Education materials (NPQH) and (mask toile), in display packaging, 2020.

The production of emergent tests required new modes of analysis to understand hidden inequalities in management discourse. An initial study of leadership material compared

standard education literature on A4 paper (figures 61-62) against a material sample, and

prototype leadership mask (the recent pandemic precaution). As the format of the

samples was starkly contrasting, a standardised mode for analysis was needed. This was

achieved by packaging the materials in merchandise coverings, thereby offering a mode

for comparative material analysis (CMA) whilst materially referencing the marketised

agenda of education.

To extend understandings, a further CMA (appendix 10) compared a wider sample of

leadership training resources with the material sample; this employed visual and tacit

knowledges to examine affective leadership. This exercise drew upon object-based

learning principals and its multisensory nature, as illustrated in Kolb's' cycle of learning

(1984). Kolb advocates that learners must be actively engaged in learning from

experience, a process evidenced in the life cycle diagram (figure 63). Not only is this

helpful when considering the methodological interventions for education but suggests

ways to employ leaders as learners and facilitators of learning. It also allows a hypothesis

to be drawn from the learnings of the making of the methodology to apply to leadership.
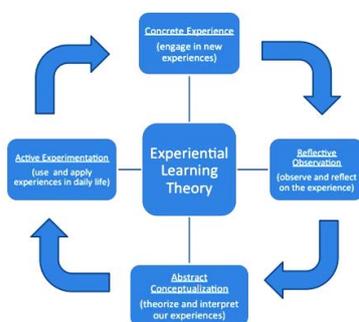
Figure 63. Kolb's cycle of learning (Ruckert, E et al, 2014, p. 2).

The analysis of these 'off-the shelf' methodologies illuminated contrasting methods, conventions and gender differences of the standard leadership format, online activities and studio prototype samples. Furthermore, this highlighted the gendered material codes of management resources and reinforced the literature of patriarchal leadership. Working with these gender imbalances informed the selection of hyper-feminine fabrics and the remaking of leadership materials to foreground critical gender issues and map the inter-relations of education.

The material cartography prototypes test ways of rethinking anti-oppressive systems and addressing the absence of gender equality at senior level. Building upon the emergent understandings of soft material implications, two methodologies were produced as modes to disrupt standard formats and the following case studies present inclusive, critical, and discursive tools for leadership.

6.3 Case study: Material Cartographies of Education, soft matters of assemblage

A study of the making processes demonstrates the ways that practice produces knowledge and theory; its iterative nature and generative capabilities led to the making of two soft assemblage prototypes and suggestions for further research.

The practice began with a data collection (studio 'ready-mades' of discarded fashion toiles, discarded grey literature, exhibition and education fora) and sketchbook analysis. Then material samples were produced to test the visual representation of today's plural, intersectional education community as assemblage. In this data processing, each image was observed, and material handled to inform its inclusion. Following a critical review of existing training and professional development materials from my leadership experience, I created a composition framed as a female worldview with women as the majority and considered these implications and understandings of this alternative worlding.

Figure 64. Sketchbook detail, p. 17, 2021.

Images from art history through to contemporary women at work (teaching or recycling industrial waste) visually captured social change to question whether a female majority is viewed as normal, utopian or dystopian. Furthermore, does this worldview liberate different ways to think of leadership and if so, what are the ways to critically rebalance the patriarchal claim to leadership?

As part of the studio process, the reflective processes of annotating samples, tests, edits and images created a meta-data to surface how arts practice facilitates a questioning and re-assessment of matter and critically challenges established norms, roles, and assumptions (revealed or hidden). In this process my annotations were documented on discarded fashion toiles, canvas experiments for fashion design, from a designer in my shared studio (Woodcock, 2020); handling this heavy weight material quality brought forth tacit concerns for leadership.

A reflection upon emergent findings brought into question how samples of women's clothing could be utilised for robust leadership research when feminine forms and fabrics appeared unsuitable. Reflexive questioning catalysed throughout this process raised concerns regarding the relevant look and feel of innovative leadership tools. The handling of the fabric toile tends to the histories of fashion, recognised as 'one of the most embodied of art forms' (Negrin, 2013, p.141); moreover, questions were surfaced on patriarchal leadership identities and the gendered fabrics of upcycled women's clothing. This provided a critical lens to reveal the gendered nature of education management literature within the materiality of education discourse.

Looking at the female form of the upcycled toiles led to questioning the shape and form of the material; as an article of female clothing, could the material matter for research? The process led to question if leadership is systemically patriarchal and furthermore, if this is the case, what is leadership material and what role does material perform in subliminally perpetuating the status quo? Whilst these questions focused on gender, they have synergy with intersectional concerns of education communities.

Fashion design and textiles were not included in the practice reviews nor fabrics selected as a relevant material, but lockdown policy has meant the population had been bound to wear fabric face masks in all public realms, workplaces, and schools. Our relationship with fabrics changed through public health concerns, which present interesting opportunities for re-thinking leadership inter-relations with material. To explore what knowledge is surfaced through embodied material encounters, an initial material test produced a prototype mask for leaders in lockdown (figure 65). Visually and tacitly analysing the emergent prototype led to revelations of the exclusionary nature of leadership materials. This was to inform a closer examination of material affects for leadership and the critical questioning of who and what is excluded by a material methodology.

Figure 65. Education materials (mask toile), in display packaging (horizontal), 2020.

Viewing and handling the paper print out of NPQH training material compared to a soft, fabric provocation for leaders echoed the previous experience of playful approaches appearing to be frivolous, and not serious enough. Once again, lockdown learnings liberated practice and led to an empowerment to test the re-making of training materials as a fabric assemblage.

The Material Cartography of Education design utilised compositions from the Leadership Gamification, wordplay for leaders in lockdown (catalogue, pp.58-82) and the

Heterotopic Education Vessel (catalogue, pp.88-113). A dataset of sixteen compositions were selected to develop inter-relating understandings of leadership (figure 66). In consideration of the systemic inequalities that this research seeks to address, it is important that this methodology not only liberates academic ways of thinking but provides agency for leaders. Therefore, the tool was designed to catalyse dialogic engagement with inter-relating images, lexical matter, provocations, and colour fields for Gen Z for would-be leaders, teachers as middle leaders and trainee heads as well as experienced leaders.

An initial paper design created a sample layout and led to researching appropriate fabric for the making process. Following a review of hundreds of fabric swatches, two hyper-feminine fabrics were selected to provide a sensory challenge to counter hegemonic norms of education CPD and informed the development of two fabric prototypes – the fabric book (No. 1, p. 113) and a digital print (No.2, p.116). A final paper prototype was then developed using a book layout in preparation for its technological processing. An analysis of the paper and fabrics for these methodologies highlighted the expanded object-based learnings that making, and handling material encounters bring to leadership.

6.3i Case study: Material Cartographies of Education, a hyper-feminine fabric assemblage. No 1 Fabric Book

Volando Voile 52gsm, Full Width, Select Units Print Width:141, Print Length:45, Uneven scissor cut (free)

Duchess Satin 200gsm, Full Width, Select Units Print Width:144, Print Length:45, Uneven scissor cut (free),

Figure 66. Print layout for hyper-feminine fabric assemblage No.1 & No.2, 2021

A selected Duchess Satin provided a heavy weight, smooth, luxurious material that is suitable for digital printing and the book design was digitally transformed onto metres of the cloth (figure 66). The printed satin was then sewn into a handleable book format to create a user-friendly methodology. The images were curated in the design to provoke, inspire and challenge in acts of reflexive questioning on soft, glossy, luxurious and playful pages. Physically handling the fabric book engages the senses and employs visual and tacit leadership knowledge to reflexively question the data in contrast to standardised competency training.

In this material act, re-coding provocations such as, 'we have got to ask: why do we have the system that we have?' in a brightly, coloured satin pillow book format creates a de-colonising methodology and attends to the practice of Holzer and Kruger (appendix 6), and their use of appropriated statements and text to address socio-economic issues. Juxtaposing this statement against the mapped images, text and colour blocks produces alternative inter-relations and as a re-fabricated leadership assemblage, presents new and different ways to catalyse anti-oppressive leadership thinking.

Figure 67. Material methodologies in design, 2020-21.

The materials, methods and studio practice demonstrate the expanded collage potential for re-making leadership (figure 67). Furthermore, the materialist approach through arts practice has rendered the overlapping of education cultures - domains, disciplines, methods, people and practices visible and tacit. It employs a range of knowledges and in doing so, has produced a visio-tacit methodology to surface material inter-relations of leadership (figure 68).

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Figure 68. Hyper-feminine fabric assemblage, No 1 – fabric book, 2021.

Figure 69. Draped hyper-feminine assemblage digital print No, 2, 2021.

Extending the hyper-feminine material potential of this line of methodological flight led

to a re-processing of the data through technology to produce a Volanda Voile Digital Print.

This test on sheer, fragile, translucent fabric appears and feels delicate, vulnerable, and ephemeral (figure 70). Reflecting on this studio outcome demanded a different vocabulary to the language of management and therefore, has produced a new line of flight for different leadership.

This led to the question of what would be set in motion if leadership development performed a hyper-feminine material act for rebalancing power asymmetries?

Figure 70. Hyper-feminine assemblage, No 2, print in motion (4), 2021.

Would this exclude future leaders, or would it produce equitable appointments and retention of leaders from across protected characteristics? These material concerns spotlight implications for education policy and demonstrate how fabric assemblages challenge conventions of theorising the managerial structures of education and perform methodologically in their material becoming. Further to these two prototypes, additional ideations and fashion designs were digitally produced to suggest further research possibilities. A small number of digital compositions document the No. 2. Print in motion to clearly communicate its nature and ways of becoming and further extend the dissemination possibilities of this research (catalogue, pp. 114-133).

6.4 Critical Reflection

The material methodologies as a pillow book, print, draped material installation or as leadership wearables, were found to softly matter. In addition to the processes of making the methodology, the soft assemblages produced different ways to make education futures: No 1 Fabric book developed accessible visio-tacit modes of interacting with education data and handling the hyper-feminine resource acutely highlighted their differences to mainstream professional development resources. No.2 Digital Print performed the material enquiry in several ways – exhibited as an artwork, interacting with spatial territories and elements when floating in the air (figure 71), and worn as a wearable methodology to develop leadership competencies. Its material lightness catalysed playful interactive opportunities and set new ways of making leadership and knowledge in motion.

The material cartographies of education assembled fabrics, technologies, education data sets and wordplays to reimagine methodological possibilities. Through mixed methods and media, the soft matters of assemblage have surfaced a myriad of affective becomings for education.

Figure 71.
Digital composition of digital print No 2, in motion, 2021.

They have generated new ways to understand the patriarchal bias of leadership within the current English education system. Re-thinking gender as a feminist new materialist act provides a framing for further concerns such as queer theory, disability studies, the study of race and racialisation, beyond binaries and reductive dualisms to set critical questioning for leadership in motion.

To assume that traditional language structures and formats are more functional and effective than these innovative material cultures is to return to the status quo. The matter of gendered matter allows an interrogation of who gets to be leaders within existing systems. I suggest that through material acts leadership becoming may perform in perpetual transformation. A hyper-feminine methodology, transformed through technologies, could be argued to have changed its nature and in acting as a non-binary, gender fluid leadership assemblage tool, performs its methodological function. The question as to which gender, generation, neuro-typical or neuro-diverse leaders, middle leaders or aspiring early career teachers would adopt the fabric assemblage methodology to inform equitable education futures requires investigation. However, when existing models are too narrow and exclusionary, material cartographies as transformative tools may contribute to alternative ways of rebalancing these inequities. With hyper-feminine tools, education futures may be liberated by rich material becomings, which is not to exclude other approaches but as assemblage, offers an inter-relational approach. For Gen Z, for education policy and for equitable leadership futures, ephemeral re-imaginings beyond performativity and big data may inform soft power for the 21st century.

Figure 72. Digital composition of prints in motion, composite (Adobe), 2021.

In sum, the emergent findings (figure 72) suggested that in countering deficit models, performing with material methodological assemblages facilitates affective, equitable, non-gender specific leadership becoming. As these prototypes have indicated, they are not manuals for methodological practice and sense making. Definitions and conclusions were not the central concerns of this enquiry but suggest these methodological happenings to be useful for re-thinking agential interventions. Understanding the transferable and wider applications of the findings remains entangled within the situated, power relations of language and beyond this, there remained abstract concepts and architectural scales through which the research questions require examination.

Chapter Seven

7.1 Introduction

When 'part of resisting dominant structures is resisting the prevailing anthropocentric notions of power' (MacDonald & Wiens, 2019, p. 382), remodelling resistance is necessary. Education assemblages rendering the people, places and policies of education to be visible have demonstrated that these becomings produce different, de-centred and disruptive possibilities for leadership. Furthermore, these material methodologies illuminated subliminal and hidden oppressive powers and created liminal spaces for re-imagining, and I argue that these are the spaces for affirmative actualisation and advance education re-thinking. Further agential and generative possibilities through data transformation across spatial dimensions produced a Performing Assemblage (7.2). Using methods informed by Rauschenberg, Steir, Lovelace O'Neal, Parker and Hirschorn shaped ways of making body-matter-scale-becoming for education. In doing so, studio practice remediated through transformative technologies materialised spatial considerations worthy of further investigation and moves the field of education theory production to somewhere different (7.3). Discussing embodied, immaterial cultures for leadership concludes the chapter (7.4).

7.2 Performing Assemblage
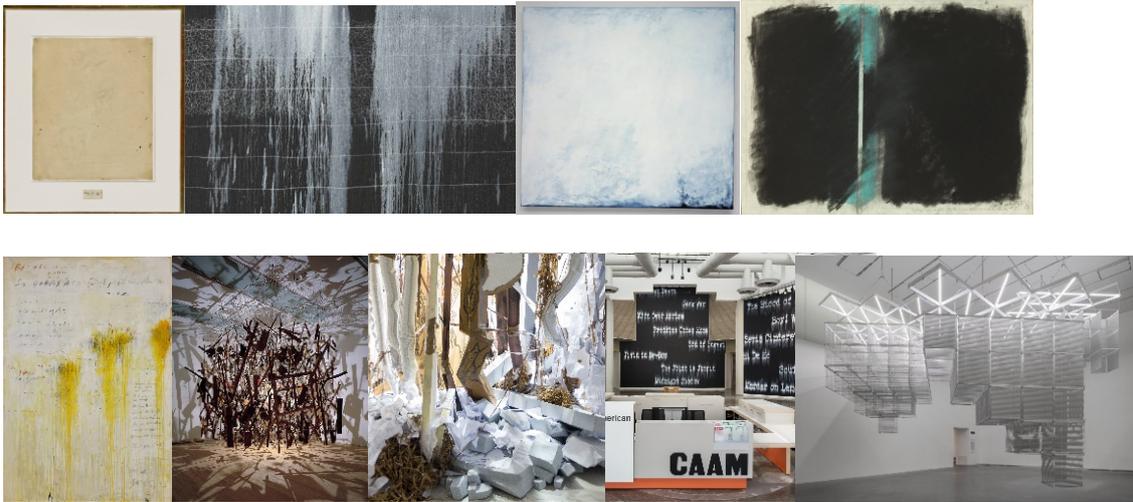
Figure 73-81. Rauschenberg, 1953; Steir, 2018; Ryman, 2003; Lovelace O'Neal, 1973; Twombly, 1993-5; Parker, 1991; Hirschhorn , 2015; Simmons, 2017; Yang, 2015 (top left to right).

The portable methodologies developed so far have surfaced different education spatial becomings. Agential cuts and negative spaces of collage compositions (Barad, Landgraf) present quantum possibilities for leadership through 'spacetimematter relations' (Barad, 2007, p. 178). Massey presents a useful way of thinking through space for the education assemblage where, 'Space... is a product of relations-between, relations which are necessarily embedded material practices which have to be carried out, it is always in the process of becoming made' (Massey, 2005, p. 9). In this way, the re-making of an assemblage in its spatial, co-functioning becoming examined the ways that liminal, quantum and negative spaces re-materialise leadership. In seeking to fully understand these abstract concepts, the arts practice of scaling up allows pocket sized, handleable research concepts to be expanded to more-than-human scale for leadership interaction.

An assemblage installation was conceived as a laboratory to progress methodological possibilities beyond the dominant strictures of writing, language, and publication formats. The selected artists produced an assemblage of practice (figures 73-81), from which to co-function within a symbiotic action in a shift from monographic study. The stimulus of the assemblage allowed multiplicities, linkages and flows to be instrumental in shaping not only the material prototypes but also the practice of this thesis. By which I mean that the distribution of people, places, policies, and practices of the sector(s) are considered as a material education assemblage within which leadership is situated. Working with these understanding that, 'materiality is largely used to indicate the 'things' or 'stuff' that makes education happen' (Brooks & Waters 2018, p. 2), the material education assemblage entangles architecture, chairs, books, or a pencil and includes digital technologies, people, policy and extended educational discourse. Conceiving of the education assemblage in this way acknowledges the complexity and relational multiplicity of its nature; it facilitates the coexistence of oppressive and anthropocentric powers with anti-oppressive, interdisciplinary, non-powers. Rather than this becoming being problematic let this be a liberating act to openly find new ways to connect, address exclusionary practices and contribute to Cole's suggestion that research can be 'accessible, evocative, embodied, empathic, provocative' (Cole, A. 2004, p. 16).

Tending to Cole's concerns, the necessary act of scaling up the material methodology draws upon the more-than-human-scale abstractions of Rauschenberg, Twombly and Lovelace O'Neal (figures 73, 76 & 77). In a move beyond the object, their picture plane creates scapes for interactions with painterly material where spatial and temporal understandings are re-imagined and open for sensory and cognitive exploration. The shift

in contemporary art from oil painting of the salon and western canon to the site-specific installation of deconstructed histories (Simmons), recycling discarded media (Hirschhorn), to the dynamic moments of materiality in motion (Parker) and the playful re-imaginings of the canon (Yang) leads the way for education to follow. Furthermore, installation and X-D practices (CSM, 2021) of Parker, Simmons, Hirschorn and Yang (figures 78-81) directed ways of expanding of the architectural findings of the concertina assemblage through positive and negative material-immaterial at scale. This informed the making of a built assemblage environment for embodied interactions as a critical leadership lab.

Setting the assemblage to work was shaped by Rendell's understandings that, 'space is dynamic – it is both producing of and produced by people, people of different kinds, who relate to each other in a myriad of ways' (Rendell, 2002, p. 10), and informed an expanded spatial testing of dynamics at scale. Furthermore, space was examined as a positive actualisation for becomings, re-making what leadership is and does. In sum, this materialised an assemblage environment within which the artist-leader-researcher becomes an active participant, performing a continuous critique for affective, agential possibilities, in an act of *becoming* assemblage.

The opportunities of installations as research are evidenced in the anti-oppressive research practice of Reshentnikov et al, (2018) where performing with their research data, 'provided us with the opportunity to encounter new ways of looking at and understanding the data', (Reshentnikov et al, 2018, p. 220). Thus, spatially transforming the assemblage object affords different, embodied interactions with education matters.

Therefore, the human-data-matter-non-human-non-matter transformation decentres human-centric powers through a spatial and embodied exploration of inter-relational education becomings and performing leadership futures.

7.3 Case study: Performing Assemblage
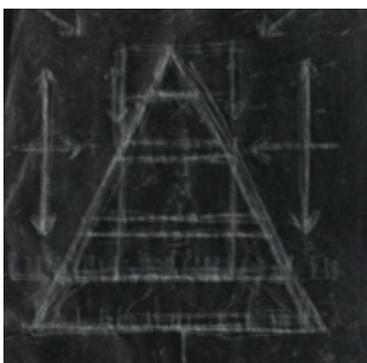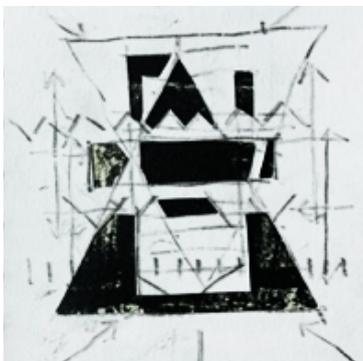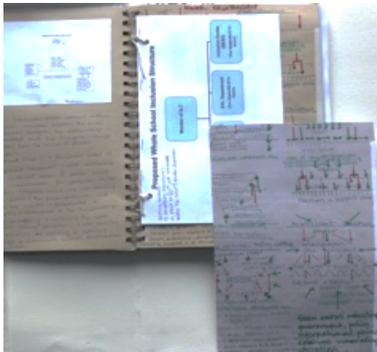
Figure 82. Performing Assemblage in the making, 2021.

This methodology spatially expands the findings of the Micro Education Assemblage (p.68) and catalyses different ways of re-making educational data through scale and site-specific practices. These revealed the form of a pyramid school system model to be non-negotiable; the direction of power is either clockwise around the pyramid or anti-clockwise, suggesting a perpetual motion or a static position. However, the creative act of slicing through the pyramid allows for new inter-connections with other education materiality and the creation of novel abstract forms, dimensions, and negative spaces. These agential cuts (Barad, 2007) through hierarchical structures present dynamic opportunities to renegotiate the balance of power and produce equitable possibilities; additionally, messy mark-making challenges the sharp symmetrical lines of power to produce vibrant matter (Bennett, 2010). New perspectives were opened across multiple forms in the composition to reveal historic power structures juxtaposed with emergent distributed and relational forms. These entangled matters are co-functioning and produce an alternative imagining, with an emphasis on immanence.

In reviewing an initial sketchbook composition (catalogue, p.21), the page required turning to examine the space beyond the material manifestation, demanding a performative interaction with the participant to negotiate what the negative space is and does. An investigation of the material affects for educational leadership is central to this performative act, directed by the positive-negative material culture, to examine the transformative ways of spatially re-thinking education as a Performing Assemblage.

Figure 83. Performing Assemblage, in the making (ii), 2021.

Drawing upon the practice and materials of Hirschorn, Parker, Rauschenberg and Twombly stimulated spatially expanded ways of re-making leadership as a site-specific installation of education discourse. De-centering the human was then materially enacted through performed data processing and technologies; projections, tracings, mappings, mathematical processes, and arts practice create multiple scapes through which matter shapes matter across scales to (re)materialise structural opportunities.

Physical and material processes mutually inform the other and in performing materially with data, charcoal sticks filed fingernails away whilst shaping organisation hierarchies (figure 83). Significantly, abstract acts of cutting facilitated the disruption, transformation, and impact of policy in multiple iterative material responses. The scalpel cuts across dimensions of time and space informed relational understanding of othering and the verdant opportunities of the edges, as torn extremities of yet unformed notions beyond the canon.

People as
individuals

...y:
inter... ween

sustain systems,
policies practice,
culture & knowledge

Knowledge:
social,
personal,
intellectu...
aesth...
organis...

Culture: People
collectively
(social norms /
values & beliefs)

*Leadership is using these interactions

Stronger and
Weaker influences

Organisational /
social systems &
structures (Giddens
1984): reified social
relationship & rules
to create / change /
sustain them

Figure 84. Performing Assemblage, technologically transformed, 2021.

In the assemblage making, continuous reflection and reflexive processes brought to light new structural understandings for leadership; these informed further iterations to produce an installation. As the scale and structure of the education assemblage expanded, a necessary performance with the data began (figure 85). The nature of practice directed moving through the emergent education environment and allowed a mingling with the education matter. Material data processing directed architectural imaginings to catalyse new leadership considerations that were previously unimagined, but now set in motion through performance.

Figure 85. Performing Assemblage, in the making (iii), 2021.

Bodies as spaces within the education assemblage enfold the Deleuzo-Guattarian concept of body without organs (1987) and Haraway's cyborg notions (1991) to generate new spatial and temporal possibilities for leadership inter-intra-X-d entanglements. This dynamic process was continuously captured (digital and analogue) and documented in my sketchbook as a meta data to inform and shape the dynamic assemblage. Layering the digital and physical data, the photographic recordings and the site-specific material manifestation became a construct for further generative entanglements as vital space making (figure 86).

Figure 86. Performing Assemblage, in the making (iv), 2021.

Whilst production underscores the value of the methodological process, the exhibition of the installation extends participation to a wider audience in a further iteration of material research-creation. Performing the leadership assemblage physically counters existing managerialism and suggests that inter-relational opportunities of performing assemblage with our intelligent bodies may contribute to different and equitable ways of leadership becoming.

Figure 87. Performing Assemblage, details (3), 2021.

Re-making with the images of the performing assemblage, models of power dynamics and details of drawn surfaces produce further iterations that require consideration. Printed editions of this material thinking are produced to evidence the development of further new approaches and possible pathways to impact and research (figure 84).

7.4 Critical Reflection

Moving managerialist structural data from the digital interface of laptop activity in 'work from home' scenarios into site-specific material world building presented opportunities for re-imagining education through materiality and immateriality. In doing so, a resistant spatial countering to the impact of data driven, digital and policy technologies was performed. Active and affective participation is subjective, ambiguous, and therefore potentially contingent on personal praxis, which questions if one comes to theory in any other way. Once again, rather than contest this re-positioning, let conflict and interest be simultaneously embraced and set in motion. In this material, affective leadership space, difference can be positively acknowledged to accelerate education futures. As methodology maker, I am performing with materiality (human-matter-non-human) and immateriality (intra-x-d-action) with data producing fertile negative spaces and voids.

Figure 88. Performing Assemblage, surface details, 2021.

Figure 89. Performing Assemblage detail, 2021.

Grosz claims that 'affects and intensities attest to the body's immersion and participation in nature, chaos, materiality' (Grosz 2008, p. 3) which is to surface the embodied knowledge of our intelligent bodies but furthermore, the performing education assemblage utilises the knowledge production of bodily interactions. Participants interacting with the installation are differently but equally material with the assemblage in a relational affective performance. Deleuze and Guattari contribute further considerations to suggest, 'Affects are precisely these non-human becomings of man, just as precepts- including the town- are non-human landscapes of nature' (Deleuze & Guattari 1994, p. 169), and these de-centering, entangled relations acknowledge existing power forces.

Walking, moving, turning through the multiplicity of data reveals and mobilises the peripheries of the education structures, vacated by managerialist performativity to present heterotopic space for new interdisciplinary imaginings. At the enfolding of and cutting through educational research, creative practice and material acts, the methodological making informs affective, spatial assemblage becomings. Furthermore, in the messy spaces of voids and vibrant edges, new knowledge is emergent, surfacing and co-producing a dialogic relationship with matter. Furthermore, the fertile grounds, frictions and inter-intra-edge-action of the assemblage installation performs with

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intentional and unintentional participants as a generative lab actualising possibilities. The

immanent non- human *becomings* of the education assemblage reveal themselves and

demand closer inspection to fully understand their potential for theory production.

Figure 90.
Performing Assemblage
surface details (ii), 2021.

Chapter Eight

8.1 Introduction

The seventh iteration of the education assemblage as an affective, immanent material methodology produces immaterial ways for re-making education futures. Moreover, the productive non-spaces of the case studies, untethered from the canon, the managerial and the white cube, perform as modes to generate different critical ways for leadership becomings. Horvat highlights that 'spaces of resistance are not utopias (a world outside of this world), but worlds within worlds: realities which can turn worlds, values and desires upside down and will surely form an integral part of all struggles to come' (Horvat, 2019, p. 33). This suggests the affirmative substance of assemblage content should not therefore, be considered the sole focus for production. The negative worlds within the assemblage are examined as agential voids and negative space as affirmative immaterial (8.2).

And so, a final methodology performs a re-making with the non-data and negative spaces of the Heterotopic Education Assemblage (chapter five) and affords alternative grounds (be they vessels or messy edges) within which human-non-human-inter-intra-actions-immaterial resistance can be generated. In exploring the actualisation of transformative methodologies for education, Void of the Voids explores the potential of dynamic heterotopic spaces for leadership becomings (8.3). A critical evaluation of the data findings from the non-data-non-space-non-matter of education are presented and significantly question how negative space informs leadership in a concrete way (8.4).

8.2 Immaterial Leadership Assemblage: Void of the Voids

The practice review evidenced the transformational potential of negative space in reconceiving non-being as a positive act. The example of Ryman's 'White' (2003) (appendix 6) demonstrates the radical potential of erasing an existing object to actualise an alternative positive composition. As already discussed, beyond the picture plane, negative space within an installation such as Parker's, *'Cold Dark Matter: An Exploded View'* (1991) generates possibilities of dynamic compulsion and force through

Figure 91. Performing Assemblage, technologically transformed, 2021.

time and space as matter becoming. Drawing upon these methods and conceptions informed the re-making of the non- matter of leadership becoming.

8.3 Case study: Immaterial Education Assemblage, Void of the Voids

Figure 92. Immaterial education assemblage non-data, 2021.

The studio provides a laboratory for experimentation and methodology making. It employs practice methods of researching, collecting, selecting, reviewing, analysing, synthesising and producing data. In the milieu of production, I became aware of the volume of de-selected data in the recycling bin (figure 92): a physical manifestation of discarded education materiality (theory, performance, text, policy, artwork, marketing, and portrait). This non-data revealed itself to be significant. Where the assemblage is to be understood as, 'a multiplicity, which is made up of many heterogeneous terms and which establishes liaisons, relations between them…different natures' (Deleuze & Parnet, 2006, p. 69), the multiplicity of diverse non-data and negative spaces suggests their immaterial affect to be equally productive. Furthermore, the Performing Assemblage generated possibilities of re-modelling content from the recycling bin as a physical manifestation of education immateriality. Working with the emergent findings, the final

leadership assemblage was set in motion using material non-data to locate affective

leadership as assemblage.

Stimulated by Baradian and Deleuze-Guattarian notions and 'knowledge production

practices in a post-humanist education landscape' (Charteris, Nye & Jones, 2019, p. 910),

Void of the Voids tests resistance to dominating powers through understandings

emerging from immaterial in the voids as an immaterial assemblage. This addresses

Rousell's location of new opportunities, stating 'it is in this shadow that new forms of

educational inquiry might be germinated' (Rousell, 2019, p. 906). Processes actualising

immaterial from within the shadows utilise non-sentences, non-spaces, and non-

technologies to foreground the quantum nature of this education data. Immaterial for

practice includes discarded remnants of policy statements, education fora, art imagery,

Gen Z fashion literature and design, marketing media and leadership gamification edits.

Figure 93. Void of the Voids , in motion (3) (i), 2021.

Differently from the Heterotopic Education Vessel (catalogue, p. 89), this immaterial

methodology assembled non-data on folding paper pages with a spiral binding to perform

in multiple directions simultaneously (figure 93). At once a book but simultaneously, an

expanding synaptic vessel to catalyse novel modes of leadership enquiry. This immaterial

assemblage produces multiple linkages and inter-relational connections across domains

whilst the juxtaposition of visual, linguistic, spatial disciplines, and power forces ensure this productive tool, and its emergent new knowledge production extends its impact as widely as possible. Its visual format foregrounds the plurality of education people, places and communities to render the invisible visible, remap complex power relations (Woods et al, 2020) and generate critical reflexive questioning.

As the methodology maker, I am conscious that the physical assemblage artefact is constructed with immaterial content, that it actualises hidden data and in doing so, materially foregrounds exclusionary trends accelerated by the pandemic (figure 94). Beyond my knowledge of the process, revealing its becoming and understanding its value to potential participants is an opportunity for further research. At the intersection, entanglement, re-territorialisation, and de-territorialisation of education materiality, be it in real, virtual or non-space, in the Void of the Voids there is fertile ground for new knowledge production.
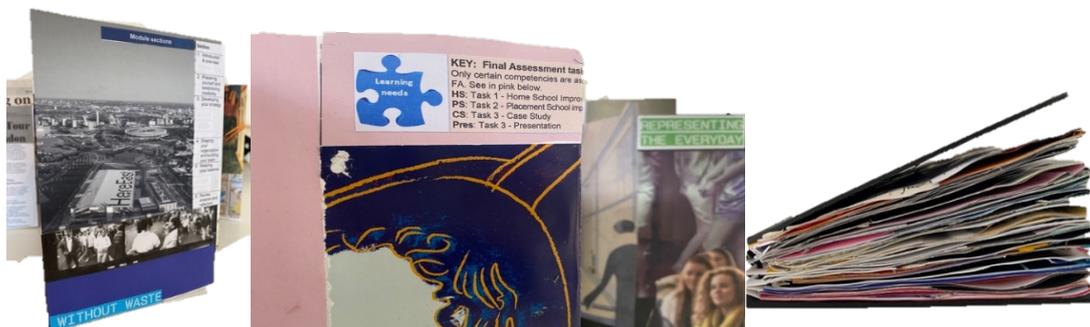
Figure 94. Void of the Voids, 2021.

8.4 Critical Reflection

This methodological investigation has rendered visible the exclusionary structures and systems of English education (figure 95). Moving beyond education research traditions and theoretical conventions there is fertile ground for immaterial assemblage methodologies to make and re-make. Important discoveries within the assemblage and in-between its constituent elements revealed the fertile thresholds of positive and negative interrelations, the messy overlap and something softer at the edges. According to Rendell, 'threshold condition is both an end and a beginning, a transformative condition' (Rendell, 2002, p. 25). Further to this point, she highlights the possibilities of the threshold as 'a potential space, as yet undefined. New ideas emerge in such places' (ibid). Void of the Voids demonstrates the generative potential of negative spaces and thresholds in the assemblage milieu. In the making of this methodology, the non-dataset and non-spaces of education have materialised different ways of re-thinking complex and fragmented social systems such as education itself, modes that would otherwise not have been possible to surface, as literally not existing. Education immateriality has produced an affirmative, interactive leadership tool and in doing so, transforms access to non-human, non-data, and non-matter of education as assemblage.

The iterative processes and practices of the leadership assemblages have shown emergent affective becomings and non-becomings across thresholds, fabrics, folds, installations, drapes, and spatial architectures. It is here that this material methodology contributes to visual methodologies (Pink, 2012), feminist post humanisms (Haraway, 2016) and new materialism (St Pierre, 2013; Coleman & Ringrose 2013; Hickey-Moody &

Page, 2015) beyond language to foreground vital soft-matter-non-matter-spatial-human-data considerations.

The immersive digital experience of leadership during Covid-19 has heightened understandings of screen-based technologies and limitations of spoken language when divorced from performative and sensory acts. Spatial concerns have been foregrounded to home/phone/non-space and existing systems and structures have been found wanting. However, the complexities of time and space have been found to be dynamic and imaginative when materially handled and performed. Whether the productiveness of this methodology is in the moment of its catalytic action, in process or in performance is to be considered. An immaterial assemblage methodology challenges conventional educational research through its decentring of human-linguistic-hegemonic powers. Its production of theory for leadership becoming demonstrates its contribution to shaping post-pandemic, equitable education and making new knowledge. In doing so, it has pushed at the edges of the voids to produce new beginnings of what can be understood as the fertile ground of negative spaces for education futures. Critically, further considerations of how these immaterial becomings perform leadership resistance require attention. Staging these prototypes as performance, wearables, exhibition, and education settings to investigate their research impact will follow in chapter nine.

Figure 95. Void of the Voids, layout, 2021.

SECTION THREE – Conclusion

This section (one chapter) draws the PR to a close with an analysis and summary findings, conclusion and personal reflection.

Chapter Nine

9.1 Introduction

This thesis has critically explored the theorising of management to investigate material methodological possibilities for critical and agential ways of re-making leadership becoming (9.2). This final chapter reflects on PR processes and discusses the claims made for new materialisms (9.3). The meta-data highlights the theorists and artists who have influenced the re-making of leadership; critical questions that arose through the research; the contribution to original thought through practice and the knowledge produced through material inter-intra-edge-action. A critical material analysis analyses the emergent prototypes, highlighting the significant moments and implications of studio processes. These are summarised to evidence ways that material methodologies generate a re-making of critical leadership (9.4). The affordances of material methodologies for setting new knowledge creation in motion and the impact for post-pandemic, education futures are laid out; and the mapping for future research with soft matter and immaterial encounters are suggested (9.5). In conclusion, a final personal reflection focuses on the significant learnings of an education doctoral study during the Covid-19 pandemic (9.6).

9.2 Re-imagining leadership, a point of departure.

With global challenges exacerbating the need for radical re-thinking of societal systems, structures and theories, different approaches and innovative tools were revealed to be necessary to help us negotiate the complexity and diversity of more-than-human experiences.

Working with these challenges and re-knowing of our worlds can be interrogated in multiple ways. The wealth of education research brought to light in the literature review evidenced, 'how we should act and who we are' (Ball, 2013, p. 15). Leadership was found to remain subject to singular and human-centric theories focused on individualised traits such as the heroic leader (Grint, 2010), which performs a fracturing of education into controllable minutiae. Where existing research revealed oppressive power enactments, actualising alternative futures has been limited. Furthermore, the overlapping, intersecting and inter-connected leadership matters have been under-attended which in sum, I argue is the de-materialisation of education and underscores the need for a new and different direction.

New directions are entangled with emergent inter-relations of screen-based existence exacerbated by Covid-19 lockdown scenarios. Ethics of place-space-time-matter are being continuously re-made through the lens of laptops, smart phones, and screen interfaces to surface sensory deprivations, human separation, and exacerbate oppressions. Simultaneously, increased technological innovation such as AI and Big Data has been found to present significant opportunity; data sets tracking the performance of

schools, leaders, and students could transform education, pedagogy and the form and function of knowledge. Furthermore, digital opportunities enable a re-thinking of the spatial, environmental, mobile matters of education.

These innovations highlight the dynamic forces at play that collectively present a very particular framing beyond the scope of traditional approaches and current sentiment. Resisting these governmentalities and moving beyond deficit models, which Mulgan frames as a national pessimism for other ways of seeing the world, informed modes for disrupting the status quo. The need for alternative, critical approaches during pandemic lockdowns informed an investigation of existing managerialism as a point for departure. A new materialist approach that pieced together the messy, entangled and fragmented matters of education enabled a productive way of re-thinking and re-making in complexity. Furthermore, re-thinking with Deleuze afforded a language, practice and making through concepts of assemblage, becoming, affect, line of flight, rhizome to re-materialise leadership differently. This assisted with setting materials, methodologies and art methods of practice to work for education. The developing line of flight set a re-making with contemporary art practices in motion as assemblage methodologies for leadership becoming. Producing toolkits with intentions as critical, vibrant becomings contributes to existing material feminisms (Alaimo & Hekman, 2008; Barrett & Bolt, 2013, 2014; Coleman, Page & Palmer, 2019; Coole & Frost, 2010; Ringrose, Warfield & Zarabadi, 2018) and extends productive ways of re-making to the leadership field.

9.3 Re-making leadership as assemblage

Working with the findings of the literature review, a practice review examined contemporary art to surface opportunities in studio processes for radical interventions. The close examination of abstraction, collage and installation as an assemblage of practice moved away from monographic study. This set collective processes to work for re-making leadership and to re-make ways of producing knowledge as material thinking (Carter, 2004). The literature review evidenced existing ways that collage and performance methods informed teaching and the making of new pedagogies. Whilst this research attends to these lessons it contributes to a gap in re-making leadership. In the spirit of anti-oppressive practitioners (Capous-Desyllas & Morgaine, 2018; Reshentnikov et al, 2018) the material methodologies aimed to catalyse leadership becoming as matters of social change. Artists were selected to inform the methods, methodology and materials of practice and address the lack of critical methods for leadership development and modes for developing critical reflexive practice for leaders (Woods et al, 2020).

The assemblage of artists, artworks and art processes across material research and practice in 2-, 3- and x-dimensions presented a myriad of inter-relating methods and methodologies. Collage methods of Sandberg, Schwitters and Warhol directed opportunities of image, lexical matter and slogans as socio-politico propagandist material relevant to disrupting the managerial status quo in 2020. Building upon the advertising material that inspired their practice, reimagining leadership CPD as marketised materials in the knowledge economy played with free market power enactments for reflexive

questioning, and in doing so liberated ways of thinking beyond managerialism and governmentality.

In seeking to de-centre the canon within education, Landgraf's collage practice shaped the re-making of leadership through time, place, and space for plural communities and modes for critically addressing historic oppressions. Her anti-oppressive methods informed the production of critical visual provocations (Leadership Gamification & Heterotopic Education Vessel) to generate material encounters with gendered and racialised education systems that perform as dialogic tools for leadership.

As a mode to reveal hidden oppressions and re-make de-centralised education systems, Marden, Martin, Ryman & Blow abstract paintings and prints informed material opportunities for leadership becomings. Matters of lithographic, silkscreen and etched lines situated within print editions and large-scale canvases afforded different understandings of ways beyond representation to set lines to work for re-imagining power flows (Busher, 2005). These material encounters liberated ways to think critically for agential leadership. Importantly the critique of artworks that is central to studio practice allowed a re-reading and re-making of lines for education. Beyond illustration, the range of printing methods was crucial in providing expanded practices and the inky matter provided nuance, character, and inter-relations to foreground new possibilities beyond the managerial for leadership change.

In contrast Hirschorn, Parker, Rauschenberg and Twombly's spatially expanded ways of making shaped assemblage becoming as an installation. The artists informed re-working

the old to create the new and upcycling tended to sustainability practices and acts of employing everyday materials. In the facilitation of architectural ways to decentre the human and the canon, an anti-oppressive assemblage repositioned managerialism in the material re-worlding of education. Whilst some of the selected artists reside within the canon of western art history and education curriculum, the inclusion of artists that have been historically under-represented has created space for critical questioning, setting in motion the rebalancing of the asymmetries of power. However, there is further work to be done in addressing these historic injustices.

Working with a constellation of artists and artworks has been necessary to the prototype production, facilitating expanded modes of making as assemblage; regardless of genre all focus on the affect, immanence, genealogies, and geologies of matter. Working solely with the singular and representational would marginalise the field but working in multiplicity has developed rich and fertile opportunities that demonstrates the relevance and productiveness of practice as a new materialism. This can be mapped in the emergent soft matters and immaterial inter-relations of the education assemblage as a dynamic and embodied leadership becoming. Leading through mutable practices, existing human-centric notions were de-centred in a mobilisation through line, colour, form, matter, space, time to inform ways of making and re-making methodologies. Interrogating leadership in these ways brought into question which systems and structures for leading and learning remain productive. Beyond the purely theoretical and linguistic, the series of makes as critical, dynamic, agential catalysts for leadership becoming demonstrates the generative potential of assemblage.

9.4 Critical Material Analysis of the Material Methodologies

As set out at the beginning of this thesis, new materialism affords embodied-affective-politico-material possibilities. Working as assemblage, art practices and artworks were entangled with Deleuze and education to produce methodologies at the peripheries and thresholds of these inter-spaces and contribute to new knowledge creation. The materials of this practice were liberated from studio and gallery white cubes to reveal and disrupt the status quo. These enabled modes of assemblage, soft matter and inter-intra-edge-action to mobilise suggestions and provocations in the making and re-making of anti-oppressive education.

Continuous reflection is central to studio, leadership and research practices and the Education Doctorate (EdD). For this PR, my sketchbook produces a meta-discourse; this demonstrates how practice makes theory and theory makes practice. It includes the written and visual workings of studio processes, critical reflections upon and reflexively questioning of methods, materials and methodology and summarises the emergent findings. It is fully documented with associated material tests in the accompanying catalogue, which forms the third part of this tri-part thesis. However, in an aim to extend PR beyond the arts domain, the development of a mode for critical material analysis (CMA) provides a simple summary analysis of the methodological production (section two).

It is important to foreground that these methodologies are artworks that do not design. Rather than focus on the methodological objects as final products, the CMA highlights

the entangled linkages and practices tied to specific socio-politic-historic contexts, power, and material inter-intra-relations and summarises how these methodologies may set new thinking in motion. As already noted, these toolkits with intentions perform with participants, their function is critical and open. Therefore, the methodologies are not a manual but catalysts for leadership critical self-reflection, professional development and re-thinking anti-oppressive education futures. Furthermore, this is to draw attention to the lively contributions of education assemblage becomings.

	Critical Material Analysis What are the affordances of contemporary art methods for re-making leadership? What are the leadership materials of resistance? In what ways can the immaterial re-make education futures?					
Methodology	Education Micro-Assemblage	Leadership Gamification	Heterotopic Education Vessel	Hyper-Feminine Fabric Assemblage 1 & 2	Performing Assemblage	Void of the Voids
Illustration						
Practice	Marden, Martin, Blow, Ryman, Twombly, Lovelace O'Neal, Steir	Sandberg, Schwitters & van Doesburg, Holzer, Warhol, Kruger, Landgraf	Sandberg, Schwitters & van Doesburg, Holzer, Warhol, Kruger, Landgraf	Sandberg, Schwitters & van Doesburg, Holzer, Warhol, Kruger, Landgraf	Marden, Martin, Blow, Ryman, Twombly, Parker, Simons, Yang, Lovelace O'Neal, Hirschorn, Parker	Sandberg, Schwitters & van Doesburg, Warhol, Ryman, Kruger, Landgraf, Marden, Martin, Blow, Ryman, Twombly, Parker, Simons, Yang, Lovelace O'Neal, Hirschorn, Parker

Theory					
Deleuze & Guattari, (1987); Deleuze (1995); Busher, 2005 Barrett & Bolt, (2013); Irwin, (2017); Leavy, (2014); Sinner (2017); Carter, (2004);	Deleuze & Guattari, (1987); Deleuze, (1995). Ball (2013) Davies & Bansel, (2007), Friere (1998), Roberts & Woods (2018); Page, (2016); Holliday, Statler & Flanders, (2007)	Deleuze & Guattari, (1994); Deleuze, (1995); Roberts & Woods (2018) Haraway (1988); St Pierre (2019); Chatterjee, (2016); Heidegger, (1962); Bolt, (2019); MacDonald & Wiens, (2019); Charteris, Nye & Jones, (2019); Koro-Ljunberg, (2015); Massumi, (2002); Youdell, (2015); Honan, (2015); Hickey-Moody & Page, (2016); Tamboukoo, (2010); Strom & Martin (2013). Coole & Frost, 2010)	Deleuze & Guattari, (1994); Deleuze, Roberts & Woods (2018) Haraway (1988); St Pierre (2019); MacDonald & Wiens, (2019); Charteris, Nye & Jones, (2019); Koro-Ljunberg, (2015); Youdell, (2015); Honan, (2015); Hickey-Moody & Page, (2016); Massumi, (2002); Barad, (2007); Braidotti, (2013); Lather, (2013); Rolling, (2010); Alaimo & Hekman, (2008); Negrin (2013)	Barad, (2007); Deleuze, (1995); Deleuze & Guattari, (1994); Deleuze & Parnet, (2006); Massey, (2005); Rendell, 2002); Rousell, (2019); Reshentnikov et al, (2018); Pink, (2012); Haraway (1988); Grosz, (2008); Horvat, (2019); Coleman & Ringrose, (2013); Charteris, Nye & Jones, (2019);	Barad, (2007); Deleuze, (1995); Deleuze & Guattari, (1994); Deleuze & Parnet, (2006) Massey, (2005); Rendell, 2002); Rousell, (2019); Reshentnikov et al, (2018); Pink, (2012)Haraway (1988); Grosz, (2008); Horvat, (2019); Coleman & Ringrose, (2013)Charteris, Nye & Jones, (2019); Alaimo & Hekman, (2008); Coleman, Page & Palmer, (2019); Coole & Frost, (2010); Ringrose, Warfield & Zarabadi, (2018)

Methods	Printing: Etching, Silkscreen, lithograph, collotype, collage, carbon transfer, ghost drawing.	Collage, gaming	Collage, printing, scanography, paper cutting, book binding.	Collage, analogue & digital photography, print transfer, photoshop, digital transfer, hand & machine sewing, book binding, textile & fashion design, (layouts, toiles)	Drawing, painting, sculpture, light projection, digital transfer, analogue and digital photography, installation.	Collage, printing, scanography, paper cutting, book binding.
What happened (see catalogue for meta-discourse)	Arts methods produced different ways to re-think relational power; re-making alternatives to managerial constructs; cutting through thresholds to liberate beyond status quo; generating agential alternatives for education structures.	Lockdown online play activities liberated material thinking for education research. Language was disrupted and subverted through collage methods to present opportunities for critically questioning managerial constructs and power relations.	Expanding modes of data collection & analysis. Compositions multiplied & rhizomatically inter-relating through layering and cutting through. Transforming through spatial dimensions, folding & enfolding matter & non-matter produced material acts of resistance.	An examination of visio-tacit leadership materials surfaced gendered power relations. Re-making leadership through a new materialist lens, produced hyper-feminine fabric assemblage prototypes and revealed soft matters for leadership resistance.	Installation methods remodelled existing school structures as a spatial and temporal material assemblage. The site-specific installation affords affective and embodied interaction; performance with the emergent data catalysed re-making and re-thinking education futures with an emphasis on inter-intra-edge action and thresholds for leadership becoming.	Actualisation of the material non-data as an immaterial assemblage (a physical manifestation of the discarded education fora). Evidence of the fertile ground of negative spaces for leadership becoming.

What changed (see catalogue for meta-discourse)					
	Shift from revelation to generation of new ways of re-making leadership structures	Gaming the serious business of leadership, produced reflexive provocations and actualised a critical, dialogical tool	Thresholds, peripheries, voids and edges surfaced as dynamic and fertile possibilities for critical leadership. Space and non-space, were equalised within assemblage to produce agential becomings	Handling and technical re-engineering previous data collections with hyper-feminine fabrics, generated fertile grounds for future anti-oppressive education research. Furthermore, possibilities for equitable leadership development resources have been set in motion.	Expanded material space-time-matter-non-matter relations of the education assemblage materialised affective, embodied, inter-relational becomings.	Visual formatting rendered the immaterial visible to generate reflexive questioning for challenging systemic inequalities.

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What was revealed that could not have happened in any other way (see catalogue for meta-discourse)	Tacit knowledges of leadership foregrounded. Catalysing reflexive structural provocations. Iterative material processes necessary to mobilise effects of material thinking. Producing knowledge & theory in the making.	Material production of the critical and immanent thinking & questioning that collage methods as assemblage advance for leadership. Collage producing knowledge & theory in the making.	The affective and interactive linkages and connections of inter-intra-edge actions produced a dynamic methodology. Producing knowledge & theory in the making.	Material acts softly and critically questioned existing systems and structures & gender assumptions. Material encounters made tacit leadership knowledges wearable, playful, disruptive, and anti-oppressive. Soft matters are evidenced to be affective, embodied, and provocative. Producing knowledge & theory in the making.	Matter informing material understandings in the making process. This methodology generated new knowledges for leadership as the edges/peripheries/thresholds of inter-disciplines as assemblage becomings. Producing knowledge & theory in the making.	New modes of non-data collection & analysis. The actualisation of hidden data materially foregrounds exclusionary trends accelerated by the pandemic. Producing knowledge & theory in the non-making.

How does this contribute to the field					
Evidenced the dematerialisation-on of education. The micro-assemblage re-materialises leadership and liberates new ways of re-making (re-thinking) equitable structures.	Moved collage and leadership beyond representation-al and human-centric approaches to present playful opportunities for resistance.	Beyond theory, the power & material interrelations of the peripheries, non-space and interactive space of the heterotopic vessel contribute to making an affirmative methodology to reconsider agential leadership futures.	Hyper-feminine fabric methodologies contribute to an under-investigated area of leadership research. The critical positioning for this methodology presents anti-oppressive opportunities for leadership development.	Performing the leadership assemblage physically counters existing managerialism, & employs our intelligent bodies to attend to dynamic, relational education futures. In the messy spaces, edges and voids, new knowledge is emergent, surfacing vital spatial considerations and co-producing a dialogic relationship with matter	This practice methodology rendered visible the exclusionary systems and structures of English education. Non-data and non-spaces of education have materialised the fertile thresholds of positive and negative interrelations, the messy overlap and something softer at the edges to contribute to visual methodologies and feminist new materialisms.

Problems	Potentially reliant on participant's visual literacy. Scale and book format remains within existing norms and power relations.	Can a play on advertising slogans as graphic communication challenge theory and academic preference? Will this methodology remain impactful beyond pandemic times?	Language, as a contested concept, remains within the methodology. Furthermore, the book format could be criticised for remaining within publishing formats. The architectural interaction is difficult to reproduce.	The rebalancing of patriarchal asymmetry of leadership may be challenged by soft encounters. Leaders may need to overcome fear of the unknown & inhibitions to participate.	If negative space and non-human becomings can materially inform leadership? The site-specific nature of the methodology limits physical interaction to the exhibition locale and timeframe.	The intangible outcomes may be problematic as less standardised for education metrics. Participants may need to overcome inhibitions. The need for expanded concepts of validity to embrace PR understandings
What is set in motion	→ → → → → → Development of text + visual assemblage to engage wider participation from non-arts specialist leaders of education. Develop a scaled version for embodied and affective participation.	→ ↑ Expanding the individual leadership wordplay compositions spatially as assemblage to consider education materiality as a methodological vessel.	→ ↑ Creation of a tool for critical self-reflection and reflexive questioning. Considerations of non-traditional formats for methodological innovation e.g., non- text and non-publication format.	→ ↑ Further research into • material encounters for leadership: interrogating the real-world impact of a sample set of hyper-feminine fabric assemblages with aspiring middle leaders and experienced leaders.	→ ↑ Novel modes of data collection and analysis. Closer inspection of non-human assemblage becomings for producing knowledge & theory in the making are required. Further research investigating emergent possibilities for leadership with experienced leaders.	→ ↑ Further practice research into setting material methodologies to work for leadership. Evaluation of real-world impact of immaterial assemblage for anti-oppressive leadership.

Dissemination & research impact						
	Print editions to disseminate research & test impact of methodology for leadership (headship & middle leader training & knowledge exchange initiatives)	Developing the methodology for continuous professional development possibilities via additional gaming design & manufacture. Further research opportunities for testing at scale.	Future haptic & technological transformation presents possible routes for reproducing the methodology for increased user participation beyond the exhibition	Collaborate with fashion designer to produce leadership wearables of resistance. Research impact of embodied matter for equitable and inclusive education futures.	Exhibition presents opportunities for mass participation in assemblage becoming. The accompanying exhibition catalogue presents wide opportunities to diseeminate the research beyond the exhibition locale and timeframe (acknowledging that the embodied and affective materiality of PR will be lost in this act).	Opportunities to replicate those of the other case studies. Further investigation of intangible and immaterial becomings for future leaders may provide fertile possibilities.

In sum, the investigation of the research questions produced seven methodological prototypes that demonstrate the dynamic nature of assemblage becoming and contribute to original thought in ways of re-making leadership and anti-oppressive education futures.

9.4i Modes for Methodological Engagement

Working with the findings of the critical material analysis and acknowledging that, 'traditional high-potential, mentoring, and leadership education programs are necessary but not sufficient' (Ibarra et al, 2013), there is potential for the re-making of leadership to be catalysed with the materialist prototypes. This can be produced through knowledge exchange projects (university and school partnerships to test assemblage prototypes in targeted settings), research and development in collaboration with schools and colleges and professional development

programmes for education leaders and managers. These may materialise as a series of continuous professional development (CPD) programmes that contribute to addressing Ibarro's programmatic gap (ibid) and engage leadership and management audiences. The following table of possible Multi-Academy Trust activities are contextualised within the current education and global challenges frameworks to support engagement and the development of critical practice for arts and non -arts specialist leaders.

Programme of Professional Learning & Development across schools and colleges.

This series of education toolkits supports Multi-Academy Trusts to deliver 'the best possible outcomes for children' (DfE, 2022a) in the transition to a fully trust-led education system (DfE, 2022b). They contribute to the Education Sustainable Development Goal No 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (see 4.5; 4.7 & 4.8) (UNDP).

These evidence-informed resources can be used by:

- senior leaders, for developing self-reflexive practice, reinvigoration and to further develop their capabilities,

- senior leadership teams, to audit their own situation and lead change,

- headteachers/principals interested in creating an equitable, diverse and inclusive culture,

- leaders supporting all colleagues across/in other schools,

- colleagues involved in specific improvement programmes with an interest in change,

- facilitators of leadership development, especially teacher/middle leadership.

Programme.

- Sustaining School Improvement at Multi-Academy Trusts (MAT). Material cartographies are co-produced with MAT Executive Leaders to radically re-make ways to 'transform

underperforming schools and deliver the best possible outcomes for children' (DfE, 2022a). With an emphasis on school community, this programme uses arts and technologies to transform leadership development.

- Void of the Voids: Transformational Toolkits are co-produced within the Trust setting for Executive Leaders to critically review delivery and impact of school vision and culture across the developing Trust landscape.

- Creating Leadership Futures with Multi Academy Trusts. Levelling up opportunity for aspiring leaders and strengthening equality, diversity and inclusion.

- Uprising, making ways to leadership. New ways for teacher leaders to navigate career progression and shape equitable education futures. An innovative approach to unlock and retain your Trust's talent.

- Time and space for leadership: a micro toolkit supports leaders to make time and space within Academy Trusts.

- The Leadership Gamification: interactive workshops to facilitate Academy approaches to improving child welfare and pupil behaviour. This programme assists schools to become more trauma informed, support grief/bereavement and develop modes for child-led child protection.

- Arts based and embodied leadership development: Working with an installation structure, education leaders, managers, aspiring leaders and policy makers develop new ways to innovate with their school data using physical interaction and installation models. This interactive approach to data analysis informs new ways for leaders to critically reflect on existing schools systems and develop equitable alternatives.

9.5 Conclusion

This research acknowledges that if schools are to educate for unimaginable futures, new ways for re-making equitable, post-pandemic education are required. This thesis found a lack of alternative models which Mulgan claimed to be symptomatic of the 'deficit of social imagination' (Mulgan, 2020). However, when this view was challenged by the evidence of dynamic, imaginative practice in contemporary art, it highlighted limited academic engagement with arts practice and the problems of singular, fixed approaches.

I argue this has limited ways of addressing global challenges and so an interdisciplinary practice approach to developing innovative, methodological prototypes that challenge the status quo and create the necessary tools for leaders and leadership development was set in motion. Contemporary art methods, materials and methodologies were mobilised to critically challenge current managerialism within English state education and policy during Covid-19. In eschewing singular theoretical approaches within the education field, a new materialist approach allowed for the piecing together of complex, inter-relating, overlapping, and inter-spatial matters of leadership and a methodological re-making. Deleuze assisted with concepts of assemblage, becoming, lines of flight and affect to set material thinking to work for leadership resistance and anti-oppressive education futures. Beyond the revelations and critique of ossified, oppressive systems, this PR produced ways of making materially-immaterially as a generative lab to counter oppressive, deficit models and produce different ways for re-making alternative, futures for post-pandemic, plural Gen Z.

A closer inspection of existing research in the literature and practice review revealed under-investigated areas in the research for critical perspectives for leadership, modes for critical (self) reflection and reflexive questioning, critical methods for leadership development, and a lack of tools to navigate webs of power and develop new ways of remaking education. The review of contemporary practice in fields of abstraction, collage and installation validated the selection of methods, materials and methodologies to catalyse the production of critical material methodologies for leadership becoming and contribute to gaps in the research and the developing materialist field of arts practice for education (leadership).

The PR approach to re-making leadership was produced in three parts – the written thesis, an exhibition of the practice materials and an exhibition catalogue. All are of equal importance to the research and are considered an education assemblage.

The seven case studies of material methodologies (chapters 3-8) set art methods and materials of three trajectories (abstraction, collage and installation) to work for education and demonstrate the affective possibilities of a materialist methodology through a Deleuzian-informed assemblage. Each assemblage tested heterogenous possibilities within a distinct education challenge; this included rendering exclusionary structures visible, disrupting the linguistic-human-hegemonic-canonical oppressions inter-spatial and immaterial becoming. As the CMA summarised (9.4), the series elicited ways of developing critical reflexive questioning, agential understandings for leadership becoming, affirmative modes for anti-oppressive education futures and what creative practice as the production of knowledge can set in motion. Entangling material

methodologies with education leadership has actualised ways of re-thinking, re-making, and producing new knowledge, leveraging the value of cognitive diversity for the leadership field. Furthermore, affective material becomings teach us to be attentive to linguistic differences and respectful of diversity, interdisciplinarity and the more-than-human world.

Further to Roberts and Woods's (2018) established theory of the value of collage for illustrating leadership experience, the emergent assemblages (chapters 4-6) produced new critical, collage theory in the re-making of leadership beyond existing oppressive, performative structures. The Leadership Gamification, Heterotopic Education Vessel and Material Cartographies as material methodologies and their associated concepts of sensation, affect and embodiment produced immanent modes of thought and knowledge production. These expand notions of collage as a material practice to re-make leadership *becoming* as an act of resistance and provides new insights on the generation of collage theory for education and its potential for advancement of the field.

Material processes in the research created several unforeseen acts. For example, beyond linear and binary understandings of education structures, the research potential of vibrant edges at the inter-spaces, thresholds and peripheries of disciplines was revealed. Shape, space, form, and function as the language of arts practice were set to work with multiplicities of education as quantum assemblages and in doing so, immaterial possibilities opened in negative and non-spaces and the elemental spaces of the air floating between. The making (with and without technologies) produced dynamic results;

these material cultures, advance different knowledges for leadership through the inter-intra-edge-actions of inter-relational becoming.

This underscores the iterative and generative nature of practice with new materialist thinking and re-making. Furthermore, new materialisms afforded interdisciplinary practice to pool arts, education, and research possibilities that frame and softly re-make leadership through questions of gender, race, beyond human and beyond matter. Practising in the complexity of the Deleuzian architecture developed innovative modes of data collection and analysis, creative processes, and evaluation. In doing so, practice has produced new ways of re-making for resistance, and knowledge and theory in the making. The CMA highlighted challenges and possibilities (9.4), pathways to impact and furthermore, I suggest that through further research beyond the pandemic (endemic), these agential possibilities may inform policy development.

Finally, it is important to note when methodological investigations conclude. The affordances of assemblage becoming sets new thinking in motion and as participants encounter these material cultures, be it through exhibition, memory or application, the assemblage expands, perpetuating further ways of re-thinking and the research is extended. As each methodology generates new possibilities with different education communities, wider research possibilities perform as expanded becomings. Conclusions, therefore, are not the point and the catalytic potential of the material education assemblages' present global dissemination opportunities and broader research impact. Beyond production, the case studies suggest makes and debates for education futures to be material, lively, performative, and productive. The material provocations invite artist-

leaders-researcher within and beyond education to contribute and shape the production of different approaches. In doing so, a critical mass of interdisciplinary assemblage thinking will pool approaches and generate innovative and collective insights to the field.

Figure 96. Performing Assemblage digital edit 001, 2021.

9.6 Personal Reflection on a Practice Research approach to the Education Doctorate

What began as an investigation into the potential of the intersection of ABR, Deleuze and education theory for leaders developed into a substantial re-making as a developing feminist new materialism to continuously question, critique, reflect and produce through material encounters. In doing so, methodological prototypes generated different ways of material thinking for leadership and reflecting upon the emergent findings produced further models of knowledge production, thus defining its relation 'to the practice it seeks to elucidate' (Goddard, 2019, p. 113).

The PR approach began reluctantly. I entered the academic education research space with praxical knowledge of arts and education and from this creative worldview, I was surprised to witness the linguistic privilege. As artist-leader-researcher I was marginalised by this and recognised this mode was to limit my contribution to develop new and different thinking. Indeed, it was in struggling with academic boundaries whilst seeking to counter the wicked problems for leadership (Benzie, Pace & Smith, 2017), that led to the setting of my preferred visual language and arts methods to work (appendices 8 and 9). This surfaced dynamic, interdisciplinary and productive ways to approach leadership. Furthermore, it was in the requisite communication of this development to my module leader, who considered herself to be a non-creative specialist, that the value of the thesis to document the creative processes of production was demonstrated.

This highlighted that the written communication of the unfamiliar to education leaders was essential. It is not necessary to repeat the binary arguments of arts versus science

but to advance my PR approach with an aim to communicate the methodological opportunities as widely as possible, written documentation is advantageous. Further modes for dissemination were realised during the production; it was evident that the performative and material relations of each methodology could engage with artist-leaders-researchers in numerous and varied scenarios. However, in addition to the studio processes and continuous meta-discourse, the process of writing this thesis surfaced understandings for leadership. It should be noted that whilst this articulates the positive elements of production, Void of the Voids expounds the vital contribution of immateriality and thus, advocates for immaterial thinking.

Due to the nature of PR, the writing follows the materials and the making. Before the making, the methodologies and their findings could not be imagined nor anticipated, and so linear thesis structures are tested. Some of the texts fit and flow within standard formats whilst others require a different pattern of writing, demanding elements of repetition and revisiting of literature and practice reviews that echo the iterative nature of studio practice. In writing this text, the exhibition was yet to be curated, produced, and experienced and so, a vital element of this practice and potential new knowledge is excluded. Noting the current absence of the exhibition and in turn, of audience participation, there are further research opportunities already in motion. Whilst it was anticipated that the exhibition would be produced physically, pandemic lockdown policies may prevent this. However, the catalogue provides an alternative mode for engagement.

This tri-part thesis has demonstrated the relevance and productiveness of material methodologies as assemblage for education. The prototypes produced ways to bring together profound differences from the field of education in inter-spaces to diverge, clash, mingle and enmesh and consider the emerging new knowledge at the inter-intra-edges and thresholds. In sharing these material-immaterial encounters with leaders as tangible objects, installation or wearable artefact, alternative departures may be catalysed. And it is here that the fertile ground of negative spaces produced a re-imagining for anti-oppressive education futures and catalyses further research.

The intensive research period and subsequent written thesis brings material education assemblage matters into question. Where Covid-19 has demonstrated how anthropocentric concerns impact learners, leaders and education communities and its disruption of societal norms has been felt by all, the pivot to alternative ways of becoming has been set in motion. It is possible that as a post-pandemic return to normal ensues, traces of social distancing will gradually be erased and how education is experienced and by whom remains to be questioned. However, as the methodological becomings suggest, the affective pandemic practice will remain (as embodied experience). With this, the return to the status quo may be reluctant or welcomed but the potential to build upon synchronous and asynchronous spaces of education cultures as an act of resistance for education is tangible. Furthermore, it is evident that the education assemblages, as materialist research creations, are tools to actualise alternative ways of thinking and lay fertile ground for leadership becomings.

Lastly, it is to be acknowledged that a PR approach to the Education Doctorate may test university systems, especially during a pandemic. Within my education department there was less resource for practice research; this presents challenges for example, with ethics applications. This brings into question the support for different kinds of knowledge within an education faculty and the impact of its graduates for education futures. This challenge returns us to the linguistic privilege of academia, its narrow cognitive focus, and the urgent need to facilitate new methodological becomings for education futures. I welcome the support of my supervisors Christian Beighton, Peter Gregory and ethics chair Judy Durrant in their efforts to resolve the challenges throughout my studies. Beyond Covid-19 and in the face of global challenges, education needs to support future generations to prepare, adapt and thrive happily, equitably and healthily. To do this, material assemblages may catalyse the necessary leadership becoming to set new thinking for Gen One in motion.

Figure 97. Void of the Voids composite, 2021.

Appendices

1.

The concept of assemblage is central to the architecture of this research. As a term coined by artist Marcel Duchamp (1953) but also as a philosophical concept (Deleuze, 1994) the concept describes complex entities of collage, bricolage, linkages, heterogeneity and fluidity. There are similarities and differences across the domains, but the overlapping inter-intra-action of this tension will be used in this research to produce methodological innovation.

The language surrounding assemblage and wider assemblage theory can be difficult and DeLanda assists with this clarification, "These relations imply, first of all, that a component part of an assemblage may be detached from it and plugged into a different assemblage in which its interactions are different. In other words, the exteriority of relations implies a certain autonomy for the terms they relate" (DeLanda, 2016, pp. 10-11).

2.
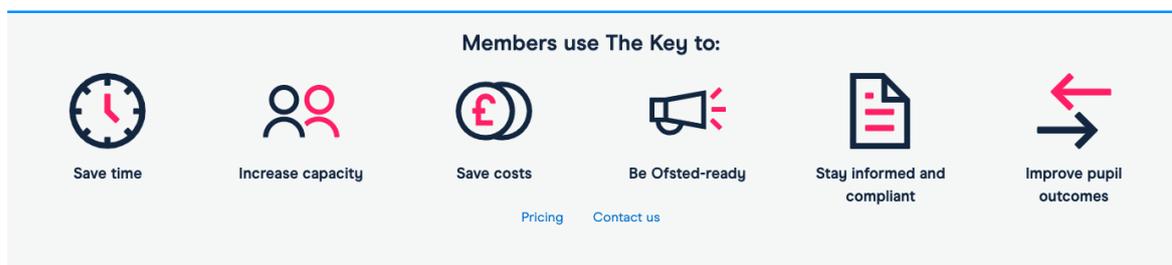
The performative targets for online continuous professional development are evidenced in the example of the Key. Available at:

https://schoolleaders.thekeysupport.com/ (Accessed: 26 May 2020)

3.

Practice Research (PR) resides within a broader framework of Arts Based Research (ABR). The table below highlights the breadth of some of the approaches rather than provide a codified or definitive list of the rapidly increasing field.

ABR domains demonstrates a myriad of creative approaches to knowledge production and includes broad fields of (but not limited to) the visual, performing – dance, theatre, music, sound art, film, photography, production arts, art technologies and creative writing. This table references key contributors to the field.	
Practice Research (PR) (Barrett and Bolt, 2013, 2014. McDonald & Malins, 2015; Hickey-Moody and Page, 2016: Stone, Redhead & Long, 2019).	'Practice Research, and methodologies within this umbrella, are plural and diverse. However, they all maintain that creative practice can be a form of knowledge and that this knowledge can be made relevant and accessible to others beyond the creative practitioner' (Stone, Redhead & Long, 2019, p. 1). It broadly describes research methodologies where studio practice is the mode of enquiry and the means of dissemination of the research. PR produces new knowledge through an investigation or disruption of existing form/object/concept and the creative outputs of that practice make the claim for an original contribution to the field. It creates a productive dialogue between theory and practice, which in terms of this thesis outlines the relationship between the textual thesis with practice materials (in the form of exhibition and exhibition catalogue). Also, practice-led, and practice-based research both have a central arts practice. Practice-led examines the nature of practice but a thesis may be fully written with no creative output. Practice-based is an approach created through practice, with creative outcomes as the claim to original thought and new knowledge.
Arts Based Research (ABR) (Eisner, 2008; Barone & Eisner,1997; Finley, 2008; McNiff, 2008; Lafreniere &	The term ABR was coined by Eisner and describes the use of art processes, method and materials to understand and communicate the subjectivity of the human experience. It is 'the use of artistic expression by researchers as a primary mode of

Cox, 2012; Leavy, 2015; Lyle & Skains, 2018)	inquiry' (McNiff, 203:3). This umbrella term covers arts-based approaches to research.
Arts Based Education Research (ABER) (Eisner, 2008; Cahnmann-Taylor & Siegesmun, 2008; Pentassuglia, 2017).	As a sub-set within ABR, ABER provides a framework to understand education through arts –based approaches, methods, and practice, 'Arts Based Education Research aims to understand education through arts-based concepts, techniques and practice. Practitioners use a variety of arts-based methodologies to undertake their research and / or to communicate their understanding through such diverse genres as autobiography, narrative, poetry, visual arts, drama, dance, music and performance. There is a relatively new but rapidly growing body of both literature and shared practitioner knowledge which directly addresses concepts of art as research, the nature of knowing aesthetically and learning aesthetically, the processes of making, and the use of art as a platform for recording and analysing data.' https://www.bera.ac.uk/community/arts-based-educational-research
New Materialism (NM) (Bennet, 2010; van der Tuin, Dolphijn, 2012; Fox & Alldred, 2015; Hickey-Moody & Page, 2016; Coole & Frost, 2010; Ringrose, Warfield & Zarabadi, 2018; Coleman, Page & Palmer, 2019; McDonald & Wiens, 2019).	An interdisciplinary, theoretical-practice-political filed of inquiry, understanding the world as material. Feminist new materialism underscores that capitalism and patriarchy are central to understandings of women's oppression.
Arts Based and Embodied Research (ABER) (Woods et al, 2020).	This approach utilises embodied activities that include music, craft-based, art (painting & drawing) , narrative creative processes, dance and performance and combinations of these methods and general arts-based methods.
Anti-Oppressive Practice Research (AOP) (Capous-Desyllas & Morgain, 2018).	Arts based methods are employed as ways of working to address exclusionary practices and promote social change for marginalised and oppressed communities.

a/r/tography (ART) (Irwin, 2004, 2013; Sinner, 2017).	'The construct of a/r/tography is premised on artist/researcher/teacher, with the slash denoting the multiple roles held by educational researchers' 'to inquire in the world through an ongoing process of art making and writing not separate or illustrative of each other but interconnected and woven through each other to create additional and/or enhanced meanings' (Sinner, 2017:39).
Visual Ethnography (VE) (Pink, 2012)	This approach uses social science reflexive study and interpretation of visual cultures and social relations via visual methods such as photography, film, new technologies.
Practice as Research Practice through Research Creative Practice Research Creative Arts Research Creative Research Creative Worldview Artistic Research Artistic Practice Research Arts-Based Research Practice Participatory Visual Methods Actor Network theory	These additional inter-relating approaches that appeared in searches as part of the literature and practice reviews and in studio practice.

4.

The school workforce census captures the data on secondary school leaders and their

specialisms. 2% secondary school teachers have a specialist Art & Design degree (2016).

Table 2.5. Percentage of secondary school teachers by degree subject and by role in 2016

	Secondary			
	Headteacher	Senior Leader	Middle Leader	Classroom Teacher
Others	22%	20%	17%	14%
English	11%	13%	12%	12%
Mathematics	9%	10%	9%	11%
Biology	6%	8%	8%	9%
History	10%	7%	6%	5%
Art & Design	2%	2%	4%	4%
Design & Technology	2%	3%	5%	5%
Physical Education	4%	6%	5%	4%
Chemistry	4%	4%	4%	4%
French	3%	3%	3%	3%
Religious Education	4%	3%	4%	3%
Business Studies	4%	4%	3%	2%
Geography	4%	4%	3%	2%
Physics	4%	3%	3%	3%
Music	2%	2%	3%	2%
Computing	1%	2%	3%	3%
Drama	2%	3%	3%	2%
German	1%	1%	1%	1%
Other Modern Foreign Language	1%	1%	1%	2%
Science	1%	1%	1%	1%
Spanish	0%	0%	1%	1%
Classics	0%	0%	0%	0%
Food	0%	0%	0%	0%
Unknown	2%	2%	2%	7%

Source: School Workforce Census 2016

Tables 2.6 to 2.9 in the accompanying spreadsheet available online show the degree subjects of both headteachers and classroom teachers who were new to post compared to those in the existing 'stock' and how this changed between 2011 and 2016.

Source: School Workforce Census 2016 (DfE, 2018, p. 45).

5.

Material Thinking: re-working Page's working of Friere's critical pedagogical identities.

Figure X   Friere states,

'Through dialogue, the teachers-of-the-students and the student- of-the-teachers cease to exist and a new term emerges; teacher-student with student-teacher, the teacher is no longer merely the one who teachers, but the one who is himself[sic] taught in dialogue with the students, who in turn while being taught also teach. They become jointly responsible for the process in which all grow'

(Friere, 1970,p. 80)

Building upon the foundation of this statement as a point for materialist departure, Page replaces the word 'student' with 'learner' to develop the following:
'Through dialogue, the teachers-of-the-learners and the learners-of-the-teachers cease to exist, and a new term emerges; teacher- learner with learner-teacher, the teacher is no longer merely the one who teachers, but the one who is himself[sic] taught in dialogue with the learners, who in turn while being taught also teach. They become jointly responsible for the process in which all grow'

(Page, 2016, p. 60)

This exercise with the intra-actions and reconfiguration of language informs mutable and multiple understandings, which Page refers to as a 'shared space of discovery and learning' (Page 2016:73) a generative, third space which is not fixed to pedagogy but to be considered as 'entangled with wider, global, discourses and power relations' (Hickey-Moody & Page, 2016:15). It is with this contribution that the case for a new materialist approach for leadership can be argued as relevant. Nevertheless, in doing so there is the opportunity to explore the leadership considerations of Page's re-making of Friere; where leaders can be stood in for teachers and students (Friere) and learners (Page) can be understood as equally teachers and Gen Z. In addition, as a material assemblage, one can create the following:

Through dialogue, the leaders-of-the-learners and the learners-of-the-leaders cease to exist, and a new term emerges; leaders - learner with learner- leaders, the leader is no longer merely the one who leads, but the one who is himself[sic] taught in dialogue with the learners, who in turn while being taught also teach. They become jointly responsible for the process in which all grow.

6.

The artists (below) were selected in the practice review to inform the methods, materials and methodology of the studio practice. Data was gathered from primary sources via exhibitions and studio visits and secondary sources via publications and online literature. Each artist is listed with a larger image of their work and a short description outlining their relation to the studio processes. The artists full names are listed.

Sandra Blow. (2006) *Upward Movement.* [Etching & Aquatint]. Printed by Richard Kimmerling. © Estate of the artist.

This print was selected to inform print methods for the Micro Education Assemblage. The mixed media printing techniques assist with transformative processes for the methodology making. Furthermore, the expressive and expansive mark making direct the methods of disruption that are needed to interfere with oppressive school management models.

Thomas Hirschorn (2015) Roof Off. [Installation] © The artist

Hirschhorn's use of everyday materials seeks to sublimate art and disseminate his work to a non-exclusive public. His installations are considered sites of encounter and present social engaged practice with the community that expands notions of sculpture. His methods, materials and methodology inform the installation trajectory of the methodologies.

Jenny Holzer (1987) Raise Boys and Girls the Same Way. [Sony JumboTRON video sign, Candlestick Park, San Francisco]. The Skateroom. Available at: https (Accessed on 25 August 2020). © The artist.
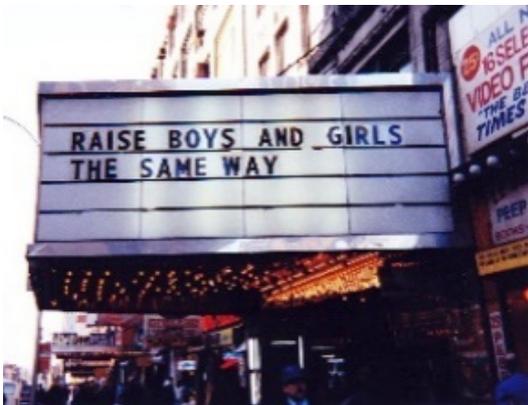
Holzer's text-based work is exemplified in the series of Truisms, which includes 'abuse of power comes as no surprise' and 'protect me from what I want'. She positions her work in public sites for wide accessibility to provoke discussion on oppression, human rights, feminism, power, war, and death.

Her use of language as art presents provocative modes to re-make leadership and engage a wider public in issues of education. Holzer, 'utilizes the homogeneous rhetoric of modern information systems in order to address the politics of discourse...[her] conception of language as art, in which semantics developed into her aesthetic, began to

emerge in New York… The Holzer felt the writings could be simplified to phrases everyone could understand. She called these summaries her "Truisms" (1978)'. Available at: http://www.arthistoryarchive.com/arthistory/contemporary/Jenny-Holzer.html (Accessed: 14 December 2021)

Barbara Kruger. (1983) *Untitled (I Shop Therefore I Am).* [Serigraph on Vinyl]. Available at: https://www.nytimes.com/2019/07/15/t-magazine/most-important-contemporary-art.html (Accessed 25 August 2020). Courtesy of Barbara Kruger. © The artist.

Kruger's methods have catalysed the use of collage as a critical mode of making. She was selected for her use of 'culling and editing found photographs and of pairing them with phrases in provocative ways was informed by her interest in feminism and critical theory. These investigations into the seemingly innocuous and yet potentially insidious ways in which ideological messages infiltrate daily life by means of the mass media' (MOMA, 2021). Available at https://www.moma.org/collection/works/64897 (Accessed 10 January 2021).

Kapulani Landgraf. (2016) *Ho'okahi Po'ohiwi (be of one shoulder).* [Collage]. Queensland Art Gallery | Gallery of Modern Art, Brisbane, Australia. Available at: https://artsandculture.google.com/asset/ho-okahi-po-ohiwi-be-of-one-shoulder-kapulani-landgraf-b-1966/BgHNmWLjbkZWXQ (Accessed: 25 August 2020). © The artist.
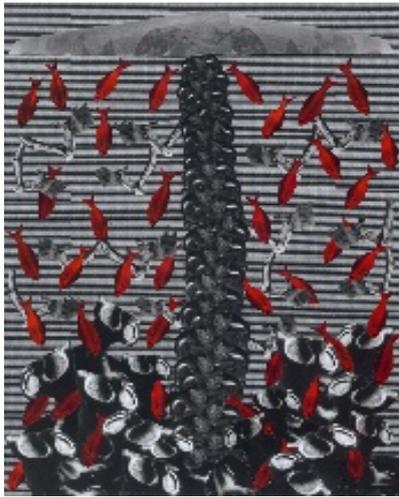
Landgraf, a multidisciplinary artist from Pu'ahu'ula, O'ahu, Hawaii, creates meticulous red, white, and black collages depicting the 'devastation wrought through sugar plantations, highways, military bases, ordinance testing and commercial and tourist development' (McDougall, 2018, p. 103) to counter the tourist, imperial view of Hawaii. Landgraf's practice 'captures a contemporary indigenous view of sacred places and land issues in Hawai'i.. she also creates photo collages juxtaposing historical and original photographs with images associated with personal and traditional symbolism. These works honour ancestral connections to ancient landscapes and expose the legacies of colonisation and modern development that have threatened and destroyed places that are significant parts of Hawaiians' identity as *na poe 'aina*, the first people of the land'. Available at: https://www.qagoma.qld.gov.au/whats-on/exhibitions/past-exhibitions/the-9th-asia-pacific-triennial-of-contemporary-art-apt9/artists/kapulani-landgraf (Accessed 28 April 2018).

Mary Lovelace O'Neal. (1973) *Little Brown Girl with your Hair in a Curl/Daddy #5 (detail).* *[*Charcoal and pastel on paper]. Mott-Warsh Collection Flint, Michigan. Available at: https://nmwa.org/blog/spotlight-mary-lovelace-oneal/ (Accessed: 26 August 2020). © The artist.

Lovelace O'Neal examines the ongoing influences of racism in her large scale, abstract expressionist paintings. Her paintings are not a metaphor for black experience, but she uses abstraction as a more transparent way to 'give voice to the intangible elements of the human spirit' (National Museum of Women in the Arts, 2017).

Available at: (Accessed: 30 September 2019).

Agnes Martin (1991) *Untitled.* [Lithograph on vellum]. © The artist.
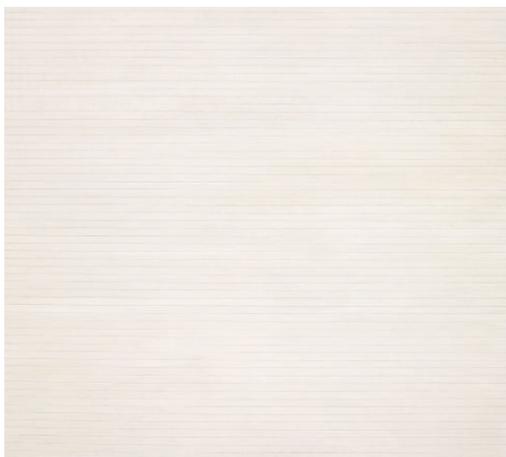
Martin minimalist paintings afford a reduced mode of working with printed media, paper, paint and canvas. In contrast to the gestural and expressive artists, she presents an understated power with limited mark making and a reduced palette.

Brice Marden (1986) Etchings to Rexroth. No 16/25. This artwork is examined in detail to elicit further understandings for the methods of re-making leadership.

Brice Marden

Etchings to Rexroth 1986

Portfolio of 25 etchings on Rives BFK paper.

Copper plate

No16/25.

201 × 173 mm

Etching, sugar lift aquatint and aquatint.

Tate collection. © Marden.

This print is one of a series of twenty-five, created when American Abstract Expressionist artist, Brice Marden was looking to significantly change the direction of his work. He was aiming to move beyond the painted flat panels of colour and catalyse a change through combining his drawing and painting methods. This led to a mode of mark making utilising an enforced looseness of drawing created by using long wooden sticks as drawing tools. This method afforded a loose, calligraphic style, informed by Chinese calligraphy and the poems of Tu Fu.

The series of etchings reduced the scale of his work and allowed a working process of developing images and methods of making through printmaking. Working with a triangular motif, the Rexroth etchings worked as 'ideagraphs' (Lewinson, 1992:145). Working and re-working the composition with numerous print techniques, ideas

progressed through these transformational processes. Mark making with traditional and improvised tools afforded experimental methods to develop and created velvety aquatint tones when printed on paper. The resulting etchings are not illustrations of the poetry but responses to the works. They are a numbered series that notes the production order, but the sequence is not required to be followed for curation.

The print '16', presents a balance of dynamics and space and suggests a range of possibilities. The edges of the contrasting forms, spaces, marks and composition present a liberating way to re-make education structures. These could become leadership ideagraphs, but replication is not the aim. Marden's processes and practice afford methods for becoming that suggest alternative ways of thinking structurally.

Cornelia Parker (1991) *Cold Dark Matter: An Exploded View* [Installation] Tate © The artist. This artwork is examined in detail to elicit further understandings for the methods of re-making leadership.

Cold Dark Matter: An Exploded View is the restored contents of a garden shed exploded by the British Army at the request of the artist Cornelia Parker. The surviving pieces have been used by Parker to create an installation suspended from the ceiling as if held mid-explosion. Lit by a single lightbulb the fragments cast dramatic shadows on the gallery's walls.

The quintessential British shed was filled with a collection of objects, filled with paraphernalia of life and social activities; objects that were unused but did not want to be discarded.

The shed was then exploded with the assistance of the British Army and then each fragment, charred, twisted and transformed was collected and subsequently suspended in the gallery, hanging on clear wire, capturing space, time and movement in motion. Audiences can move through the installation and look through and across the positive objects and negative spaces. The space between the objects is significant and emphasised by a single, central lightbulb that casts patterns of light and deep shadow. This creates a further dimension to the installation and the artist reflects, 'cold dark matter is the material within the universe that we cannot see, and we cannot quantify. We know it exists, but we can't measure it. It's immeasurable, unfathomable' (Parker, 1991). These material concerns and methods of making and curating blur boundaries of participation and understandings; the everyday shed and its objects are situated within the quantum dimensions and the cosmos. Parker's transformation of found objects allows a re-reading of our societal constructs, in the destruction of everyday norms, she reveals the hidden and re-makes new possibilities.

Robert Rauschenberg. (1953) Erased de Kooning, [Drawing on paper]. © The artist.

Available at: https://www.sfmoma.org/artwork/98.298/ https://www.sfmoma.org/artwork/98.298/ Accessed: 25 August 2020).

Rauschenberg's use of collage and assemblage has informed the studio practices of this research. The drawing 'Erased de Kooning' is a conceptual piece that reflects Rauschenberg's rejection of the dominant art of the time. In a subversive act Rauschenberg took one of leading artist de Kooning's drawing and then erased it. The non-artwork was named as a new drawing. The production-reduction-erasure of matter through time and space is framed for consideration and highlights the significance of immaterial.

Robert Ryman. (2003) *#11(White).* [Photograph]. Robert Ryman/Artists Rights Society (ARS) New York. Available at: https://www.theguardian.com/artanddesign/2019/feb/11/robert-ryman-painter-appreciation (Accessed: 25 August 2020). © The artist.

Ryman's white and white on white paintings and artworks are positive acts on non-being. Concepts of material-immaterial are actualised into beautiful compositions that create balance but challenge assumptions of what is expected-needed (in an artwork). Materialising with non-colour directs ways of making with edits, non-colour, non-subject, non-representation and disruption.

Willem Sandberg. (1956) Acht Argentijnse Abstracten, Stedelijk Museum A'damc [Photolithograph] © Estate of Sandberg

Sandberg transformed text and image into a distinct graphic language (1930-1980's). His collage methods and recycled materials inform sustainable methods of making and interesting ways of interacting with lexical matter.

Kurt Schwitters. (1922) *Merzbau.* [Installation] © Estate of Schwitters.

Installation art emerged out of environments which artists such as Allan Kaprow, made from about 1957 onward, though there were important precursors, such as Kurt Schwitters's Merzbau 1933, an environment of several rooms created in the artist's own house in Hanover. In collaboration with Theo van Doesburg, they introduced Dada collage propaganda such as Kleine dada Soirée, 1922.

Theo van Doesburg with Kurt Schwitters. (1922) Kleine Dada Soirée. [Collage Lithograph]. Museum of Modern Art, New York. © Estate of the artists.
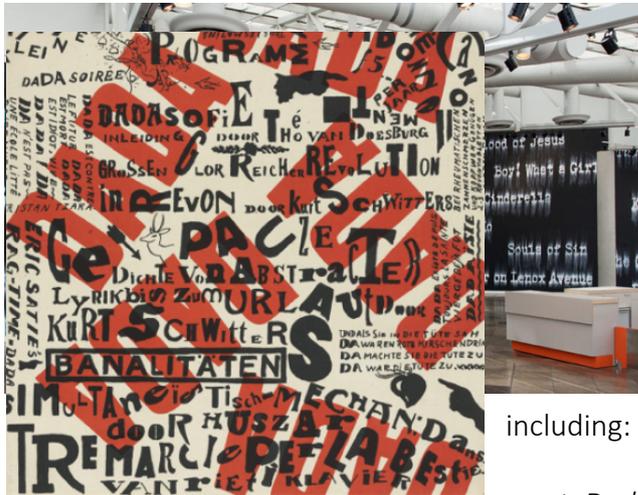
This poster represents the art movement Dada and slogans as provocations to disrupt and catalyse new ways of re-thinking. The poster is decorated with multi-lingual slogans including: "*Dada est contre le futur, Dada est mort, Dada est idiot, vive Dada!*" ("Dada is against the future, Dada is dead, Dada is idiotic, Long live Dada!")'. Gallery label from *Dada*, June 18–September 11, 2006, MOMA. Available at https://www.moma.org/collection/works/5533 (Accessed: 16 June 2018).

Gary Simmons (2018) *Fade to Black* (exhibition view). [Installation] California African American Museum, July 12, 2017 – July 31, 2018. Photo: Brian Forrest. ©The artist Simmons's installations use erasure techniques. He draws positively in white chalk and then smudges and erases the images with his hands. The tensions between present and absent on a large-scale suggest methods for challenging management structures and re-making leadership.

Pat Steir. (2018) Secret *Waterfalls: The Barnes Series XI (detail).* [Oil on Canvas]. The Barnes Foundation. Available at: https://www.barnesfoundation.org/whats-on/pat-steir-silent-secret-waterfalls(Accessed: 25 August 2020). © The artist.
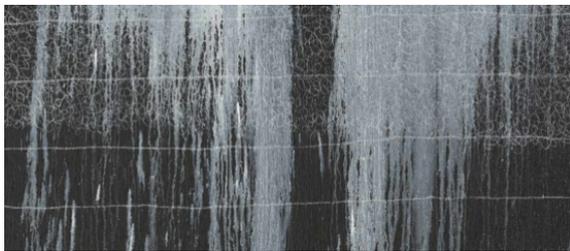
Silent Secret Waterfalls: The Barnes Series, is an installation of large-scale paintings by American artist Pat Steir. Her gestural painterly marks work with intuition and intention as an embodied practice. Performing with materials, paint is poured, thrown and dripped to work with elemental matters in a transformative choreography that can be set to work for re-making education.

Twombly. C. (1993-5) *Quattro Stagioni (A Painting in Four Parts).* [Acrylic and graphite on canvas]. Tate. Available at: https://www.tate.org.uk/art/artworks/twombly-quattro-stagioni-estate-t07888 (Accessed: 25 August 2020). © The artist.

This more-than-human scale series of artworks creates an alternative worlding for the audience to engage with. Messy marks, scribbles, globs of colourful matter produce an unimaginable and yet familiar environment. Twombly's different language of art matters, poetry and landscape transcend norms and suggest possible ways to re-make education.

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Andy Warhol. (1986) The Last Supper [screen print & coloured graphic art paper collage]

© Andy Warhol Foundation for the Visual Arts, Inc./Licensed by Artists Rights Society

(ARS), NY.

Collaging screen prints of appropriated imagery with graphic blocks of colour, speak the language of advertising and marketisation whilst disrupting the worlds, re-making with the old (artworks0 to generate innovative alternatives. Warhol's methods, materials, and methodology presents a wealth of possible ways f re-thinking leadership and re-making education for Gen Z.

Haegue Yang. (2015) *Sol LeWitt Upside Down - Structure with Three Towers - Expanded 23 times – Split in Three.* [Powder-coated aluminium, steel, plastic, LED lights and nylon] Tate. Available at: https://www.tate.org.uk/art/artworks/yang-sol-lewitt-upside-down-structure-with-three-towers-expanded-23-times-split-in-three-t15081

 (Accessed: 25 August 2020). © The artist.

In this giant installation, Yang has re-worked artist Sol LeWitt's work to demonstrate how existing traditions can be re-imagined and re-worked to produce the radical different and innovative. In working towards a re-working of ossified systems and structures, Yang's practice highlights ways to re-make at scale.

7

My artist-leader-researcher position draws upon my studio practice, education leadership and work in the university setting (UCL). Trained at the Royal Academy of Arts, London, I bring over two decades of professional art practice to my research. Arts methods and methodologies informed effective ways of working as Head of Art and then Assistant Principal in state secondary education and raising attendance and attainment. As founding Principal of a studio school (14-19 free school), I used arts methodologies in the design and delivery of all aspects of the new education centre (Ofsted Outstanding in all areas).

8.

Testing of methods and methodologies: a developing rhizomatic analysis of education leadership, 2018.
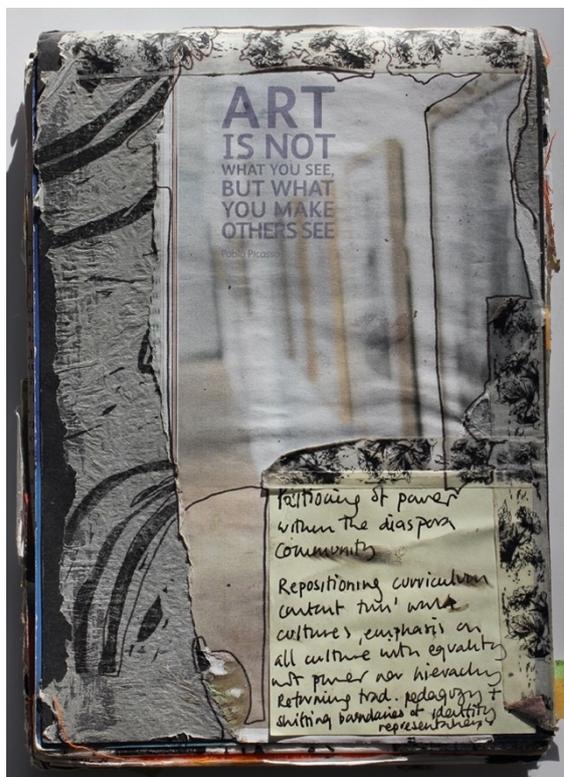
For the taught modules of the Ed.D. I tested the use of visual arts methods and methodologies for education leadership, utilising my positionality as artist-leader-researcher. Working with the Deleuzian concept of the rhizome, a developing mode for analysis was produced.

Methods & Methodologies: A developing rhizomatic analysis, 2018; pages plus back cover.

9.

Arts methods and methodologies were developed to innovate ways of analysing education policy, in an Ed.D. taught module, 2019. Deleuze and Guattari's use of the rhizome as a ceaselessly connecting concept (1987) informed the development of a methodology of education leaders. A rhizo-visual analysis tool was created with arts methods and materials (see below).The understandings produced in the making of this tool created a foundation for the Fertile Grounds for Negative Spaces: Material Methodologies for (Education) Leadership.

Rhizo-visual analysis, 2019

Rhizo-visual analysis (details), 2019.

10.

Comparative Material Analysis

The dataset for this comparative material analysis examines modes for leadership development. This analysis focuses on education material and includes printed online leadership training resources (SELTNET NPQH, 2015); lockdown gallery activities for members and community engagement and practice-based material prototypes (pandemic mask for leaders). It was collected during the start of the UK 2020 Covid-19 lockdown, presenting a particular spotlight on pervasive technologies. The pandemic experience produced wider understandings of the function of language when removed from physical interactions and the narrow form of communication via a screen interface and informed the focus on ways of understanding the physical materials of education. The dataset is within the research sketchbook with additional meta-discourse and is available in the exhibition and exhibition catalogue. Firstly, the analysis seeks to ascertain what knowledge(s) are employed through these activities. Secondly, I wanted to assess the socio-historical context of each resource and critically analyse the power inter-relations in motion through this positioning. Thirdly, I consider the implications of the effect of these power enactments for Gen Z.

Comparative data is observed, read, critiqued and physically handled. The data is rendered visible, malleable, material and employs a range of senses and knowledges. The subjective nature of the contextual data could be considered problematic however, the emergent findings elicit new meanings for the researcher and informs the continuous studio process, documented as a meta-discourse in the sketchbook. The analysis developed understandings of education materials (its codes, its power inter-relations and methodological implications) and provided the opportunity to reflect on why materials

are employed by whom and for whom, what they do and what they set in motion and

through this knowledge, it evidences why matter matters for leadership.

Comparative Material Analysis: *What are affective Leadership Materials* (situated in Covid-19 lockdown 2020)				
Lockdown materials (training document, creative pandemic downloads, material prototypes)				
Material	Paper	Paper	Paper	Cotton
Format	A4	A4	A4	Wearable mask
Text	Yes	Yes	Yes	No
Visual/material	No	No	Yes	Yes
Processes	Cognitive	Cognitive, responsive, experiential through being and doing, playful	Cognitive, responsive, experiential through being and doing, playful. Ethical approach creating safe space for participation and interaction	Cognitive, tacit, embodied, responsive, experiential through being and doing, playful. Ethical approach creating safe space for participation and interaction (solo or group)
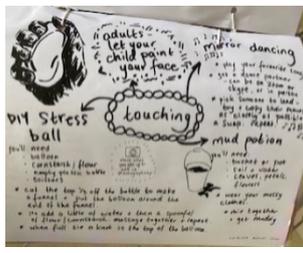
Historic/social context/social relations	Embedded in dominant paradigms of knowledge production	Situated within the imperial, technologically innovating audience playful participation	Community based, technologically innovating audience playful participation	Material methodology for playful participation. Non-dominant modes of knowledge production in education
Critical analysis of power relations Whose interests are served by this positioning. Whose interests are negated.	Reinforcing hegemonic paradigms; traditional routes to knowledge; embedded in government discourse and maintaining patriarchal, managerial status quo	Challenging norms of data sharing and community participation; move from cost benefit to community benefit. Position of centre establishment limits participation: digital method improves access and extends community	Socially engaged practice of community project; digital method improves access and extends community	Self –review within studio for rebalancing of what leadership materials are for and who are leadership materials are for through material practice. Critically challenges leadership assumptions. Prototype requires further investigation

How are relations of power enacted for Generation Z	Hierarchical, performative, accountable, imperial.	Participatory, playful.	Participatory, socially engaged, co-produced and playful.	Potentially participatory, socially engaged, critically re-thinking, re-making inter-relations for Gen Z

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