Beyond Illustration: Purposefully harnessing young people's everyday sense-making through digital photography in educational settings

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Declaration

Ethical approval to undertake this research was granted by the University of Stirling. I declare that I have composed this thesis by myself and that it contains the results of my own research. No generative artificial intelligence software has been used in the production of this thesis. Where appropriate, I have acknowledged the nature and extent of work carried out in collaboration with others included in this thesis.

Matthew Sowerby August 2024

Abstract

Beyond Illustration: Purposefully harnessing young people's everyday sense-making through digital photography in educational settings

This research explores how young people's everyday photographically-mediated sense-making and communication practices can be purposefully-harnessed into educational settings. Ubiquitous smartphone technology has placed high-quality digital cameras into the hands of most young people of school age, enabling participation in many new forms of cultural connectivity. This shift towards the digital and visual raises questions around the possibilities for new practices of knowledge production, curriculum-making and learning. Currently, there is limited research on the pedagogical use of photographs beyond the simple illustration of words. In many countries, the use of smartphones is banned within classrooms. Thinking with Deleuze and Barthes, the outcomes of this enquiry address a gap in educational research around the affordances of working with digital photography in learning and teaching.

This study takes a New Materialist theoretical approach employing an assemblage ethnography in two Scottish secondary schools. Using Allwright's Exploratory Practice model of practitioner enquiry, I collaborated with students (aged 12-15) and their teachers over twelve months. Two case studies explore the possibilities for making and viewing digital photographs in the curricular areas of English Language and Science. The analysis of fieldnotes, interview transcripts and photographs revealed four Findings. Firstly, young people's everyday digital photography assists sense-making in affective registers beyond word-based ontologies. Secondly, harnessing the affordances of young people's everyday photographic practices can link learning across public and personal domains, and beyond the classroom. Thirdly, curriculum-making with photographs can support alternative modes of participation and expression for students. Fourthly, photography offers teachers alternative modes for contextualising learning, and formative assessment. Emphasising the role of affect, this thesis concludes with implications for policy and practice on the purposeful uses of photographs and photography within learning and teaching in educational settings.

Aims

The overarching aim of this study was to understand how young people's everyday sense-making through digital photographs can be more purposefully-harnessed into education settings. A further aim was to consider the implications for the wider uses of the affective registers of photographs in educational theory, policy and practice.

Research questions

How can young people's sense-making through their everyday photographic practices be harnessed purposefully into educational settings?

What are the implications for the wider uses of the affective registers of photographs in educational theory, policy and practice?

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Chapter 1: Introduction

1.0 Aims of the study

The overall aims of this study were to understand how can young people's sense-making through photographs can be more purposefully harnessed into educational settings, and implications for the wider uses of the affective registers of photographs in educational theory, policy and practice.

The young people participating in this research were school students between the ages of 12-15, in two Scottish secondary schools. In pursuit of these aims, I took an ethnographically-influenced approach to produce a descriptive account of how the sociomaterial practices I observed related to the students' and their teachers' uses of photography in the curricular areas of Science and English language. The fieldwork took place across twelve months, predominantly in school classrooms and staffrooms.

In the development of a detailed ethnographic-style account of what happens when sense-making and communication through photography is introduced into these learning environments, this study explored what a sociomaterial, relational approach might offer to existing discussions around what photography can do.

However, and importantly, this study does not make claims about the affordances of photography for all young people or try to speak to all classroom environments. Instead, it provides a rich account of some of the complex interactions between people and things related to one very specific context: photographically-mediated sense-making and communication in secondary schools. These observations of the practices involving photographs can offer some exploratory insights on the complexities of photography-in-relation and what working with photographs in learning environments might have to offer for teachers and students.

I wish to point out that this study does not aim to understand young people's everyday photographic practices and 'educational settings' as if they are two discretely separate domains, interacting in a cause and effect relationship. Rather,

this is a study of how these two domains coalesce and co-emerge in their encounters together.

1.1 Introducing Education 1: The Art teacher and university

This study has developed out of a convergence of my personal experiences as a student of photography, a professional photographer, a teacher of photography, and then a student of education.

My first significant encounter with photography was at school around the age of 14. An inspirational art teacher discovered old darkroom equipment in a school cupboard. In what I understand now to be co-enquiry, he involved me and group of interested others in a lunch-time ‘club’. Together we figured out how to develop film, and print black & white photographs in an improvised darkroom. In what I have come to realise was a fortuitous alignment, and possibly the reason why this thesis exists, is because it was the art teacher, and not the science teacher who introduced me to photography. I didn’t realise at the time, but I came to understand that the art teacher was more interested in what was in the photographs and what the medium of photography could ‘do’ in terms of making, and communicating meaning. The ‘Scientific’ approach to photography is more concerned with physics and chemistry, mastering photography as a technical process of mechanical reproduction.

Undoubtedly influenced by the art teacher’s enthusiasm for experimentation and discovery, I chose to study Fine Art Photography at degree level at Derbyshire College of Higher Education (now the University of Derby). In the 1980s in the UK, Derby was one of the hot-beds of a new form of photographic education which focused on philosophical approaches to art and language: what photography could ‘*do*’ (see Hill 1982, Berger 1974). It was here I was introduced to Frankfurt School Critical Theory (see Bergman 1989), the polemical ideas of Susan Sontag (1977), and the tension between Roland Barthes’s (1977) structuralist work on semiotic deconstruction to uncover the ‘obvious’ meaning of a photograph, and his sense of an ‘obtuse’ meaning – its ‘punctum’ (1981) something in the photograph that was purely visual, operating in sensate registers, beyond words. Here my fascination with the unique potential of photographs to ‘do’ *something that only photographs can do* took hold, and continues to this day.

1.2 Introducing Education 1: The Further Education college

After graduating from Derby in the early 1990s, I worked as a freelance photographer for several years, but gravitated towards teaching. A local Further Education college was looking for temporary 'bank' staff. I applied and was given the classes no-one else wanted to teach. To this day in Further Education colleges, photography continues to be considered as something of an easy option, on the presumption that it is a predominantly 'practical' subject with little or no requirement for 'writing'. As I began to teach more classes, I discovered that alongside the students wanting to learn the 'science' of how to operate the equipment in order to become employable as commercial photographers or technicians, there were students in the classes who had struggled at school. It seemed to me that photography courses in Further Education colleges were being recommended by some secondary schools as a 'positive destination' for less academically-gifted students – or perhaps those who had struggled with the constraints of school and schooling. As an aid, I should add that the students who viewed photography as an art form (in the way I had approached the medium) tended not to choose the vocationally-oriented photography courses offered by colleges, but instead went to art schools and the increasing number of universities offering photography degree courses emulating the approach pioneered at Derby. Entry requirements to these Higher Education courses precluded applications from students without appropriate academic qualifications. I came to appreciate, and continue to value greatly the role Further Education colleges can play in support of the those who 'fall through the gaps' of compulsory education.

During the 1990s, advances in technology meant 35mm film cameras had gained increasingly automated functions, including automatic exposure, and latterly auto-focus. The technical barriers to making a photograph were being erased, enabling literally anyone to 'point and shoot'. The students I found myself teaching were liberated by the automatic functions of the cameras they were using, and with my encouragement to 'experiment', worked freely, concentrating on creative image-making rather than the technical concerns of balancing shutter speed and aperture to make 'accurate' exposures. I began to notice something which contributes directly to the existence of this doctoral thesis. Some of the students in my classes who were

reluctant or unable to speak out loud, or to write - started showing me photographs they had made that went some way towards expressing their personal thoughts and feelings. For these students, photographs could ‘do’ something that words couldn’t. Photography gave them a ‘voice’.

1.3 Photo Voices

‘Photovoice’ is a visual facilitation strategy (Wang & Burris 1997) through which people make photographs of issues that matter to them. While these pictures can be powerful documents in themselves, the methodology advocates using the photographs as catalysts in semi-structured interviews where participants (the photographers) are encouraged to translate their thoughts and feelings into words. Teaching at the Further Education college in the late 1990s I was yet to find out about this, but stumbled upon the same general idea myself. However, with the lingering influence from my own degree studies of Barthes’s ideas on the ineffable dimensions of photographs operating somewhere outside language, I wondered if the final ‘recourse to words’ was always necessary or inevitable. Szarkowski (2000) likens the act of photography to the act of pointing: ‘look at *this*’. Photographs can ‘hold’ meaning - emerging or fully-formed - without needing interpretation into a written or spoken account.

I quickly recognised that the experience of being ‘heard’ was having significant, positive impacts on the self-esteem of the college students I was teaching. Through photography, they had found a mode to express thoughts and feelings without words. I wondered how photography could have helped some of these young people to negotiate their path through school, where their struggles with ‘expected’ word-based competencies conspired to diminish or limit their levels of academic achievement.

1.4 Introducing Education 2: University (again)

I was appointed to a full-time college lecturing position in 2000, and soon after I undertook a post-graduate Teaching Qualification in Further Education (TQFE) at the University of Stirling. I found the TQFE experience to be personally transformational, and soon after I embarked on Masters-level study. I built on the Literacies for Learning in Further Education project (LfLFE) (see Ivanic et al 2007, 2009) which

sought to understand more about the modern literacy practices of students in the post-compulsory Further Education college sector. I explored the overlaps of modern literacies (situated skills and knowledges) between ‘home’, ‘college’ and ‘work’ domains, and produced findings informing how teachers can align their pedagogies more resonantly with the modern literacy practices young people bring with them to learning.

Around the time of the LfLFE project (2007-9), and my Masters studies which concluded in 2010, digital photography was beginning to overwhelm its analogue ancestor. In six or seven short years, everyday photography became almost completely digital, and film-based photography shifted to become a niche specialism (Larsen & Sandbye 2014). Digital technology enabled more photographs to be taken in the first ten years of the new millennium, than during the preceding century (Rubenstein 2015). The impact of this disruptive transformation was yet to be felt in educational settings.

At the conclusion of Masters study, I felt adrift and was keen to find a way to continue my own educational journey. Based on my observations about how young people were able to express complex issues and personal thoughts through what was becoming the increasingly ubiquitous medium of digital photography, I began to formulate a plan for research into how young people’s everyday sense-making and communication through digital photography might be purposefully harnessed into mainstream formal education. I thought this could be the focus of a doctoral research project. But before I explain my next steps, some further contextualisation is required on the impact that digital technology continues to exert on everyday photography.

1.5 Digital photography: ‘Photography 2.0’

At the beginning of the twenty-first century, photography was still predominantly analogue (film-based) and taking a photograph required access to a camera as a stand-alone device. Film cameras were still expensive, delicate items, and furthermore, for the general population, the practice of making analogue photographs was constrained and limited by several factors: the financial costs of film and processing, the number of available exposures on a roll of film, but perhaps uppermost, the inevitable delay in finishing the whole roll, before receiving the

‘processed‘ pictures back in an envelope. Analogue photographs were documents of past events. The students I was working with at the Further Education college were still producing analogue photographs, and through these images, making sense of themselves and the world around them. But the possibilities for school students to make photographs in schools with analogue equipment (on film) was impractical. Material costs, time and access to equipment presented significant barriers to any research study into the educational significance of young people’s sense-making practices through the medium of analogue photography. On a personal note, I had grown up in the era of the ‘two-Christmas film’. One roll of 24 exposures could include pictures of Christmas celebrations, birthdays, the family holiday, AND the following Christmas, before the last picture was taken and the roll despatched to the local Chemist’s shop for ‘developing’. The ‘freshest’ analogue snapshot photographs could pertain to events more than a year old. While this faculty of ‘discovery’ and being reminded of half-forgotten past events became part of the charm of domestic snapshot photography in the analogue era, the immediacy of digital photography irrevocably changed the everyday purpose and practice of the medium.

Digital cameras began to enter the domestic photography market in the early years of the 21st century (Rubenstein 2005). These were still standalone devices, looking like - and replicating the controls and features of - film cameras. Christensen (2016) identifies the distinctive differences between sustaining innovations and disruptive innovations. The first digital cameras closely resembled film cameras and recorded images on a removable memory card (just like film). While capable of displaying the image near-instantaneously on the LCD screen on the back of the camera, the screens on early digital cameras were barely larger than a postage stamp. Digital photographers needed to download images from the camera’s memory card to a computer, to view on a larger screen, or have conventional-type paper-based prints made in order to view and share. According to Christensen (2016), early digital photography is an example of new technology which *sustains* a significant proportion of existing circumstances and practices. A disruptive innovation completely changes circumstances and established new practices in a very short space of time. The innovation that was to totally transform the practice of everyday photography was the mobile, networked smartphone.

The appearance of smartphones in around 2007 started to place a digital camera in the hands of vast numbers of people across the world, enabling participation in many new forms of cultural connectivity (Murray 2008). Suddenly, everyone was a photographer, and making photographs became an everyday practice, rather than a special, 'deliberately considered' event. A standalone camera designed to do just one thing was no longer required, and the networked connectivity afforded by a digital camera being embedded into a mobile phone made the transmission and sharing of photographs instant. Unconstrained by the cost of consumables (film), and increasingly free from the limitations of films of 24 or 36 exposures, needing to be 'finished' before the results could be seen, anything and everything could now be photographed - and immediately was.

In Chapter 2, I discuss in greater detail, studies of young people's photographic practices within youth studies (Allen 2012), anthropology (Edwards 2012) and sociology (Van House 2012). Within the domain of visual studies, Villi (2012) proposes the term 'visual chit-chat', noting that young people are increasingly drawn to mediating everyday experience through smartphone-enabled digital photography. This contemporaneous commentary about what is happening in the present moment is distinctively different from how their parents would have shared analogue photographs as physical *objects,* assisting memory and recall of events in the past. Lehtonen et al (2002) suggest that digital photographs perform the transient role of a postcard, to be discarded (or rapidly superseded), instead of a lengthy personal letter, to be treasured and revisited, like a photographic print.

Research around young people's everyday uses of photography tends to be dominated by psychological and sociological studies of the significance of the selfie in the construction of identity (Gye 2007, Van House 2012, Hess 2015), but there is also a need for other stories to be told about the affordances of working with everyday photography in educational settings. In my journey to beginning this doctoral research there was a still a piece missing: I needed to decide on where the research should take place, and with who. I needed to be clear about the focus and boundaries for case study. A formative experience was to open the door to situating the research not within the Further Education sector with which I was most familiar,

but rather where I felt the research could have most impact: in mainstream secondary schools.

1.6 Introducing Education 3: Secondary schools

My teaching experience so far had been in the post-compulsory Further Education sector. However, many of the 'difficult' classes I had been given to teach at the beginning of my career where 'schools-college partnership' students. These were arrangements between local schools and nearby colleges to offer 'college experiences' to students nearing the school-leaving age (of 15) in Scotland. Within the college context, I was operating a somewhat 'guerilla-approach' to concentrating on what photographs could *do* – rather than teaching how the equipment worked. I saw students in these cohorts respond well to my encouragement for them express their 'voice' through photographs, but also the trust I showed in them to work autonomously on self-directed projects: "*Why can't you always teach us, Sir*?". Digital cameras began to replace film cameras, and soon most of the students had their own cameraphones. In these productive environments I enquired about students' everyday uses of digital photography. One student offered perspicacious insight, telling me, "*it's commentary - what's happening now".*

I asked if - and how - their teachers at school made use of photographs in their pedagogies. In these informal discussions, I learned that students' phone use was frowned upon, or banned altogether during the school day. There were little if any opportunities to make photographs in school. Some students said they occasionally photographed the teacher's notes or powerpoint slides projected on a whiteboard at the front of the class. I learned that "one or two" teachers encouraged this, while other teachers enforced the phone ban rigidly, considering photographing written notes as "cheating". I asked the students if and how their teachers made use of images in their teaching. Some said teachers included images - photographs and clip art illustrations - in powerpoints or printed handouts, but the majority of students I spoke to concurred that these seemed to be more decorative than serve any useful (pedagogical) purpose. I asked the students how they could use their everyday sense-making and communication through digital photography in schools. Listening to an assortment of students' answers to variations on this question over many weeks and months, I synthesised a summary of their response: *'Teachers can't use*

what we do with photographs for anything important because what photographs 'do' can't be explained with words – and words matter most to teachers – and words are what is required to do well in school'.

In 2014, I was offered the opportunity to work on a research project at the University of Stirling. Funded by the Commissioner for Children and Young People Scotland (CCYPS) (see Mannion, Sowerby & I'Anson 2015), this qualitative project sought to further explore the findings of a quantitative review which had identified 'better than expected' levels of academic attainment in Scottish secondary schools serving catchments ranking high on the Scottish Index of Multiple Deprivation (SIMD), and considered to be operating in 'challenging circumstances' (see Hinchliffe & Bradshaw 2014).

As I have outlined above, my skills as a photographer, teacher of photography, and now after the Masters project, as an emerging researcher, aggregated to equip me with the necessary skills and sensibilities to undertake this role. For the CCYPS research I was tasked with organising and undertaking the fieldwork with young people in seven Scottish secondary schools. The innovative research methodology for the project included go-along interviews (Carpiano 2009) and participant-led photography (Pink 2012). In the project, we invited young people in these schools to make photographs as catalysts to conversations in semi-structured interviews (Wang & Burris 1997). Participants used an ipad I provided to photograph what they considered important as we moved around the school together. They were all thrilled to be trusted with the device and needed no instructions on how to use it. I noted that despite (almost) unlimited storage capacity (unlike physical constraints of film cameras) the students were discerning, and had strong ideas about what they wanted to photograph - and why.

Working with photographs in the fieldwork catalysed rich conversations in each of the seven schools. There was no counter-case of interviews without photographs, but I felt strongly that the photographs enabled students to surface issues that were important to them, in individual conversations and focus-group interviews. The photographs functioned as memorative triggers (Edwards 2009) of where we had been in the school on our 'walking interviews', but additionally, when I enquired about the pictures, the students were able to speak about much more than the

referent, or ‘content’ of what was actually visible in the frame. These pictures enabled students to talk about abstract notions that ‘mattered’ to them such as power relations, hierarchy, respect and fairness. In this fieldwork, I noted the capacity of photographs to enable young people to participate in difficult conversations, to address complex issues, and for the ability of photographs to help them express something ‘in-between the lines’ (Read 2016 p109). Drawing my own photographic education some quarter of a century earlier, I recognised Barthes’s (1977) notion of obtuse meaning – a ‘sense’ of something beyond the ‘obvious’ meaning of an image; a personal ‘punctumic’ connection (Barthes 1981). I asked these students if they made - or used - photographs in any other capacity at school. They responded with the same answers that led to my synthesised summary of what the school students I had taught at the college: *‘Teachers can’t use students’ photographs for anything important because what photographs ‘do’ can’t be explained with words’.*

At the invitation of the lead researchers, my contribution to the research project expanded into the analysis of the data I had collected, and the reporting of findings. Key to these findings is the role of learner participation in raising attainment. The importance for students of ‘having a say’ was a phrase that appeared throughout the research report. I recognised that photography had played a significant role in facilitating the students’ ability to express their thoughts and feelings in the research. In addition to the students who had participated in the CCYPS research, and school-college partnership students I had taught in college, I had observed that many of the students on full-time, higher level photography courses at college had also struggled with the dominant focus on word-based competencies at secondary school. I saw potential to focus my own doctoral research on the educational affordances of young people’s everyday communication and sense-making practices with digital photography, through case study in secondary schools.

1.7 Explaining this study: reading or feeling?

This research builds a line of inquiry that draws together the areas I have discussed in the preceding sections. I wanted to understand more about how young people’s sense-making practices through digital photography could be purposefully harnessed into educational settings. I wanted to know more about teacher’s perspectives and

their pedagogical practices involving images. I quickly realised that ‘images’ spanned photographs, cartoons, emojis, icons, memes, and even video. Taking advice from potential doctoral supervisors at the University of Stirling, where I planned to study again, I wanted to avoid being ‘a mile wide, but an inch deep’. I decided to focus on photographs. I was a photographer, I taught photography, I understood that photographs could ‘*do*’ something distinctively different to words - specifically that this could lay outside or beyond what I came to frame succinctly as ‘word-based ontologies’.

During the long, drawn-out process of part-time doctoral study, I was often asked by many people across all walks of life (not limited to educational settings), ‘What’s your PhD about?’ In an effort to make the topic accessible, and drawing heavily on the focus on modern ‘literacy’ practices from my Masters work building on the Literacies for Learning in Further Education project (Ivanic et al 2009), I distilled the description I offered of my research down to a simplistic summary that I hoped would appease: “it’s about visual literacy”.

Over time, I came to realise that in the process of simplifying the description I had mis-characterised the focus of my research. Rather than a form of visual literacy, operating as Mitchell (1995) describes as *imagetext* - ‘*reading*’ images with semiotic tools analogous to those used in the performance of linguistic analysis, I gravitated towards Barthes’s (1977) notion of ‘*feeling*’ photographs; what Barthes himself attempts to characterise as the ineffable ‘obtuse’ meaning of ‘what, in the image, is purely image’ (1977 p61). Thinking this way, rather than through a ‘literacy lens’, the photograph can play an important role in enabling ‘sense’ to emerge without the need for words. In preparing for this doctoral research, I stumbled on the work of Deleuze (1990) who describes an aleatory point: the apprehension of affect, pre-cognitive, pre-linguistic, somewhere between sense and non-sense (the absence of sense). For me, this resonated with Barthes’s ‘feeling photography’, and what I had seen happening in the Further Education college with young people’s uses of photographs to do something ‘beyond words’. ‘Affect’ was driving what I sensed was happening in the ubiquitous, everyday production and exchange of digital photographs between young people: knowing something - *feeling something* -

without being able to find the words to explain, or to be able to justify - what is 'known' and 'how'.

In the process of this research, I intuited that what was happening with photographs *felt* distinctively different to 'literacy' in the conventional sense of something that could be translated into - or reduced to - words. In my formative work in colleges, I had witnessed students show each other photographs and observed non-verbal 'bodily' gestures of recognition - sometimes a nod, or a wink, or a pursing of the lips, in acknowledgment of 'something shared' - something understood through the image. Photographs do something unique, and with a digital camera in the hands of a vast proportion of young people of school age, digital photographs are being used on an everyday basis to do something that words can't, either as effectively, or perhaps not at all. Schools and schooling continues to be slow to respond.

As I outline in the overview of literature in Chapter 2, during the early stages of this research, I became interested in non-representational theory. Thrift (1991, 1997, 2004, 2008) assembles an extended argument against an envisaged 'tyranny of words' in what academics choose to study, how they study and how their findings are reported. In summary here, Non-representational theory (NRT) urges the prioritising of practices and the search for evidence *other* than words about what matters, is decisive, and can make a difference in the situations and events being studied. Lorimer's (2005) reading of NRT recognises the playfulness of Thrift's chosen 'non' prefix, with its negative connotations of binaried boundaries. However, rather than refute representation through words, Lorimer suggests that '*more-than* representational' may be a more appropriate title for an approach to better understanding the "more-than-human, more-than-textual, multi-sensual worlds" we inhabit (Lorimer 2005 p86). I began to see links between my own experience as a student of photography, a professional photographer, and as a teacher of photography, and wondered what can the 'more-than representational', affective registers of photographs in everyday, vernacular sense-making *do* – when harnessed purposefully into educational settings?

As I developed my understanding of existing scholarship in these fields and the contested understandings of photographs, literacy, and semiotic deconstruction, I also began to align my thinking with a sociomaterial theoretical framing. This study

challenges assumptions about what photographs can do, and their role in educational settings. I do this by taking a sociomaterial approach that regards the world as emergent through social and material relations and practices (Fox & Alldred 2014). I suggest that these entities are actually complex entanglements that cannot be fully examined as isolated phenomena. I began to understand assemblages as aggregations of agential human, non-human, abstract and material components that are constantly 'becoming' rather than statically 'being'. In a research context, assemblages can be operationalised as 'research machines' (Deleuze & Guattari 1988), to generate data, analysis and outputs. Space in this introductory section is limited, and I will discuss this in greater detail in Chapter 4, but here, I can explain succinctly that in this research I consider a photograph to be an event assemblage. This comprises (but is not limited to) the referent (what is in the photograph), the location, (where it was made), the photographer, the device and the viewer, which may be or 'others', or the same as the photographer but subject to the affective forces of time and distance. Together, these components inter-relate in collisions of affective intensity to produce an affect economy - in other words, data - to be collected, analysed and reported-on in further assemblages of new and familiar sociomaterial components, producing their own affect economies (Clough 2008).

1.8 Mapping out the thesis

In this section I provide an overview of how this thesis is structured and what it contains. **Chapter 2** reviews the interdisciplinary fields this study relates to and demonstrates how the aims and approach of this study work with, and respond to these existing bodies of knowledge. Firstly, I examine young people's everyday uses of digital photography and then introduce teachers' perspectives on images - and specifically photography - in pedagogy and curriculum-making. I explore the assumptions and key beliefs that underpin their practices. I go on to discuss existing policies around the use of photographs in educational settings.

The focus of the chapter expands to consider the turn to affect in cultural studies, and a further 'pictorial' turn. I suggest that there are other ways to understand the complexity and entanglements that make up these phenomena, making a case for the sociomaterial, 'New Materialist' framing this study uses.

This review chapter leads me to formulate two research questions:

> How can young people's sense-making through their everyday photographic practices be harnessed purposefully into educational settings?
>
> What are the implications for the wider uses of the affective registers of photographs in educational theory, policy and practice?

In **Chapter 3**, I outline in detail the sociomaterial theoretical framing and the resources I draw on. I contextualise the selection of two cases and set-out the ethnographically-influenced approach to working with 'assemblages'. I detail how thinking with Deleuze & Guattari (1988), assemblages can operate as research 'machines' to interrogate the intra-actions of material relations. Through the lens of 'New Materialism' (Fox & Alldred 2014), 'assemblage ethnography' (Youdell & McGimpsey 2015) enables apprehension of the complex lived-experience(s) of individuals and groups working with photographs in educational settings.

I explain how I collaborated with teachers and students using Allwright's model of 'Exploratory Practice' (2005). This nuanced model of practitioner enquiry is distinctive for its sustainable goal to develop understandings of what goes on in learning environments in order to inform action. Rather than a focus on 'solutions' which may limit the ambition of the enquiry, Exploratory Practice eschews the language of 'problems' and concerns itself with achieving a greater understanding the complexity of 'puzzles' - situated within the participants' own practice, in order to bring about change.

I describe my rationale behind the choices of fieldwork methods and how enacted these in observations, interviews and other data generation methods. I illuminate the process of rhizoanalysis (St Pierre 2011, Masny 2014) as an approach to research by reading data intensively and transgressively, rejecting categorisation and reduction through traditional coding and hermeneutics. Rhizoanalysis involves 'becoming with data' (Hultman & Lenz Taguchi 2010) and sensitivity to the relationalities of affect between the 'New' Material components of assemblages. I conclude this section by discussing the complex ethical considerations undertaken in this study around young people, schools and photographs.

An **Interlude** introduces the quintain: two cases, school A and school B; both large Scottish state-sector secondary schools serving urban catchments, and 'set the scene', detailing negotiations to secure permissions and access to conduct fieldwork over one calendar year with two teachers and three mixed-gender class groups of students between the ages of 12-15, in the curricular areas of Science and English Language.

Taylor (2016) insists that research using New Materialist approaches is "an enactment of knowing-in-being that emerges in the event of doing research itself" (p18). In **Chapter 4** I portray how students and their teachers found ways to work with original photographs made in the Science classroom using their own devices, while in the English department, the students used their own devices to select existing photographs in response to curricular tasks. I discuss the (rhizo)analysis of the data I collected across these two case studies, and explain the reporting format of 'vignettes'. Described as 'raw tellings', Masny (2013a) insists that there is no singular way to look at vignettes. The power of the vignette lies in its ability to affect and be affected, a process in which the data becomes 'transgressive', producing questions for the researcher and readers of the research. Through the long and uncertain process of producing this thesis, I took heart from Elbow (1998) who suggests that "writing is a way to end up thinking something you couldn't have started out thinking" (p15).

I present four Findings - that working with photographs in educational settings can:

1. catalyse and enhance sense-making through affective registers beyond the capacities of word-based ontologies,
2. link young people's visual skills and knowledges with learning across home, school and other domains,
3. enable additional modes of participation and response for students, and
4. enable additional modes of contextualisation and evaluation of learning for teachers.

In **Chapter 5** I discuss the understandings that this analysis and the Findings offer. I bring together the sociomaterial practices that characterised these experiences and

discuss the impact (the affect economy) of the introduction of photography into the two cases. I consider the potential in wider educational settings of sense-making through the affective registers of photographs, operating beyond the capacities of word-based ontologies.

In the concluding **Chapter 6,** I connect the discussion of the four Findings back to existing debates and knowledge about young people's everyday photographic sense-making practices and education. I offer recommendations and suggest implications: these include the development of a suitable vocabulary for affect and the introduction of affect studies into initial teacher education, and ongoing professional development. I indicate how and where there is significant untapped potential for students, teachers, school leaders and policy-makers to embrace the pedagogical affordances of affect and specifically the affective registers of photographs operating beyond the capacities of word-based ontologies. I venture recommendations for practice, trust and risk, and for involving students in co-creating curricula. This chapter concludes by recognising the limitations of the study and indicates potential directions for future research.

Chapter 2: Setting the scene: a review of literature

Overview

This study sits at the intersection of three areas: young people's everyday photographically-mediated sense-making and communication practices, teachers' perspectives and practices with the visual (photographs), and theoretical understanding of the educational potential of harnessing everyday visually-mediated communication and sense-making practices into educational settings. While there is not much written about the specific point of confluence where this study is situated, much interdisciplinary knowledge exists around each one. This chapter examines the debates and related literature surrounding these areas and the spaces where they overlap. I identify the existing gaps and some of the unanswered questions raised in these debates that are both pertinent to - and driving forces in - this research.

In the first section of this review, I discuss what is meant by "young people's everyday photographic practices" and how they relate to school and schooling. Secondly, I examine teachers' practices and perspectives regarding the use of visuals (photographs) in pedagogy and curriculum-making. In the third section, I present conceptualisations of theory and policy and show how young people's photography has been studied and responded to in educational settings. This leads to a fourth section in which I discuss a 'turn to affect' in cultural studies. A fifth section explores a purported 'pictorial turn' in an increasingly visual age, where the dominance of word-based ontologies has encountered unprecedented challenges. In a final section, I summarise the main debates explored in this chapter, and also draw connections between the existing theoretical framings of these areas, which serve to introduce the sociomaterial approach that this study takes.

2.1 Theme 1: The educational significance of young people's everyday visually-mediated communication and sense-making practices.

Theme 1 of this review chapter will first consider the idiosyncrasies of everyday photography in the analogue era, and the impact of digital technology ushering a

new age of photography around the turn of the millennium. Here, I will examine the affordances of digital photography on image capture, viewing and transmission. Secondly, I will explore the intrinsic qualities of photographs that lend them to young people's everyday sense-making and communication practices. I will conclude this section with a summary of the key issues covered: their areas of consonance and dissonance, and indicate how young people's everyday photography aligns (or does not) with teachers' practices and perspectives.

In a post-industrial epoch, digital modes of image capture and transmission are redistributing the apparatuses of cultural production into the hands of its active participants (Manovich 1995, Usher & Edwards 2007, Rubenstein 2015). Smartphones and other personal digital devices offer unprecedented opportunities to produce and participate. Kress (2008) argues that all individuals are now *designers*, enabled to constantly make and re-make the semiotic resources available to them, to communicate and make-meaning in a multiplicity of private and public contexts. Kress (2003) observes a crucial change from a spectator model of media consumption, to a participatory digital model. Where people born before the turn of the millennium might expect to read a newspaper or magazine, listen to the radio or watch TV, produced and distributed by organisations serving the explicit and implicit interests of their stakeholders, people born in the 21st century now expect to be able to participate in the production of their own versions. Notably through mobile networked devices, students are equipped with the means of production and distribution. Students repositioned as active participants - 'designers' - pose unprecedented challenges to canonical boundaries, genres, and long-established structures of power and control in wider society, and for the specific focus of this research, in schools and schooling.

2.1.1: What is a Photograph?

In the field of visual studies there are nuanced theoretical arguments about the differences between image and picture (Sontag 1977, Flusser 1983, Mirzoeff 2015). Acknowledging that the two terms straddle "the boundary between physical and mental existence", Belting (2001) distinguishes the 'image' as "the subject of our quest", and "the 'picture' in which that image may reside" (both p2). Thinking this

way, an image is a mental construction, while a picture takes material form. Common uses of the terms ‘image’, ‘picture’ and ‘the visual’ across the material in this review section are less nuanced, and seemingly interchangeable. I note that some of the materials which I draw into discussion of ‘the visual’ include reference to drawings, maps, icons, and photographs. In part due to my own background as a photographer (as explained in Chapter 1), I have chosen to concentrate on the specific visual medium of photography - as both the empirical focus and the methodological orientation of this study. I focus on young people’s everyday digital photography, and in the following sections, set out how and why this is distinctively different from the analogue form of the medium. During the analogue age of photography, everyday snapshot photographs were predominantly about memory - reprising what had happened. The digital age has transformed the primary social use of photography into an everyday practice of sense-making (Murray 2008, Edwards 2012) communication (Villi 2012) and identity formation (Hess 2015). The dominance of words as the primary ontological form continues to impact directly on how everyday image-making practices are under-utilised in educational settings (Ott et al 2018). Existing research into young people’s everyday photographic practices sits in different disciplines and is largely unconnected to educational questions.

2.1.2 The analogue photograph: that-has-been

For the first 150 years of its existence, photography was an exclusively analogue medium (Davenport 1991). Making photographs required access to a camera, which was an expensive and fragile stand-alone device. In addition, the practice of making analogue photographs was limited by further constraining factors: the technical skills to operate the camera’s controls effectively, the financial costs of film and processing, and the number of available exposures on a roll of film; perhaps as few as 12, or as many as 36 ‘snaps’. MacDonald (2015) notes that “analogue snapshot photography tended to be reserved for events of significance, family rituals that justified the expense” (p25). Perhaps the most defining characteristic of the analogue age of domestic photography was the delay between taking a photograph, and finishing the whole roll, before the film could be sent off for processing. The printed pictures that arrived in a paper wallet brought back memories of past events, people and places.

“The resurrectional qualities of photography” are noted by Edwards (1999 p230), bringing back - or transporting the viewer to - a previous time or place. For Barthes (1981), this was an act of ‘mummification’, for Bazin (1945) ‘embalming’, and Batchen (1999b) ‘ectoplasm’, alluding poetically to the presence of ghosts. The cultural commentator and polemicist Susan Sontag insisted that “photographs furnish evidence” (1977 p5). Acknowledging long-established photographic arguments about subjectivity and interpretation, Sontag maintained that “the picture may distort, but there is always a presumption that something exists or did exist which is like what’s in the picture” (ibid p5). In Roland Barthes’s ‘*Camera Lucida: Reflections on Photography’* (1981) described retrospectively by Fried (2005 p5) as “a swan song for an artefact on the brink of fundamental change”, Barthes insists, “every photograph is a certificate of presence” (1981 p87). He chooses to simplify this further, claiming that a photograph testifies to: “that-has-been” (ibid p80).

Much has been written about the impact of digital technologies on the medium of photography (Murray 2008, Jewitt 2008, Sarvas & Frohlich 2011, Larsen & Sandbye 2014, Rubenstein 2015). Van Dijck (2008) argues that “personal photography has not changed *as a result* of digital technologies; the changing function of photography is part of a complex technological, social and cultural transformation” (p59). This ongoing transformation embraces the affordances of the immediacy of producing and sharing digital photographs about the present: ‘what is happening right *now*’.

2.1.3 The digital photograph: is-here-now

Digital cameras began to enter the domestic photography market in the early years of the 21st century (Rubenstein 2005). At first these were expensive standalone devices, looking like, and replicating the controls and features of, film cameras. The first appearance of smartphones around 2007 started to place a digital camera in the hands of vast numbers of people across the world, enabling participation in many new forms of cultural connectivity and the production of digital photographs of everyday events that previously would not have been made in the analogue age. Previously, everyday events would have been recorded in written notes, drawings, or committed to memory, or perhaps would simply have been lost.

Observing the impact of the digital age, Macdonald (2015) notes “the communicative use of images: pictures are used as currency in social interaction, the equivalent of visual speech” (p25). Sarvas & Frohlich (2011) declare somewhat sensationally that “communication has surpassed memory as the primary function of photography” (p133). Villi (2012) offers a more balanced view, suggesting that the impact of digital technology has enabled “a conversation *with* photographs rather than a conversation *about* photographs” (p42). Villi observes that young people are increasingly drawn to mediating everyday experience through smartphone-enabled digital photography. This contemporaneous commentary - ‘*is-here-now’* - in the present moment, is distinctively different from how their parents shared photographs as physical *objects* manifesting memories and ghosts of ‘*that-has-been’.*

Noting a revisionist haste to rewrite the rules of everyday photography, Keightley & Pickering (2014) urge for a more nuanced perspective, recognising the co-existence of new and old. They suggest that “the interweaving of photography with everyday practices of remembering is… perhaps the key site of continuity in the movement between analogue and digital photography” (p579). Thinking this way, everyday digital snapshot photograph can be understood as serving dual purposes, as both an aid to memory (Barthes 1981, Edwards 1999) AND as instantaneous visual commentary (Villi 2012). Of particular significance to this research is the specific, intrinsic affordances of digital photographs: what drives young people to use photographs; what they use them for, and how this is distinctively different from the capacities and capabilities of words.

2.1.4 Visual thinking

Describing the use of visual imagery in research methods, Gauntlett (2005) identifies the unique capacity of images to “reveal everything in one go” (p24). Gauntlett explains: “When visualising a concept or problem, we might picture a number of things at once, and perhaps see them as interconnected, but language forces us to put these into an order, one first and then the others, with the former often seeming to act upon or influence the latter” (2005 p24). As I explained in Chapter 1, my own experience of working with young people as a teacher of photography led me to become interested in visual facilitation strategies using photography, such as Photo Voice (Wang & Burris 1997). Gauntlett exemplifies how the capacity for images to

‘bring to the surface’ - complex thoughts, feelings and ideas without the need to immediately find the right words can be of immeasurable value for participants, and researchers. As Szarkowski (2000) notes, photography can be an act of ‘pointing’ - the opportunity to show directly, without the need to ‘translate’ into words.

In his exploration of ‘*Art & Visual Perception’*, first published in 1969, Arnheim identifies ‘visual thinking’, describing everyday acts of judgement based on our perceptions of visual phenomena, which cannot be reduced to words. Arnheim distinguishes visual thinking from language-based ‘intellectual thinking’, which he argues, “strings perceptual concepts together in linear succession” (1969 p246), likening this to an arrow that travels in only one direction. While recognising that language can have a positive, stabilising effect, Arnheim cautions that it can also serve “to make cognition static and immobile” (ibid p244), arguing that the linear constraints of language - in both spoken and written forms - effectively “dismantles the simultaneity of spatial structure” (ibid p246). Later in this review chapter I will discuss in detail a ‘turn to affect’ in cultural studies, foreshadowing a purported ‘pictorial turn’, accompanying the emergence of a post-linguistic, predominantly visual communication landscape. But here, to retain the focus of this section, I contend that what Villi recognises as young people’s everyday ‘visual chit chat’ (2012) can be understood as the photographically-mediated expression of visual thinking: sense-making taking place outside and beyond the linear constraints of words. Significantly for this research, the ‘simultaneity’ of photographs to ‘reveal everything in one go’ (Gauntlett 2005) is enhanced by the immediacy of digital photography to make-material what ‘*is-here-now’* in ways that analogue, film-based photography could only testify as ‘*that-has-been’*.

2.1.5 Thinking aloud

Arnheim and Gauntlett’s observations on the dominance of words as the primary ontological form continues to impact directly on how everyday image-making practices are under-utilised in educational settings. I will discuss teachers’ practices and perceptions in greater detail in theme 2 of this literature review, but here in this section focusing on the educational significance of young people’s everyday visually-mediated communication and meaning-making practices, I draw attention to a growing research literature on the multi-modal nature of classroom discourse. While

there is discussion of embodiment and materiality (Albrecht-Crane & Slack 2007, Ahmed 2014, Mulcahy 2016), there is widespread acknowledgement of teachers privileging language-centric conceptions of thinking and communication in educational settings through written tasks, and by asking students to verbally share their thinking (Hwang & Roth 2011, Van Zoest et al 2010). Swain (2006) refers to this 'think aloud' pedagogical strategy as 'languaging'. Of particular significance for this research are assumptions about co-dependence between thoughts and words.

Stockero & Van Zoest (2011) note that teachers ask students to verbally share their thinking for a variety of reasons, including such diverse aims as enhancing students' problem-solving skills (Fello & Paquette 2009), broadening views (Hodge 2009), and offering opportunities for teachers to study student thinking (Kastberg, Norton & Klerlein 2009). Vygotsky (1986) asserts that "thought is not merely expressed in words; it comes into existence through them" (p218) delineating his position that thoughts are not fully formed, and then spoken. Sfard (2008) claims that all thinking can be considered an 'event' of self-communication in the form of "inner speech" (p82). Both notions point to the continued persistence of a widely held, and deeply ingrained language-centric concept of thinking. As Arnheim (1969, 1986) explains, such linear constructs can suit intellectual, propositional thinking and communication, but struggle to adequately address sensory experiences and social interactions such as music and art. Later in this chapter I will return to address claims of a cognitivist bias (Mulcahy 2016) in formal education, privileging the mind over sensate bodily capacities to catalyse learning.

Rubenstein (2005) notes the advent of cameraphone photography as the 'death of the camera' (as a standalone device) and the 'arrival of visible speech' - the expression and communication of thoughts and feelings through conversations ***with*** photographs rather than ***about*** photographs. This 'visual chit-chat' (Villi 2012) operates outside the constraining linearity of spoken and written language. Together with the distinctive, intrinsic 'spatial simultaneity' of the photograph to express 'everything in one go' (Gauntlett 2005 p24) and the unprecedented immediacy afforded by the ubiquity of digital photography, the educational potential of young people's everyday photographically-mediated 'visual thinking' and contemporaneous commentary continues to be misunderstood, under-theorised and under-utilised.

2.1.6 The photographic assemblage (the Selfie)

Studies of young people's everyday photographic practices exist in youth studies (Allen 2012, Kumpulainen et al 2020, Clelland & MacLeod 2021), visual studies (Van House 2012, Lobinger & Venema 2022, Vaterlaus 2016, Katz & Crocker 2015), and anthropology (Edwards 2012, Hanckel et al 2019, Albawardi & Jones 2020). The recurring focus tends to centre on the selfie (self-portrait) in the construction of personal identity in the accumulation of social capital. While this research chooses to focus on the educational potential of everyday photographs rather than specifically 'self-portraits', studies of the selfie offer a valuable perspective to understanding young people's everyday digital photographic practices as assemblages. Brief discussion here will help set the scene for a comprehensive discussion of sociomaterialism and its potential in research in Chapter 3 of this study. In everyday photography, the development of a second camera lens facing back towards the smartphone's user around 2010 (see Haidt 2024) enabled a relatively new cultural phenomenon: the deliberately considered and composed 'selfie'. The significance of the self-portrait over the centuries is covered extensively in art history. Before the advent of the second lens in smartphones, attempts at photographic self-portraits where somewhat haphazard, and much less frequent.

Focusing on the selfie, Hess (2015) views the digital photograph through a Deleuzian lens, as an assemblage of device, space/place, user and networks. The ideas and insight of Deleuze together with Guattari (1984, 1988, 1994) are foregrounded in greater detail in the 'turn to affect' section of this review chapter and feature heavily in the theoretical and methodological orientation of this research which I discuss at length in the Methodology chapter (3). However, to maintain the focus of my argument here, I will refer to Slack's (2012) definition of 'assemblage' as "the dynamic collection or arrangement of heterogeneous elements (structures, practices, materials, affects, and enunciations) that expresses a character or identity and asserts a territory" (p152). Wise (2005) suggests that assemblages "select elements from the milieus (the surroundings, the context, the mediums in which assemblages work) and bring them together in a particular way" (p78). This notion of assemblage provides a way of understanding the everyday digital photograph as the relations between device, the material spaces it documents, and the user's

connection with each of them. Deleuze & Guattari (1988) theorise assemblages as machines that "do something, produce something" (p4). In an assemblage, the components and their inter-relations produce an 'affect economy' (Clough 2008). When harnessed into research, assemblages become 'research machines' which can be interrogated to produce insights and understandings of the workings of the assemblage - its affect economy. I will explain in greater detail how I put this theoretical orientation to work in chapter 3 (below).

To summarise, young people's everyday sense-making and communication practices mediate their unfolding lived experience of the world in ways that were not possible with photography constrained by analogue technology and its concomitant approach to 'embalming' events. Schools - and schooling - is slow to adjust. This next section explores teachers' perspectives on - and practices with - digital photographs.

2.2 Theme 2: Teachers' practices and perspectives on visuals and young people's everyday photographically mediated communication and meaning-making practices.

Empirical evidence on the practices and perspectives of teachers in secondary school settings (12-18 years) in Scotland.

Tensions exist around power and boundaries in schools as students become producers of visual content which functions in private and public contexts through sensate registers operating outside and beyond the linear constraints (and conventions) of written and spoken language. Discussion of the generic term 'images' in commercially-available educational support materials reveals visuals frequently employed as 'decoration', and under-utilised in simply reiterating information communicated by text as the dominant ontological form. Rather than powerful tools to facilitate recall and enable sense-making through 'visual chit-chat', photographs are still viewed by many teachers as 'easy ways in' for less-able students. In some reactionary reports, smartphone-use in classrooms is considered a distraction from students 'receiving instruction'.

2.2.1 Part A: Teachers' practices around visual pedagogies

Studies of 'images' in education in the wake of the New London Group's (1996) influential focus on multimodality, frequently fail to distinguish between images as photographs, drawings, diagrams, maps and icons. This lack of distinction is illuminative in its own right for the focus of this research. Lenters (2013) offers rich description of case studies exploring 'multimodal literacy practices' focusing on students' drawings. Ehret & Hollett (2014) explore young people's uses of mobile digital screens and 'digital composing'. Leander & Boldt (2013) focus on affect through the literacy practices of young people's engagement with Japanese manga cartoons. More recent studies on teachers' practices around visual pedagogies concentrate heavily on decision-making by teachers, on behalf of their students, around the selection and presentation of images to support learning (Chisholm & Whitmore 2017). Despite digital photography featuring heavily in young people's everyday sense-making and communication in an increasingly multimodal landscape outside school, students' voices on the matter continue to go unheard (Ott et al 2018).

The recurring focus of how teachers use images in their practice centres on the arena of commercially-available illustrated learning materials such as textbooks, in both printed and digital versions (see Jaffee 2006, Card 2008, Haward 2019, Gökalp & Dinç 2022). An analysis of this literature identifies a tension described by Prowse (1998) between images as "aesthetically pleasing" and images as "pedagogically effective" (p140). Two camps emerge in this debate: one insisting that images are a decorative after-thought (Bell & Gower 1998, Prowse 1998, Hill 2003, Goldstein 2008, Viney 2006, Romney & Bell 2011). An alternative view contends that images operate through a universal language, offering accessibility and 'immediacy' for students (Keddie 2009, Olshansky 2008, Elmiana 2019, Walter et al 2019). In these next two sections, I will unpack the arguments underpinning these seemingly diametrically-opposed positions. Later in this section of the literature review, I will discuss participatory approaches to harnessing students' everyday visual practices into learning & teaching.

2.2.2 Images as Decoration

Kress & Van Leeuwen (1996) identify a persistent issue with illustrated learning materials. They note that "texts produced for the early years of schooling are richly illustrated [while] later on visual images give way to a greater and greater proportion of verbal, written text" (p15). Kress's later work (2001, 2003, 2005, 2008, 2010) recognises the emerging shift towards an increasingly visually-mediated communication landscape, and calls for a shift in attitudes towards the pedagogical potential of images and image-making. Analysing the role played by images in commercially-available English language textbooks for 'senior-phase' students (in, or approaching their teenage years), Levin (1981) identifies eight 'image categories': (1) Decoration, (2) Remuneration, (3) Motivation, (4) Reiteration, (5) Representation, (6) Organisation, (7) Interpretation, and (8) Transformation. Levin declared these first three categories to be non-pedagogical, while considering the latter five categories to have 'pedagogical potential'.

Levin describes (1) *Decorative* images as increasing the "attractiveness" (1981 p211) of the text, breaking-up large sections of written information. (2) *Remunerative* images are intended to increase the sales of the book. Bell & Gower (1998) argue that images are included in printed textbooks to pass the "flick test" (p125). Romney (2011) describes this as a strategy by publishers to include a large number of images to increase the immediate attractiveness to teachers choosing core support materials for their curricula, noted by Byrd (2001 p422) as the "30-second evaluation". An appealing-looking, well-illustrated textbook is thought more likely to be approved for purchase than a text-heavy tome. According to Levin (1981), (3) *Motivational* images should increase a student's interest in textbooks that more closely resemble leisure and lifestyle magazines. Dismissing these three categories to be non-pedagogical, Levin saw promise in the remaining five.

Levin argues that images as (4) *Reiteration* repeat what is written. Images as (5) *Representation* and (6) *Interpretation* share the capability to make abstract concepts more concrete, in the specific illustration of a person, place, event or practice. (7) *Organisational* images function as flow charts, indicators of direction or connection between component sections. Of particular significance to this research is Levin's final category: (8) *Transformation*, in which the image functions as a mnemonic

device to assist with whatever may be “difficult to remember” (Levin 1981 p216). This suggests that the ‘transformational’ image may operate in ways that are complimentary to - or distinctively different from - spoken and written words.

Analysing images in senior-phase English Language Teaching (ELT) textbooks, Hill (2003) deems them to be either “useful” or “decorative” (p176). Building on Hill’s work, Romney & Bell (2012) conducted their own survey of ELT textbooks, concluding that 73% of the images in the texts they reviewed were ‘decorative’, with only 27% being ‘instructional’. Images were considered ‘instructional’ when they reiterated through illustration, the key message of the written text, and when words and pictures were in close physical proximity. While I note the focus on senior-phase ELT and that textbooks for other subject areas could offer different findings, of particular significance for this research is that both Hill and Romney & Bell’s conclusions consider images as predominantly decorative (non-pedagogical) for the same reasons: because, both students and teachers were not “asked to use them in any way” (Hill 2003 p176). Drawing on my emerging understandings of the unique affordances of photographs in everyday ‘visible speech’, it’s possible that teachers could do more to make purposeful use photographs for what photographs can (uniquely) do. Rather than a deliberate decision to exclude the affordances of photographically-mediated sense-making and communication, this suggest a lack of awareness amongst many educators of the pedagogical possibilities of harnessing everyday visually-mediated sense-making into their practices.

2.2.3 A side order to the main course of words

Guidelines for the use of the generic term ‘images’ in textbooks and centrally-devised learning materials perpetuate long-established assumptions that images should play a supporting role to words, confirming and reinforcing the intended linguistic message (see Bader & Lowenthal 2018, Petterssen & Avgerinou 2016). Gökalp & Dinç (2022) do not distinguish between photographs, drawings, diagrams, maps, icons or other modes of inscription other than words, but issue explicit caution about images in textbooks that are “not adequately associated with the texts, and therefore might not be expected to effectively function in the learning-teaching processes” (p88). Schwartz (2007) describes this prevailing attitude towards images as a ‘side order’ to the main course of words.

Writing at the turn of the millennium, before the shift from analogue to digital technology and the rapid expansion in everyday photography, David (2000) states that, “visual sources have too often continued to have little function beyond acting as illustrations, because neither the teacher nor the pupil is provided with the tools that will permit visual images to be deconstructed” (p242). Despite significant shifts in the role played by digital photography in the lives of young people inhabiting an increasingly multimodal communication landscape (Kress 2003, 2010), for many teachers and their pedagogical practices, little seems to have changed with regard to how images are used in educational settings. Studies of performative visual pedagogies in schools (Chung 2005, Grushka & Donnelly 2010, Share 2015), identify variable levels of technical proficiency with digital technologies amongst teachers and students. Grushka (2011) notes that teachers continue to make little use of photographs beyond the simple illustration of word-based pedagogies, and are ill-equipped to support, guide and harness the emergent visual praxis of their students. Martín (2023) observes that in teacher education programmes, visual literacy and media education continue to be overlooked, and that the main function of photography and images in general is relegated to “a very humble servant” (p3) of the sciences and the arts.

Resources for teachers promoting the use of images offer a range of ‘ready-made’ classroom activities (Goldfarb 2002, Goldstein 2008, Cambre et al 2023). Keddie’s 2009 book ‘*Images*’, purporting to support teachers to work with visuals opens with a promising sales pitch: “Many of the activities in this book demonstrate how language can be extracted from an image” (p6). Maintaining the steadfast focus on language, Keddie insists: “The potential of the image in question, then, is firstly to engage the students with the event, secondly to give rise to natural information gaps, and thirdly to expose a void which must be filled with words” (2009 p7). Significant for this research is both the acknowledgment of something not fully understood: ‘a void’, but in addition, the explicit assumption that this ‘void’ should be occupied with words. It would seem that even when images are employed as more than decoration in educational settings, the default position continues to be that they should serve to support linguistic aims.

To summarise this sub-section, even when images are closely connected to words, reiterating or reinforcing the linguistic message, images often serve little pedagogical purpose other than to decorate, because too often both students and teachers receive little or no direction to purposefully harness the unique affordances of the visual. I have indicated that images are uniquely placed to show everything all at once, through their intrinsic capacity for simultaneity, in ways that are distinctively different to - outside and beyond - the linear constraints of language. Significantly for this research, when the pedagogical affordance of the visual is recognised in educational settings, it continues to be considered myopically through a linguistic lens.

2.2.4 A universal language(?)

Counter to the belief that images serve as decoration, with little or no pedagogical purpose, some attitudes towards the visual in pedagogical practice are predicated on the assumption that pictures operate through a 'universal language', and that this can be of value to teachers and students alike (Schwartz 2006, Olshansky 2008, Zenkov et al 2012, Elmiana 2019). Studies show that students can find illustrated information less daunting than wholly-written text-heavy accounts. Sabeti (2013, 2017) notes the rise in graphic novels in later stages of school; visual adaptations of 'classic literary texts' into 'comic book' format. While faithful to the original language (although often heavily-abridged) this genre is a response to the multiplicities and multimodalities of a new media age (see Cope & Kalantzis 2000). The pedagogical affordances of images are acknowledged by teachers in terms of their 'appeal', 'immediacy' and 'a quick way in' for students (see Keddie 2009, Walter et al 2019, Garcia-Vera 2023).

However, David (2000) reminds us of the pervasiveness of the 'decoration' argument, which dismisses images as "easy pickings for the less able" (p244). While less disparaging, Haward (2019) disputes the 'universal' notion that 'everyone can read an image'. He argues that this axiom is based on the mistaken "underlying assumption that there is a common, universal visual language, rather than multiple visual languages or literacies" (p11). Clark & Lyons (2011) note this issue of 'multiple visual languages' in their analysis of images in commercially-available learning

support materials. These materials are often authored (and translated) for use by a global student body of diverse languages and cultures. Clark & Lyons caution that pedagogical potential for images is limited by their “cultural or linguistic specificity” (2011 p18). Here, the view of images through a linguistic lens, operating to linguistic ‘norms’ is repeated.

In the context of this research, my understanding of these arguments is that images can mean different things to different people, in different contexts for different reasons, and that this is considered a disadvantage in educational settings, where teachers’ views on how and where images can and should be used in schools continue to dominate, despite young people’s immersive participation in increasingly visually-mediated social environments. I also understand that sense-making and communication through everyday photography is widely considered (through the ‘norms’ of a literacy lens) to be a ‘minor’ form of language - regarded as best-suited to performing a secondary, supporting role to linguistic modes of inscription and description as the dominant ontological form.

2.2.5 Outside language

As this study progressed, I came to recognise an extensive literature on ‘affect’, and discussion of intense, sensate, personal, affective registers of the visual operating somewhere outside - beyond - the limitations of language (see Leander & Boldt 2013, Lenters 2016, Mulcahy 2016, Zembylas 2016). The significance for my research of this theoretical framing of the unique, sensate qualities of the visual became so apparent that I have decided to devote two specific sections of this review chapter to discuss Deleuze’s notion of affect and Barthes’s ideas of ‘feeling photography’ - in ‘The Turn to Affect’ and ‘The Pictorial Turn’, below. These sections discuss in concentrated detail, what I have felt would be distracting tangential leaps and ‘lines of flight’ if addressed in any length during these early sections of this review chapter.

In the production of this thesis, I have struggled to organise my emerging thoughts into the linear structure of written language. I have personally encountered the tensions that Arnheim (1969) observes with the constraints of written and spoken language which he insists, “transforms all linear relations into one-directional

successions - the sort of event we represent by an arrow" (1969 p246). My own thinking mirrors the spatial simultaneity and 'all-at-onceness' of Arnheim's 'visual thinking', and the playfully-transgressive ideas of Deleuze & Guattari (1984, 1988, 1994). Their notions of rhizomes and assemblages replace the single, directional arrow of linear writing with a multiplicity of arrows (lines of flight), moving in different directions, colliding and connecting in a 'generative flux' (Taylor 2013). However, to maintain the 'thread' of this theme on teachers' practices and perspectives, I will now focus on teachers' deliberate and productive uses of the polysemy or 'ambiguity' of photographs. In these next sections I have chosen as much as possible to draw upon examples that are specifically about photography, rather than the generic 'placeholder' terms of 'images', 'pictures' and 'visuals' that litter the focus of this review so far.

2.2.6 The ambiguity of photographs

The inherent ambiguity of photographs is well-documented in theories of photography (Berger & Mohr 1982, Flusser 1983, Burgin 1986, Azoulay 2010, Rubenstein 2015) and celebrated as one of the essential, intrinsic, ontological qualities of the medium, rather than any kind of disadvantage. In her seminal publication '*On Photography'* (1977) Susan Sontag asserts, "Any photograph has multiple meanings; indeed, to see something in the form of a photograph is to encounter a potential object of fascination. The ultimate wisdom of the photographic image is to say: 'There is the surface. Now think - or rather feel, intuit - what is beyond it, what the reality must be like if it looks this way'. Photographs, which cannot themselves explain anything, are inexhaustible invitations to deduction, speculation, and fantasy" (p23). The affordances of 'many meanings' is recognised in photo-elicitation practices (see Wang & Burris 1997, Garcia-Vera 2023) and in the approach to research outlined by Gauntlett (2005). Walter, Glazer & Eilam (2019) argue that: "Photography is an accessible and familiar medium used constantly by children and teens. It features a realistic character, communicates a wealth of information, draws on inherent general knowledge, is susceptible to many possible interpretations, and is used as a means of eliciting discourse about thoughts and feelings" (p301). In their work focusing on children's early literacy practices, and displaced teens learning a second language, Walter et al (2019) note that

photographs can render abstract concepts in more concrete 'material' forms, assisting students with foundational practices of naming and identification. While photo-elicitation can support the development of written and spoken language skills, in a seemingly 'inevitable' recourse to words, Tan et al (2012) and Barbot et al (2013) note that the intrinsic qualities of photographs used with elicitation strategies can support the development of higher order skills, including interpretation, analysis and inquiry. I see links here with the mnemonic 'transformational' function of images identified by Levin (1981), assisting students with 'difficult' learning tasks. I connect this to my own teaching in the Further Education college (outlined in Chapter 1), Arnheim's notion of 'visual simultaneity' (1969) and my own struggles to produce a linear written account of the 'sense' emerging from the process of assembling the components of this literature review chapter. How can young people's everyday sense-making through the affordances of the intrinsic immediacy and 'simultaneity' of digital photographs be purposefully harnessed into formal learning and teaching in secondary schools?

2.2.7 Participatory photography

There is a strong body of research reporting that learning involving students in photography can have positive impacts on students' interest, engagement and well-being (Clark and Lyons 2011, Zenkov et al 2012, Barbot et al 2013, Göttert et al 2023). Leading up to beginning this doctoral study, I had seen this happening with the college students and school-students I worked with, who found a 'voice' through photography. But I also understood that these were not common experiences for students across formal education. Göttert et al (2023) offer insights into the potential of photography as a participatory learning and teaching strategy. They drill into the affordances of students making their own photographs, and how this everyday practice in the personal lives of students outside school can be harnessed to "bridge gaps in understanding, making complex concepts more accessible and aiding experts in detailed assessments" (p36). Göttert et al also note a collateral affordance beyond the formal curriculum: "Photography can have an effect on confidence building and stimulate feelings of accomplishment" (2023 p53). The ubiquity of smartphones offer young people of school-age unprecedented opportunities to produce and participate in many new forms of cultural connectivity. This research

contributes to understandings which can inform educational practice and theory around formal learning and teaching in secondary schools.

2.2.8 Part B: Teachers' perspectives

This section will explore teachers' views on the role of visuals, and the pedagogic potential of students' everyday uses of photography in educational settings. As I have already outlined, studies of 'the visual' in educational settings tend not to discern between photographs, drawings, diagrams, maps and icons. I have tried to reflect this in the material I have drawn from, which signposts teachers concerns centering around a loss of 'teacher sovereignty' and control in the classroom.

Teachers' concerns about and attitudes towards technology and pedagogy have become amplified in the digital, participatory, predominantly visual age (Howard & Mozejko 2015). Studies on teachers' attitudes to technology (Cuban 1986, Kolb 2008, Green 2019) reveal a long history of resistance from teachers to the top-down introduction of technology into the classroom. Teachers' worries centre consistently on practical issues around reliability and accessibility; whether synchronous radio and analogue television broadcasts, tapes, DVDs and more recently networked digital devices. Cuban's retrospective review (2003) observes that teachers display a perennial resistance to technology that doesn't support or improve existing pedagogies or modes of classroom management. Repeated calls for bans of the use of smartphones in schools (TES 2024, Green 2019, Roberts 2016) continue to distract attention away from the pedagogical affordances of young people's own digital photographs, made and shared through near-ubiquitous personal digital devices. Martín (2023) notes that in teacher education programmes, visual literacy and media education continue to be overlooked, or at best given 'token' attention.

2.2.9 Distraction narratives

Ott et al (2018) observe that "school settings have proven to be arenas in society that are not receptive and tolerant to the use of mobile phones", and that "students' opinions and reasoning around their use of mobile phones for learning in school are rarely presented in the public debate or in research" (both p518). Rather than engaging with the educational potential of mobile networked devices, the prevailing response from educational leaders and policy makers is to ban them (Kukulska-

Hulme et al 2011, O'Bannon & Thomas 2015, Beland & Murphy 2015, Cohn 2016, TES 2024). Teachers' distraction narratives centre around incoming and outgoing messaging in lessons, the possibilities for cheating, and bullying (Thomas and Muñoz 2016). Green (2019) notes a further concern: students having 'fun', often viewed as "off-task indulgences" (Lenters 2013 p313). Together, these issues present major challenges to teacher authority in the classroom (Kukulska-Hulme et al 2009). However, Baker et al (2012) argue that an unintended consequence of explicitly banning phone use can be to provoke students into deliberately challenging teacher authority. Furthermore, Philip & Garcia (2015) argue that the opportunities offered by mobile phones for students to interact with the world outside of the classroom could generate excessive pressure to reform the traditional hierarchical structures of schools and schooling.

Lindberg et al (2016), suggest that teachers and students perceive the use of mobile phones through very different lenses. Indeed, through the lens of the 'teacher' Green identifies nine uses of smartphones by students (2019 p95):

- texting or messaging,
- accessing social media for non-academic purposes,
- listening to music,
- participating in other online activities (e.g. online shopping, reading news articles),
- checking or sending email,
- accessing course material or course readings,
- learning more about a topic covered in class,
- taking notes on lectures or discussions, and
- writing essays, papers, Moodle responses, or other written course activities.

Notably, and of particular significance to this research, Green's list omits any mention of photography and students' use of the cameras embedded in smartphones. Perhaps 'photography' falls under the first category 'messaging' but nevertheless, activities involving photography do not feature explicitly in Green's review of teachers' perspectives. Green, however, is adamant that her findings align "with what many other researchers have concluded about classrooms cell phone

use, that it reflects students' inability to focus on classroom instruction" (2019 p97). In doing so, Green seems to make the implicit assumption that students learn by being taught. Mulcahy (2016) identifies a cognitivist bias in school settings. The perpetuation of a Cartesian dualism privileging the mind over body and other sensate registers that can catalyse learning (Albrecht-Crane & Slack 2007, Watkins 2010, Ahmed 2014). This notion of sensate, bodily registers is of particular significance to this research, and I will discuss this in greater depth in the section titled, 'The turn to affect'. But first some contextualisation of the roots of pedagogy and various theoretical positions surrounding it will be helpful.

2.2.10 Contextualising Pedagogy: 1

I will contextualise pedagogy in two sections within this chapter. Here, I discuss the humanist roots of pedagogy and highlight assumptions and key beliefs that lead to a cognitivist bias of mind over body in formal educational settings. I will return to offer further contextualisation of pedagogy (section 2.5.14: 'part 2') in light of the issues raised in the sections The Turn to affect, and The Pictorial Turn, which follow.

The Latin roots of pedagogy can be translated as 'to lead the child', reflecting a humanist definition of 'pedagogy' (Hamilton 2009) as method of communicating knowledge. For Watkins & Mortimer (1999), pedagogy is "any conscious activity by one person designed to enhance learning in the other" (p 3). Alexander (2004) notes that 'pedagogy' is often simplistically framed as "the practice of teaching" (p9) and offers a more nuanced perspective, arguing that that teaching is an act, while pedagogy is simultaneously both an act and a discourse.

> "*Pedagogy encompasses the performance of teaching together with theories, beliefs, policies and controversies that inform and shape it... Pedagogy connects the apparently self-contained act of teaching with culture, structure and mechanisms of social control*" (Alexander 2001 p 540).

Bernstein (2004) conceives of the practice of pedagogy as "a cultural relay: a uniquely human device for both the reproduction and production of culture" (p196). While much thinking about pedagogy predominantly centres on formal educational settings, there is consideration of pedagogies beyond the classroom (see Bernstein

2004, Lingard & Mills 2007). Hamilton (2009) points to the influence of home environment and media as significant pedagogic devices. Thinking this way, rather than fixed and boundaried, pedagogy is relational; fluid and emergent. Bogue insists that, "by 'learning' Deleuze clearly does not mean the mere acquisition of any new skill or bit of information, but instead the accession to a new way of perceiving and understanding the world" (2004 p328). These 'new ways' may not be predicted; challenging boundaries, genres, and long-established structures of power and control in schools and schooling.

Distinct from the measurable outcomes of propositional knowledge (Armstrong 1973), Ellsworth (2005, 2007) identifies 'knowledge in the making'. Drawing attention to the embodied and non-conscious experience of the student, Ellsworth acknowledges students' struggles to articulate their learning through word-based ontologies. This research is concerned with the pedagogical potential of young people's everyday sense-making through the visual registers of photography. But furthermore, Ellsworth (1997) counters the assumption of pedagogy as a 'conscious' activity, insisting that pedagogy "gets right in there in your brain, your body, your heart, in your sense of self, of the world, of others, and of possibilities and impossibilities in all those realms" (p6). Ellsworth points to something more going on than can be accounted for by a cognitivist focus on the mind, in the enacting of pedagogy as the exclusive concern of the teacher.

I will return at the end of this chapter to discuss approaches to pedagogy that consider the body and senate registers of affect, pushing beyond the boundaries of humanist thinking, towards sociomaterialist perspectives. But to maintain the focus of this section, I will continue with the thread of teacher's perspectives.

2.2.11 The tyranny of words

A persistent view that images are "easy pickings for the less able" (David 2000 p244) is echoed in teachers' concerns about the inherent ambiguity of images, and tensions around 'immediacy' being another expression for 'dumbed-down simplicity' (Haward 2019). From these perspectives, images not supported or reinforced by accompanying text are considered unsuitable for addressing complex issues in educational settings with pre-requisite 'certainty'. Notably, in his educators' 'resource

book' entitled '*Images*', Keddie (2009) encourages teachers to make deliberate use of images in their pedagogical practice, insisting "Whereas a text supplies the language explicitly, an image implies it and thus creates a void which must be filled by words" (p7). The Oxford Reference Dictionary definition of 'explicit' is: '*stated clearly and in detail, leaving no room for confusion or doubt'.* Keddie's position underlines the key issue that this research explores; that in educational settings, images are considered to contribute only a supporting role to the "tyranny of words" (Thrift, in McGeachan & Philo 2014 p15).

Sontag (1977) celebrates the photograph's 'invitation to deduction, speculation, and fantasy' (p23). Rather than a 'void' suggesting 'emptiness', what an image can 'imply' rather than state 'explicitly' is an essential catalytic component in photo-elicitation (see Wang & Burris 1997, Walter at al 2019, Garcia-Vera 2019). Keddie's (2009) 'resource book for teachers', side-steps 'affect' and overlooks Deleuze's (1990) aleatory point; somewhere between sense and nonsense, where complexity and emerging sense-making reside in affective registers, outside language. Gauntlett (2005) recognises the time and space that is afforded by working with visual modes to suspend or delay the requirement to articulate 'explicit' meaning through linguistic modes of expression.

Of particular significance for this research is the pedagogical potential of the largely misunderstood and under-utilised 'transformational' function of images to help students with information and concepts that are "difficult" (Levin 1981 p216). Perhaps due in part to being under-explored by Levin himself, then subsequently ignored by scholars exploring the pedagogical potential of images (Hill 2003, Romney & Bell 2012), this 'transformational' potential is further diminished by the repetition of guidelines limiting the use of images in learning materials (Gökalp & Dinç 2022). The sensate, transformational potential of photographs to do something 'more than' just support the function of words, as the dominant ontological form, continues to be overlooked in educational settings.

In 'The Turn to Affect', and 'Pictorial Turn' sections that follow in this chapter, I will return to the crux of the issue driving teachers' practices and perspectives: that images continue to be viewed through the lens of language and literacy, and expected to perform a similar role to words in the 'explicit' communication of

intended meaning. Deluca insists that “images are not subsumable to language because the two are fundamentally distinct” (2008 p667), and to attempt to ‘subordinate’ images to words is effectively an act of “linguistic domestication” (2008 p669). Writing about images in an attempt to render their meanings more precise, inevitably privileges language as the primary, dominant discourse and diminishes the unique affordances of their ‘visual simultaneity’, and ‘transformational’ potential. As Britsch (2012) observes, the continuing focus on images in educational settings remains steadfastly through a linguistic lens. The collateral fall-out of teachers’ suspicions towards classroom technologies together with cautious restrictions on smartphone use in educational settings is the under-explored potential of young people’s everyday photographically-mediated communication and meaning-making practices, and how these can be purposefully harnessed in educational settings.

2.3 Theme 3: Theoretical understanding of the educational potential of harnessing everyday visually-mediated communication and meaning-making practices in pedagogy and curriculum-making.

Existing research on the educational potential of young people’s everyday sense-making through photography is nascent. Theories centre on technology and multimodality, while other socio-cultural perspectives are less surfaced. Schooling is slow to react to new participatory possibilities, and challenges to long-established boundaries and canonical meanings linked to teachers’ pasts. Social scientists, particularly theoreticians of communication and language, provide situated understandings of the everyday use of the visual, including photography (Mitchell 1995, Jenkins 2006, Benzemer & Jewitt 2010, Pink 2012, Rose 2013, Mirzoeff 2015, Rubenstein 2015). However, the link between sense-making through everyday photography and education continues to be underexplored. As theme 2 of this review has highlighted, teachers’ practices and perspectives on their own uses of visuals and young people’s everyday digitally-mediated photographic practices hinge upon a myopic focus through a linguistic lens, and concerns over ambiguity and loss of classroom control, with a reluctance or refusal to consider these as positive affordances and opportunities.

2.3.1 Control

Lindberg et al (2016), suggest that teachers and students perceive the use of mobile phones through very different lenses. The assertion (see theme 2, above) that smartphones inhibit students' ability "to focus on classroom instruction" (Green 2019 p97) raises questions of the pressures of performativity (see Ball 2003) and highlights teachers' and educational leaders' concerns about the enhanced agency of students in a participatory, digitally-mediated, increasingly visual, communication landscape (Jenkins 2006, Stewart 2015). These concerns are driven largely by adult assumptions about the capabilities, capacities and roles of children and young people in educational settings (see Mannion et al 2015). Lundy (2007) notes that teachers' concerns about enhanced opportunities for learner participation in schools centre around three main issues: that young people lack the skills and capacities to make meaningful contributions in formal educational settings, that enhanced opportunities for student participation can undermine teacher authority, and that the time spent on participatory activities could be better spent on teaching. If children and young people have spent a significant proportion of their lives within compulsory schooling, and they are indeed unable to make meaningful contributions to the form, structure and content of their own education, this prompts questions about what they've been learning, from whom, and why (see Biesta 2014).

Travers (2007) describes a Habermas-ian view of 'the new bureaurocracy' of quality assurance in national and institutional governance which has opened the public sector up to extreme mechanisms of accountability. Across Education, audits, inspections and performance indicators together with parental pressure have engendered fear in teachers and leaders through a creeping culture of evidential exposure. Bovens (2010) describes the 'accountability trap', in which teachers achieve 'success' by strategically concentrating on accountability targets. "The imperatives of bureaucratisation… are threatening to usurp the educational values at the heart of the profession, on a relentless drive to account and measure everything, thereby reducing everything to the status of means to ends", note Murphy & Skillen (2013 p86). Regulatory practices and risk-averse policies employed within compulsory education to protect children and young people contribute to smartphones (and their embedded cameras) being viewed suspiciously (Roberts

2016) and synonymous with fun (Green 2019), recreation (Allen 2011) and disruption (Ott et al 2018). Long-standing concerns for privacy and 'appropriate use' of photography in schools (Fielden & Malcolm, 2007) have become amplified in the age of mobile, networked technology and social media (Hjorth & Pink 2014).

An unintended consequence of explicitly banning phone use can be to provoke students into deliberately challenging teacher authority (Baker et al 2012) and could generate excessive pressure to reform the traditional hierarchical structures of schools and schooling (Philip & Garcia 2015). Theoretical understanding underpinning guidelines in the form of education policy is being challenged by the 'generative flux' (Taylor 2013) of meaning in an increasingly visual communication landscape, and shifts in power posed by students empowered to be active 'designers' (Kress 2008) in their own learning rather than the passive recipients of teachers' cognitivist rhetoric through word-based ontologies. As theme 2 of this literature review reports, the inherent ambiguity of photographs is seen as more of a problem than an opportunity, and the predominant approach of educators towards purposeful uses of photographs is from the fixed perspective of literacy; reading photographs through linguistic tools to decode definitive meanings (see Deluca 2008, Burgin 2009). Of particular significance for this research is the tension between teachers' perceived need to make controlling decisions on behalf of students around how, where and when images are used - for predictable, unambiguous outcomes - and students' capacities to be active participants in their own learning, using photographs to express their 'sense-making' in a variety of different contexts.

2.3.2 Groundhog day

As digital technologies began to permeate the education during the 1990s, Mayes (1995) cautioned educators against repeating the 'groundhog day' mistake of using the latest wave of technology merely to introduce a façade of novelty and spectacle to traditional, didactic, transmittive pedagogies. Mayes foresaw the ubiquity and participatory nature of digital technologies:

“*Educational technology is now being derived from technology at use in the home and office. We can therefore expect that there will be less resistance to its introduction, since it will be less likely to be perceived as educational technology, requiring a special approach to instruction, and more as a convenient set of tools for the efficient handling of information, and for effective communication*” (1995 p2).

Key to this research is Mayes’s recognition of a blurring of boundaries around how, when and why technological advances would be harnessed into education, together with his observation of the possibilities for dialogical communication. Mayes’s ideas surfaced more than a decade before the ubiquity of digital cameras embedded into multifunctional smartphones. Nevertheless, his ‘groundhog day’ analogy (of doing the same thing, while expecting a different outcome) is apposite in illuminating the continuation of pedagogical practices which fail to harness the participatory potential of young people’s sense-making and communication through their everyday digital photographic practices.

As I have discussed in section 2 of this review, there is long lineage of teachers’ resistance to technology which doesn’t support existing pedagogical practices and approaches to classroom management. This is compounded by a creeping culture of accountability, driving risk-aversion, and knee-jerk responses to ring-fence exclusionary boundaries around the very technologies that Mayes predicted would blur such boundaries - with the significant affordances this could offer for education. However, the affordances of smartphones and the cameras embedded within them pose significant challenges to the authority of teachers and structures of power in formal educational settings. Research (Ott el al 2018, Stewart 2015) underlines that teachers are unsure about how to proceed in relation to cautions around smartphones, privacy and photography. Teachers’ fear and suspicion of students’ discursive practices which thrive on the instability and fluidity of meaning constantly being constructed and re-constructed through visual modes, is driving students to take to their discursive practices to communication ‘back-channels’ (Mueller 2009).

2.3.3 Discursive back-channels

Mueller (2009) counters negative assumptions about mobile technologies, perceiving students' uses of personal digital devices as a 'digital under-life' – a meshwork of 'discursive back-channels' and illicit communication practices. Mueller sees the potential of "embrac[ing] digital under-life as productive rather than relegating it to the realm of mere distraction and, by default resisting it as an impediment to teaching and learning" (p242). Bernstein (2000) is cautious about the pedagogising of young people's lifeworlds, drawing private practices and personal devices into formal learning, against the freewill of students, leading to resistance and resentment. But as Mayes foresaw, the boundaries around technologies for personal use, and for more formal learning and work purposes have been dissolved, not by deliberate efforts to incorporate, but rather by the intrinsic, empirical 'convenience and efficiency' of these mobile networked devices (Mayes 1995, Ott et al 2018).

The Literacies for Learning in Further Education project (LfLFE) (Ivanic et al 2009) upon which I based my own Masters-level studies (and led directly to this doctoral research), observed a 'pluralisation' of modern literacy practices. These literacies are situated, practical skills and knowledges, extending beyond traditional definitions of literacy as competencies around written and spoken language. The project identified nine aspects of modern literacy practices: content, purpose, audience, language, genre, style (and design), flexibility (and constraints), roles, identities (and values) modes (and technologies), actions (and processes), and participation. In addition, the project identified common characteristics: practices were 'purposeful' to the students, learned and shared through interactions and collaborations, self-determined and controlled by the (agentic) student, multimodal and generative (participatory and creative), and oriented towards specific audiences, times and places. In summary, the LfLFE project concluded that there is much potential for teachers to render their pedagogies more resonantly with the wide diversity of skills, knowledges and resources that young people bring with them to learning. However, in this research, I move beyond a focus on literacy and perceived associations with written and spoken language, to understand more about how young people's everyday photography operates in sensate visual registers that can exceed the capacities (and linear constraints) of word-based ontologies.

2.3.4 Beyond representation

There persists a common perception in the genre of visual studies that photographs can be understood by their visual content alone (see Edwards 2012). Rose (2013) insists that concentrating solely on '*what*' is made visible rather than '*how*' ignores the effects and affective intensities of contemporary visual culture on the processes of making and interpreting visual materials. Images go beyond the representational, becoming symbolic traces of constantly-shifting social identities, processes, practices, experiences, institutions and relations (Leander & Rowe 2006, Buckingham 2009, Sandbye 2012).

The catalytic and inclusive dimensions of photography are touched upon in studies on the roles of photographs in research in educational settings (Grushka 2011, Grushka et al 2018, Walter et al 2019, Healy & Mulcahy 2021). Allen (2011) explains that photographs can operate as a catalytic portal to intangible and ineffable phenomena which can otherwise be difficult to broach or elude attention through predominantly word-based research methods. While this suggests that the catalytic potential of the visual to provoke, challenge and illuminate is being recognised in research (Gauntlett 2005), these affordances are seldom deployed in schools, due to an absence of clear guidance in the form of policy guidelines or focused professional development for teachers. Humes (2018), observes ongoing conflicts in the continuing professional development of school teachers in Scotland. In 2023, the Scottish government announced the withdrawal of funding for Masters-level programmes for school teachers (Herald 2023). Criticism of the General Teaching Council for Scotland's 'Professional Update' programme points out that the reliance on self-direction and peer-to-peer collegial support groups masks a lack of resources for high-quality teacher development (Priestley, Biesta & Robinson 2016).

In summary, without teachers and students being directed to make specific pedagogical use of the images in commercially-available learning materials, images can be regarded as serving little or no pedagogical purpose (Levin 1981, Hill 2003, Romney & Bell 2012, Gökalp & Dinç 2022). Grushka & Donnelly (2010) observe a paucity of visual skills amongst teachers to make use of their students' everyday photographic practices. Green (2019) cites teachers' worries about students being

distracted from ‘receiving instruction’. These observations suggest a ‘cognitivist bias’ (Mulcahy 2016) in formal education, a legacy of Cartesian dualism, focusing on the mind at the expense of attention to alternative, embodied and sensory ways of making ‘sense’. The literature I have drawn upon in this review so far suggests a notable ‘void’. A deliberate aversion to - or a blind-spot for the affordances of - working with pedagogical approaches that choose to transgress beyond the ‘explicit certainties’ of word-based ontologies.

As this study progressed, I came to recognise scholarship on ‘affect’, and discussion of the affective registers of the visual operating somewhere outside - beyond - the limitations of language (Deleuze & Guattari 1988, 1994, Barthes 1977, 1981). This led me to pedagogical approaches deliberately harnessing the sensate forces of affect (see Dernikos et al 2020, Mulcahy & Healy 2021, Ahmed 2014, Albrecht-Crane & Slack 2007, Zembylas 2007b). The significance for my research of this theoretical framing of affect became so apparent that I have chosen to devote two specific sections of this review chapter to discuss Deleuze & Guattari’s notion of affect, and Roland Barthes’s ideas of sense-making through ‘feeling’ photographs: ‘The Turn to Affect’ and ‘The Pictorial Turn’, which follow.

2.4 Theme 4: The Turn to Affect

In these next two sections, I offer an analysis of affect and explain how together with percept, they form a ‘bloc of sensation’, producing concepts: ideas ‘invented in practice’ (Semetsky 2015 p3). I contextualise Barthes’s work on punctum and ‘third meaning’ with specific reference to the sensate affects of photographs, and discuss the potential and implications for harnessing the affective registers of photography in educational settings. In order to do this, contextualisation of a purported ‘turn to affect’ within the Social Sciences and Humanities is necessary as part of understanding a wider post-linguistic turn. To begin, I will explain how language came to be sufficiently dominant to provoke what has come to be regarded as a ‘turn’ away.

2.4.1 The Linguistic Turn

Richard Rorty (1979) characterises the history of philosophy as a series of 'turns'. However, a simple binary shift from one era to the next fails to take into account the significance of a series of loosely connected events across a broad range of disciplines contributing to shifts in ontological and epistemological focus. Rorty argues, "Interesting philosophical change… occurs not when a new way is found to deal with an old problem but when a new set of problems emerges and the old ones begin to fade away" (1979 p371). According to Rorty, ancient and medieval philosophy was concerned with 'things', while the enlightenment of the 17th and 18th centuries focused on 'ideas'. What Rorty defines loosely as modern philosophy of the 19th and early 20th centuries, came to focus on words. Colebrook (2010) defines the linguistic turn as "the rejection of any approach of meaning, value, sense, or concepts that would lie beyond linguistic systems; pre-modern philosophical problems - the nature of God, freedom, or reality - could not be approached other than through the vocabularies we use to denote such terms" (p279). Williamson (2007) observes that while the 'linguistic turn' has become a short-hand term for a diverse range of events, "some regard [the linguistic turn] as *the* event - in twentieth century philosophy", and that "for those who took the turn, language was somehow the central theme of philosophy" (p10). This led to a period of philosophical activity in the 20th century dominated by language-based approaches.

However, Williamson (2007) acknowledges that 'theme' is distinctively different to 'subject matter', arguing that "the linguistic turn was not the attempted reduction of philosophy to linguistics", rather that the linguistic turn focused on "dispelling confusions of linguistic origin" (both p10). In '*Language, Truth and Logic'* A.J. Ayer offers a more formal description of linguistic philosophy:

> *"[T]he philosopher, as an analyst, is not directly concerned with the physical properties of things. He is concerned only with the way in which we speak about them. In other words, the propositions of philosophy are not factual, but linguistic in character - that is, they do not describe the behaviour of physical, or even mental, objects; they express definitions, or the formal consequences of definitions."* (Ayer 1936 pp61-2)

Space here does not permit an extended analysis of the linguistic turn, or a description of the whole range of scholarship it has inspired, but to summarise, during the 1980s, following the perceived over-domination of continental philosophy by language-based approaches, an inevitable post-linguistic shift began to emerge.

2.4.2 The post-Linguistic Turn

An overly-simplistic chronology traces the post-linguistic shift towards a foregrounding of the visual. However, rather than a sharp change of onto-epistemological direction, the post-linguistic turn was a diverse range of events from which questions began to emerge and aggregate around the privileging of language as the grounding form of relations through which social life is produced. Jackson (2011) describes “multiple conversations across different disciplines and national traditions, subject to different forms of institutionalisation (through learned societies, academic journals and disciplinary conferences), shaped by diverse sources of research funding and complex collaborations (and conflicts) across disciplines and intellectual traditions” (p63). This movement towards embodiment - towards life and living systems - became known loosely as ‘the cultural turn’.

Nash (2001) argues that the cultural turn straddled two main pathways: “the ‘epistemological’ case in which culture is seen as universally constitutive of social relations and identities; and the ‘historical’ case in which culture is seen as playing an unprecedented role in constituting social relations and identities in contemporary society” (p77). From the privilege of hindsight, Jackson (2011) notes that “the ‘cultural turn’ led to an over-emphasis on symbolic systems and the interpretation of meaning, and to an under-emphasis on the material” (p65). This reduction of the natural world to a series of cultural representations is now being re-dressed by an emerging interest in material culture: sociomaterialism, or New Materialism (see Fox & Alldred 2014, 2015), and what Whatmore (2006) calls a ‘more-than-human world’. Much like earlier philosophical ‘turns’, New Materialism has become the collective term for a diverse range of perspectives. These emphasise the materiality of the world and everything in it, looking beyond anthropocentricity and the dualisms of structure/agency and culture/nature, to focus on processes and interactions. Rather than essential and fixed, everything is relational and continual in a wider environment of matter and things. This has been described as a turn to life - a turn to

‘affect’ - closely associated with the work of Deleuze & Guattari (1984, 1988, 1991, 1994), and Delanda (2006, 2016).

2.4.3 A re-turn to affect?

Clough (2007) describes the turn to affect as ‘a transdisciplinary approach to theory and method’ (p3) attending to a range of supposedly non-conscious modalities of experience, including sensation, perception, habit, memory and the senses (see Paterson 2006, Wylie 2005, 2006). Anderson (2014) suggests that the turn to affect may be more of a ‘re’-turn - citing a long antecedence of feminist scholarship on how and why emotions matter (Lloyd 1984, Rose 1993, Anderson & Smith 2001). Numerous theories of what affect is - and does - can be found throughout the Social Sciences and Humanities, with no single key moment or theorist responsible for catalysing the ‘turn’ (see Greco & Stenner 2008, Seigworth & Gregg 2010). At this point in the thesis, it feels appropriate to try to address the direct question: ‘*what is affect?*’. But perhaps presaging the influence of Deleuze & Guattari (1988) on this inquiry, a better question to try to answer might be: ‘what can affect *do*?’. In order to maintain the focus and thrust of this chapter, space here does not permit an exhaustive review of the full scope of literature on affect. Rather, I will raise several points that will help outline the stakes and inter-relationships, and therefore draw upon aspects of affect that seem to me to be most pertinent to my focus on the visual, and education.

2.4.4 What is affect? (or rather, *what can affect ‘do’?*)

Leys (2011) states that, “Affect is the name for what eludes form, cognition, and meaning” (p450). Anderson (2014) argues that the affective turn is characterised by “a proliferation of attempts to name the unnameable, to think the unthinkable, to represent what is supposedly, from some perspectives but by no means all, non-representational” (p7). Pervasive Euro-American thinking conflates affect with feelings and emotions (Watkins 2006). But Shouse offers a prescient overview of how affect differs distinctively from feelings and emotions: “Although feeling and affect are routinely used interchangeably, it is important not to confuse affect with feelings and emotions… affect is not a personal feeling. Feelings are personal and biographical, emotions are social, and affects are prepersonal” (2005 p2). To clarify,

in this context, the term ‘prepersonal’ relates to a field of forces that resonate with one another, in interactions that produce effects and new combinations with each other (Colwell 1997). Seigworth (2020) insists that affect makes its ‘home’, “in the knots and tangles and in-coherences and ambivalences that aren’t to be straightened or resolved as much as they are evidence that a world has never been all straight lines or tidy points or organized planes” (p91). Niccolini (2016) notes that affect does not necessarily always expedite or hasten sense-making, but in addition, by swelling and gathering, affect can ‘slow things down’.

Timar (2019) observes “a general tendency to assert affect above all as some sort of privileged concept of the throbbing vitality of material immanence” (p198). Such ‘vitalist’ discourse orients affect as “happy” (see Ahmed 2010) and a positive force: “always part of an ‘emergent futurity’” (Timar 2019 p197). However, Massumi (2010) recognises the role affect can play in ‘negative’ experiences of ‘alienation’ - shame, fear and contempt. For Shouse (2005), the experience of affect is, “a moment of unformed and unstructured potential… The importance of affect rests upon the fact that in many cases the message consciously received may be of less import to the receiver of that message than his or her non-conscious affective resonance” (p5). In simple terms, affect is unconscious response which precedes conscious feelings, emotions, decisions and actions. Thinking this way, affect can catalyse and fuel sense-making in modes that may lie outside ‘deliberative thought’ (Anderson 2014 p6) and the dominant representational norms of written and spoken language.

Massumi drills deeper into the ‘prepersonal’, venturing the perspective that “affects must be viewed as independent of, and in an important sense prior to, ideology - that is, prior to intentions, meanings, reasons, and beliefs” (in Leys 2011 p437). Massumi (2002) equates affect with “intensity,” which he argues is not “semantically or semiotically ordered [but] is embodied in purely autonomic reactions most directly manifested in the skin - at the surface of the body, at its interface with things” (pp24-25). I will revisit this notion of intensity operating outside semantic or semiotic conventions in the following section ‘The Pictorial Turn’, exploring Roland Barthes’s (1977, 1981) ideas on ‘feeling’ photography as ‘a message without a code’ and something beyond ‘obvious’ meaning. But first, some further exploration of the roots of affect is necessary.

2.4.5 The Spinozist roots of affect

In his monograph '*Spinoza: Practical Philosophy'* (1988), Deleuze focuses on two facets of Spinozist affect: affectus and affectio. "The *affectio* refers to a state of the affected body and implies the presence of the affecting body, whereas the *affectus* refers to the passage [or movement] from one state to another, taking into account the correlative variation of the affecting bodies. Hence there is a difference in nature between the image affections or ideas and the feeling affect" (Deleuze 1988 p49). Affectus is the materiality of change: the increase or decrease in embodied subjective capacity 'for the body and the mind alike' (ibid p49) as the result of an encounter with affecting bodies. Hickey-Moody (2009) argues: **"**Affectus is pedagogy… namely, a relational practice through which some kind of knowledge is produced" (p273). Kristensen (2016) notes that some proponents of affect have stumbled clumsily into a "theoretical impass", perpetuating a Cartesian dualism between mind and body, but in a reversed order, conferring "ontological primacy" to the body (and its affects) over the mind (pp12-13).

However, Deleuze's reading of Spinoza's 'bodily affections' and the 'ideas' of these affections, indicates that affect has both corporeal and cognitive dimensions. Watkins (2006) explains, "Our everyday experiences in the world are lodged as affects/affections on and in the body and these, in turn, function as content for mind. Spinoza's monist ontology, therefore, does not only counter dualist notions of the mind/body relation, but, so too, the nature/culture divide" (p272). The New Materialist orientation of the methodological approach to this research draws heavily on Spinozist/Deleuzian notions of affect, and similarly collapses over-simplified binaries with a monist ontology, where everything is contextual and relational, rather than essential and absolute. This has important implications for pedagogy and our understandings of sense-making, which I will discuss in greater detail later in this chapter, and in the Methodology chapter which follows (Chapter 3). In many ways, the linear chronology of this written thesis is an 'awkward container' for the burgeoning assemblages of ideas, and 'lines of flight' I wish to discuss. Working within these linear constraints, I have chosen to maintain the thrust of this section on affect, and concentrate on the relation of affect with percept and concept in 'blocs of sensation'.

2.4.6 Affect, Percept & Concept

For Deleuze, “affects, percepts and concepts are three inseparable forces” (Deleuze 1995 p127) and insists, ”you need all three to get things moving” (ibid p165). Together in a triadic relationship, they from “blocs of sensations that take the place of language” (Deleuze & Guattari 1994 p176). So far, I have offered an overview of affect to contextualise this sensory domain but will now attempt to explain how percept and concept inter-relate with affect. Describing the way percept works, Deleuze & Guattari explain: “a percept is material crafted into a sensation… it is difficult to say where in fact the material ends and sensation begins” (1994 p166). The connection of percept *with* affect is clear, but its distinction *from* affect is somewhat muddied.

2.4.7 Percepts are not perception

As Shouse (2005) reminds us, affect is prepersonal: a non-conscious experience of intensity and unstructured potential. Colebrook (2002) argues that percepts are “not the perception of something by an organising observer, but the presentation of a force of something to-be-perceived from points beyond our own” (p61). Deleuze & Guattari insist that, “Percepts are more-than perceptions; they are independent of a state of those who experience them” (1994 p164). In ‘*Negotiations’* (1995), Deleuze continues this thread: “Percepts [are] packets of sensations and relations that live on independently of whoever experiences them… becomings that spill over beyond whoever lives through them” (1995 p137). Colebrook (2002) notes percept’s crucial break with the referent, insisting that percepts are not perceptions referring to a (reference) object but rather, percept is the perception of the feeling itself, after it has been ‘felt’. Stressing the dynamic, productive force of blocs of *sense*-sation, Deleuze & Guattari argue, “Percept …does not commemorate or celebrate something that happened, but confides to the ear of the future the persistent sensations that embody the event” (1994 p17). Deleuze & Guattari insist that “blocs of percepts and affects are innovative by nature; they are not about preserving precious events*”* (1994 p166). The *sense*-sations of percept and affect are less about *how* things are, and more about *how things could be*.

Experienced simultaneously in the body and mind, the bloc of *sense*-sation produced by the joint forces of affect and percept, produces “a moment of unformed and unstructured potential” (Shouse 2005 p2). Deleuze & Guattari insist that “percepts can be telescopic or microscopic, giving characters and landscapes dimensions as if they were swollen by a life that no lived perception can attain” (1994 p171). These ‘swollen dimensions’ are what Deleuze & Guattari mean by their appropriation of the term ‘concept’. For Semetsky (2015), concept is an outcome of a dynamic process of experience in a triadic relationship with affect and percept.

2.4.8 The Concept is not the idea

Wallin (2010) insists, “a concept is more than simply a name attached to a subject or object. A concept is a way of approaching the world, or put differently, a way of creating a world through the active extension of thinking the possible” (p1). Deleuze & Guattari argue that concepts are fragmentary wholes created in experience “as a function of problems which are thought to be badly understood or badly posed (pedagogy of the concept)” (1994 p16). Every concept is a ‘multiplicity of components’, aggregating from other concepts, percepts and affects. Each concept takes on ‘new contours’ through ‘cutting-out’ and ‘cross-cutting’, totalising into what Deleuze & Guattari (1994) describe as ‘a fragmentary whole’. To assist this explanation, they offer a perspicacious visual analogy of a dry-stone wall. “As fragmentary totalities, concepts are not even the pieces of a puzzle, for their irregular contours do not correspond to each other. They do form a wall, but it is a dry-stone wall, and everything holds together only along diverging lines” (Deleuze & Guattari 1994 p23).

For Deleuze & Guattari, a distinctive dimension of the concept is how “it renders components inseparable *within itself.* Components, or what defines the *consistency* of the concept - its endoconsistency - are distinct, heterogeneous, and yet not separable. The point is that each partially overlaps, has a zone of neighbourhood, or a threshold of indiscernibility” (1994 p19). Concepts are ‘processual’ and ‘modular’, and like a dry-stone wall holding together through the inter-relation of the stones, the “components remain distinct, but something passes from one to the other, something that is undecidable between them” (ibid pp19-20). Thinking this way, rather than

seek to understand what a concept *is*, we should enquire what a concept does - and can *do*.

Dwelling on the 'something' that renders *concept* as more than labels or names that we attach to things, Deleuze & Guattari conjure another visual analogy, this time drawing upon a bird. "The concept of a bird is found not in its genus or species but in the composition of its postures, colors, and songs: something indiscernible" (1994 p20). The 'concept' of the bird is more than the sum of its obvious components. The bird is configured by how the components relate, connect, 'cut across' and overlap to produce 'something indiscernible'. I understand this to mean what cannot be described through language - that which makes a bird what it is: its '*bird*-ness. Deleuze & Guattari call this 'haecceity'.

2.4.9 Haecceity

Hougaard (2012) explains, "Etymologically speaking, an haecceity is a *thisness* (from the Latin haec). The idea is that among the properties of an object, there is the property of being that very object… [a haecceity is] the quality implied in the use of *this*, as *this man*; '*this*ness'; '*here*ness and *now*ness'; that quality or mode of being in virtue of which a thing is or becomes a definite individual; individuality" (p42). In Deleuze & Guattari's example, '*bird*-ness' is all the things that make a bird what it is. They explain, "It should not be thought that a haecceity consists simply of a decor or a backdrop that situates subjects… It is the entire assemblage in its traditional aggregate that is haecceity… that is what you are, and… you are nothing but that" (Deleuze & Guattari 1988 p262). In simple terms, I take haecceity to be the point where you 'get it' - *bird*-ness can be understood through the entirety of the bird: '*the entire assemblage… is haecceity'*.

I note Deleuze & Guattari's use of visualisations in their explanations: the dry-stone wall and colourful bird to convey the *all-at-once*-ness of affect, percept and concept. I see connections with Arnheim's (1969) notion of 'visual simultaneity', and the distinctive difference between an image and a linear, written description. I make connections with Szarkowski's (2000) notion that photography can be a simple and uncluttered act of 'pointing': '*see that bird - it's scunnered*'.

The significance for this research is the role that photographs and photography can play in sense-making, if 'haecceity' - the point when you 'get it' - 'all of it in one go' - operates in affective registers, somewhere beyond language. Furthermore, through the affective registers of photographs driving the immediate 'visual chit-chat' (Villi 2012) of everyday digital photography, conversations *with* photographs have become possible.

2.4.10 Beyond words

In a sustained argument, Thrift (1997, 2004, 2008) questions an envisaged 'tyranny of words' in what academics choose to study, how they study and how their findings are reported. Proposing a 'Non-representational theory' to account for events that lie outside representation through language, Thrift's position is more nuanced than the negative connotations of the title indicate. Lorimer (2005) suggests that '*More-than* representational theory' may be a more appropriate title for an '*After-words'* agenda (Thrift 2008 p109) to understand more about the "more-than-human, more-than-textual, multi-sensual worlds" we inhabit (Lorimer 2005 p86). The non-representational position hinges on the argument "that we are *not* functioning reflexively, knowingly or self-consciously with an implied chronology whereby, first, we 'think' (or speak to ourself) the nature of the act to be undertaken before, second, we perform the act" (McGeachan & Philo 2014 p15). In 'representational' knowledge practices, knowledge is positioned as simultaneously independent of, while contained within singular entities. Mulcahy (2016) identifies this as a persistent 'cognitivist bias' in education which refutes, or perhaps at best, marginalises learning as a sensate affective flow: *more-than* human, *more-than* textual.

In questioning our 'over-wordy worlds', Thrift (1991) urges the prioritising of practices and the search for evidence other than words about what matters, is decisive, and can make a difference in the situations and events being studied. "Affect is a different kind of intelligence about the world, but it is intelligence nonetheless, and previous attempts to either relegate affect to the irrational or raise it up to the level of the sublime are both equally mistaken" (Thrift 2008 p175). Shouse (2005) reminds us of the non-verbal qualities of affect, and stresses that "the power of affect lies in the fact that it is unformed and unstructured (abstract). It is affect's 'abstractivity' that

makes it transmittable in ways that feelings and emotions are not, and it is because affect is transmittable [between bodies] that it is potentially such a powerful social force" (p5). This visceral, embodied, multi-sensory field of forces that resonate with one another, in interactions that produce affects and new combinations with each other, operates beyond words and beyond conscious, deliberative thinking.

2.4.11 Criticism of affect as a 'catch-all' term

Critical perspectives suggest that affect is something of a catch-all term, "all too easily invoked as a gesture towards the virtual, the possible–potential, and capacities" (Boler & Zembylas 2016 p23). 'Affect' supplants the notion of the 'unconscious' as means to account for what eludes capture, representation, articulation and conscious apprehension. Seigworth & Gregg (2010) offer a thorough examination of critical perspectives:

> *"When theories have dared to provide even a tentative account of affect, they have sometimes been viewed as naively or romantically wandering too far out into the groundlessness of a world's or a body's myriad inter-implications, letting themselves get lost in an over-abundance of swarming, sliding differences: chasing tiny firefly intensities that flicker faintly in the night, registering those resonances that vibrate, subtle to seismic, under the flat wash of broad daylight, dramatizing (indeed, for the unconvinced, over-dramatizing) what so often passes beneath mention"* (2010 p4).

Thrift observes a tendency for critics to denounce affect as "'frivolous' or 'distracting' - mainly figure[ing] in perceptual registers like proprioception which are not easily captured in print. Perhaps, at one time, these might have been seen as valid reasons. But they are not any more" (2008 p172). The elusiveness and fluidity of affect stands in stark relief to the rigidity and fixedness of counter positions. As Massumi (2002) emphasises, "approaches to affect would feel a great deal less like a freefall if our most familiar modes of inquiry had begun with movement rather than stasis, with process always underway rather than position taken" (p4). Seigworth & Gregg (2010) argue that criticisms of the unpredictable and the indeterminate, the non-linear and the non-semantic, the 'not yet', the 'in-betweens' and "the cusp of an emergent futurity" (p4), disrupting fixed or 'conventional' meanings and

compartmentalisms, are precisely the transgressive and ‘playful’ attributes of affect that Deleuzian scholars find to be of such significant interest. Deleuze & Guattari emphasise the importance of working with the unknown:

> *“We know nothing about a body until we know what it can do, in other words, what its affects are, how they can or cannot enter into composition with other affects, with the affects of another body, ... to destroy that body or to be destroyed by it, ...to exchange actions and passions with it or to join with it in composing a more powerful body”* (Deleuze & Guattari 1988 p257).

Affect is reciprocal in that when we affect something, we are in turn affected. However significant or slight, this transition is a change in capacity (Massumi 1996). The turn to affect is characterised by an intensification of self-reflexivity in which processes turn back on themselves, in order to act upon themselves. The elusiveness and ‘irrationality’ of affect operates “between the lines” (Read 2016 p109). Of particular significance for this research is the affective dimension of photographs - operating ‘between the lines’: outside and beyond the dominant representational norms of written and spoken language.

2.4.12 The aesthetics of affect

O’Sullivan (2001) argues that “Affects can be described as extra-discursive and extra-textual… extra-discursive in the sense that they are ‘outside’ discourse understood as structure (they are precisely what is irreducible to structure) [and] extra-textual in the sense that they do not produce – or do not only produce – knowledge” (p128). Discussion of affect in this research explores affect as prepersonal, residing ‘somewhere’ prior to deliberative thought and beyond language. Shouse (2005) uses the example of the affective intensity of music to question the need for specific and unequivocal meaning: “the pleasure that individuals derive from music has less to do with the communication of meaning, and far more to do with the way that a particular piece of music ‘moves’ them” (p5). For O’Sullivan (2001), “Affects are moments of *intensity*, a reaction in/on the body at the level of matter” (p126). While these ‘moments’ might resonate with linguistic expression, O’Sullivan insists they are of a different, preceding order to language, and as such, “affects are not to do with knowledge or meaning; indeed, they occur

on a different, *asignifying* register" (ibid p126). Affect can exceed conscious thought, while still being 'felt'.

As Shouse reminds us, "the body has a grammar of its own that cannot be fully captured in language" (2005 p2). For Hickey-Moody, "Affect is what moves us. It's a hunch. A visceral prompt" (2013 p79). Duff (2010) explains, "Experienced at once in the body and in the mind, affect involves a transition in the body's power or capacities. Affect is more than a feeling or an emotion, it is also a potential for action, a dispositional orientation to the world" (p627). "Affect matters and is it is a pivotal element of individuals' acting and becoming" insist Albrecht-Crane & Slack (2007) who argue that the processes and products of affect have significant implications for learning and teaching, but these have been 'inadequately considered'. As I have discussed in this chapter, affect has been overlooked or disregarded for many reasons, but of particular significance for this research is the issue of adequately representing the 'effects of affect' through language as the dominant ontological mode. This research is concerned with the affective capacities of images and how working with photographs in educational settings can purposefully harness the pedagogical capacities of affect in ways that elude representation and expression through written and spoken language.

2.4.13 A cognitivist bias

Mulcahy (2016) notes the ubiquity of pedagogical models which privilege cognitive and constructivist knowledge in a 'cognitive bias'. For Watkins (2006), this a focus on the mind over bodily sensations is the clumsy perpetuation of a Cartesian dualism, with significant pedagogical implications. Watkins insists that "Affect is ever present. Our day-to-day encounters in the world involve a continual process of affective engagement with other bodies both animate and inanimate" (2006 p275), and urges serious consideration of the pedagogic implications of the intensity and accumulation of affect. Albrecht-Crane & Slack (2007) argue that "Teachers and students are often caught up in encounters that conjure affective 'sense-sations' - moments of energetic and resonant connection - which indicate that something significant is at work" (p99). They call for more understanding of the affective, sensate dimensions of belonging, identification and becoming in educational settings.

The uncertainties of affect present multiple challenges to teacher agency in a risk-averse, modern Education system bowing under the scrutiny of evidential exposure and performative targets. The 'cognitive' bias that Mulcahy identifies is not an oversight, but instead a reaction. As Niccolini observes, "pre-cognitive, pre-linguistic, and outside 'rational' control, affect disturbs dreams of self- or teacher-sovereignty" (2016 p233). In the next section I will discuss affect specifically in relation to photographs, and the connections between Deleuze's reading of Spinoza and Barthes's ideas about the intense, sensate 'madness and irrationality' of photographs operating in affective registers beyond "deliberative thought" (Anderson 2014 p6). I will show how Barthes's position on 'feeling' photography as 'a message without a code' (1981 p88), sits in stark contrast to Mitchell's (1995) structural approaches to 'tame' images with linguistic tools and approaches, in order to 'read' and compartmentalise their 'obvious' meaning(s). To illuminate this comparison, and to be able to discuss the pedagogic implications of the affective registers of photographs operating 'outside language', I will begin by contextualising the emergence of a 'pictorial turn' within the wider post-linguistic turn.

2.5 Theme 5: The Pictorial Turn

In this section I will introduce Barthes's work on punctum and 'third meaning' with specific reference to the sensate affects of photographs, and discuss the potential for educational settings. In order to do this, I will discuss W.J.T. Mitchell's declaration of a 'pictorial turn' within the Social Sciences and Humanities as part of a wider post-linguistic turn.

2.5.1 The Pictorial Turn in visual studies

In the diverse series of events that make up what is referred to as the post-linguistic turn, Mitchell (1986, 1995, 2005) was quick to assert the arrival of 'the pictorial turn'. He declared: "It seems clear that another shift in what philosophers talk about is happening, and that once again a complexly related transformation is occurring in other disciplines of the Human Sciences and in the sphere of public culture. I want to call this the 'pictorial turn'" (Mitchell 1995 p11). In '*Visual Culture: The Study of the Visual after the Cultural Turn',* Dikovitskaya (2006) assembles a comprehensive

summary of key ideas and texts in the development of visual culture. She argues, "if we accept Mitchell's thesis that visual studies was born to the marriage of art history (a discipline organised around a theoretical object) and cultural studies (an academic movement echoing social movements), we should also recognize that it is the 'cultural turn' that made visual studies possible in the first place" (p47). Barnett is critical of the 'cultural turn', describing it as a form of 'intellectual fashion', spawning "the rise of academic celebrity" (1998 p391). Nevertheless, W.J.T. Mitchell considers his trilogy of books '*Iconology'* (1986), *'Picture Theory'* (1995) and '*What do pictures want?'* (2005) to play a significant role in the development of "visual culture, visual literacy, image science and iconology" (Mitchell 2008 p14).

Various accounts of a 'pictorial turn' or 'turn to the visual' tend to cluster in two groups: increasing tensions or a falling-out between words and images leading to the subordination of images to texts, and alternative tales about the rise (or a form of restoration) of images to the status of a new international medium or visual language. While many scholars agree that the post-linguistic turn was a diffuse event, spanning a range of disciplines and subject areas (see Jackson 2011), Mitchell remained adamant that the post-linguistic turn was predominantly towards the image, and that while questions about pictorial representation were not new, they had assumed a greater significance, pressing "with unprecedented force on every level of culture… the need for a global critique of visual culture seems inescapable" (Mitchell 1995 p16). While Williamson observed that the theme of the linguistic turn was "dispelling confusions of linguistic origin" (2007 p10), the theme of Mitchell's take on the visual turn could perhaps be appositely described as 'dispelling confusions of a visual origin'.

In *'Picture Theory'* (1995) Mitchell is adamant that the pictorial turn is not a return to naivety, but rather "a complex interplay between visuality, apparatus, institutions, [and] discourse" (p16). Tracing the roots of what he chooses to call 'the pictorial turn' through Peirce's semiotics (see Liszka 1996) and Goodman's '*Languages of Art'* (1968), Mitchell insists that "both explore the conventions and codes that underlie non-linguistic symbol systems (and more important) do not begin with the assumption that language is paradigmatic for meaning" (1995 p12). According to Mitchell, the picture is "emerging as a central topic of discussion in the Human

Sciences in the way that language did… somewhere between a 'paradigm' and an 'anomaly'" (Mitchell 1995 p13). In an interview in 2000, Mitchell asserted that the focus of his work was "to map the word and image problem so there would not be any loose ends" (Wiesenthal & Bucknell 2000 p4). For scholars of visual studies, the collected work of W.J.T. Mitchell continues to exert a pervasive influence, and I will now explain the significance of this influence for this research.

2.5.2 Image text - a 'structural master key'

In '*Picture Theory* '(1995), Mitchell combines the visual and verbal domains into the heterogenous representational notion of '*image*text': word and image mutually complementing and reinforcing each other, while "not necessarily saying the same thing" (see Wiesenthal & Bucknell 2000 p13). Mitchell insists on three interrelated but distinct iterations: image/text, *image*text, and image-text. "I will employ the typographic convention of the slash to designate the problematic gap, cleavage, or rupture in representation. The term *image*text designates composite, synthetic works (or concepts) that combine image and text. Image-text with a hyphen, designates relations of the visual and verbal" (Mitchell 1995 p89). In the same interview with Wiesenthal & Bucknell (2000) Mitchell proclaimed '*image*text' to be "a structural master key" (p4) with which, the pre-existing meaning of images could be unlocked for all to see or 'read'. During the latter half the of twentieth century 'Structuralism' came to be a collective term for a diverse range of philosophical and linguistic orientations focusing on "structuring mechanisms of the human mind" as the means to "make sense out of chaos" (Tyson 2006 p208). A key weakness of this approach is that Structuralist 'explanations' such as neo-liberalism and patriarchy are outcomes rather than the causes of interactions, which themselves need explanation. I will return to discuss this in Chapter 3's focus on New Materialism, but will continue this thread on Mitchell's 'structural' approach. For clarity and consistency, from here-on in this thesis I will adopt 'imagetext' to refer to Mitchell's three iterations of the term.

Declaring that 'traditional strategies' seem inadequate to address the challenges posed by the pictorial turn, Mitchell (1995) suggests a conventional scholarly approach to images: "Our responsibility, as teachers and scholars, toward representation is relatively well defined… We know it to be interpretation: attentive,

careful, loving reading of texts and images; learned, critical responsiveness to their meanings; and eloquent testimony to their power. Making sense of representations and publishing that sense" (p422). For Mitchell, the boundaries between images and words are blurred, enabling the meaning of an image to be 'interpreted' and written about in ways (and with tools) that are closely aligned with linguistic analysis. In Section 2.2 of this chapter (above) I discussed how this influence persists in teachers' perspectives and practices around the visual as 'support' to word-based ontologies.

2.5.3 Linguistic approaches to images

Mitchell's position on images is contested by Vivian (2007), noting that "a profound non-relation is at work in any perceived equivalence between… word and image" (p473). Vivian acknowledges that "individuals indeed produce or appropriate images as mediums of intended, rational, and coherent communication; but images simultaneously disrupt communicative intention, rationality, and coherence" (p479). Vivian argues that Mitchell's theory hinges on "the permeable borders between image and text, between the linguistic (denotative or connotative) dimensions of pictures and the visual properties of language" (p475). Vivian asserts that "visual artefacts are a form of representation; representation can be verbal as well as visual; therefore, the representational qualities of visual artefacts may be effectively analysed as a form of speech or language" (p479). However, Vivian notes that "a host of modern thinkers including Bataille and the Surrealists, Sartre and Merleau-Ponty, or Barthes, Foucault, Lacan, and others have persuasively contended that images fail as often as they succeed in conveying intended, coherent, or objective meanings upon which the very notions of argument, persuasion, and communication depend" (p478). In this chapter I have discussed how images *do* something different to words, and it is precisely this 'difference' that drives young people's use of photography in everyday sense-making and communication (Kress 2010, Villi 2012).

Foucault (1973) insists, "It is not that words are imperfect, or that, when confronted by the visible, they prove insuperably inadequate. Neither can be reduced to the other's terms: it is in vain that we say what we see; what we see never resides in what we say" (p9). Reviewing Mitchell's '*Picture Theory'* in the '*Times Literary*

Supplement' at the time of its publication in 1995, Arnheim perspicaciously identified a key theme in Mitchell's approach to images. "[Mitchell] undertakes to explore the nature of images by comparing them with words, or, more precisely, by looking at them from the viewpoint of verbal language" (Arnheim 1995 pp75-6). In a retrospective review, Woodrow (2010) notes that the first publication in Mitchell's trilogy, '*Iconology'* (1986) was "a book on images so dependent on linguistic models, history and allusions that it needed no illustrations, apart from a few line diagrams" (p63). These accounts suggest the extent to which language continued to shape Mitchell's supposed post-linguistic 'pictorial' turn. Images are regarded as texts - 'imagetext' - open to processes of deconstruction using linguistic tools to reveal and compartmentalise conventional meaning(s), and by doing so 'dispell confusion of a visual origin' (see Williamson 2007).

2.5.4 Reading images

Building on Vivian's (2007) argument, Deluca tackles Mitchell's linguistic approach, arguing that "images are not subsumable to language because the two are fundamentally distinct" (2008 p667). By writing about images in an attempt to render their meanings more precise, Mitchell inevitably privileges language as the primary, dominant discourse. Deluca protests that this is effectively a "linguistic domestication" (ibid p669) of images. He argues, "The continual submission of images to words is seen in the recurrence of interpretive categories in studies of visual rhetoric that conflate visual with linguistic phenomena in deference to the representational authority of words" (Deluca 2008 p665). Space here does not permit an extensive analysis of the many and varied iterations of semiotic processes for the deconstruction of images. However, a consistent thread runs through Pierce's 'signs' at the beginning of the twentieth century (see Liszka 1996), through to Barthes's signfiers & signifieds (1977), through Hodge & Kress's critical theory-oriented '*Social Semiotics'* (1998) to Bohnsack's forensic '*Documentary Method'* (2008). Collectively, the machinations of these semiotic processes signal that images and their discursive nature may be systematically examined by isolating and tracing the processes and contexts of signification. Deluca (2006) notes that this is a context of words: a context which the image can be 'read' as a text. This normalised primacy of words and Mitchell's dominance in the arena of visual scholarship continues to shape the

seeing of the photograph through a linguistic context. The consequence of this for education is to fuel an aversion to using photographs for pedagogical purposes other than reiterating or reinforcing words, and to perpetuate a cognitivist bias, privileging the mind over the body's capacity to aggregate sensation and catalyse learning.

The focus of this research is to explore the role that young people's everyday photographically-mediated sense-making, operating in affective registers beyond words, can play when harnessed purposefully into learning and teaching. To help explain how this research approaches this line of inquiry, I will now contextualise the distinctive difference of Roland Barthes's approach to 'feeling' photographs, just as much as 'reading' them.

2.5.5 Feeling photographs

Alongside his contribution to semiotics (see '*Image Music Text'* 1977), Barthes declared his concerns regarding visual scholarship: "what I fear is that as critics we are participating in this taming of the photograph, the taming of its ecstasy, its excess, its exorbitant" (1981 p80). Barthes urged for photographs to be 'felt': "in order to see a photograph well, it is best to look away or close your eyes" (1981 p53). Smith (2014) observes that "Barthes's entire understanding of photography is remarkably tactile; his experience of viewing is one of being touched" (p34). Barthes insists that photographs can 'prick', 'pierce' 'bruise' and 'wound' through unanticipated intense personal response which cuts-through the culturally-conditioned reading and (semiotic) deconstruction of 'obvious' intended meaning.

What Barthes perceives as the 'excess and exorbitant', the 'piercing and bruising' and '*madness*' of the photograph (1981 p118) resonates with the transgressive, sensate workings of affect, percept and concept. As I have described in the previous section, together this triumvirate produces haecceity: '*this*-ness'. By working with the affective forces of photographs, sense-making can be afforded space and structure to emerge, and through the 'visual simultaneity' of photographs rather than the rigid linearity of words, this 'sense' can be made-material much like Deleuze & Guattari's 'dry stone wall of fragmentary totalities'. Of significant importance to this research, is the "rhetorical force" of photographs (Deluca 2008 p670) described by Barthes as "what, in the image, is purely image" (1977 p61). 'Feeling' just as much as 'reading'.

2.5.6 Madness or meaning

While acknowledging the dominance of Mitchell's work, Deluca declares Roland Barthes to be "the patron saint of visual cultural studies" (2006 p80), pointing to an un-easy dichotomy for scholars of visual culture - a choice between 'meaning and madness':

> *"The choice is between W.J.T. Mitchell and Roland Barthes. Mitchell, though advocating "the pictorial turn" (Picture), so expands the meaning of image to blur all boundaries between images and words: "There is no essential difference between poetry and painting, no difference, that is, that is given for all time by the inherent natures of the media, the objects they represent, or the laws of the human mind" (Iconology 49). These predilections are clear in Mitchell's championing of the term "imagetext" (Picture). Barthes, after moving beyond semiotics, takes the opposite tack in Camera Lucida, wherein prompted by an ontological desire he feels compelled to understand the essence of photography outside any taming, the photo as "the absolute Particular, the sovereign Contingency... the This ... the Occasion, the Encounter, the Real, in its indefatigable expression"* (Deluca 2008 p664).

Described retrospectively by Fried (2005 p5) as "a swan song for an artefact on the brink of fundamental change", Roland Barthes's '*Camera Lucida: Reflections on Photography'* (1981) was written without foresight of the fundamental transformation digital technology would bring to the making, viewing and sharing of photographic images. However, in a wide-ranging discussion driven by his personal interest in why some images seem to 'matter' more than others, Barthes arrives at two symbiotic ideas: studium and punctum. These build on his notion of the obtuse 'third' meaning (lying 'somewhere' beyond 'obvious' meaning) in his collected essays published as '*Image Music Text'* in 1977. I will now explore Barthes's work in greater detail, highlight the distinctive differences with Mitchell, and discuss the synergies with the ideas of Deleuze & Guattari, in what Anderson (2014) describes as 'the imbrication of affect' (p77). There are clear implications for understanding how sense-making is enacted through everyday photography, and how this can be purposefully-harnessed into educational settings.

2.5.7 Punctum

Barthes's most potent discussions of 'feeling' photography centre on what he describes as the 'wound', or 'punctum'. Defined in a pairing with 'studium' which I will discuss shortly, the 'punctum' is the unanticipated detail in the photograph that 'stings' the viewer, conjuring enhanced attention. Barthes points to the Latin derivation from *punctus* - past participle of *pungere* 'to prick, pierce', likening punctum to a 'wound' - wholly personal and experienced as an intense, embodied sensation when some component of the photograph - usually a specific detail - resonates powerfully with unique significance to the viewer, shooting out 'like an arrow' and erupting like 'an explosion' (1981 p26). Barthes insists that punctum is incommunicable - a highly personal, unshared and un-sharable experience. Significantly, punctum is accidental: "It is not I who seek it out… it is this element that rises from the scene, shoots out of it like an arrow, and pierces me" (ibid p26). For Barthes, the punctum resonates "with a power: *affect*", comparing it to "an explosion mak[ing] a little star on the pane of the photograph" (1981 p49). He continues, "The effect is certain but unlocatable, it does not find its sign, its name; it is sharp and yet lands in a vague zone of myself; it is acute yet muffled, it cries out in silence" (1981 pp52-53). Stressing the ineffable nature of punctumic sensation, Barthes asserts, "What I can name cannot really prick me" (p51). In the context of this research, what Barthes describes resonates deeply with prepersonal affect (Shouse 2005) exceeding deliberative thought; changes in the body, sensed before 'meaning' is understood.

Hammond (2017) describes punctum as an intense, multisensory experience: "The irruption of an unspecified moment, one which is invariably subjective, deeply intense… this special type of subjective impact is an unpredictable and chaotic shred of personal chance; such a manifestation registers initially as a tiny jubilation or an internal agitation, an excitement, like something unspeakable which wants to be spoken" (p47). Hickey-Moody speaks similarly of affect as something ineffable, while simultaneously tangible: "Affect is what moves us. It's a hunch. A visceral prompt." (2013 p79). This bodily response to affective intensity is distinctively different to 'studium' which Barthes describes as the average effect or 'general interest' of an image.

2.5.8 Studium

Barthes insists that unlike the uniquely personal experience of punctum, the studium is ultimately always coded. Cultural, contextual knowledge informs a shared 'reading' of the photograph to establish the common ground - or context - of its intended meaning. Barthes describes studium as "an average affect, almost from a certain training… but without special acuity" (1981 p26). For Burgin (2009), studium is the obvious meaning of an image; the understanding that can be deconstructed methodically with semiotic tools to reveal the image-maker's conscious intentions. As Mitchell (1995) would have it, 'imagetext' - the image read, like written text. Barthes underlines the distinction between studium and punctum, insisting "the studium is of the order of liking, not of loving", and that "to recognise the studium is inevitably to encounter the photographer's intentions, to enter into harmony with them, to approve or disapprove them, but always to understand them" (both 1981 p27). The studium - the 'obvious' meaning of an image - is stripped of 'rhetorical force', without 'excess and exorbitant', blunted and tamed (Deluca 2008). Perhaps in some ways, studium defines the 'decorative' images that serve little pedagogical purpose other than to support the 'main course' of words in commercially-produced learning support materials, discussed in sections 2.2 and 2.3 of this chapter (above).

2.5.9 Linguistic domestication

In his definitive sourcebook for qualitative researchers pursuing '*Image-based Research',* Prosser (1998) asserts with Mitchell-like tones, "photographs get meaning, like all cultural objects, from their context" (p88). Such attention to the context (of images and image-makers) drives numerous semiotic analytical processes pursuing sense and meaning from the systematic deconstruction of images. Burgin (1982) characterises photography as a signifying system that acts as "a structured and structuring space within which the reader deploys, and is deployed by, what codes he or she is familiar with in order to make sense" (p153). Mitchell (1995) reminds us of the "professional responsibility… as teachers and scholars, toward representation to be interpretation", insisting that "attentive, careful, loving reading of texts and images" should be enacted through a "learned, critical responsiveness to their meanings" (all 1995 p422). The notion of 'learned responsiveness' signals concerns illuminated by Hodge & Kress in their work on

‘*Social Semiotics’* (1988), heavily indebted to Frankfurt School critical theory (see Berman 1989) and Frierean emancipatory pedagogies (Friere 1972).

Employing the term ‘text’ in a catch-all mode of representation (see Vivian’s dismantling of Mitchell’s ‘imagetext’ above), Hodge & Kress (1988) observe that “traditional semiotics likes to assume that the relevant meanings are frozen and fixed in the text itself, to be extracted and decoded by the analyst by reference to a coding system that is impersonal and neutral, and universal for users of the code” (p12). They caution against the “assum[ption] that texts produce exactly the meanings and effects” determined by “an omnipotent author through an absolute code” (ibid p12). Kress & Hodge continue, “Social semiotics cannot assume that texts produce exactly the meanings and effects that their authors hope for; it is precisely the struggles and their uncertain outcomes that must be studied at the level of social action and the effects in the production of meaning” (ibid p12). Seeking an understanding of the meaning of an image inevitably privileges language and language-based methods as the dominant discourse in the unravelling of context (that of the image and the image-maker) based on culturally-coded information and signifiers, constructed from prior, shared experience.

Deluca argues that attempting to unlock images by focusing on “context too quickly can slip into facile understanding, a comfort that dulls awareness of the rhetorical force of images, for context is always a fiction of our own making, an illusion that fosters delusions” (2006 p93). Deluca expresses his concern that ‘reading’ photographs turns them into “objects palatable for the print gaze” (ibid p86), calling this a “taming of the photograph, the taming of its ecstasy, its excess, its exorbitant” (ibid p80). Burgin (2009) notes that “semiotics had already accounted in some detail for the manner of production and circulation of those meanings which are fully in the public domain. Barthes now turned his attention to that slight*,* but nevertheless important meaning-effect/affect of photographs which had previously slipped into the interstices of an analysis which had privileged the social meaning at the expense of the private” (p36). To summarise, this is the distinctive difference between Barthes and Mitchell and their respective approaches to images: Barthes ‘feels’ the photograph for “something inexpressible” (1981 p107) and prepersonal, while Mitchell ‘reads’ the photograph as a text, searching for explicit and familiar meaning

rendered palatable for the print gaze (Deluca 2006, 2008). A predilection with explicit meaning and a reluctance to countenance the ambiguities of a 'void' (Keddie 2009) drives pedagogical approaches to visuals in schools towards Mitchell's (1995) position on 'reading' photographs for their explicit 'meaning', and away from Barthes's (1981) entreaties to 'feel' their inexpressible 'affect'.

Of particular significance to this research is the focus in learning and teaching on the explicit and the familiar; the predominance of a cognitive bias towards the 'reading' of cultural codes validated against previous experience (the studium). Lenters (2013) notes that, "Social semiotic approaches lean toward Cartesian rationalism - an understanding of the mind focused not only on the individual but on an understanding of the individual as one whose cognitive function is tied to mental images of external objects and divorced from the rest of the body" (p285). Barthes's approach to photography is distinctively tactile and visceral; being stung, pricked and 'punctured' (Smith 2014), prompting him to insist on the photograph's capacity to do 'something' *more-than* than represent the 'obvious'.

2.5.10 Obtuse (third) meaning

Barthes introduces his sense of an 'obtuse', or 'third' meaning in his collection of essays published in 1977 as '*Image Music Text'*. Questioning his own involvement in the structuralist semiotic movement described above, Barthes expresses his sense of exasperation with the limits of the 'obvious' meaning produced by traditional semiotic analysis. Barthes asks, "Is that all? No, for I am still held by the image. I read, I receive (and probably even first and foremost) a third meaning - evident, erratic, obstinate. I do not know what its signified is, at least I am unable to give it a name, but I can see clearly the traits, the signifying accidents of which this - consequently incomplete - sign is composed" (1977 p53). Barthes continues: "the supplement that my intellection cannot succeed in absorbing, at once persistent and fleeting, smooth and elusive, I propose to call it the obtuse meaning…" (ibid p54). Failla (2003) insists this is "the indefinable, indescribable quality of an image that strikes us in its fullness" (p10). I draw parallels with Deleuze's notion of haecceity, a dry-stone wall of fragmentary totalities and the 'gaining of purchase' on "something indiscernible" (Deleuze & Guattari 1994 p20), operating within the affective domain, but beyond words.

Barthes playfully qualifies his choice of word: “An obtuse angle is greater than a right angle, seeming to transgress the pure perpendicular uprightness…”, and recognising common, pejorative use of the word: “…the obtuse meaning appears to extend outside culture, knowledge, information; analytically, it has something derisory about it: opening out into the infinity of language, it can come through as limited in the eyes of analytic reason; it belongs to the family of pun, buffoonery, useless expenditure. Indifferent to moral or aesthetic categories (the trivial, the futile, the false, the pastiche), it is on the side of the carnival. Obtuse is thus very suitable” (both 1977 p55). For Barthes, the ‘obvious’ meaning of an image is produced by the conflation of the information it conveys with its referential symbolism. The information ‘denoted’ by an image is described by Barthes as “that of communication” (1977 p52) and constitutes the first meaning. The ‘connotation’ of the image, which Barthes terms “that of signification” (ibid p52) produces the second meaning. The sum of the first and second meanings taken together generates the ‘obvious’ meaning.

Failla (2003) understands the ‘obvious’ meaning to be: “Anything that can be described, criticised, or written about… falls under the obvious. For, anything we can describe with words lay within our linguistic understanding of reality” (p4). Mindful of the pervasive influence on scholars of visual studies of Mitchell’s ‘structural master key’ to dispell confusion of a visual origin with linguistic tools, Burgin speaks up in support of Barthes’s ‘photographic paradox’ of the ‘message without a code’. Burgin (2009) argues “we should remember that there is no paradox in the real, only in the way the real is described; the paradox is a purely linguistic (more specifically, logical) entity” (p35). Barthes (1977) explains that “the obtuse meaning is a signifier without a signified, hence the difficulty in naming it. My reading remains suspended between the image and its description, between definition and approximation. If the obtuse meaning cannot be described, that is because, in contrast to the obvious meaning, it does not copy anything - how do you describe something that does not represent anything?” (p61). Barthes continues, “the obtuse meaning is not in the language-system (even that of symbols)” (ibid p60). Third meaning, in this sense, "outplays meaning" (ibid p63). The significance for this research is the link between what Deleuze & Guattari intuit as “something indiscernible” (1994 p20), incipient in the aleatory point, or ‘all-a-once’ in the haecceity of a dry-stone wall of fragmentary totalities - together with Barthes’s sense of “something inexpressible” (1981 p107),

beyond the obvious. This is capacity of the photograph to operate beyond word-based ontologies; the capacity for photographs to be ontological.

Responding to Barthes's insistence of something more-than conventional 'obvious' meaning, Burgin (2009) observes, "Psychoanalysis has shown us that the mental processes of which we are conscious are not the only meaning-producing processes which are taking place: the coveted 'absence' of meaning may mean merely that meaning has left the room, and is holding a party in the basement" (p35). For Burgin, obvious meaning becomes the studium, and the obtuse, third meaning becomes the punctum: the ineffable presence, "where language and semiotics fall short in representation" (Failla 2003 p10). Barthes himself asserts this is "what, in the image, is purely image" (1977 p61), but insists the obtuse meaning is not to be found everywhere. Like punctum, obtuse meaning finds the viewer, not by any deliberate intention of the photographer. Thinking this way, photographs are 'invitations to speculation' (Sontag 1977), and catalysts for 'eliciting discourse' about personal - *prepersonal* - thoughts and feelings. Rather than 'voids' to be 'filled with words' (Keddie 2009), photographs occupy the spaces 'between the lines' (Read 2016 p109). This the 'madness' of photography - 'the message without a code', felt in prepersonal registers of affect, operating 'beyond the language system' (Barthes 1977).

2.5.11 Deleuze and photography

Barthes relates a number of examples of 'third' meaning, using film stills (photographs) from films made in the early twentieth century by the Russian cinematic pioneer, Sergei Eisenstein. This offers a bridge to Deleuze's thoughts on photography. Deleuze (1983a, 1989) wrote extensively on the subject of Cinema, but had relatively little to say about photography. Deleuze (1981) was dismissive of photography's mechanized, organising effects which, operating as an instrument of the Enlightenment, produces stagnant documents purporting authoritative, objective certainty. According to Kramp's (2013) reading of Deleuze, photography reinforces the aesthetics, language, structures and discourses around what is already known, how it is represented, and how it is discussed. This is photography's 'documentary legacy' (Sekula 1996) and 'burden of representation' (Tagg 1988).

Deleuze has written extensively on the potential of Art to 'unburden and emancipate', to produce 'sensation', 'affect and affective intensities' (1981, 1983). Art can de-familiarise the familiar, in order to reconceptualise it differently (to de-territorialise in order to re-territorialise), facilitating the emergence of new knowing (and unknowing). Reading Deleuze against Deleuze, or thinking about Deleuze's criticisms with the reflexivity that Deleuze urges, it is possible to argue that the very limitations and inefficacies of photographs and the practice of photography can instead be embraced and used to generate new possibilities for seeing and thinking differently. Kramp considers the potential of photography as a 'creative accident' that might "unburden the immanence of life" (2013 p2). In this research I consider the capacities of photographs to do *more-than* represent, but to produce affect - blocs of sensation. Thinking this way can 'unburden and emancipate' the medium of photography and its practice from the stagnant, structuring forces of pre-existing narratives, its documentary legacy and burden of representation - to expose its 'Deleuzian' potential to 'unburden and emancipate'.

2.5.12 More-than representational photography

In this research, I contend that the material features of photographs host non-representational dimensions (Thrift 2008, Lorimer 2005) that elude translation into linguistic meaning. Drawing on the monist ontology of New Materialism (Fox & Alldred 2014, 2017) which seeks to challenge and collapse simplified binaries (see Chapter 3), I argue that representational and non-representational accounts of photographs do not have to be mutually exclusive. Thinking with Deleuze and Barthes, photographs can be more-than representational. Vivian (2007) questions "whether and how images often complicate or interrupt linguistic meaning and thus fail to function as a form of verbal or linguistic expression, even in contexts where individuals employ them for such purposes" (p479). Vivian insists this position is not 'anti-representational', but instead welcomes an alternative understanding of visual representation.

Barthes (1981) argues, "I cannot penetrate, cannot reach into the photograph. I can only sweep it with my glance" (p106). Emphasising his position on 'feeling affect' Barthes suggests, "in order to see a photograph well, it is best to look away or close your eyes" (ibid p53). Deluca (2008) calls for a re-conceptualisation of the practice

of encountering of images. In a manner more attuned to the general habits of seeing: “speed, distraction, and glances” (p670), rather than photographs as objects of study: ‘corpses’ in which a subject dominates an object, Deluca suggests a relationship of simultaneous becoming: to consider photographs as Deleuzian bodies - modes that introduce relations of speed and slowness into the social, and produce affects.

2.5.13 Images are ontological

Azoulay (2010) highlights a flaw in ontological discourse around photography which assumes that “the photograph is a product of one stable point of view - that of the photographer” (p11) who set the boundaries of the photograph. Azoulay insists that photographs contain simultaneously more and less than the photographer’s intentions, and can be better understood as encounters between multiple protagonists. Vivian (2007) argues, “the image produces, independently of its representational functions, modalities of perception that accommodate potentially unlimited attributions of distinct meanings or referents hospitable to a multitude of subjective interests, indefinitely deferred into the future" (p190). Deluca insists that “images are ontological” (2008 p667), and resorting to words to ‘make sense’ of images relegates them to a supplement. Such an act of ‘linguistic domestication’ neuters the photograph’s potential (unpredictable) danger, eclipsing its “intractable immanence, utter singularity” (Deluca 2006 p80). Framing photographs as ontological suggests images as events: ‘*image-events*’. Thinking this way, ‘photographs-as-events’ are disruptions and eruptions that serve to make the world, rather simply representations of an existing world as it is already known.

2.5.14 Contextualising Pedagogy 2 (affect *as* pedagogy)

In the section ‘Conceptualising Pedagogy 1’ (above) I made specific reference to what Ellsworth (2005) identifies as “knowledge in the making” (p167), and students’ struggles to articulate their lived-learning experiences through word-based representational norms. The sections of this chapter on affect that followed contextualise affect, and the affective capacities of photographs.

While the early 21st century is characterised by a profusion of affect (see Clough & Halley 2007, Dernikos et al 2020), there continues to be ambiguity around suitable

vocabulary, and agreement on theoretical constructs of what affect is, what it can do, and how to engage with it. Thrift (2008) notes that in this stasis, affect continues to be portrayed as ‘frivolous’, residing somewhere in the ‘unconscious’, and derided as another theoretical ‘novelty’. There is growing interest in the significance of affect in learning & teaching, notably in Literacy studies (see Lloyd & Emmett 2023, Leander & Ehret 2019, Sedgwick 2003). But mainstream educational discourse continues to side-step affect, positioning it as a minor pedagogy (Mazzei 2017, Bardell 2018). Cambre et al note: “Many educators are still using antiquated co-ordinates for pedagogy to navigate a shifting terrain of understanding how teaching and learning happen” (2023 p6), adding that “a definition of pedagogy as efficient instruction is simply inadequate” (ibid p2). Some of the reasons for this are the persistence of a cognitive bias in school education, privileging the mind over the body’s sensate capacities.

Bogue insists that, “by ‘learning’ Deleuze clearly does not mean the mere acquisition of any new skill or bit of information, but instead the accession to a new way of perceiving and understanding the world” (2004 p328). Through affect, changes happen, but as Deleuze & Guattari (1988) insist, not from some state or fixed position to another, but rather ‘becoming’, disrupting, unfolding and undoing. Niccolini (2016) insists, “Learning and teaching are affectively charged events - at any moment in a school there is a body charged with excitement, burning with shame, flushed with desire, or stiff with boredom. Affect is as material and impactful to teaching and learning as books, paper, or the melamine of desks. Affect moves knowledge” (p230). Riba-Mayoral & Estalayo-Bielsa (2020) argue that affect is a primary element of what goes on in classrooms, can be described *as* a form of pedagogy, rather than the more common notion of affect *in* pedagogy. Hickey-Moody (2009) suggests: **“**Affectus is what cultural theorists… call pedagogy, namely, a relational practice through which some kind of knowledge is produced. Such relational cultural practices need to be understood as occurring both within and outside places that are understood as being ‘educational’ settings” (p273). For Mulcahy, the emotional dimension of affect can release ‘the transformative potential of education’ by working to open classroom spaces to otherness and difference… “tearing the classroom into pieces, getting it to interact with other things… as a flow meeting other flows… to release that which lives” (2015 p117). What can a renewed

approach to working with photographs 'do' in the classroom? An approach that considers photographs as much 'affective' as representational, and embraces the Deleuzian potential of photographs as 'creative accidents', to unburden and emancipate?

2.6 Summary

In this chapter, I have shown how a bias in formal education towards cognitivism (privileging mind over bodily sensation) and a predilection in visual studies towards 'reading' rather than 'feeling' photographs, has aggregated to consign photographs to play a supporting role to words as the dominant ontological form. To reiterate, attention to 'studium' provides a context (compared against prior experience and knowledge) for making 'obvious' sense of photographs. Such an approach effectively tames photographs in a form of linguistic domestication. This approach rarely apprehends what Barthes calls the 'rhetorical force' of a photograph, and what Deleuze & Guattari understand as its affective intensities. To account for these forces and intensities - unique and intrinsic to the photographic image - analysis must at least acknowledge '*what, in the image, is purely image'* can exceed 'deliberative thought' and reside in affective registers 'beyond language'. This does not mean we should completely abandon the systematic methods that yield the obvious and explicit 'studium', nor erect a false binary pitting the affordances of images against words, but it does suggest we need to transform our orientation towards the pedagogical potential of the affective 'punctumic' registers of the photograph. To do this requires deeper examination of the gap between the content of an image and its 'affect' on the viewer (Brown & Thy Phu (2014). This extra-discursive, extra-textual expression is at the root of young people's everyday uses of photography, and continues to be under-explored and under-utilised in educational settings.

This has prompted me to form two research questions:

- How can young people's sense-making through their everyday photographic practices be harnessed purposefully into educational settings?

- What are the implications for the wider uses of the affective registers of photographs in educational theory, policy and practice?

In Chapter 3, I explain and contextualise the methodological approach and methods I employed in the enacting of this research.

Chapter 3: Methodology

Overview

In this chapter I describe the theoretical framework that has informed the methodological approach of this qualitative inquiry and choice of methods for this research. Taylor & Ivinson contextualise this orientation succinctly:

> *New Material feminisms, post-humanism, actor network theory, complexity theory, science and technology studies, material culture studies and Deleuzian philosophy name just some of the main strands that call us to reappraise what counts as knowledge and to re-examine the purpose of education. Together these strands shift the focus away from individualised acts of cognition and encourage us to view education in terms of change, flows, mobilities, multiplicities, assemblages, materialities and processes.* (2013 p665)

Photographs have the capacity to evoke and provoke embodied sensation in ways which are theoretically locatable but elude representation through language. This research explores the potential of affect produced through working with photographs in educational settings. To do this, the methodological approach for this research project employs a bricolage of visual methods (Gauntlett 2005) in an ethnographically-influenced inquiry (Collier & Collier 1986, Pink 2012) involving teachers and students as co-researchers in Exploratory Practice (Allwright 2005). Theoretically, the research draws upon the philosophy of Deleuze & Guattari (1984, 1988, 1994), New Materialism (Fox & Alldred 2014, 2015, 2017), and Barthes's notions of 'feeling' photographs (1981). The situated approach will offer exemplary knowledge (Thomas 2011) of what can be possible through case study research (Flyvberg 2011, Yin 2013). I will conclude this chapter with details of the sample selection, ethical considerations and specific methods.

The first section outlines Exploratory Practice, Case Study and Phronesis. On one level, Exploratory Practice provides a pragmatic and useful framing for the methodology. However, theory is at work across this and informs the way methods speak to the research questions, and how analysis is understood. Later sections of

the chapter pick-up on the detail of how 'Deleuzian-inspired' New Materialism informed the ethnographically-influenced fieldwork, and the analysis.

3.1 Case study

Stake (2006) highlights how multiple cases are selected to better understand an issue or question, noting that "a multicase study starts with recognising what concept or idea binds the cases together" (p23). Stake describes the selection of cases and the relationship between them as the "quintain" (ibid p4) - the common phenomenon. The quintain for this inquiry was the potential of young people's everyday sense-making through digital photography in educational settings. I was interested in working with teachers who were open to exploring and harnessing the pedagogical affordances of working with photographs into their own practice.

Two different secondary schools were selected to generate rich case-studies (Flyvberg 2011, Yin 2013) of how teachers and young people in the curricular areas of Science and English Language can purposefully harness the affordances of digital photography in learning, teaching, and assessment. However, rather than for comparison, the case studies afford 'exemplary knowledge' (see discussion of Thomas 2011, below) of what might be possible in other educational contexts. In School A, two S2 year groups of 12-14 year old students studying General Science were identified, and in School B, an S3 English Language class group consisting of 13-15 year olds indicated a willingness to participate.

I will provide further details on approaches to schools and the ethical considerations of this research project in the Ethics section, later in this chapter. However, in brief summary here, ethical approval from the university's Ethics committee was granted along with permission from the relevant local authorities to make official contact with two large, state-funded secondary schools in Scotland that had been provisionally identified. Meetings with teachers interested in participating in the research led me to select class cohorts in both cases, for their distinctively different curricular areas, for the age range of the participants (12-15), and for their year group stages (S2 & S3) not being subject to the pressures of preparation for 'National 5' summative examinations during the fieldwork.

I will now explain why I have chosen to employ case study in this research. I will also address the common mis-understandings about case study and discuss how case study can complement, rather than conflict with the overview afforded by quantitative methods.

3.1.1 A case for Case Study

> *"If you want to understand a phenomenon in any degree of thoroughness… what causes it, how to prevent it and so on, you need to do case studies… The goal is not to make the case study be all things to all people. The goal is to allow the study to be different things to different people"* (Flyvbjerg 2011 p312).

Stake (1995) defines case study as 'the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances' (p xi). Flyvbjerg (2011) and Yin (2013) highlight common misunderstandings about what case studies can - and can't - do. Protracted academic disagreement has served to obfuscate a clear, working definition, casting case study into 'methodological limbo' (Gerring 2004 p341). The main criticisms of case study centre on the unsuitability of generalising on the basis of an individual case, and that the case study can be 'microscopic'. Concerns about smaller sample sizes leads to case study being regarded predominantly as a pilot stage, subordinate to other methods better suited to testing hypotheses, and theory-building. Furthermore, case study can be considered as lacking in rigour, and vulnerable to bias towards verification of the researcher's preconceived thoughts. Subsequently, case study can be diminished by its perceived unsuitability to produce universals and predictive theories. Yin (2013) notes that as a consequence of these criticisms, case study is regarded as a 'weak sibling' amongst Social Science methods (p xiii).

3.1.2 Questions of Validity and Generalisability

Flyvbjerg (2011) highlights the 'tribalism & power' (p314) dominating academic disagreement. This centres around orthodoxy that the Social Sciences have not been successful in producing general, context-independent theory, and that theoretical knowledge is considered more valuable than the concrete, context-dependent knowledge produced by case study. Scholars claim to trace the origins of

this factional tension to ancient Greece and the pervasiveness of Plato's search for general definitions and universal truths, countering Aristotle's emphasis on case knowledge (see Thomas 2011). Flyvbjerg (2011) argues that the privileging of Plato's search for universal truths around human behaviour was an error which has profoundly interfered with how social phenomena is understood. Thomas adds,

> *"The mistake was in the failure to distinguish between different kinds of inquiry for different purposes and it leads us, in extremis, to the absurd position that it is inappropriate to argue, gain insight or learn from particular examples, for fear that this might be thought anecdotal and, therefore, unscientific. The consequences radiate into all potential forms of commentary and analysis, and manifest themselves in the thinking of professional researcher and student alike"* (2011 p24).

Furthermore, the predilection for generalising and generalised knowledge in the Social Sciences is based on the need to assert the expert status of the researcher and satisfy concerns for 'external validity' (Campbell 1975). Thomas (2011) argues that social inquiry "should restrain a first impulse to make abstract, to generalise, to find principles, to synthesise - then to call all of this 'theory' and to engage in a pretence that reliable prediction is possible on the basis of the 'theory'" (p30). Such a process can actively inhibit examination and richer understanding of the research focus.

3.1.3 Phronesis and The Generalisable

Aristotle conceived knowledge in practical reasoning, craft knowledge, or tacit knowing (Flyvbjerg 2001). Berger & Luckmann (1979 p20) suggest that "the foundations of knowledge in everyday life" are constructed out of "subjective processes (and meanings) by which the intersubjective common-sense world is constructed" - meanings that provide "multiple realities". Nuanced understanding is shaped from a diverse range of heuristics and thinking tools spanning everyday life, including language, memory, axioms, folklore and professional vocabularies. For Grundy (1987 p61) the situated combination of knowledge, judgement and 'taste', produces 'discernment': a practical reasoning and judgement, about what is 'fitting' in specific circumstances. Thomas (2011) calls this phronesis: "the ability to see the

right thing to do in the circumstances" (p23). Case study is particularly suited to understanding phronesis, but there are problems with portraying examples as typical, or standard practices, transferrable to other contexts. Rather, Thomas argues for 'exemplary knowledge', which he describes as an "example viewed and heard in the context of another's experience (another's horizon) but used in the context of one's own (where the horizon changes)… interpretable only in the context of one's own experience - in the context, in other words, of one's phronesis, rather than one's theory" (2011 p31). Here, Social inquiry erects a dualism: generalisable knowledge based on theory on one side, and exemplary knowledge located in phronesis on the other. Thinking with New Materialism, I will explain how I dissolved this binary, and justify the suitability of case study for the focus of this research.

3.1.4 Case Study, Interpretation and Generalisable Knowing

Flyvbjerg (2011) insists it is possible to generalise from a single case when studied in great depth, (citing Albert Einstein, Charles Darwin and Isaac Newton), but this is contingent upon the specific case, and how it is delineated. There may be circumstances where it is not appropriate to generalise case studies. Narratives of in-depth case studies may be difficult to summarise into general propositions and neat theories (see Mitchell & Charmaz 1996). Flyvbjerg (2011) questions the orthodoxy in academic thought that summarising and generalising is considered ideal, arguing that a case study which is hard to summarise "is often a sign that the study has uncovered a particularly rich problematic" (p311), and that "good studies should be read as narrative of their entirety" (ibid p313). Yin (2013) cautions that sometimes longtitudinal or ethnographic case studies can suffer when enormous amounts of data is poorly organised.

There can be legitimate concerns over small sample sizes, contributing to scepticism that case study is an exploratory tool best suited to pilot study (Yin 2013). However, Hamel et al (1993) note the value of a larger sample size can be outweighed by the capacity for case study to establish boundaries and set the objectives of the research. In addition, Ragin (1992), Geertz (1995), and Wieviorka (1992) point to researchers working on in-depth case studies who report that their initial preconceptions and assumptions were inaccurate, and that the process of case

study compelled them to revise their hypotheses. Shaughnessy et al (2003) caution that case studies can be 'impressionistic' and their self-reporting prone to bias. Dyer & Wingfield (2005) argue that the interpretive tradition involves 'selection' known only to the researcher, rather than the objectivity afforded by a quantitative approach to research. Flyvbjerg (2011) strongly refutes that case study is more prone to bias than any other method of inquiry, arguing that, "the element of arbitrary subjectivism will be significant in the choice of categories and variables for a quantitative or structural investigation, such as a structured questionnaire to be used across a large sample of cases" (p310).

I have chosen to proceed with case study for several reasons. Case study enables the setting of boundaries defining a sample, which can be undertaken by a single researcher without requiring a research team. Case study is intensive and can catch unique circumstances that may otherwise evade apprehension in larger scale data. The production of 'exemplary knowledge' (Thomas 2011) through 'thick description' can enable a deeper and richer understanding of the sample/situation, which has the potential to be understood by a wide audience (not just academics). Additionally, case study affords the potential to embrace unanticipated variables, and inter-related events aggregating over time.

The two schools I selected offered the opportunity to delineate two separate cases in different curricular areas. Each case produced exemplary knowledge, not for comparison, but rather to generate phronesis about working with photographs in educational settings. I chose to explore both cases through an ethnographically-influenced research approach.

3.2 Ethnography

The term ethnography emerged in the late nineteenth century, to distinguish the anthropological practice of producing descriptive accounts of the lives of groups of people in "colonial situations around the world" (Ericksen 2011 p44). These formal accounts were considered to be more accurate than the casual observations of travellers and the perspectives of colonial 'administrators'. Combining two Greek words, ethnoi, 'the nations, the *others*', and graphein, 'to write', ethnography is the

act of “writing about a people”, which produces “an account of the way of life of a particular community or society” (Hammersley 2010 p386). Such accounts were seldom written to be read by the observed. The imperious and intrepid ‘Golden Age of Ethnography’ (Ericksen 2011 p47) peaked in the middle of the twentieth century amid growing tensions between ‘participant and analytic perspectives’ (Hammersley 2010) and ‘naïve realist beliefs’ (Banfield 2004). Modern ethnographic practice has diversified to encompass nuanced variations, such as ‘critical’ ethnography, auto-ethnography and performance ethnography (Pink 2004, 2012). Methods, values, principles and ontological & epistemological positions are fluid, and contested (see Glaser & Strauss 1967, Lincoln & Guba 1985, Pink 2009). Ethnography conducted by these definitions is contingent upon how the researcher interprets the world they insert themselves into, how they go about inserting themselves, and the environment chosen for their study.

An ‘ethnographic perspective’ (Green & Bloome 2005) seeking to understand the potentialities of photographically-mediated communication and meaning-making in school faces a multitude of issues:

- Access to students and teachers under the pressures of performativity (Ball 2003)
- Time for discussion and research activity within a crowded school-day
- Issues of trust between young people and an adult researcher
- Issues of apprehending and representing everyday sociomaterial practices
- Issues of gaining access to young people’s private lifeworlds (Jones 2008)

Furthermore, education and the practices developed in school no longer take place only inside the classroom. In Chapter 2, I discussed ‘modern literacy practices’ (Kress 2003, Ivanic et al 2009) and the impact of an increasingly participatory and predominantly visual culture. The ‘classroom’ is no longer the same space, or place it was, and long-established educational (and pedagogical) boundaries are being eroded (see Bernstein 2000, Kress 2008). For these reasons, I have chosen to examine both cases through the lens of assemblage ethnography (Youdell & McGimpsey 2015).

3.2.1 Assemblage ethnography

Wahlberg (2022) notes a distinctive shift in in ethnographic focus in recent decades, away from the study of 'people' and 'societies', towards the study of infrastructures and assemblages. 'Assemblage ethnography' (Youdell & McGimpsey 2015) is linked to the participatory fieldwork methods that dominated ethnographic interest in social organisation throughout the twentieth century. However, these distinctive patterns, forces, and affects of social production are no longer discernible as village-level "accumulations of a group's common experiences ... perpetuated by a symbolic system" (Fei 1992 p55). Assemblage ethnography is a methodological approach to new forms of technologically-facilitated social organisation in a globalising world (Wahlberg 2022). Mills & Morton (2013) argue that for the twenty-first century ethnographer, the 'field' is no longer simply a 'geographical place', but becomes a "conceptual space" replete with "abstract connections" (pp65-66). They suggest that "'fieldwork' now becomes as much a state of mind as a set of research practices" (ibid p63). Barry (2013) insists that ethnographic accounts drawing on sociomaterial approaches can surface detailed fragments that will "never likely to add up to a complete picture but will nonetheless reveal something that was perhaps unexpected or unanticipated" (p418). To explain how I proceeded with an assemblage ethnography, I will expand on Deleuzian thinking around assemblages, introduced in Chapter 2 (above), and explain how this informs New Materialist ideas on social inquiry.

3.2.2 Deleuzian Assemblages

Deleuze and Guattari (1988) theorise assemblages as aggregations of physical, psychological, social and cultural forces interacting in relational networks. Rather than occupying distinct and separate spaces (Latour 1993, DeLanda 2006, Braidotti 2013) these components possess no ontological status other than that produced through their relationship to other things and ideas. Deleuze & Guattari (1988) argue that all components of an assemblage have an agential capacity to 'affect' or will be affected in, 'overlapping territories of affectivity and becoming'. These territorialisations and de-territorialisations are the means by which lives, societies and history unfold, "in a world which is constantly becoming" (Thrift 2004 p61). Within assemblages, the intra-action(s) of affects produce affective intensities.

Because one affect can produce multiple repercussions, social production is recognised as mutable, relational and emergent: becoming, more than singular and stable (Coole & Frost 2010), and rhizomatic more than linear. Rather than ask what something *is*, Deleuze & Guattari (1988) invite us to consider what something *could be*.

Delanda (2006) asserts that an assemblage cannot be reduced by the sum of its parts, because each part also has capacity, otherwise understood to be latent potential, or 'agency'. These latencies together can produce different and multiple assemblages in different and multiple environments. The assemblage of the classroom, within the wider assemblage of compulsory education is similarly complex, and resists cuts and compartmentalisation to assist with conventional ethnographic investigation. Thinking with the flexible and reflexive qualities offered by Deleuze & Guattari's (1988) notions of 'multiplicity', 'becoming' and the 'assemblage', enables the researcher to analyse human and 'more-than-human' materialities by both their properties and also their capacities, paying attention to what things *could be*, just as much and what they *are*. Materiality in this context requires some further explanation.

3.3 New Materialism

In the Humanities and Social Sciences, New Materialism has become the collective term for a diverse range of perspectives sharing a common interest in the turn to matter. Gurney & Demuro (2022) claim that "a singular-homogenising definition is not feasible" (p2), but note that the general consensus of ongoing discussion goes beyond anthropocentricity and rejects binary thinking in social theory, "or that which divides the world into matter/spirit, nature/culture, structure/agency, human/nonhuman, reason/emotion, and so on" (ibid p2). New Materialism invites a shift from epistemology to ontology - collapsing both into an 'onto-epistemology' (Gamble et al 2019). Montefore (2018) argues that New Materialism turns away from concerns about representation and discourse to explore relations between bodies; entanglements, assemblages and social aggregations. Fox & Alldred (2017) describe this as "a focus upon social production rather than social construction" (2017 p4). New Materialism is concerned with the material workings of power.

3.3.1 Historical Materialism

Fox & Alldred (2014, 2015, 2017) note that 'Historical Materialism' was a feature of early sociology. A Marxist-influenced iteration of Materialism offered an explanation of contemporary social processes. Focusing on the macro-level forces and structures influencing the wider economic and political context of material production and consumption, power was understood as a top-down force, entwined with oppression (Edwards 2010). Post-colonial and feminist sociologies questioned the myopic focus on economic determinism and social class. A post-structural turn in the Social Sciences (Braidotti 2006), galvanised fresh perspectives on gender, race and social identity (Foucault 1980, Butler 1990) with a focus on cognitive construction (Taylor & Ivinson 2013). Fox & Alldred note that, "the post-structuralist turn has been criticised by some for privileging textuality and cultural interpretation within the sociological imagination, at the expense of matter and materiality" (2017 p6). 'New Materialisms' have emerged, building on the contribution of post-structuralism and resisting the earlier predilection for reductionism. New Materialism emphasises the materiality of the world and everything in it, looking beyond the dualisms of mind/body, structure/agency and culture/nature, to focus on processes and interactions (Deleuze & Guattari 1984). Thinking with this New Materialist 'onto-epistemology', rather than essential and fixed, everything is relational and continual in a wider entanglement of 'matter' and 'things'.

3.3.2 Monism

Derrida (1976) observes that 'dualisms' inevitably create false or unnecessary binaries by privileging one pole of opposition at the expense of another. Fox & Alldred (2018a) note that while Social Theory has illuminated binary oppositions or 'dualisms' that shape human thinking, nevertheless, two contrary tendencies persist within Sociology:

> *"On one hand, structuralist sociologies' concern with the determining features of social norms, roles, rituals and systems (for instance, Marx's focus upon an economic 'base' structuring social interactions or critical realism's commitments to uncovering underlying 'mechanisms'), overemphasise social*

continuities and stability at the expense of flux and possibility… On the other, an emphasis upon human agency has led to an 'undersocialised' sociology that privileges reason and reflexivity, desires and emotions, while downplaying the social and material contexts of events/interactions" (p316).

New Materialism advocates a flat ontology, or 'monism' (van der Tuin & Dolphijn 2010 p155). Monism collapses conventional social theory dualisms - including agency/structure, nature/culture, animate/inanimate, human/non-human, micro/macro, surface/depth, word/world, and mind/matter (Deleuze & Guattari 1988, Haraway 1991, Barad 2007, Coole & Frost 2010, Braidotti 2013, Fox & Alldred 2017). Furthermore, New Materialism challenges the approaches of 'critical sociology' (including Critical Realism and Marxism) to understand and describe the underlying structures or systems that shape the social. New Materialist analysis demands that structural explanations such as neo-liberalism or patriarchy are the outcomes rather than the causes of interactions, and are aggregations - 'assemblages' - that themselves need explanation.

3.3.3 New Materialism and assemblage theory

DeLanda applies 'Deleuze & Guattari's (1988) concepts of relationality and affect to establish his Assemblage Theory (2006, 2016) in which "the component parts are constituted by the very relations they have to other parts in the whole. A part detached from such a whole ceases to be what it is" (Delanda 2006 p9). Thinking with New Materialism and a monist ontology, everything is contextual and relational, rather than essential and absolute. There are no structures, no systems, no mechanisms - or 'other levels' - that make things do what they do. Instead there is immanence - fluxes and becomings: an endless flow of 'events', comprising the material affects of relations. Bogue notes that "Deleuze's conception of structure is ultimately that of a structured chaos or chaos-structure: a nomadic distribution" (1989 p76). Deleuze uses the term 'nomadic' in the sense of a latent immanence which refutes and transgresses institutionalised "striated, or gridded" (Semetsky 2008 p viii) ways of thinking and operating. Thus, the focus of New Materialist research shifts from attempting to define what bodies or things or social institutions are, towards understanding the capacities for action and interaction produced by affective flows

(Deleuze & Guattari 1988 p127). Systemic or structural explanations of power are replaced by micropolitical analysis of what the assemblage does: its affect economy (Clough 2008). Hence New Materialism's orientation towards 'assemblages': assemblage ethnography, 'event' assemblages, 'research' assemblages, and 'hybrid' assemblages.

Fox & Alldred (2017) observe that this is a shift from what Deleuze & Guattari termed 'Royal' Science (1988 p372) in which stable entities are predictable and reproducible in controlled contexts, to a 'transgressive' or 'minor' Science that seeks out variability, flows and singular events. A minor Science recognises possibilities for transformation and change. Together with Deleuze & Guattari's and Delanda's thinking on assemblages, the wider and more contemporary scope of assemblage ethnography has enabled me to develop a practicable methodology to explore the complex lived-experience of individuals and groups 'affecting and being affected by' working with photography in educational 'assemblages'. I will now offer further explanation of how Deleuze & Guattari envisaged that assemblages can be operationalised as research 'machines' to produce data, analyse data, and generate reporting outputs.

3.4 Assemblages as research machines

Event assemblages, research assemblages, and hybrid assemblages

Deleuze & Guattari theorise assemblages as machines that "do something, produce something" (1988 p4). In the context of research, Barad (2007) argues that such machines can interrogate the 'intra-actions' of material relations that produce phenomena. These machines can be 'plugged into each other' (Fox & Alldred 2017). In simple terms, a 'data collection machine' apprehends the affects of an event, to generate 'data', feeding an 'analysis machine' which processes this data to produce 'findings' in the form of summaries (Jackson & Mazzei 2012). A 'reporting machine' creates theory, practice implications and policy - knowledge products - for wider dissemination. I will explain this approach to research with reference to Diagram 1, below.

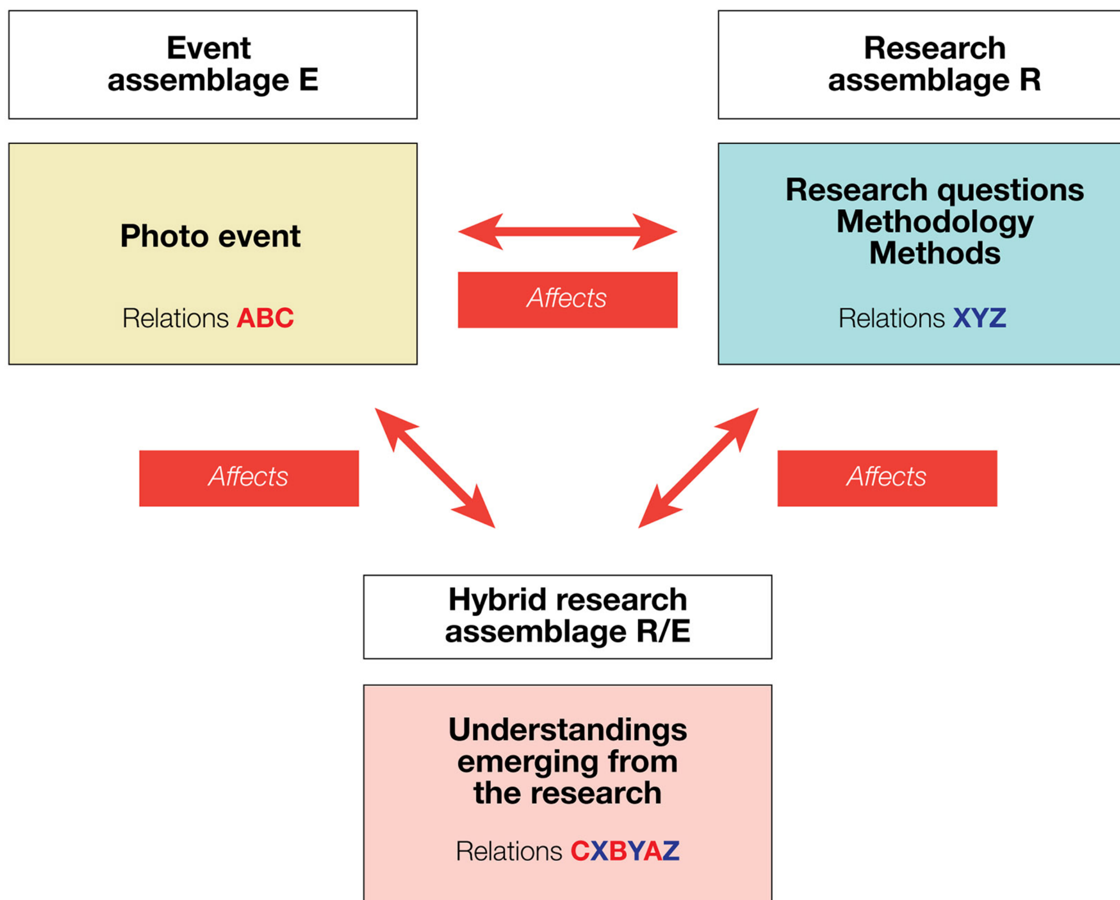


Diagram 1: Assemblages in research

From a Deleuzo-Guattarian assemblage perspective, the occurrences of an event constitute an event assemblage: 'E'. The flows and forces that characterise the event are the affect economy of 'E' (Clough 2008). Drawing on Fox & Alldred (2014, 2017), for the purposes of this theoretical explanation I will label the affect economy (the intra-actions) within the event assemblage 'E' as '*ABC*'. In research, event assemblage 'E' becomes the focus of study. 'R' is a research assemblage, applying methods to identify and understand the affective relations within 'E' known as '*ABC*', to produce knowledge of the event 'E'. The research assemblage 'R' is comprised of the "paraphernalia of academic inquiry: researcher, methodologies, research, theories and so on" (Fox & Alldred 2017 p157), which themselves are characterised by their own affective relations, labelled for this explanation as '*XYZ*'. In order to usefully analyse event assemblage 'E', the research assemblage 'R' must be sufficiently sensitive to being affected by the flows and forces of 'E'. This interaction

between ‘E’ and ‘R’ produces a new hybrid assemblage ‘R/E’ with the combination of ‘*ABC* & *XYZ*’ producing an affect economy of its own: ‘*CXBYAZ*’. I will now apply this theoretical explanation to the specific context of this research.

1. The Event Assemblage (E): Photo event

The Photo Event Assemblage (E) was constituted by the affect economy of discursive and material relations, in events where the research participants worked with photographs across both cases (School A and School B). Data (represented in Figure 1 above as ‘*ABC*’) was produced through fieldnotes, photographs and interviews with individuals and focus groups.

2. The Research Assemblage (R): Instruments of research

The Research Assemblage (R) was constituted by the relations and capacities around the research inquiry process. These included: the research questions, myself as the researcher, the data collection methods, and theory, represented in Figure 1 as ‘*XYZ*’. These relations alone have a limited affect economy, but thinking with Deleuze & Guattari’s ideas of assemblages as ‘machines which produce something’, the research assemblage (R) has capacities to manipulate and produce ‘data’ from the affective flows and relations between the researcher, data collection methods and photo event(s) that constitute the Event Assemblage (E).

In a simplified explanation of the process, the research assemblage machine (R) takes the ‘event assemblage’ (E) as the ‘raw material’ to produce data which goes on to form the final *hybrid-research* assemblage (R/E).

3. Hybrid-Research Assemblage (R/E)

The Hybrid Research-Assemblage (R/E) is constituted by the affective flows of the relations and capacities in both the Event Assemblage (E) interacting, and “*intra-*acting” (Barad 1996 p179) with the Research Assemblage (R) (see Figure 1, above). This final assemblage (R/E) has its own affect economy ‘*CXBYAZ*’ that produces the outputs of research, including ‘knowledge’ of the event assemblage (E), “and potentially altered sensibilities concerning E, in the researcher, among research audiences, and perhaps also the people caught up in the event” (Fox & Alldred 2014

p6). As the researcher, I understand that I am part of the research-assemblage rather than exterior to it.

I will explain in greater detail in the section on analysis (below) how I have presented these hybrid research assemblages 'on the page' in the Findings chapter of this thesis (Chapter four) as vignettes - or 'raw tellings' (Masny 2014 p 352). I selected these vignettes their capacities to affect and be affected (their affect economy), drawing the reader in to provoke new thinking and lines of flight.

3.5 Critical Application of Assemblage Theory to Ethnography

Fox & Alldred (2014) express caution regarding the potential for two distinctively different potential problems ensuing from the hybridisation of R & E: the relative dominance of affect exerted by research assemblage 'R' or event assemblage 'E' within the hybrid-research assemblage 'R/E'. Put simply, if the affective relations '*XYZ*' in the research assemblage 'R' are insufficiently robust or lacking in sensitivity, they may be dominated by the affective relations '*ABC*' in the event assemblage 'E'. Should this happen, then the hybrid 'R/E' assemblage will produce plainly descriptive accounts of the affect economy of 'E', rather than richer, critical insight into its workings. Conversely, if the affective relations of '*XYZ*' (the research 'paraphernalia') are excessively invasive within the hybrid assemblage 'R/E', the research assemblage 'R' will alter the affective flow and distort how knowledge of event assemblage 'E' is produced.

Further explanation of the importance of the attunement of the research instruments of 'R' to the occurrences of 'E' may be helpful here. Operating as a machine, the research assemblage 'R' can function as a filter on the affect economies of events being studied 'E'. The selection and operation of research tools and methods can privilege some forms of data over others. In analysis, the act of coding can impose further distortions by forcing data into analyst-defined aggregations that emphasise structure and coherence over randomness and complexity. This would serve to emphasise the affect economy of 'R' rather than of the event 'E' itself. To balance the interference of 'R' on 'E', singular affects might be witnessed, recorded or even counted, but not coded reductively or aggregated into simplified patterns. For reporting, I drew from Masny's (2014) vignette format to express relations and

affects across and between assemblages in ways that does not reduce them to text, but instead report on the findings in such ways that the reader is drawn into "becoming-with the data" (Hultman & Lenz Taguchi 2010 p534). In later sections of this chapter will explain more in greater detail about the process of analysis and reporting employed in this research (see '3.10.3 Rhizoanalysis') and how this approach aligns with Deleuzian notions of affect - and Barthes's openness to feeling 'madness', rather than Mitchell's pursuit of 'reading' explicit and stable 'meaning'.

3.6 Summary

For this research, 'assemblage ethnography' enables apprehension of the complex lived-experience of individuals and groups working with photographs in educational settings. By applying a research-assemblage onto-epistemology, the different stages of inquiry can be understood, and set to work as, 'machines' to produce specific research outputs. Drawing from Fox & Alldred (2014, 2015, 2017) I refocused the tools of research which traditionally privilege human experience, including interviews and narrative accounts, on the *intra*-relations and affective flows within assemblages to include human and more-than-human dimensions of social and material processes. These dynamic flows, affects and aggregations of Deleuzian assemblages cut across micro, meso and macro levels, de-territorialising and re-territorialising (Taylor & Ivinson 2013). This constant 'becoming' was mapped as it unfolded and enfolded rhizomatically, through a process of 'rhizoanalysis' (Masny 2013a, 2014, St. Pierre 1997, 2011). I will offer a more detailed explanation of some of these key terms and ideas in the next section, in which I outline specific methods and approaches.

3.7 Research Approach – Methods

3.7.1 Exploratory practice

This research draws upon the principles of Exploratory Practice. Allwright (2005) defines Exploratory Practice as a form of educational practitioner enquiry, distinctive for its sustainable goal to develop understandings of what goes on in learning environments in order to inform action. Rather than a focus on solutions which may limit the ambition of the enquiry, Exploratory Practice eschews the language of 'problems' and concerns itself with achieving a greater understanding the complexity

of ‘puzzles’ - situated within the participants’ own practice, in order to bring about change. Furthermore, such ‘puzzles’ can emerge as issues that cannot be effectively addressed at the level of the classroom or even as an institution. However, a better understanding of the issue may enable work in the classroom to proceed less troubled by frustration, anxiety or doubt.

In this respect, Exploratory Practice’s focus on *understanding* differentiates it from the more vigorous, problem-seeking-and-solving orientation of Action Research (Kindon, Pain & Kesby 2007). Dar & Gieve (2013) caution against the sort-termism and burn-out typical of many ‘solution-focused’ practitioner research and professional development projects. Exploratory Practice is also intended as an antidote to the contemplative focus of Reflective Practice through which teachers’ self-awareness of what they do or think becomes heightened, but such insight can remain somewhat passively disconnected from the process of formulating actionable remedies for improvement (Farrell 2007). Exploratory Practice differs distinctively from Lesson Study (Fernandez & Yoshida 2008). Originating in Japan, Lesson Study involves teachers in developing, observing and evaluating lessons. However, Jansen et al (2021) note the pressures that invested teachers can feel under to produce positive findings, and to avoid issues which may hinder the research, thereby distorting the enquiry.

In this research, the teachers and students in schools A and B were co-researchers alongside me - active participants, making contributions to the fieldwork by exploring the opportunities to work with photographs in educational settings. The students shared their responses and feedback with me in individual and focus group conversations, and in on-going feedback loops with their teachers, who took these emerging, experimental ideas forwards in their own pedagogy. Together, we embraced the seven core principles of Exploratory Practice, as set out by Allwright & Hanks (2009):

1. Focus on quality of life as the main issue.
2. Work to understand before thinking about improving.
3. Involve everybody as practitioners developing their own understandings.
4. Work to bring people together in a common enterprise.

5. Work co-operatively for mutual development.
6. Make it a sustainable enterprise.
7. Integrate the work for understanding into existing curricular practice to minimise the burden.

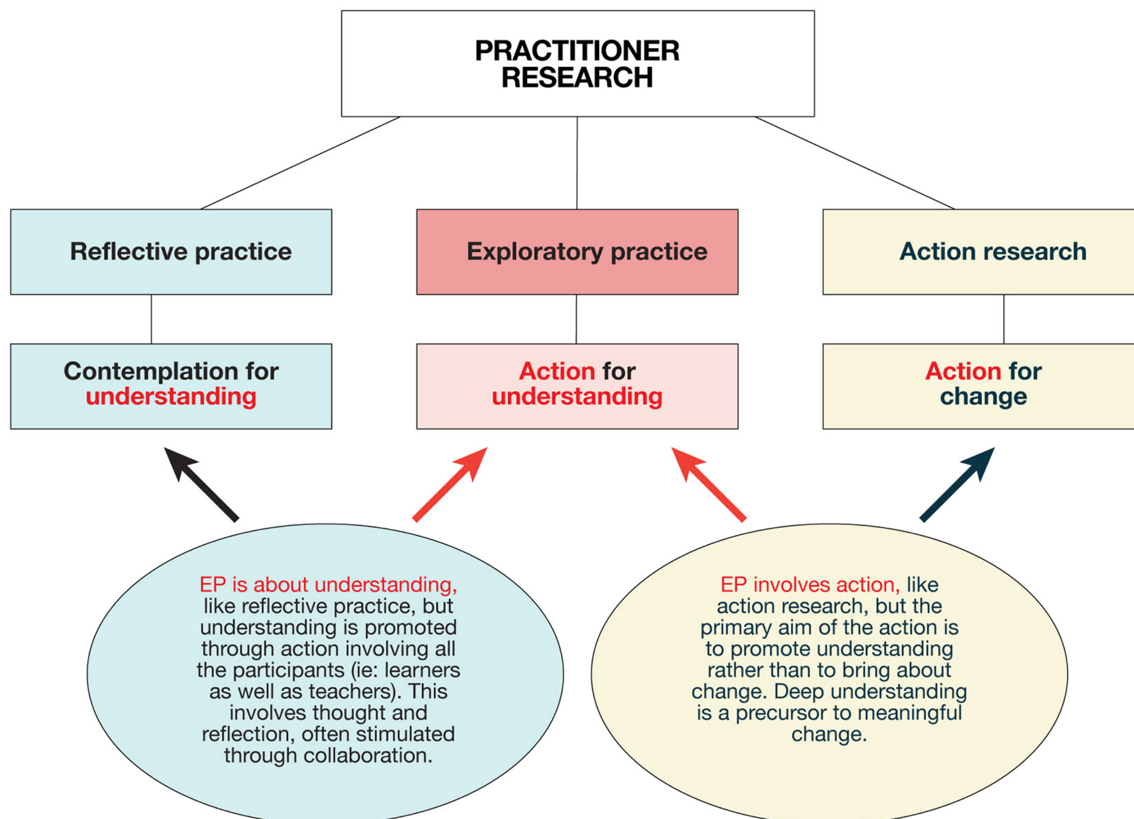


Diagram 2: Exploratory Practice

Diagram 2 (above) highlights distinctive differences and affordances in practitioner research. I chose to work with Exploratory Practice primarily for its minimal disruption to current curricular practices. By focusing on quality of life and enabling participants to develop their own situated understandings for their mutual benefit, Exploratory Practice assists in positioning the experience of participating in the research as something not 'done to' participants (see Punch 2019) but rather, more meaningful, with the resulting research findings more likely to be practicable and sustainable. Working in this way, participants are not an "epistemological dead-end" (Sommer 1994 p532) rendered as an object of knowledge to be examined or 'mined', but instead positioned as 'provocateurs' (St. Pierre 2011 p620) and collaborators, in

producing lines of flight which fuel new and further thinking which in-turn, sustains the inquiry.

In the following sections I provide a framing of how the ethnographically-influenced fieldwork ensued. Data collection for qualitative inquiry in secondary schools requires sensitivity and flexibility on the part of the researcher. The 'business of schooling' takes precedence over 'research intentions' (see Allwright 2005). While classroom observations can be planned in advance and fieldnotes gathered with little interruption, time for formal interviews was limited, both during school hours, and out-with. Students in lower secondary school (S1-S4) are afforded no self-directed study time. The whole school day (approximately 8.45am to 3.45pm) is taken up with lessons, apart from brief morning and afternoon breaks, and a longer lunchtime. Adhering to the principles of Exploratory Practice, the research proceeded tactfully. Data collection methods included classroom observations, conversations with individuals and focus groups using semi-structured techniques, such as photo-elicitation (Clark-Ibanez 2004) and 'go along' interviews (Kusenbach 2003, Carpiano 2009).

3.7.2 Formal approaches to schools

Ethical approval from the university's Ethics committee was granted (see appendix 1). I proceeded to request permission from the relevant local authorities to make official contact with the schools I had provisionally identified. I met with teachers in both schools who had expressed the strongest interest in my research. I formally introduced myself (see McCartan et al 2012) as a university researcher with an interest in the educational significance of young people's everyday use of photographs and the practice of photography. I explained that I was conducting qualitative research into how young people's everyday sense-making and communication through digital photography alongside - or in place of words - could be purposefully harnessed into educational settings. In both schools I explained to the teachers (and subsequently their students) that the research would move through three stages: Data collection (fieldwork), Analysis, and Reporting.

3.7.3 Access in School A

Through the depute Head Teacher of School A, I met with a teacher of Science. We discussed the possibilities for students to use photography to record and review significant moments of practical activity in Science classes. We agreed to involve the students in discussions about how they thought they could make use of their everyday photographic practices in their learning. The Science teacher identified two S2 groups who he would be teaching for three periods each week for the whole forthcoming academic year and would not be subject to the pressures of National 5 examination. We agreed that the timing of several of these classes would fit in well with my own commitments, and that they would be mutually suitable for me to observe and conduct planned research.

3.7.4 Access in School B

I arranged a meeting with the depute Head Teacher of school B who directed me to meet with the Principal Teacher (PT) of English. The PT spoke about students' interest in reading and explained that boys were more likely to resist encouragement to read for pleasure. She also spoke about a poor response to homework. Together we identified an S3 English class group that would not be subject to the pressures of National 5 examination. Their timetable fitted in well with my other commitments. We decided that (subject to securing informed consent from the students) this group would be suitable for me to observe and conduct planned research.

3.7.5 Acquiring and maintaining on-going informed consent

I explained to students in both schools that my research plans had been approved by the University of Stirling's Ethics committee, by the local authority and by the Head Teacher of their school. But, in addition I needed the permission of the students themselves. I distributed a written consent form (appendix 2) and talked-through how it summarised what I had spoken to them about. I explained that their signature was required on the consent form, and that also, because of their age, their parents should sign the form, giving their permission. With the assistance of the teachers, who distributed the forms and offered reminders to the students during the course of the preceding week, I returned to schools to collect sets of consent forms with

signatures from students, and parents or legal guardians. There were no refusals or requests for further clarification. In subsequent conversations, interviews and focus group discussions I verbally re-iterated the ethical considerations of the research and the right not to participate, but also to withdraw at any stage.

3.7.6 Ethical considerations on the uses of photographs

Due to the complexities of the use of photographs with young people in schools, attention to ethical concerns were in-depth and detailed. I submitted a lengthy proposal for consideration by the university's Ethics committee. In this research I followed ethical guidelines issued by Association of Social Anthropologists of the UK and the Commonwealth (ASA 2011), and the British Psychological Society's (BPS 2010) Code of Human Research Ethics. These principles can be summarised as five key points:

1. Researchers should endeavour to protect the rights, privacy, and well-being of participants
2. Participation in research should be voluntary, with informed consent
3. Participants can decide to withdraw from the research at any point in the process
4. All personal information should be treated with confidentiality, and participants anonymised unless they specifically request to be identified;
5. Participants should be assured of anonymity and confidentiality in publication and dissemination of the research and its findings.

Wiles et al (2008) note that "Such guidelines are necessarily very general; they do not provide answers to how researchers should manage the specific situations that they might encounter in their research but rather outline principles to enable researchers to think through the specific situations that occur" (p8). Recognising a paucity of support for researchers working with visual methods, Cox et al (2014) propose six principles:

1. Confidentiality
2. Minimising harm
3. Consent

4. Fuzzy boundaries
5. Authorship and ownership, and
6. Representation & audience(s)

While the first three align with the five overarching principles of research (above), three further issues become pertinent in qualitative research are worthy of some further explanation here.

Gubrium et al (2013) note that in projects using visual research, participants may produce or co-create artefacts with significant personal investment beyond what might be expected from approaches without visuals. In this blurring of boundaries, there should be recognition of the multiplicity of purposes that visual artefacts can hold for the participants of research which may not be shared by others involved in the project. Appropriate acknowledgement of authorship and ownership of visual artefacts produced as part of the research process needs to be agreed, in order to develop and maintain interpersonal relationships between the participants and researcher. Attention to this aspect can contribute directly to the depth and richness of contributions that participants can be willing to make to the research. Additionally, the researcher needs to recognise that in reproduction and dissemination, cropping or captioning may distort the original intentions of the maker or 'chooser' of visual artefacts. Lastly, when research outputs are shared publicly, how they will be received by audiences cannot be fully anticipated.

In contextualising the research to teachers and students, I specified verbally and in writing on the consent form that anyone participating in the research should not photograph faces or share their images on social media platforms. With verbal consent agreed on an individual basis, I have re-photographed some images made by students as they were displayed on their own phones. Photographs produced as part of the project have not been shared online, and appear only in this thesis. Any contextual details which could enable individuals or the schools in both cases to be identified have been removed or obscured from photographs in the final presentation of this research. No students' faces appear in any of the photographs included in this thesis, and no individuals can be traced back to either of the two case studies. Images are accompanied by captions indicating (where possible) the author of the image.

3.8 Fieldwork and Data Collection

With all permissions and consents in place, fieldwork was conducted over a period of 12 months, June 2016 - June 2017 generating data detailed in Tables 1 & 2: Data sets (below).

School A – S2 Science students (aged 12-14 c.50% male & 50% female)

June 2016 to March 2017	**Classroom observations**	**Walk-along interviews**	**Formal student focus groups**	**Meetings with teachers**
Quantity	*19 lessons x 55mins each*	*4 events*	*4 meetings*	*8 interviews*
Total duration	*c.19 hours*	*c.45 mins*	*c.100 mins*	*c.4 hours*
Total Participants	*2 groups of c.20 students*	*6 boys 2 girls*	*8 boys 7 girls*	*1 teacher*
Data collected	*Field notes. Photographs taken by researcher, and students. Written notes of conversations, not audio recorded.*	*Written notes and audio recordings.* *Transcribed.*	*Written notes and audio recordings.* *Transcribed.*	*Written notes and audio recordings.* *Transcribed.*

Table 1: Data sets (School A)

School B – S3 English students (aged 13-15 c.40% male & 60% female)

January 2017 to June 2017	**Classroom observations**	**Walk-along interviews**	**Formal student focus groups**	**Meetings with teachers**
Quantity	*9 lessons*	*2 events*	*3 meetings*	*7 interviews*
Total duration	*c. 9 hours*	*c.20 mins*	*c.100mins*	*c.4 hours*
Total Participants	*1 group of c.22 students*	*3 boys 2 girls*	*6 boys 6 girls*	*1 teacher*
Data collected	*Field notes. Photographs taken by researcher, and students. Written notes of conversations, not audio recorded*	*Written notes and audio recordings.* *Transcribed.*	*Written notes and audio recordings.* *Transcribed*	*Written notes and audio recordings.* *Transcribed.*

Table 2: School B (Data sets)

School A focused on the curricular area of Science, while School B focused on Literacy (English language). The majority of fieldwork in School A took place predominantly in specialist classrooms modelled on Science laboratories, with sinks and gas taps at each table. Initially I took a passive role, mostly observing from the back of the room. In School B, fieldwork took place in regular classrooms, where I initially sat back, but with the agreement of the English teacher (and the curiosity of the students) I became more involved in the structure and direction of some of the lessons.

3.8.1 Classroom observations and fieldnotes

Learning to be attentive to the more-than-human, and "trying to notice differently, with the potential of curiosity" (Pacini-Ketchabaw et al 2016 p165), I made notes in both schools about dates and times of visits, prevailing weather conditions, the manner in which students entered the classroom for each lesson and the time taken to settle (Denzin 1997). I noted the type of lesson: contextualising presentation or lecture, discussion, demonstrations by the teacher, practical student activity, jotter-writing or revision sessions. Geertz insists that, "The ethnographer '*inscribes*' social discourse… turn[ing] it from a passing event, which exists only in its own moment of occurrence, into an account, which exists in its inscription and can be reconsulted" (1973 p19). Emerson (1995) acknowledges the 'consequential presence' of the ethnographer in fieldwork, and the inevitable preferencing of some events and details above others. In both cases I noted what seemed to be everyday moments and specific incidents, including short sections of dialogue between students, or between students and the teacher with the intention of reading and re-reading them in analysis with other data, gathered through additional methods.

3.8.2 Audio recording interviews, and transcription

I used a small, portable digital audio recorder to make high-quality stereo recordings of formal and informal interviews (see tables for School A and B above). Recordings in mp3 format were downloaded to my computer and then stored securely on a separate portable hard drive. Some of these recordings were fully transcribed. However, recognising the ebb and flow of semi-structured interviews, I quickly came to the decision to only transcribe selective sections which seemed more pertinent to the focus of the inquiry. These choices were made after several complete 'listen-throughs' to the audio recordings.

3.8.3 Formal focus group interviews

Teachers in both schools facilitated my request to speak with groups of students during class-time. Participation in these 30-minute discussions was voluntary. Some students seemed to view the discussions as opportunities to 'get out of class', while the majority participated more purposefully in the process, taking the opportunity to share their thoughts and feelings. Groups of six, or seven students sat together,

either around a table, or where possible on chairs arranged loosely in a circle, without the barrier of a table. In all the formal interviews, I made sure to sit on the same type of chair as the participants, and join them in their grouping, rather than position myself separate or opposite. I met with the teachers in both schools in one-to-one interview settings. On these occasions we sat together informally in empty classrooms or staff workrooms.

3.8.4 Informal interviews: Go-alongs

Kusenbach (2003) identifies two significant shortcomings of the interview encounter with respect to its ability to reconstruct the informants' lived experience: firstly, the interactional constraints of the formal interview encounter, and secondly "the limits of narrativity" (p462). Research participants can either consciously refuse to talk about certain topics, or may struggle to verbalise coherent responses at short notice, no matter how much they may wish to collaborate. Gauntlett (2005) highlights how adult assumptions about oracy skills and verbal competencies can influence formal interview encounters with children and young people. Research participants (of any age) may also overlook issues that do not figure prominently in their awareness when sitting down to talk into a researcher's microphone in the isolation of formal research-interview spaces. Such spaces are often chosen for their affordance of low background noise and propensity to avoid interruption.

Kusenbach describes the 'go-along' as, "a hybrid between participant observation and interviewing" (2003 p463). Conducted while moving through the participants' local context, the go-along technique (in combination with other methods) can enhance the ethnographic researcher's understanding of participants' relational perspective(s) on place and space. The loosely-structured informality of go-alongs can surface participants' perceptions, associations, emotions, interpretations and practices 'in situ' (ibid p472). Uncovering more about connections, relationships and hierarchies and how individuals connect and integrate the various regions of their daily lives and identities can facilitate understandings described by Emerson (1995) in the context of ethnographically-influenced research as 'indigenous meanings'.

I had used the go-along technique in the fieldwork for the research in schools on participation (Mannion et al 2015), and recognised its affordances for 'giving participants their place' as knowledgeable 'experts'. Kusenbach acknowledges that go-along encounters are still 'contrived' (2003 p464) social situations. The presence and curiosity of the researcher undoubtedly disturbs the unfolding of ordinary events and alters this delicate, private dimension of lived experience. However, go-alongs stand a much better chance of uncovering aspects of personal lived-experience that frequently remain concealed or withheld during participant observations, and sit-down interviews (Carpiano 2009).

3.8.5 Photo-elicitation interview techniques

The practice of talking about photographs is referred to by a variety of titles: 'photo-elicitation interviewing' (Clark-Ibanez 2004), 'autophotography' (Ziller 1990), or simply 'photovoice' (Wang & Burris 1997). Photo-elicitation techniques facilitate narrative responses from participant-produced photographs (Pilcher et al 2015) by creating a 'bridge' (Pink 2005) between the researcher and participant(s). Weber (2008) highlights the capacity of photographs to 'jog memories' and to "elicit emotional as well as intellectual responses" (p45). Ethical concerns about the practice of photo-elicitation interviewing centre specifically on the researcher's dominant influence and over-management in areas of focus, interpretation and analysis (Joanou 2009, Pauwels 2010). This can lead to the possibility of the respondents reflecting and articulating what they perceive to be the researcher's preferred meaning. In this research I drew from Jenkings et al's (2008) epistemological position, that in photo-elicitation, the researcher is de-centred as arbiter, and participants collaborate in the co-production of meaning and understanding. In this inquiry I have attempted to accumulate the strengths and advantages of participant observation, interviewing, and go-alongs by pursuing them in combination in order to exploit the different perspectives and angles each provides. See data-set tables 1 and 2 (above).

3.9 Analysis

Guidelines for qualitative researchers offer definitions of qualitative data which is 'textualised', fixed, and made visible in words through fieldnotes and interview

transcripts (St. Pierre 2011). Coding is the suggested method through which themes in the data can emerge. Strauss (1987) insists, that any researcher who "wishes to become proficient at doing qualitative analysis must learn to code well… The excellence of the research rests in large part on the excellence of the coding" (p27). By this definition of analysis, coding is a method that enables the organisation and grouping of similarly coded data into categories through their sharing of similar characteristics. However, St. Pierre argues that "language cannot contain and close-off meaning and cannot transport meaning from one person to another, it's difficult to understand why we believe that isolating and labelling a word or group of words (a chunk) with another word (a code) is scientific or rigorous or 'analysis'" (2011 p622). Furthermore, the most significant data in a study might occur only once, rather than aggregate through representation in words, translated into codes and ultimately expressed as a statistical prevalence. Working with a socio-materialist theoretical orientation and methods, I gravitated to ideas on the practicalities of research, expressed by Law:

> *"In practice, research...needs to be messy and heterogeneous, because that's the way it...actually is. And also, more importantly, it needs to be messy because that's the way the largest part of the world is. Messy, unknowable in a regular and routinised way. Unknowable, therefore, in ways that are definite and coherent...Clarity doesn't help. Disciplined lack of clarity, that may be what we need"* (2003 p3).

3.9.1 To code or not to code…

St. Pierre & Jackson (2014) argue that coding is taught as analysis because it is 'teachable'. Jackson & Mazzei (2012) caution that, "coding takes us back to what is known, not only to the experience of our participants but also to our own experience as well". Tracing the patterns produced by coding "locks us into more of a territorialized place of fixed, recognizable meaning" (both p12). From this perspective, the reductive fixing and compartmentalising effects (and affects) of coding to enable a reporting of 'sameness', can serve to obstruct the production of new and different knowledge. "A focus on the macro produced by the codes might cause us to miss the texture, the contradictions, the tensions" (Jackson & Mazzei 2012 p12) of what Deleuze & Guattari (1988) call 'being', and Barad (2007) calls "the

world and its possibilities of becoming" (p396). In this research I have chosen not to code the data, choosing instead to work with a 'non-technique' and 'non-method' model of post-coding analysis that breaks open the data. St. Pierre & Jackson explain:

> *"Post-coding analysis cannot be neat, tidy, and contained. Furthermore, it cannot be easily explained either during or after analysis. It certainly cannot be replicated because it is emergent and experimental. In addition, its space–time cannot be secured in the traditional linear "process" trajectory of data collection-analysis-representation"* (2014 p717).

Invoking the ideas of Deleuze & Guattari (1988), post-coding analysis works like a rhizome, "open and connectable in all its dimensions; it is detachable, reversible, susceptible to constant modification" (1988 p12). Analysis (without coding) through the prism of the rhizome is Rhizoanalysis.

3.9.2 Rhizoanalysis

Rather than a method, rhizoanalysis is an approach to research by reading data intensively and transgressively, eschewing categorisation through traditional coding and hermeneutics. Rhizoanalysis involves reading the relationalities of affect between the components of assemblages (Masny 2014). For St. Pierre (2013), rhizoanalysis is non-representational, in that representation limits understanding to the world as it is currently known, rather than a world that *could be*. As discussed earlier in this chapter, assemblages are in constant flux, producing affect and being affected in ways which elude simple description (Fox & Alldred 2017). Rhizoanalysis transforms more traditional linear approaches to analysis which focus on interactions as a stable 'texts' to be 'read', and instead interprets them as a constantly moving configurations, 'messy' and ripe with potential for divergent, rhizomatic connections (Leander & Rowe 2006). For me, this resonates with Barthes's notion of 'feeling', rather than Mitchell's intent on 'reading'. Rhizoanalysis involves 'feeling' the data, in affective, sensate registers beyond words and the labels imposed by coding.

To do rhizoanalysis involves plugging-in to the assemblage, and 'reading-the-data-while-thinking-the-theory' (Jackson & Mazzei 2012). Brinkmann (2015) describes

being open to ‘strangeness’ and the importance of stumbling. “We should, as qualitative researchers, allow ourselves to stay unbalanced for a moment longer than what is comfortable, for this is where we may learn something new” (p724). For Davies (2014), this is the emergence of “new mappings, onto-epistemological, ethical mappings” (p734). From these positions, I have taken the view that conventional coding methods ‘fix’ data around what is already known, and mask a focus on what *could be*. Rhizoanalysis breaks-up linear thinking about agential cause and effect and opens up a space of awareness in which it is possible to apprehend emergent, multidirectional, intra-active interferences: ‘being’ and ‘the possibilities of becoming’.

The implications for my approach to this research are that sense emerges from reading the world and self, sensitively through affect, immanence and lines of flight (Masny 2014), in assemblages functioning as machines of agential human, non-human, abstract and material components (Fox & Alldred 2014, 2017). The Photo Event assemblage ‘E’, interacting with the Research Assemblage ‘R’, to produce the hybrid Research/Event assemblage ‘R/E’: ‘understandings emerging from the research’. See the diagram reproduced again, below:

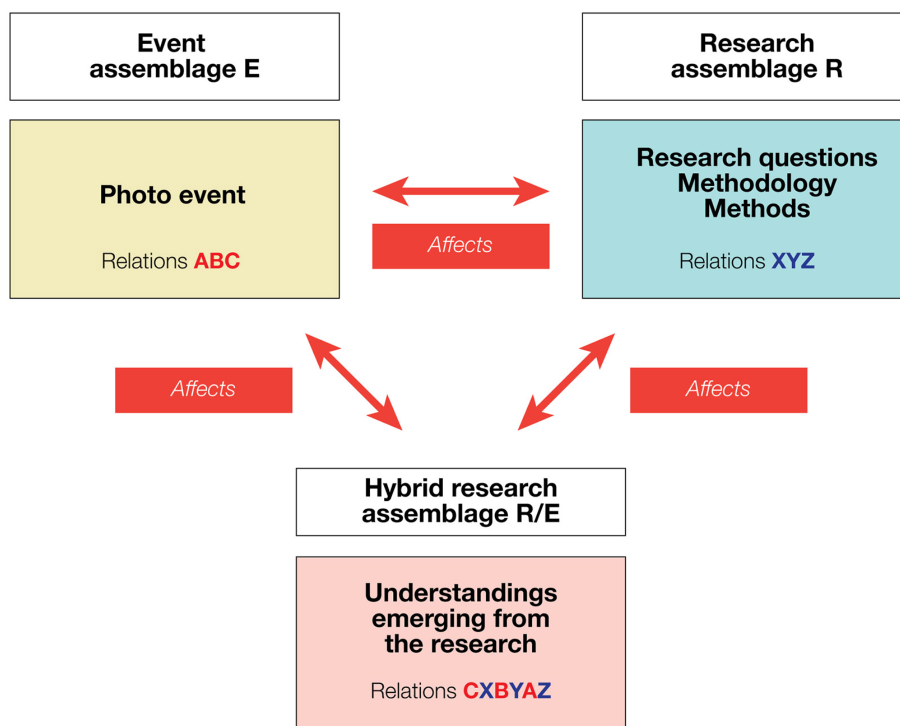


Diagram 3: Assemblages (revisited – same as Diagram 1)

St. Pierre identifies 'transgressive data' describing this as "data that were not visible and that disrupted linearity, consciousness and the mind-body dichotomy. Much data - what we think with when we think about a topic - were identified during analysis and not before" (St. Pierre 2011 p621). Working this way, data is generated during thinking, and particularly for me personally in the production of this thesis, during the writing process.

3.9.3 Vignettes

On data analysis, St. Pierre urges: "Read all the theory you can, and the concepts will 'kick in' when you begin writing - this writing and thinking is your analysis - so pay attention to what happens" (St. Pierre, quoted in Augustine 2014 p748). Wolcott (1990) advises qualitative researchers to begin writing even when they think they do not know what to write. Similarly, Elbow (1998) suggests that "writing is a way to end up thinking something you couldn't have started out thinking" (p15). In the analysis and reporting of this research I have chosen to use the vignette format employed by Masny (2013a, 2013b, 2014) in her experiments with rhizoanalysis.

Masny describes how affect and percepts come together in 'blocs of sensation' that flow through the connecting relations in an assemblage. Each vignette is produced from the Event 'E' and Research 'R' assemblages working together to produce the Hybrid Research assemblage 'R/E'. Vignettes do not reduce and categorise the Hybrid-Research assemblage (nor the assemblages that constitute it), but instead are 'raw tellings' that are selected on the basis that they can "affect and be affected" (Masny 2013b p229). Vignettes are read immanently, drawing the reader into 'becoming-with the data' (Hultman & Lenz Taguchi 2010), disrupting and de-territorialising pre-conceived notions of established meaning. This disruption creates new meanings for the reader, and new assemblages with capacities that can affect and be affected, taking-off in unpredictable rhizomatic ways, to create lines of flight and new thinking.

My own lived-experience of being a photographer and teacher of photography inevitably influenced what I witnessed and how I understood it during this research project. Taylor (2016) insists that research using New Materialist approaches is "an enactment of knowing-in-being that emerges in the event of doing research itself"

(p18). Jones (2008) insists that "research is a creative act of practice", and that "the practice of the world always exceeds and bamboozles theoretical attempts of capture" (p20). Jones suggests a 'modest' way to respond is 'witnessing and narrative' (ibid). For Harrison (2002), witnessing is more-than observing and reporting, rather, witnessing is an act of empathy, sharing both the positive and negative through affective registers. Barnett (2005) sees this as 'acknowledgement': key to "open our ability to witness otherness" (Jones 2008 p22). In this research the 'otherness' I witnessed is perhaps what Barthes termed "something inexpressible" (1981 p107), and Deleuze (1990) identified as the 'aleatory point' - both residing in affective registers, somewhere 'in-between the lines' (Read 2016 p109). Indeed, 'in between the lines' is where I as the researcher and author of the thesis have been most comfortable. The structured rigidity of linear writing has proved to be an 'awkward container', for the haecceity - the *this*-ness - of what photographs can do in educational settings. For this and an aggregation of many other reasons, I have chosen to portray what I witnessed with 'narrative' presented as 'vignettes'.

Deleuze & Guattari insist, "Actually, there is no longer any need to interpret, but that is because the best interpretation, the weightiest and most radical one, is an eminently significant silence" (1987 p114). In writing this thesis I have been continually drawn back to Szarkowski's (2000) observation that photography is an act of 'pointing' - perhaps a form of 'raw telling'. Masny (2013b) insists that there is no singular way to look at vignettes, and interpretation is 'abandoned'. The power of the vignette lies in its ability to affect and be affected, a process of rhizoanalysis in which the data becomes 'transgressive', producing questions.

Ellsworth (2005) describes "the coming of a knowing", where aesthetic experience opens responses that are "inaccessible through explanation" (p158). If traditional coding and the resulting written report are processes of territorialising data, then rhizoanalysis can keep the process open, enabling the research space "to become other than itself" (Colebrook 2002 p xxii), to produce something different, rather than taking us "back to what is known" (Jackson & Mazzei 2012 p12). Working with Deleuze's 'machine' analogy, in rhizoanalysis, the data was physically juxtaposed, palpated, and read intensively and immanently, provoking further questions and producing lines of flight in the form of 'working hypotheses' (Heisley & Levy 1991).

This process inspired further cyclical iterations of the data collection and analysis machine-assemblage(s). In the analysis and discussion (Chapters 4 and 5) that follow, I will portray how his approach was to become of significant value to me personally in the production of this thesis.

3.10 Summary

In this chapter I have outlined how the role of theory has informed the selection of methods specifically attuned to ethnographically-influenced enquiry. Thinking with New Materialist ideas and assemblage theory informs how data is generated and analysis proceeds, leading to the production of findings and their reporting.

In the fieldwork and (rhizo)analysis, I wondered if was possible to witness events without some kind of judgement related to my own position within the research. But thinking with New Materialist ideas enabled me to focus on paying attention to the details of events - the forces and affects that unfolded. This afforded me some distance from my own ideas and assumptions to witness what was happening, and consider how to report these events as vignettes. Working consciously with a New Materialist approach, I have witnessed and attempted to describe different the ways that working with photographs shaped the participants in this research, and also how the experience shaped me.

Interlude: introducing the cases

Both schools were large urban, state-run secondary schools (i.e. not private, selective, fee-paying), serving a mixed-sex student body ranging in age from twelve to eighteen. In Scotland, students are grouped by age, in years from S1 to S6. The typical school-day runs from 9.00am to 4.00pm, with some minor, local variations. Typically there is a short fifteen to twenty-minute break mid-morning, and an hour for lunch. The student body in state schools is drawn from local catchment areas, with some placement requests based on special circumstances. Students are expected to sit a series of summative exams in the fifth year. These are known as National 5 qualifications, the approximate equivalent of GCSE in other parts of the United Kingdom. Students can legally leave school after these fifth-year exams, or choose to stay-on for further study at Higher level, which is the approximate equivalent of A-level in other parts of the UK.

Ethical considerations and approval processes for school-based fieldwork are described in detail within the Methodology chapter (Chapter 3). I met on several occasions with school leaders and teachers interested in participating, to discuss the focus of my research, and the principles underpinning Exploratory Practice (Allwright 2005). In particular, integrating the work into existing curricular practice to minimise the burden, and the emphasis on involving teachers and students as co-enquirers in developing their own understandings. Prior to more detailed accounts the fieldwork and analysis outlined in Chapter 4, I will offer a brief contextual overview of each case.

Case 1: School A

Roll: c.1500 students

Two cohorts of c.20 S2 Science students (aged 12-14 c.50% male & 50% female)

June 2016 to March 2017	**Classroom observations**	**Walk-along interviews**	**Formal student focus groups**	**Meetings with teachers**
Quantity	*19 lessons x 55mins each*	*4 events*	*4 meetings*	*8 interviews*
Total duration	*c.19 hours*	*c.45 mins*	*c.100 mins*	*c.4 hours*
Total Participants	*2 groups of c.20*	*6 boys 2 girls*	*8 boys 7 girls*	*1 teacher*
Data collected	*Field notes. Photographs taken by researcher, and students. Written notes of conversations, not audio recorded.*	*Written notes and audio recordings.* *Transcribed.*	*Written notes and audio recordings.* *Transcribed.*	*Written notes and audio recordings.* *Transcribed.*

Table 4: Introducing School A

School A is a large, urban, state-funded, non-denominational Scottish secondary school, serving a diverse catchment. At the time of fieldwork, the school roll was approximately 1500 students between the ages of 12-18. With ethical clearance from the university, and permission from the local authority, I made contact with the school through the Head Teacher. I was invited to meet with a group of teachers who expressed an interest in the focus of my research. They represented a broad range of curricular areas, including Design Technology, Art, English Language, Science

and Learning Support. Initially I was interested in the cross-curricular reach of Learning Support, but initial conversations did not prove productive. The curricular areas of Art & Design used photography to record finished work, and I felt were less open to the possibilities of sense-making through photography in the classroom. The Science department proved to be rich with potential, with the teacher open not only to the focus on photographs, but to the principles and process of Exploratory Practice.

During initial conversations, the Science teacher in school A identified two S2 groups who he would be teaching for three periods each week for the whole forthcoming academic year. We agreed that the timing of several of these classes would fit in well with my own commitments, and that they would be mutually suitable for me to involve in the planned research. The S2 Science curriculum enfolds the separate disciplinary areas of Physics, Biology and Chemistry into a General Science foundation programme, offering students a broad experience of Science before making subject choices for specialised study leading to National 4 or National 5 qualifications (in Scotland). At the school in case ‘A’, the S2 Science curriculum is based on discrete topics, studied for between four and six weeks. Students had three 55-minute Science lessons each week. The Science teacher told me that sometimes, a quarter of the lesson could be taken up with him reminding the students about the previous lesson that had taken place a day or two earlier. Meeting for a second time one week later, the teacher told me he had thought deeply about the potential for working with photographs, and was keen to find out more about how enabling students to take their own photographs of activities in the classroom could assist in their recall, in the immediate short term of the previous lesson, but also longer-term, linking learning over the course of the school year. I witnessed the teacher involve the students in establishing clear expectations and rules around responsible phone use in the classroom. The agreed rules were:

- Students could use their own phones to take photographs of practical experiments in the Science classroom.
- Care should be taken not to include the faces other students.

- Phones were not to be used for messaging, or other social media-related purposes.
- Phone should be put away or left alone when not being used for purposes related to the Science lesson.

The majority of fieldwork in school A took place predominantly in specialist classrooms modelled on Science laboratories. I observed nineteen 55-minute lessons over four months, covering topics on Physics, Chemistry and Biology. As described in detail in the Methodology chapter (Chapter 3), I took a passive role, mostly observing from the back of the room. I witnessed the teacher initially prompt the students to take photographs of their work with electrical circuits for a Physics topic, and then with work to categorise the pH values of acids and alkalis for a Chemistry topic. The Biology topic was scheduled to be the dissection of a mouse, but this topic was allocated to a student teacher, who taught the class for four weeks and declined to participate in the research. This interruption provided an unexpected insight into the value students had quickly assigned to being able to make (and review) photographs in the Science classroom, which I will discuss in the Findings chapter (4) which follows.

During fieldwork, the students were aware I was in the room, with some acknowledging me, and others choosing to ignore me. As the students grew familiar with my presence, I moved around the room when the students carried out experiments. I asked questions, and with verbal permission, took my own photographs of the experiments. On several occasions, I asked permission to take my own photographs of photographs the students had taken themselves, displayed on their phone screens (see Figure 1). I made sure not to include faces in any of the photographs I took.

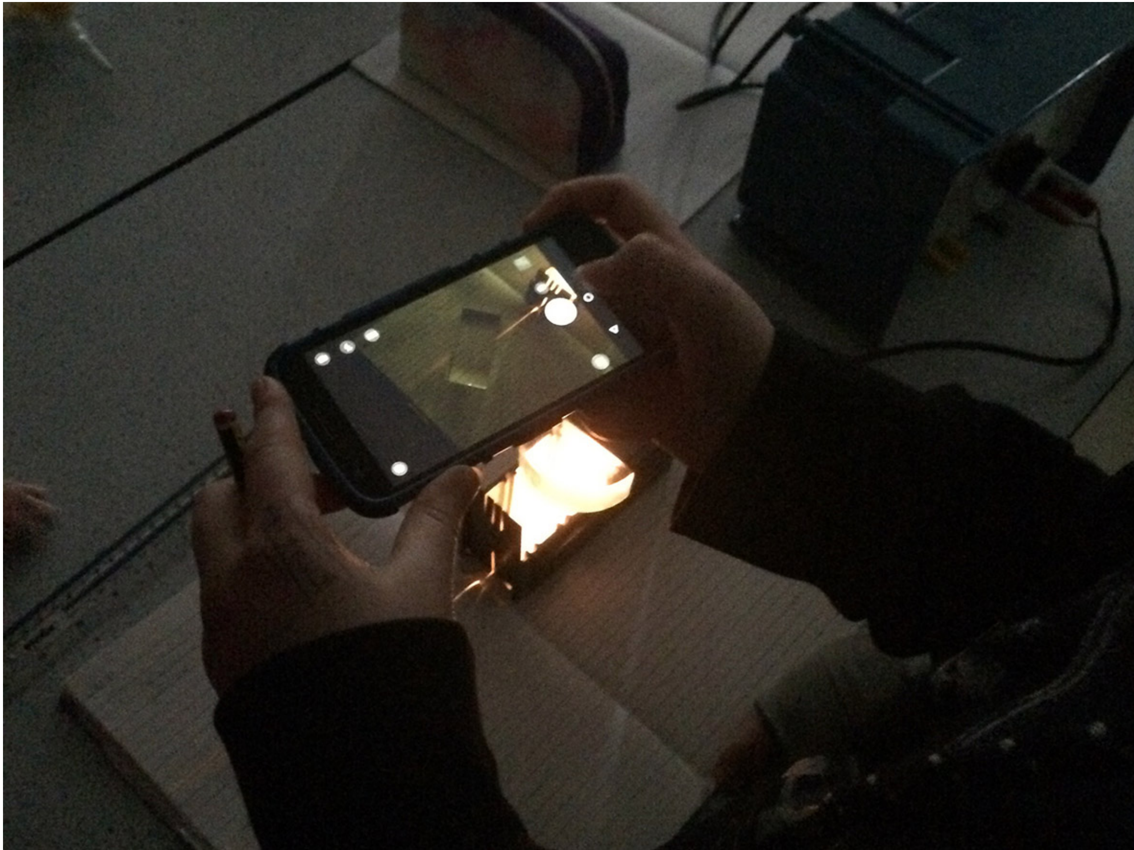


Fig.1: Student's photo of light refraction (researcher-taken photo)

As fieldwork progressed, I met on four occasions with the Science teacher at break times and free periods to discuss his thoughts on the impact of introducing photography into the Science classroom, and four times at the end of the school day. I was also able to ask to speak with small focus groups of students out-with the classroom. The teacher relayed my request and students indicated their willingness to speak to me. I met with four formal focus groups in an empty adjacent classroom, and organised four less-formal walk-along conversations. Further details of this fieldwork feature in vignettes and analysis that follow in Chapter 4.

Case 2 School B

Roll: c.650 students

One cohort of c.20 S3 English students (aged 13-15 c.40% male & 60% female)

January 2017 to June 2017	**Classroom observations**	**Walk-along interviews**	**Formal student focus groups**	**Meetings with teachers**
Quantity	*9 lessons*	*2 events*	*3 meetings*	*7 interviews*
Total duration	*c. 9 hours*	*c.25 mins*	*c.100mins*	*c.4 hours*
Total Participants	*1 group of c.22*	*3 boys 2 girls*	*6 boys 6 girls*	*1 teacher*
Data collected	*Field notes. Photographs taken by researcher, and students. Written notes of conversations, not audio recorded*	*Written notes and audio recordings.* *Transcribed.*	*Written notes and audio recordings.* *Transcribed.*	*Written notes and audio recordings.* *Transcribed.*

Table 5: Introducing School B

School B is a state-funded denominational secondary school in Scotland, serving a wide suburban catchment. At the time of fieldwork, the school roll was approximately 650 students between the ages of 12-18. Several months after fieldwork began in school A, and with ethical clearance from the university, and permission from the local authority, I made contact with the school through the Head Teacher. I was introduced to the Principal Teacher of English who expressed a keen interest in both the focus of my research, but also the potential for herself and her students to participate in research (adding that it would be “good for their personal statements”). The leadership of School B had recently introduced a ban on mobile phone use in

school in an attempt to regulate persistent ‘low-level’ behavioural issues. I was keen to respect this policy, while finding a way to explore the potential of working with photographs. I met with the English teacher on two occasions to discuss the focus of the research and the principles of Exploratory Practice (Allwright 2005).

During initial conversations, the English teacher in school B identified an S3 group of 20 students aged 13-15. We agreed that the timing of several of these classes would fit in well with my own commitments, and that they would be mutually suitable for me to involve in the planned research. The students had three English lessons spread across the school week and were studying a series of set texts, each for a concentrated period of six to eight weeks. I observed nine 55 minute lessons over eleven weeks. During the period of fieldwork, the students were studying Bernard Mac Lafferty’s short story ‘More than the disease’ (1987), and Malorie Blackman’s novella Noughts and Crosses (2001). As fieldwork came to end, the students moved on to Shakespeare’s Hamlet.

I worked with the English teacher and her S3 class for several months between January and May. The school B leadership team had recently introduced a ban on students’ phone-use during class-time, but agreed that students could use their own phones to search for and display chosen images in English lessons. In initial one-to-one discussions in the staffroom, the English teacher raised the subject of homework - the intended purpose, and modes of response. The teacher explained that the homework tasks she set required students to read the texts being studied, and produce hand-written notes based on analysis of storylines and character development. The English teacher explained that she saw great value in using class-time for discussion rather than time to read the texts together. Through classroom discussion, the teacher felt she could motivate better engagement, and sample student learning in formative assessment, while also evaluating her own teaching.

However, the English teacher reiterated concerns she shared with colleagues that homework was ‘becoming futile’; in particular curricular areas, students were producing perfunctory responses, or declining to produce homework altogether. The teachers felt they had little or no sanction. Some had suspicions that homework responses were being shared between students, using discursive back channels

(see Mueller 2009). Together with the English teacher, we developed an experimental *home*-work task. We noted that work to be completed at home required students to use the same practices of inscription and communication that were being enacted in the classroom: reading from a printed book, and writing notes with a pen or pencil on paper. We were both interested in how the students would respond to sense-making and communication practices with photographs, outside school.

During fieldwork, I sat-in on the English classes, initially at the back of the room. As the students grew familiar with my presence, and at the teacher's invitation, I moved around the room when the students were involved in discussions. I asked questions, and with verbal permission, took my own photographs of the photographs they had selected, and were displaying on their phone screens or printed on paper (see Figure 2). I made sure not to include faces in any of the photographs I took.

Fig.2: Student's 'home-work' (researcher-taken photo)

As fieldwork progressed, I met on seven occasions with the English teacher at break times and free periods to discuss her thoughts on the impact of introducing photographs into the English classroom. I was also able to ask to speak with small focus groups of students out-with the classroom. The teacher relayed my request and students indicated their willingness to speak to me. I met with three formal focus groups in an empty adjacent classroom, and organised two less-formal walk-along conversations. Further details of this fieldwork feature in vignettes and analysis that follow in Chapter 4.

Chapter 4: Findings

Overview

In this chapter, I will report the Findings that emerged from the fieldwork and analysis. I have chosen vignettes that portray specific affective experiences for students, teachers, and myself as the researcher, and how together, these led me to produce each of the four Findings. I use the first section (Section 4.1), as a detailed example to show how the Finding was produced through the process of rhizoanalysis. The follow-on sections in this Findings chapter (Sections 4.2, 4.3, and 4.4) are less detailed about the processes of analysis, concentrating on the Findings themselves.

As the analysis unfolds and the four Findings are illuminated, I will attempt to show how the boundaries of specific affects and the theories that describe them can be understood as porous. For example, a vignette discussed through the lens of Barthes's punctum can be also seen through Deleuzian 'affect, percept & concept', and so on. Perhaps the boundaries themselves are an arbitrary construction for the ease of talking and writing about affect, and the process of research itself (see St. Pierre 2011). As O'Sullivan (2001) observes, "all this writing about the affect is really just that: writing. Writing which produces an effect of representation… Indeed, you cannot read affects, you can only experience them" (p126). This is not to say that everything is 'lost in translation' (see Pickering 1993, Ingham 2021) but rather to acknowledge that what follows is my attempt to write a linear account describing my Findings, based on the experience of researching the affective potential of photographs in educational settings.

This opening account of the analysis leading to Finding 1 introduces key ideas which go on to inform my analysis and produce three further Findings. All four Findings draw upon the unique sensate relationship between affect and the photograph, described by Barthes as "a message without a code" (1981 p88). In these vignettes I refer to myself, the Researcher as 'R', Teachers in each case as 'T' and 'Students' as 'S'. To distinguish between different students in the same conversation, I refer to Student 1 as 'S1', Student 2 as 'S2' and so on. However, the numbers used to distinguish between students are not consistently applied across vignettes, and

throughout the analysis and subsequent reporting. Student 1 (S1) in one vignette is not the same as Student 1 (S1) in another vignette. Over the two cases there were more than 60 students involved in the research. I did not allocate each one an individual number for retrospective identification. Based on my fieldnotes and listening closely when transcribing sections of audio recording, I allocated numbers to signify contributions from different students in the same conversation.

4.1 Finding 1

Working with photographs in educational settings can catalyse and enhance sense-making through affective registers beyond the capacities of word-based ontologies.

The vignettes that resonated with me as the research to produce Finding 1 are:

1. ‘More than notes’ (Electrical circuits) - (School A)
2. The swimming pool (the holiday photo) - (School A)
3. pH values (‘come alive’) - (School A)
4. ‘You can see it all at once’ (...’you can’t do that with text’) - (School B)

4.1.1 Vignette 1: ‘More than my notes’ (Electrical circuits)

In the first Science lessons I observed in School A, students arranged and re-arranged electrical components into parallel and series circuits on their desktops. They took photographs with their own phones of the set-ups, and the resulting display of different levels of brightness of the bulb. In the early stages of fieldwork I sat at the back of the room. As the students became used to me being in their Science classroom, I began to move around the room during practical activities. Several weeks into the fieldwork, I approached a lab bench where five students were experimenting with the electrical circuit components and taking photographs of their

work. I asked their verbal permission to quickly take a photograph of their table-top with my phone (Figure 3).

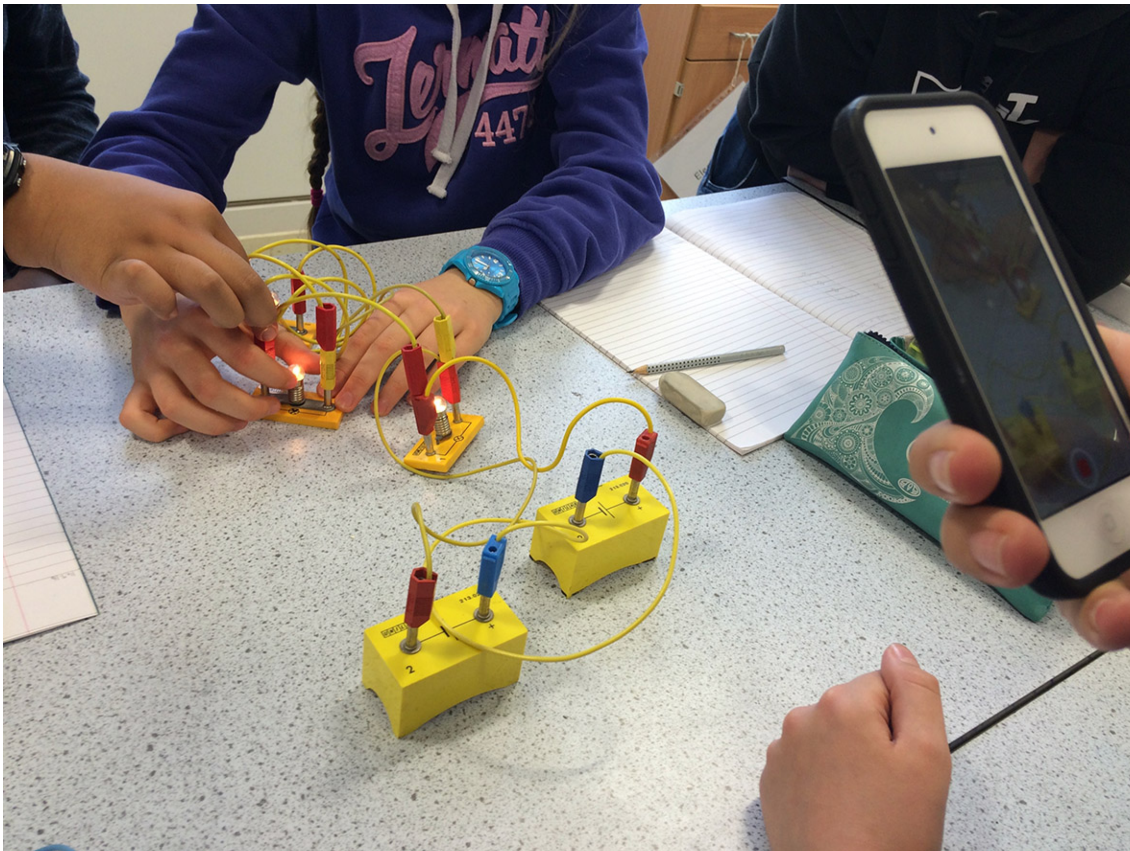


Fig.3: Electrical circuits (researcher-taken photo)

I asked the students:

> R: *How do these photos help you?*
> [students carry on working]
> S1: *Photos help jog your memory of what happened when you did the experiment.*
> [I noticed the students' jotters, full of written notes of that day's lesson]
> S2: *Notes are just words. Photos contain more than my notes – things that I haven't written down.*

The student said, "*Notes are just words. Photos contain more than my notes - things that I haven't written down*." I made a note about the phrase '*more-than*', connecting it to Lorimer's (2005) re-positioning of 'Non-Representational theory' as '*more-than*

representational theory'. Lorimer argues that the progressive connotation of 'more-than' serves our "more-than-human, more-than-textual, multisensual worlds" (p83) better than Thrift's negative, and deliberately nebulous choice of the prefix 'non'. Thrift himself reminds us that "affect is a different kind of intelligence about the world" (2008 p175), and urges the prioritising of practices and the search for evidence *other* than words about what matters, is decisive, and can make a difference in the situations and events being studied. At this early stage of fieldwork, the student's comment that 'photos contain *more than* my notes' signalled to me that the affective dimension of photographs was at work in the classroom - doing something different from, but perhaps crucially, in *addition* to - words.

In analysis, I wondered whether the 'things' that were not written down were a casualty of the time that such description would take to write. Do such things - 'events' - involve more-than can be written about in the time frame of a 55-minute lesson? Or are 'things' not written down at the time, because their import is not recognised until after the event? Barthes insists that the punctum of a photograph is not a deliberate intention on the part of the photographer. Rather punctum is accidental, "It is not I who seek it out… it is this element that rises from the scene, shoots out of it like an arrow, and pierces me" (Barthes 1981 p26). In Vignette 1: *'More than my notes'*, viewing the photograph seems to retrospectively trigger the *sense*-sations of affect, percept and concept which may have eluded the maker of the photograph during the learning 'event'. This suggests that the photograph has the potential to make-present past lived-learning experience(s) in ways that are distinctively different to reading contemporaneously-written notes made about the event.

Barthes sought to better understand "what, in the image, is purely image (which is infact very little)" (1977 p61). Burgin (2009) observes that "it is this 'very little' that Barthes is concerned to isolate" (p36). Deleuze & Guattari (1988) urge us to ask not 'what something *is*', but rather 'what can it *do*?'. What can a photograph *do*? In this vignette, the photograph catalyses and enhances sense-making through affective registers that can exceed the capacities of word-based ontologies. Early into the fieldwork, I noted that working with photographs has significant implications for learning and teaching, and I wished to understand more.

4.1.2 Vignette 2: The Swimming Pool (the holiday photo)

This vignette occurred shortly after the 'more than my notes' discussion in school A. I will offer an analysis of '*The Swimming Pool'* predominantly through the lens of Barthes's punctum.

At the conclusion of the electrical circuits lesson, I asked a chatty group of four students if they would be happy to talk as we walked (Carpiano 2009) to a quiet communal area in the school for morning break. I requested their permission to record the discussion and they verbally consented. After a short walk, we sat together informally on benches positioned under a staircase in a common area within the school. This partial transcript records the contribution of two students, while the third listened. I enquired why they took photographs in their personal lives.

> R: *What do you take pictures for?*
> S1: *To remember events, because I'm not very good at remembering, so I use it so I can remember.*
> R: *How does a picture help you remember?*
> S1: *Because…I don't know the science behind it, but I can kind of…*
> S2: *A picture is worth a thousand words.*
> S1: *Yeah, that.* [Student 1 points at student 2]
> S2: *It triggers something.*
> S1: *It triggers a response in my brain. But I don't know why.*
> R: *Any idea what it might trigger?*
> S2: *It just kicks off, like… I have a picture of my most recent holiday. I went to Spain and I have a picture of the pool outside my house. It had a specific type of chlorine in it. It smelt different. And I just remember that smell every time I see the picture. Because pictures are always so much more visual than words.*

The student didn't have the picture to show me, but its *affect* was clearly profound. The student didn't intentionally take the photograph to remind him of the chlorine, but as Vignette 1 portrays, the accidental, punctumic, affective dimension of the photograph has the potential to make-present a sensate lived-experience, in ways

that go beyond written accounts. Barthes insists that punctum is not consciously sought out by the viewer, nor deliberately inserted into the image by the photographer: “the detail which interests me is not, or at least is not strictly, intentional” (Barthes 1981 p47). Punctum is a private and personal (perhaps prepersonal) experience. The apprehension of its presence cannot be predicted or dictated by anyone on behalf of anyone else.

In choosing the words ‘triggers’, and ‘kicks off’, the student describes the animating ‘affect’ of punctum on a photograph - the production of a “subtle beyond [that] takes the spectator outside its frame, and it is there that I animate this photograph and it animates me” (Barthes 1981 p59). This ‘subtle beyond’ is described by Barthes as “what the viewer adds to the photograph, and what is nonetheless already there” (ibid p55). For Hammond (2017), punctumic affect in response to photographic stimuli is “a catalyst which can proliferate a surge of memories, experiences and associations within a sea of swirling and subjective contexts. It is an ungrounded and chaotic principle of disorder; its initial spark, or puncture, germinates a creative and expressive journey of interpretative wandering” (p49). The student’s description in Vignette 1 (above) of a photograph containing ‘*more than my notes’* resonates with Hammond’s notion of a ‘journey of interpretative wandering’ catalysed by an image of an event, specifically viewed (or re-viewed) after the event has passed. Hammond insists that the effects of affect lie “well beyond the capabilities of traditional academic writing and established sensibilities” (2017 p49). Indeed, Massumi (1997b) insists that “Affects are virtual synaesthetic perspectives anchored in…the actually existing particular things that embody them” (p228). For the student, the pool photograph triggers an embodied sense of smell - provoking the affective *sense*-sation of chlorine, despite the chemical substance being diluted in water and not actually visible in the photograph. Colebrook (2002) insists that percepts are not perceptions referring to a (reference), object but rather, percept is the perception of the feeling itself, after it has been ‘felt’. This is a crucial break with the referent - the notion that a photograph’s message relates directly to what is visible within its frame (Edwards 2012). In Vignette 2: ‘*The Swimming pool’*, the chlorine in the pool is not visible, instead, triggered by the pool and associated memories of the family holiday. In this vignette, the swimming pool photograph catalyses and enhances sense-making through affective registers beyond the capacities of word-based ontologies.

4.1.3 Vignette 3: pH values ('come alive')

Thinking with Colebrook's (2002) notion of percept, Vignette 3 portrays how in educational settings, a photograph made in the classroom can be 'about' much more-than what is pictured. After four weeks of the electricity topic, the S2 General Science curriculum moved on to a Chemistry topic. I observed several lessons about the differences between acids and alkalis. The teacher first contextualised the subject with powerpoint presentations, videos and readings from textbooks, and then invited the students to participate in a practical experiment. The students were provided with a selection of test tubes pre-filled with liquid and were required to test these liquids by adding a universal indicator solution. This caused the liquids to change to a range of different colours. The students needed to test the pH value of each of the liquids with litmus paper, and arrange the liquids according to their acidic and alkaline values. Traditionally, the students would record these values and their arrangement in their jotters, using written notes. I observed the students make written notes, but now working with photography in the Science classroom, the teacher encouraged the students to take their own photographs of the process, including the liquid colour changes, testing, and the final arrangement of the strongest acid through to the strongest alkali, indicated by colour. The students used their phones to photograph the test tubes, and after quickly reviewing their photographs, put their phones away to carry on with the pH value task. I approached a group working around a table, and asked:

> R: *How do the photographs [you've just taken] help you?*
> S: *They, kind of, make the notes come alive.*

I noticed the students' notes and asked for verbal permission to photograph a student's jotter displaying the page with handwritten notes about the experiment (Figure 4).

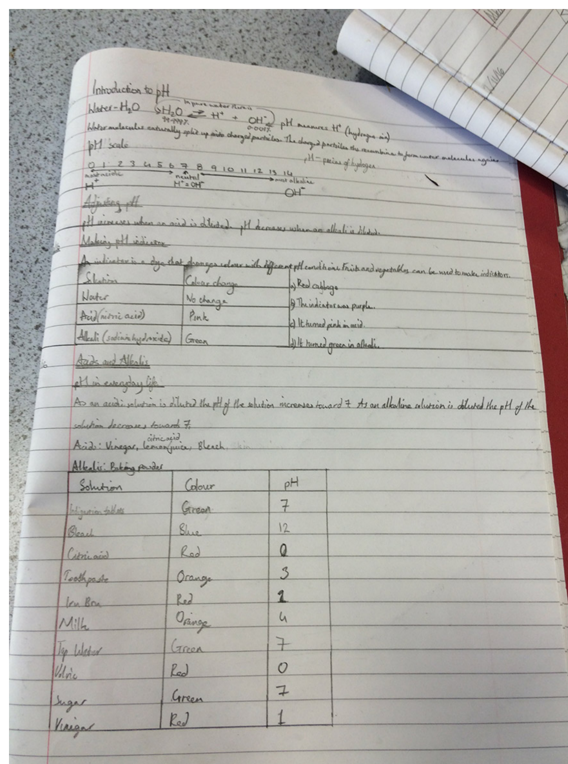


Fig.4: Student's jotter (researcher-taken photo)

With consent, I also photographed the screen of the same student's own mobile phone displaying the photograph the student had taken themselves of the pH value experiment she had successfully carried out in the class (Figure 5).

Fig.5: Student's photo of pH values (researcher-taken photo)

At the end of the lesson, using my own phone, I took a photograph of the test tubes in the classroom, arranged sequentially by students in the classroom (Figure 6).

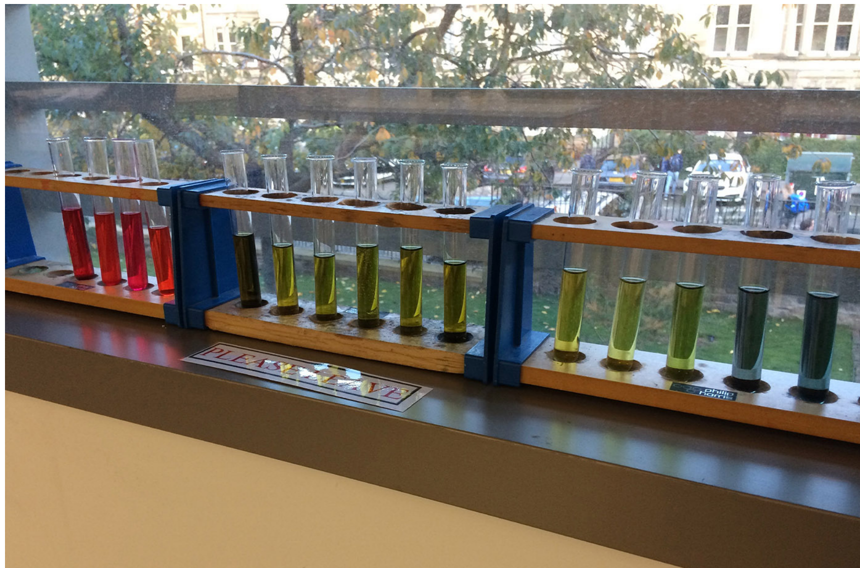


Fig.6: pH test tubes (researcher-taken photo)

Inspired by Gauntlett's (2005) ideas on the affordances of time and space offered by working with visual research methods, I was drawn to Holbrook & Pourchier's (2014) experiments with collage as analysis. They advocate piecing fragments of data together, not to arrive at conclusive answers, but rather to invite more questions. From the photographs I had taken, I assembled this montage (Figure 7):

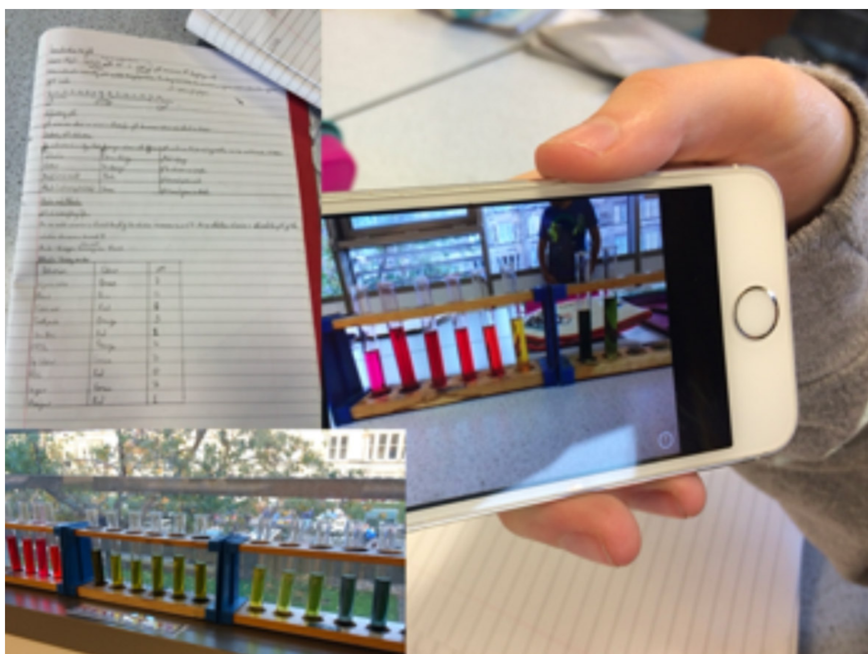


Fig.7: Collage (assembled in analysis by the researcher)

Grosz explains: “Collage allows us to “enable matter [or data] to become expressive, to not just satisfy but also to intensify - to resonate and become more than itself” (2008 p4). Springgay (2008) describes these juxtapositions of data as “an exposure” of potential meaning (p160). Ellsworth (2005) offers a more nuanced perspective, describing “the coming of a knowing”, where aesthetic experience opens responses that are “inaccessible through explanation” (p158). This is a ‘palpation’ of data. Masny notes that to palpate is “to feel (touch, see hear) an approximation of [not just] what is, [but] of what could be” (2013a p347). If traditional coding and the resulting written report are processes of territorialising data, then collaging can keep analysis open, enabling the research space “to become other than itself” (Colebrook 2002 p xxii), to produce something different, rather than taking us “back to what is known” (Jackson & Mazzei 2012 p12). Palpating data can be challenging, with the uncomfortableness that can accompany ambiguity in place of certainty. For me, palpating data through collage sustained my engagement with the complexity of the raw data, enabling me to notice the workings of affect, percept and concept and to ‘hold’ emerging ‘sense’ stable, without enforced or hasty recourse to the linear constraints of stationary and definitive text.

In analysis, I remembered a comment made by a student about their own photograph of the electrical circuit lessons early in the fieldwork: “*Notes are just words. Photos contain more than my notes - things that I haven’t written down*”. Here in Vignette 3, talking about the affordances of working with photographs, the student says: “*They, kind of, make the [written] notes come alive”.* I wondered if the student was palpating her own data - the combination of her own written notes and photographs affecting, and being affected by, each other. As I looked at my own collage (Figure 7), I noticed more and more details, catalysing and prompting further questions. The student who carried-out the pH experiment would perceive her own photographs of it differently to me, making her own ‘punctumic’ connections and associations: “a surge of memories, experiences and associations within a swirling sea of subjective contexts” (Hammond 2017 p49). As Deleuze insists, “percepts aren’t perceptions, they’re packets of sensations and relations that live on independently of whoever experiences them” (1995 p137). Niccolini (2016) reminds us that, “affect is as material and impactful to teaching and learning as books, paper, or the melamine of desks” (p230). The students’ comments (‘*more-than written*

notes' and '*make notes come-alive'*) support the notion that working with photographs can catalyse and enhance sense-making through encounters that generate affective registers beyond the capacities of word-based ontologies.

In the final line of Vignette 2: '*The swimming pool'*, the student says, "*because pictures are always so much more visual than words".* This seemingly contradictory phrase resonated with me: a Deleuzo-Guattarian 'line of flight' (1988) alluding to the unique qualities of the visual - and Barthes's interest in "what, in the image, is purely image" (1977 p61). Or perhaps, what only a photograph can *do*: extra-textual. extra-discursive, occurring on a different "asignifying register" (O'Sullivan 2001 p126). The affective registers of the photographs made by students themselves in classroom settings, can assist with sense-making experiences in ways that cannot be predicted or controlled, but can have significant, individualised pedagogical impact.

In rhizoanalysis, St. Pierre (2011) urges a transgressive approach to research, questioning not only the coding of data, but even the 'artificial' separating of data into conventional chapters called 'Literature Review' and 'Findings'. As I highlighted in the decisions taken about the production of this chapter, the rigid, linear conventions of writing impose chronological ordering on ideas and thoughts that are not sequentially structured, but rather coalesce 'simultaneously' (Arnheim 1969) - perhaps 'rhizomatically' (Deleuze & Guattari 1988) - in assemblages of affect. To assist written reporting, and for the clarity of the reader I initially chose to analyse each of these vignettes predominantly with a single theoretical lens: Deleuze or Barthes.

Nevertheless, as I write this chapter it becomes evident how the ideas of Barthes and Deleuze overlap in "the imbrication of affect" (Anderson 2014 p77). Barthes's punctum and 'subtle beyond' has synergies with Deleuze's image affections and 'swollen dimensions'. I will continue to discuss these overlaps and extensions into other theoretical ideas in the analysis of more vignettes, which produce Findings 2, 3 and 4. Vignette 4 (below) portrays how the unique qualities of the visual go far beyond the referent of the photograph. 'Blocs of sensation' (the workings of affect, percept and concept) can be apprehended 'all at once', through the visual simultaneity of photographs rather than received sequentially and chronologically,

through linguistic modes of description and inscription. To do this, I employ Deleuze's notion of haecceity, and Barthes's obtuse, 'third' meaning.

4.1.4 Vignette 4: 'You can see it all at once' (… you can't do that with text)

Exploring this '*more visual than words'* notion emerging from Vignettes 1, 2 and 3, in ongoing analysis I was drawn to Vignette 4, from school B which portrays another example of the affective dimensions of the visual. As described briefly in the Introducing Case B section (above), students studying English at school B were responding to *home*-work tasks repositioned to draw upon their everyday photographically-mediated communication and sense-making practices. Students were asked to find photographs that expressed their emerging understanding of the characters and events in the novella Noughts & Crosses, by Malorie Blackman (2001). In Finding 2, and again in Finding 3 I will discuss in greater depth how students responded to the visual tasks in ways that were distinctively different to conventional written assignments. I was curious to know more about the students' perspective on being offered opportunities to work with photographs in curricular tasks. I was able to meet with a small focus group of 6 students:

> R: *What does a photograph do that words don't?*
> S5: *Shows how you're feeling – you can't do that in text.*
> S3: *There's a saying that a picture is worth a thousand words?*
> R: *There is. What do you think about that?*
> S3: *If there's so much to one photo, then it can take such a long time to describe all, but if it's in a photo, it's there and you can see it all at once.*

I noted the re-occurrence of the axiom 'a picture is worth a thousand words' (appearing also in the Swimming pool vignette), and will return to discuss in greater detail the line '*shows how you're feeling – you can't do that in text'* in the analysis that produces Finding 3. But for me, the students' observation about '*see[ing] it all at once'* resonates with Deleuze & Guattari's metaphor of the dry-stone wall. Affect, percept and concept working together to produce 'fragmentary totalities'. They insist that although these fragments are not the pieces of a puzzle, "for their irregular contours do not correspond to each other", still they work together, to "form a wall,

but it is a dry-stone wall, and everything holds together only along divergent lines" (Deleuze & Guattari 1994 p23).

To recap here on my discussion of these ideas in Chapter 2 of this thesis, Colebrook (2002) reminds us that percepts are not perceptions referring to the referent of the photograph, but rather that percept is the perception of the feeling itself, after it has been 'felt'. For Semetsky (2015), concept is an outcome of a dynamic process of experience in a triadic relationship with affect(s) and percept(s). A concept is an idea that is 'invented in practice', arising through an event and facilitating understanding of the nature or purpose of that event. Dry-stone walls are made without a binding agent such as cement. Instead, the stones are held together by their collective weight and relative positioning - each stone affects and is affected by the others in the totality of the wall. The 'all-at-once-ness' of the photograph suggests the student's intuitive awareness of the co-existence of affect, percept and concept, together in a triadic relationship, forming "blocs of sensations that take the place of language" (Deleuze & Guattari 1994 p176). Together, affect, percept and concept produce what Deleuze & Guattari loosely describe as 'haecceity' – what makes something what it is - its '*this*-ness'. St. Pierre thinks of "haecceity as mingling, assemblage, as relation, as becoming" (2011 p618). To use Deleuze and Guattari's own example of the colourful bird - the bird is its '*bird*-ness': "It is the entire assemblage in its individual aggregate that is haecceity" (Deleuze & Guattari 1987 p262). As I discussed in Chapter 2, in simple terms, and in relation to the joint workings of affect, percept and concept - haecceity is the point when you 'get it' (see Colebrook 2002 p140). When the student said, "*if it's in a photo, it's there and you can see it all at once*" - through the 'visual simultaneity' of the photograph, he experienced haecceity - the 'entire assemblage' of affect, percept and concept working together to form a 'sense' of emerging understanding.

In the Science classroom, with the students' verbal permission, I took photographs quickly and unobtrusively. Figure 8 (below) captures a student photographing his own notes, drawn (with the encouragement of the teacher) on the desk-top with dry-wipe markers. My photograph 'points' (Szarkowski 2000) to the 'structured chaos' (Bogue 1989 p76) of a lived-learning experience; *more-than* can be written down, but can be seen 'all-at-once': "*<u>This</u>* is what we did."

S3: *If there's so much to one photo, then it can take such a long time to describe all, but if it's in a photo, it's there and you can see it all at once.*

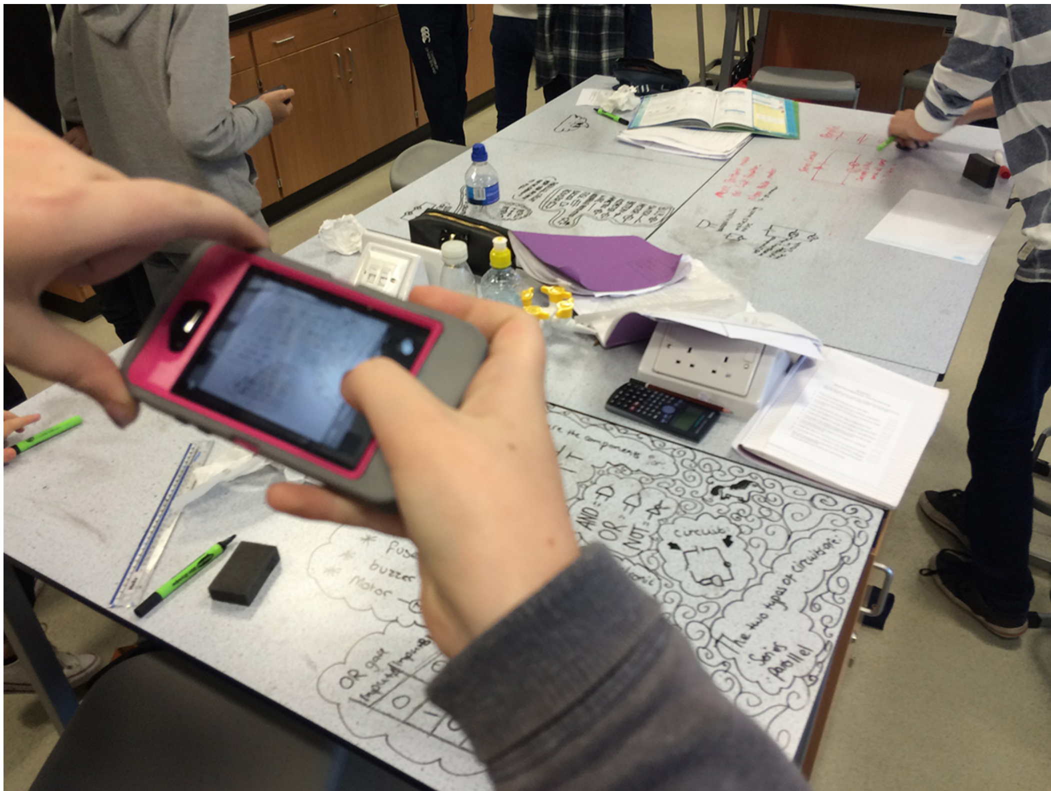


Fig.8: Science classroom (researcher-taken photo)

In Finding 2 I argue that haecceity - this '*seeing it all at once'* is catalysed and enhanced through affective registers of photographs. A surge of subjective, personal and prepersonal associations operating beyond the capacities of word-based ontologies can link learning across home, school and other domains. The significant contribution of Finding 1 is the unique role that working with photographs can play in the apprehension of affect: "the body's response to stimuli at a precognitive and prelinguistic level" (Labanyi 2010 p224). I draw on Deluca's (2008) interpretation of Barthes's argument that sense-making through photographically-mediated affect is distinctively different from Mitchell's (1995) 'imagetext'-based meaning-making. In Chapter 2 of this thesis, I identified the tension between the 'structural master-key' of Mitchell's 'imagetext' and what Barthes called, the "madness" of photographs (Barthes 1981 p117). Deluca (2008 p669) cautions against the "linguistic domestication" of images in the pursuit of clear 'meaning', by analysing them with the same tools and preconceptions that are applied to language. Deluca insists that "to

read photographs is to skew them into objects palatable for the print gaze" (2006 p88) and warns against "this taming of the photograph, the taming of its ecstasy, its excess, its exorbitant" (ibid p80). As O'Sullivan argues: "you cannot read affects, you can only experience them" (2001 p126). I contend that in addition to 'reading' the referent - the obvious meaning - that photographs can also be 'felt', operating through the affective domain, outside, prior to - or somewhere beyond 'semantic or semiotic order' (Massumi 2002). The photograph offers unique access to the sense-making experience of affect. This is described by Barthes as the obtuse or 'third' meaning of the photograph, beyond the obvious; beyond language.

4.1.5 Third meaning (but not in third place)

As I have explained at greater length in Chapter 2 of this thesis, Barthes argues for something beyond the 'obvious' meaning - an 'obtuse', 'third' meaning. He (and his translators) chose to continue using the word 'meaning', while searching for something more elusively 'sensate' than the conventional semiotic and semantic connotations of the word 'meaning' implies. Barthes (1977) insists, "The obtuse meaning cannot be described, that is because, in contrast to the obvious meaning, it does not copy anything - how do you describe something that does not represent anything?" (p61). While simple numerical hierarchy may suggest this 'third' meaning is apprehended *after* the obvious meaning which is produced by the sum of the informational first meaning together with the symbolic second meaning, rather, the obtuse, 'third' meaning may be received "first and foremost" - as prepersonal affect, and before consciously *reading* the obvious meaning. (See Barthes 1977 p53). Shouse (2005) reminds us that, "message consciously received may be of less import to the receiver of that message than his or her non-conscious affective resonance with the source of the message" (p5), emphasising the non-verbal qualities and workings of affect.

In Vignette 1 the student said, "*Notes are just words. Photos contain more than my notes - things that I haven't written down*". I wondered if the student was expressing an intuitive understanding of obtuse, 'third' meaning, described by Barthes himself as "what, in the image, is purely image" (1977 p61). Barthes is adamant that, "the obtuse meaning is not in the language-system" (ibid p60). Responding to Barthes's

insistence of something more-than ‘obvious’ meaning in ‘*Camera Lucida’*, Burgin (2009) observes, “Psychoanalysis has shown us that the mental processes of which we are conscious are not the only meaning-producing processes which are taking place: the coveted ‘absence’ of meaning may mean merely that meaning has left the room, and is holding a party in the basement” (p35). Vignette 1: ‘*More than my notes’* portrays the distinctive role a photograph can play in sense-making, and resonates deeply with Deluca’s (2008) tirade against the linguistic domestication of the photograph (see ‘Mitchell’s ‘imagetext’); “the taming of its ecstasy, its excess, its exorbitant” (Deluca 2008 p80). Photographs *do* something different, complimentary, and in addition to word-based ontologies. Indeed, as Deluca (2008) asserts, “images are ontological” (p663).

4.1.6 Summary

Barthes insists that the affect of photographic punctum is the production of a “subtle beyond [that] takes the spectator outside its frame, and it is there that I animate this photograph and it animates me” (1981 p59). Photographs harnessed into learning by students do ‘more than’ can be recorded in their written notes. Through the practices of working with photographs in educational settings/classrooms, the ‘fragmentary totalities’ of affect, percept and concept work together to produce haecceity (Deleuze & Guattari 1988, 1994) and third meaning (Barthes 1977) - catalysing sensate understanding(s) in ways that are “well beyond the capabilities of traditional academic writing and established sensibilities” (Hammond 2017 p49).

This Finding shows that working with photographs in educational settings can catalyse and enhance sense-making through affective registers beyond the capacities of word-based ontologies. The potential of such highly-individualised, personal (prepersonal) affective impact through photographs and the practice of photography has yet to be harnessed purposefully in educational settings.

4.2 Finding 2

Working with the affective registers of photographs in educational settings can link young people's visual skills and knowledges with learning across home, school and other domains.

To show how I have arrived at this Finding, I will analyse three vignettes from School A where students were able to make their own original photographs of lived-learning experiences in the Science classroom. This was distinctive from School B which maintained a policy of 'no mobile phone use' in the school. However, the combined workings of Findings 1 and 2 serve to indicate the direction of Finding 3 which draws heavily on vignettes from the English classroom in School B to focus on the affordances for student participation.

Finding 2 builds on the affective capacities of photographs identified in Finding 1 and in the vignettes that produced it. The overlapping theoretical lenses of Barthes and Deleuze and how the vignettes inevitably spill into more than one Finding indicates the Hybrid Research assemblage 'R/E' at work - affecting and being affected (Fox & Alldred 2017). Anderson (2014 p77) describes this interweaving as "the imbrication of affect" (p77). In this Finding, once again I will use the theoretical framings offered by Deleuze around affect, and Barthes's 'obtuse', punctumic, third meaning. Additionally, I will explore the resurrectional affect of photographs (Edwards 2009) and introduce Ahmed's (2010, 2014) notion of affect as a form of 'stickiness'.

The vignettes that resonated with me as the researcher to produce Finding 2 are:

5. 'Different part of the brain' (Electrical circuits flashback) - (School A)
6. 'Take out your phones' - (School A)
7. '20 copies from Boots' - (School A)

Massumi notes that "The escape of affect… may be punctual, localised in an event… But it is also continuous, like a background perception that accompanies every event, however quotidian" (2002 pp35-36). As fieldwork progressed along with the

‘emerging hypotheses’ (Heisley & Levy 1991) from (rhizo)analysis running concurrently rather than retrospectively (Pink 2012), I wanted to know more about the potential of the affective registers of the photograph to assist with sense-making in the present moment and the potential to make present - perhaps ‘resurrect’ - past lived-learning experiences.

4.2.1 Vignette 5: ‘Different part of the brain’ (Electrical circuits - flashback)

Several months after the first Science topic on electrical circuits, I met with a focus group of students studying Science in school A. I enquired about their memories of the events that had taken place in the classroom across the school term. I showed the students my own photographs of the electrical circuit experiment and of the students using their own devices to take photographs (Figures 9 & 10, below)

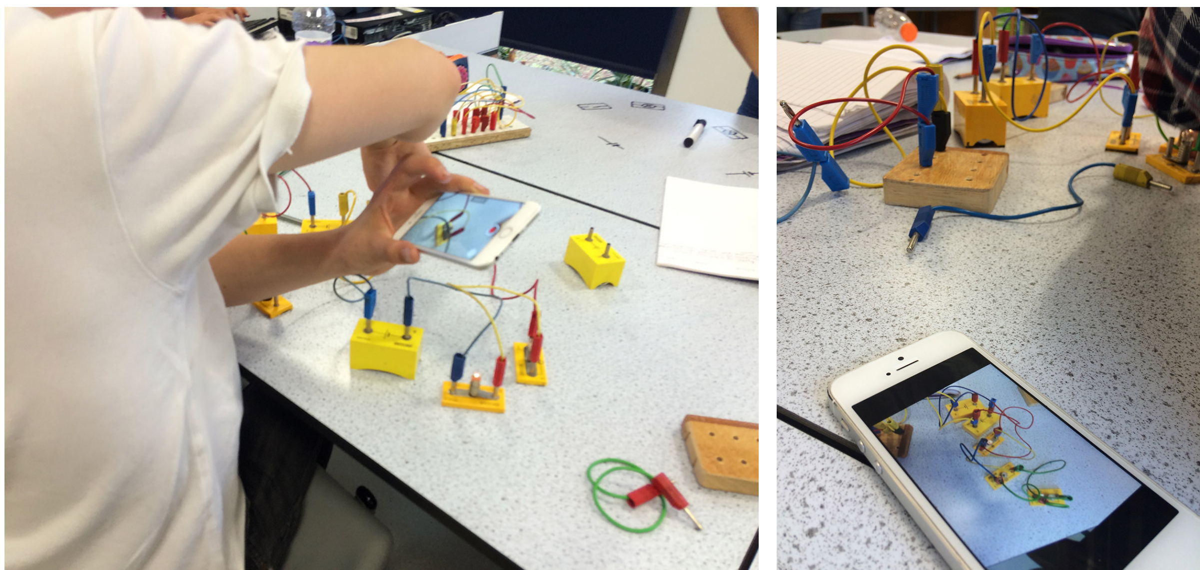


Fig: 9 & Fig.10: Electrical circuits (researcher-taken photos)

R: *What do you remember about this?*

S1: *Oh, I’ve got one of them.* [Takes out phone and begins to search gallery]

[All talk at once: Confluent noises – ‘Yes’, ‘me too’, ‘on my phone’ etc.]

R: [To the group] *What have you got a picture of?*

[All talk at once: Electrics, circuits, batteries.]

S1: *To see if a bulb got brighter or dimmer.*

[Students show me pictures on their phones.]

R: *Now, you all remembered that - when I showed you the picture.*

> [All talk at once: general agreement.]
> R: *How is that different to me asking you, ‘Do you remember parallel and series circuits?’*
> S2: *Different part of the brain.*
> S5: *You can see what we did. If I take a picture like that, my brain works differently and my memory, it kind of, replays as a flashback*
> S1: *You might not write down everything you did, but the photo will help to remember.*

I was interested in the students’ physical response to seeing my photograph of their circuits experiment. Energy levels surged and excited chatter rose significantly in volume as the whole group of seven students indicated their enthusiastic affirmation of the positive affordances of working with photographs in the Science classroom. When I listened-back to the recording, a particular line stood out: “*If I take a picture like that, my brain works differently and my memory, it kind of, replays as a flashback*”.

Smith (2014) argues that “the photograph’s subject is always simultaneously present and absent. It is the past made present again - a haunting, a hallucination. This ‘intractable reality’ is the photograph’s indexicality, what Barthes deemed the photograph’s essential provocation - *that-has-been*. And that indexicality became, for Barthes, the photograph’s most powerful punctum” (p37-38). In conversations, the Science teacher remarked that students were harnessing the ‘flashback’ of their own photographs in revision practices.

> T: *They [the students] seem to grasp the concepts quicker with photographs to look back on. They’re asking me better questions, which suggests to me that they’ve got beyond the basics.*
> [He pauses, and smiles]
> *It’s so obvious. I can’t believe I haven’t been doing it before.*

Evidence was anecdotal, but the teacher felt that formative assessments were indicating that students seemed to have better recall of what had happened in earlier topics than previous year groups, although he acknowledged this could be simply down to the class cohort. Barthes insists that, “Photography has something to do

with resurrection”, the photograph presents “reality in a past state: at once the past and the real” (1981 p82). In addition to the notion of punctum as a detail in an image triggering ‘blocs of sensation’, Barthes argues that the indexicality of a photograph - it’s *that-has-been*, also produces punctumic affect. “I now know that there exists another *punctum* (another ‘stigmatum’) than the ‘detail.’ This new *punctum*, which is no longer of form but of intensity, is Time” (1981 p96). In combination with students’ written notes and memories, the photographs they had taken in class on their own devices served to make-present past lived-learning experiences in the Science classroom. As Finding 1 portrays, this happens in ways that are distinctively different to written notes, and as this next vignette indicates - can serve to link young people’s visual skills and knowledges with learning across home, school and other domains.

4.2.2 Vignette 6: ‘Take out your phones’

As the Year 3 Science curriculum progressed across the school year, I observed the teacher regularly begin lessons with a photographically-mediated retrieval practice exercise (Karpicke 2009). Drawing heavily on Cognitive Load theory (Sweller 1998), retrieval practice is a well-established pedagogical strategy inviting students to participate actively in recall of prior learning, and to make connections with new learning. At the beginning of Science lessons, rather than deliver a recap of the previous lesson, the Science teacher regularly invited students to harness the affective intensities - the ‘*ectoplasm*’ (Batchen 1999b) - of their own photographs. The teacher would invite students to review their own photographs from their last Science lesson which could have taken place taken place several days earlier, or during the previous week. Students took out their own phones and flicked (or swiped) through their galleries of photographs for a minute or two. The students followed the teacher’s request for phones to be put away. I noted that while the students were reviewing their own photographs there was light chatter between neighbours, but no disruptive use of phones for purposes other than reviewing their own photographs.

Throughout the fieldwork, I met regularly with the Science teacher after school to discuss the events I had been witnessing in his Science classes. Mindful of the ‘distraction’ narratives highlighted in Chapter 2, I enquired after the teacher’s

thoughts about student behaviour, and if the use of phones had introduced problems for classroom management.

> T: *No. The pupils have taken to it. The instructions to take photographs [in class] sit in with the other instructions [to make different types of experimental electrical circuits for comparison] so it's embedded within the rules of the classroom – we haven't introduced anything remarkable into that class. I think that's probably how I go about setting up relationships with the class – what I'm like as a person – rather than how all Science teachers would do it. I taught both classes for a few weeks before the summer and I quickly realised that I could trust both classes to do specific tasks… I think they realise that there's some trust there from me.*

I had noted that the students had three Science lessons each week, and enquired about the challenges of teaching a subject in one-hour classes, spread out across different days and times of day.

> R: *How difficult is momentum in the way a typical timetable is organised?*
> T: *It's a good question. I have one of the groups on Monday, Tuesday, Wednesday. I get the impression that it lines up nicely for them, but then the following Monday, when they've been away for a few days, they have that 'memory lag'. I have the other group Monday, Wednesday, Friday, and they're more on-the-ball.*

Students reviewing their own photographs served to create affective links between lessons fragmented across the week by the demands & limitations of the timetable and movement between different classrooms. Reflecting on the numerous benefits of working with photographs in the Science classroom, the teacher issued an important caveat:

> T: *I think it's important that they [the pupils] take their own photos. It wouldn't work if I took the photos and got, say, twenty copies [prints] made at Boots [the Chemist], and said 'here, stick this in your jotter'. They have to do the experiment themselves, and take their own pictures.*

For Dawney (2013), the learner is "a participant in a relay of forces, materialities, and affects" (p633). In combination with Finding 1 (and the vignettes that produce it), the vignettes forming Finding 2 portray affect as embodied practices of assembly: how a practical, lived and embodied learning experience can trigger the combined sensate forces of affect, percept and concept. Deleuze & Guattari (1994) argue, "Something in the world forces us to think. This something is an object not of recognition but of a fundamental encounter… It may be grasped in a range of affective tones: wonder, love, hatred, suffering. In whichever tone, its primary characteristic is that it can only be sensed" (p139). Bogue (2004) argues that "by 'learning' Deleuze clearly does not mean the mere acquisition of any new skill or bit of information, but instead the accession to a new way of perceiving and understanding the world" (p328). The vignettes '*More than my notes'* and '*pH Values*' forming Finding 1 portray how the affective, punctumic registers of the student's own photographs harnessed into classroom situations can serve to palpate and enrich '*sense*-sation' during and after the original classroom-based event. This produces what Mulcahy (2016) calls 'affective transfer', and a component of 'sticky' learning.

4.2.3 Stickiness

Inspired by the work of Ahmed (2010, 2014) on affect as 'sticky', Mulcahy (2016) argues that "learning is an intensive process of affective and material production; a practice of affective assemblage (p211). Through affective transfer, learning becomes 'sticky': in Ahmed's words, "saturated with affect" (Ahmed 2014 p11).

> *"(S)tickiness involves a form of relationality, or a 'withness', in which the elements that are 'with' get bound together. One can stick by a friend. One can get stuck in traffic. Some forms of stickiness are about holding things together. Some are about blockages or stopping things moving. When a sign or object becomes sticky it can function to 'block' the movement (of other things or signs) and it can function to bind (other things or signs) together. ... Stickiness then is about what objects do to other objects - it involves the transference of affect - but it is a relation of 'doing'"* (Ahmed 2014 p91).

Ahmed's model of affect as stickiness adds to our understanding of the affective capacities of photographs to link young people's visual skills and knowledges with

learning across home, school and other domains. A key component of Finding 2 appears in Vignette 6: ‘*Take out your phones’*, and the Science teacher’s observation of the importance of the students taking their own photographs. But rather than only expedite, or propel learning forward, Niccolini (2016) notes that affect also slow down learning encounters, ‘gathering’ and ‘swelling’, contributing to its ‘stickiness’ (p232). Ahmed (2010) notes that affect has the capacity to ‘hold’ in ways that resonate with Deleuze’s (1990) notion of the ‘aleatory point’, somewhere between sense and nonsense. I argue that the potential of working with photographs in learning and teaching is much more than the illustration (or repetition) of word-based instructions or written notes, as discussed at length in Chapter 2. Rather it is the unique, punctumic affect of students’ own photographs made during lived-learning experiences. Disconnected from lived-learning experience, third-party photographic representations decorating textbooks or support materials are stripped of the indexicality and punctumic significance of a personal (or prepersonal) connection, which is key to catalysing affect, percept and concept - and making learning ‘sticky’.

4.2.4 Vignette 7: ‘20 copies from Boots’

This ‘stickiness’ manifested itself several months into the school year at School A, when I met with another focus group of students studying Science. I arranged with the Science teacher to speak with a group of 6 students in an empty adjacent classroom. I asked about how the students had been working with photographs in their Science classes.

> S4: *Photographing experiments.*
> S3: *Cool experiments.*
> S2: *When we made the rainbow thing of colours. pH values.*

I recalled that the students had photographed the coloured test tubes, alongside their written notes, and the student’s comment that the image made their notes ‘come alive’. I probed a little further:

> R: *How does the photo of the pH values help you learn about Science?*

S5: *It's a different way to remember than looking on the internet for a picture of the colours. With your own photo you remember flashbacks of actually doing it in class.*

R: *So you remember actually doing it?* [The pH experiment]

S5: *Yes*

R: *So I took this photo. Remember doing this?* [I show my own photo of the student's phone screen showing the pH value test tubes - Figure 11, below.]

Fig.11: Student's photo of pH values (researcher-taken photo) – same as Fig.5

R: [with reference to Figure 11] *How would having that picture help you?*

S3: *Reminds you of what you did.*

R: *It's not just the result?*

S3: *Actually doing the experiments makes it memorable.*

S4: *I love Science, because it's practical. You remember more when you do things instead of just sitting, listening.*

At this point in the focus group interview, I was mindful of the conversation with Science teacher some months earlier, around his own emerging clarity on the circumstances and effectiveness of working with photographs in the classroom.

T: *I think it's important that they [the pupils] take their own photos. It wouldn't work if I took the photos and got, say, twenty copies [prints] made at Boots, and said 'here, stick this in your jotter'. They have to do the experiment themselves, and take their own pictures.*

I continued questioning the student group:

R: *What if I took this photo of the pH values and got twenty copies of it made at Boots [the Chemist] - and gave you all a copy to stick in your jotter?*
S2: *That would be good!*
Group: No!
S2: *Yes - sticking a picture of that in your jotter!*
S5: *No, you wouldn't have learned anything.*
S1: *You wouldn't be thinking, "I remember that lesson", you'd be thinking, "How did this picture get in my jotter?"*
S4: *You'd have to actually do the lesson, to get the photo to trigger your memory of the lesson - or you wouldn't have the memory of doing it with a photo [given to you] like that.*
R: *So you're [P2) telling me that being given the photo would help, but you're [rest of the group] telling me that it's the taking of it yourself that's quite important?*
Collective group*: 'Yes'.*
S5: *If I have a photo on my phone it's [the learning process is] less boring and tedious.*
R: *I'm interested in how you taking your own pictures on your own phones is significant. What can you tell me about that?*
S5: *Photos in your phone gallery remind you of what you were doing around and outside the lesson when you took the pictures, which helps jog your memory of what happened when you did the experiment.*
R: *Is this what happens when the teacher says 'take out your phones' to look at your own photographs from the last lesson?*
Several students together*: 'Yes'.*
S4: *You remember what you did.*
S1: *Yeah - it brings everything back - in a flash.*

For me, this exchange opened-up a significant dimension to the enquiry: the potential for affect to blur the boundary between home and school-life. Watkins (2006) argues that “Affect is ever present. Our day-to-day encounters in the world involve a continual process of affective engagement with other bodies both animate and inanimate” (p276). Cameraphones store photographs in a master folder - a gallery - arranged chronologically, based on the time and date metadata embedded in all digital photographs. As students scroll backwards and forwards in their own phone’s photo gallery to find the images from the last Science lesson, they encounter other images taken out-with the classroom, in their private lifeworlds. When reviewed, these personal photographs entangle with photographs taken in school during practical Science experiments. The ‘resurrectional’ qualities of photography (Edwards 2009 p230) make-present and ‘palpate’ previous lived-learning experiences to produce new assemblages of affect, percept and concept; ‘blocs of sensation’. Villi (2014) notes the punctumic ‘affect’ of time and distance. For Massumi, affects “are basically ways of connecting, to others and other situations, of affecting and being affected” (2015 p110). Hickey-Moody calls for the need for “such relational cultural practices… to be understood as occurring both within and outside places that are understood as being ‘educational’ settings” (2009 p273). This leads me to state Finding 2 of this research project: Working with the affective registers of photographs in educational settings can link young people’s visual skills and knowledges with learning across home, school and other domains.

4.2.5 Summary

Findings 1 and 2 portray the pedagogical impact of working with photographs in educational settings. The affective registers of photographs can serve to make-present, past lived-learning experiences linking learning fragmented across the school week and more longitudinally across the academic year. Students’ own photographs made and stored on their own devices are immediately accessible, and reside in galleries with other photographs made in contexts other than school. This raises some ethical concerns about privacy, but these are eased by students not being required to share or show their own photographs. Rather, individuals draw upon the specific personal context of their own photographs to assist with their individualised ‘punctumic’ recall of lived-learning experience(s).

However, Finding 3 focuses on how working with the affective registers of photographs can enable student participation and response-making in collective learning experiences.

4.3 Finding 3

Working with the affective registers of photographs in educational settings can enable additional modes of participation and response for students.

In addition to the vignettes that produce Finding 1 and 2, the vignettes that resonated with me as the researcher to produce Finding 3 are:

8. Visual *home*-work - (School B)
9. ‘But that’s how he’d look’ - (School B)
10. ‘You can see it all at once’ (revisited) - (School A)

While the Findings inform each other, here I specifically revisit a vignette that made a significant contribution to Finding 1 - Vignette 4: ‘*You can see it all at once’*. Harnessed into a new assemblage with other vignettes, its affect is renewed, and together they produce Finding 3, highlighting the affordances and potential for learner participation and response beyond word-based ontologies. This Finding draws on O’Sullivan’s (2001) reading of Deleuzian affect as ‘extra-textual’, and Deluca’s (2008) focus on Barthes’s obtuse, ‘third’ meaning, residing in affective registers ‘outside the language system’. This leads my analysis to Deleuze’s (1990) ‘aleatory point’ - somewhere between sense and *non*-sense.

O’Sullivan (2001) argues that “Affects can be described as extra-discursive and extra-textual… extra-discursive in the sense that they are ‘outside’ discourse understood as structure (they are precisely what is irreducible to structure) [and] extra-textual in the sense that they do not produce - or do not only produce -

knowledge" (p128). In this thesis I have argued that I understand this to mean that affects produce 'more-than' knowledge, or something we 'feel', without being able to describe with words. O'Sullivan continues, "Affects are moments of *intensity*, a reaction in/on the body at the level of matter… which might resonate with linguistic expression but which, strictly speaking, are of a different and prior order… As such, affects are not to do with knowledge or meaning; indeed, they occur on a different, *asignifying* register" (2001 p126). In this Finding I draw on three vignettes that portray how working with photographs can both catalyse and harness these moments of intensity in ways that are *extra*-discursive and *extra*-textual.

4.3.1 Vignette 8: Visual *home*-work

In School B, I worked with the English teacher and her S3 class of 20 pupils (aged 13-15) for several months between January and May. The school had recently introduced a ban on phone use during class-time, but the leadership team was keen to participate in research exploring the pedagogical potential of working with photographs. Preparatory discussions with the English teacher raised the subject of homework - the intended purpose, and modes of response. The English teacher explained that the homework tasks she set required students to read the texts being studied, and produce notes based on analysis of storylines and character development. The English teacher explained that she saw great value in using class-time for discussion (see Brookfield & Preskill 1999) rather than time to read them together. Through discussion the teacher felt she could sample student learning in formative assessment, and also evaluate her own teaching.

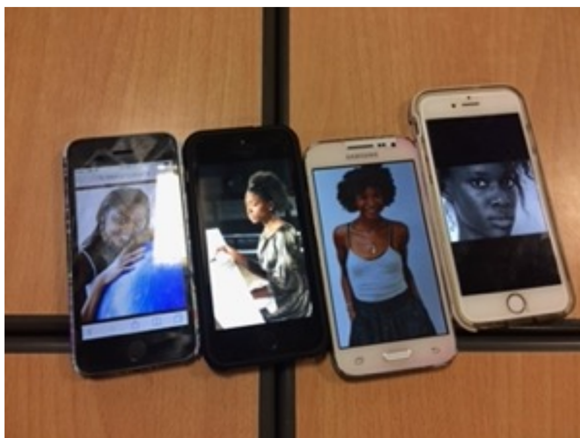
However, the English teacher reiterated concerns shared by colleagues that homework was 'becoming futile'. In particular curricular areas, students were producing perfunctory responses, or declining to produce homework altogether. The teachers felt they had little or no sanction. Some had suspicions that homework responses were being shared between students, using discursive back channels (see Mueller 2009). Working with the guiding principles of Exploratory Practice (Allwright 2005) as outlined in the Methodology chapter (Chapter 3), together with the English teacher, we developed an experimental '*home*-work' task. We noted that work to be completed at home required students to use the same practices of

inscription that were being enacted in the classroom: reading from a printed book, and writing with a pen or pencil on paper. We were both interested in how the students would respond to a '*home*-work' task that resonated more closely with their everyday sense-making and communication practices with photographs, outside school.

The students were studying the novella Noughts and Crosses by Malorie Blackman (2001). Noughts and Crosses was a fortunate choice, because at the time of the fieldwork, there was no well-known television or cinema adaptation of the play to define the characters or limit the potential of how they could look. Similarly, the comic-book adaptation of classic literary texts (such as Shakespeare) that I discuss in Chapter 2, are yet to extend to less-famous works on the school curriculum. I witnessed the teacher set a 'visual *home*-work' task for the students to find photographs to portray how they thought key characters looked. There was a discussion between the teacher and students to establish that all students had access to a smartphone, and were happy to use their own devices for searching, and presenting these 'chosen' images in class. The teacher explained that the students would be able to use their phones for 'research purposes', but that if they became too much of a distraction, their participation in the research would end.

In the next class, two days later, I observed students shared their images in working groups around the tables they were sitting at. With the students' verbal permission, I quickly took my own photographs of their phones, displaying the photographs they had chosen (Figures 12, 13 and 14). I made sure not to include any identifying details.

Fig.12: 'Jude' in Noughts & Crosses (researcher-taken photo)



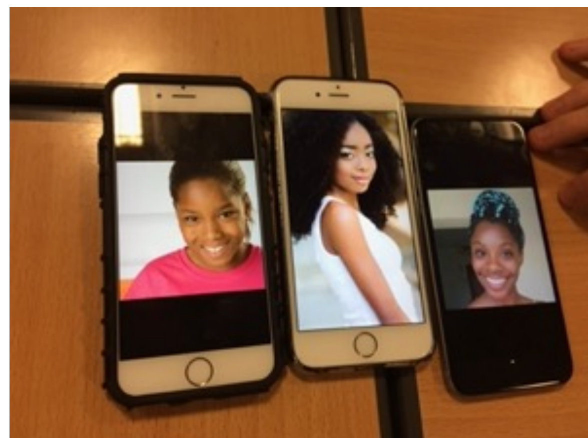


Fig.13 & Fig.14: 'Sephy' in Noughts & Crosses (researcher-taken photos)

The teacher asked the students what criteria had driven their searches, and how they had chosen their images. A discussion began, with two or three students who were regular, 'vocal' contributors dominating the exchange with the teacher. The teacher spotted this and deftly redirected the conversation by asking the students to discuss their choices with their peers around their table groupings. While the students talked, the teacher remarked to me that engagement in the task was good

across the whole class, and that she could see that some of the quieter students who tended to be reticent were contributing to their table discussions. I was mindful of the affordances of time and space for thinking described by Gauntlett (2005). The time taken to think about what to search for, then to choose the image that seemed most appropriate, and then to talk-through one's thinking about this lived-learning experience - seemed to play a catalytic role, supporting and enabling some students who might struggle to articulate themselves directly - with words - without the space and structure afforded by working with photographs.

The photographic *home*-work task enabled additional modes of participation and response for students beyond word-based ontologies. This different, *asignifying* register is extra-discursive and extra-textual, and through the affective registers of the photography emerging sense-making is able to reside within - and spill-out from - an 'aleatory point' (Deleuze 1990) - somewhere between sense and non-sense.

4.3.2 Aleatory point

Deleuze identifies a nomadic 'aleatory point' which 'possesses no particular meaning but is opposed to the absence of meaning' (Deleuze 1990 p89). The aleatory point is an anonymous, empty space: "it lacks its own identity, it lacks its own resemblance, it lacks its own equilibrium, it lacks its own origin" (ibid p55). The aleatory point is where the apprehension of affect may reside, still pre-personal and without clear sense and meaning, but without a complete absence of sense. Bogue (1989) ventures a helpful analogy, visualising the aleatory point "like a flock of sheep in an open plain, occupying as much space as they can, forming structural relations, and then moving on without making any territorial boundaries or sedentary domains" (pp 76-77). Bogue notes that "the aleatory point creates structures, but those it establishes are far from stable… Deleuze's conception of structure is ultimately that of a structured chaos or chaos-structure: a nomadic distribution" (1989 p76). In this research, Deleuze's notion of 'somewhere between sense and nonsense' aligns with my understanding of Barthes's position on feeling photographs; somewhere between 'meaning and madness'.

Thinking this way, I'm drawn to my earlier discussion of haecceity and Deleuze & Guattari's observation that "the concept of a bird is found not in its genus or species but in the composition of its postures, colors, and songs: something indiscernible" (1994 p20). The concept of the bird is more than the sum of its obvious components. The *totality* of the bird is configured by how the components relate, connect, 'cut across' and overlap to produce 'something indiscernible', which I understand to mean what cannot be described through language - but makes a bird what it is: its '*bird*-ness'. Deleuze calls this 'haecceity'. I understand the aleatory point as precursor to the totality of haecceity. In simple terms, the aleatory point is like having something 'on the tip of your tongue' - almost there, something felt, recognised, known - but (so far) eluding articulation. To build-on Deleuze's bird analogy, the aleatory point is an emerging sense of '*bird*-ness', rather than an absence of sense - no-sense at all, or '*non*-sense'.

For Godard (2010), Deleuze's aleatory point undoes "the venerable opposition between the intelligible and the sensible, sense and nonsense" (p58). Voss (2013) insists that, "Deleuze conceives of sense and nonsense no longer simply as opposites, but as complementary elements…endowed with the genetic power to produce spatio-temporal actualisations of sense-events" (p20/21). In the context of this research, I wonder if the photograph can function as a 'spatio-temporal actualisation of a sense-event'. The affordance of harnessing this 'actualisation' through photographs into educational settings can serve to enable additional modes of participation and expression for students.

Deleuze's aleatory point resonates deeply with Barthes's punctumic irritant - a deeply personal (prepersonal) inner experience possessing the "power to affect me at a depth and according to roots that I don't know" (Barthes 1981 p38). Hammond accounts for the affective registers of a photograph operating outside language as "an ungrounded and chaotic principle of disorder; its initial spark, or puncture, germinates a creative and expressive journey of interpretive wandering" (2017 p49). For Barthes (1981), favouring the 'madness' of photography over (structural, semiotically-deconstructed) 'meaning': "What I can name cannot really prick me. The incapacity to name is a good symptom of disturbance" (p51). In this research I position the photograph as a 'spatio-temporal actualisation of a sense-event' - both a

‘chaos-structure’ and a ‘disturbance’, made-material in affective registers operating beyond words, with untapped pedagogical potential.

Bogue recognises the capacity of the aleatory point as “the force of the unconscious i.e. that which escapes consciousness and reveals itself as an active, positive force” (1989 p80). In simple terms, the aleatory point accounts for an emerging sense of ‘something indiscernible’ - an incipient fragment of the ‘fragmentary totality’ of haecceity. The aleatory point is experienced as a ‘positive force’ in affective registers operating outside and beyond language. Key to this research is the intrinsic capacity of photographs to function as ‘spatio-temporal actualisations of sense-events’. As I have discussed in Chapter 2, young people make everyday digital photographs not simply for convenience, but because of photography’s capacity for visual simultaneity (Arnheim 1969). A photograph can ‘hold’ the *chaos-structure* of the aleatory point in purely visual registers, suspending the rush to rigid, written forms of inscription. As Barthes insists, within the experience of the photograph is the presence of ‘something inexpressible’ - “what, in the image, is purely image”, operating “outside language, but within interlocution” (Barthes 1977 p61). Thinking this way, the photograph serves to ‘authenticate’ more than represent (Barthes 1981 p89). This ‘different, asignifying register’ (O’Sullivan 2001) of affect, percept and concept - extra-discursive and extra-textual - not tied to explicit meaning, is able to reside within, and spill-out from the ‘structured chaos’ of the aleatory point.

Deluca (2008) urges us to embrace the ‘intractable immanence’ of the photograph; the intrinsic qualities of the photographic image to catalyse affect - aleatory points, haecceity, blocs of sensation, puntumic irritation and obtuse meaning - somewhere between sense and non-sense. Too often in educational settings, photographs and the sensate affects they can produce are ‘tamed’ by forms of linguistic description, and the neutralising constraints of linear structure.

I was keen to find out more about the potential of punctumic affect, particularly the ‘haecceity’, the ‘*this*-ness’, the ‘all-at-once-ness’ of affect, percept and concept co-existing in Deleuze & Guattari’s metaphorical dry-stone wall of ‘fragmentary totalities’ (1994). This emerging understanding is surfaced in Finding 1 and the vignettes that produced it. Vignette 9: ‘*But that’s how he’d look’* portrays how working with

photographs can harness the sensate affects of "what, in the image, is purely image" (Barthes 1977 p61) and "not in the language-system" (ibid p60).

4.3.3 Vignette 9: 'But that's how he'd look'

In School B, the first visual *home*-work task produced a number of lines of flight to explore; positive affordances and issues of avoidance. I returned to the school several weeks later and met with the teacher before the class began. The class had moved on to a new text: '*More than just the disease'* by Bernard Mac Laverty (1987). The teacher explained to me that building upon the pedagogical potential indicated by the first visual *home*-work task, she had devised further visual tasks. In addition to questions enquiring into how the students imagined the physical appearance of key characters, the teacher was interested in how the students were visualising key moments in the narrative. This vignette focuses on the *home*-work response to visualise a question posed by the teacher: "*How much does Neil want to go home?"*

Once again, students used their own devices to find and select existing photographic images in their own time, out-with school. But this time, the teacher wanted to gather evidence of the *home*-work responses, and had decided to ask students to print-out the images they had chosen on A4 paper. If this wasn't possible to do at home, she had arranged with the school library to provide printing facilities and technical assistance. The students collated their chosen images with numerical references (and sometimes captions) to the specific *home*-work questions.

I was able to observe the class when students presented this latest *home*-work. The teacher asked students to show their printed images to each other, and discuss their responses in small groups around their tables. The students engaged in animated discussion, exploring differences and similarities amongst their chosen photographs. The teacher and I moved around the tables again, listening to snippets of conversation. I joined the teacher at a table where she was having a conversation with a student about the visual *home*-work he had produced.

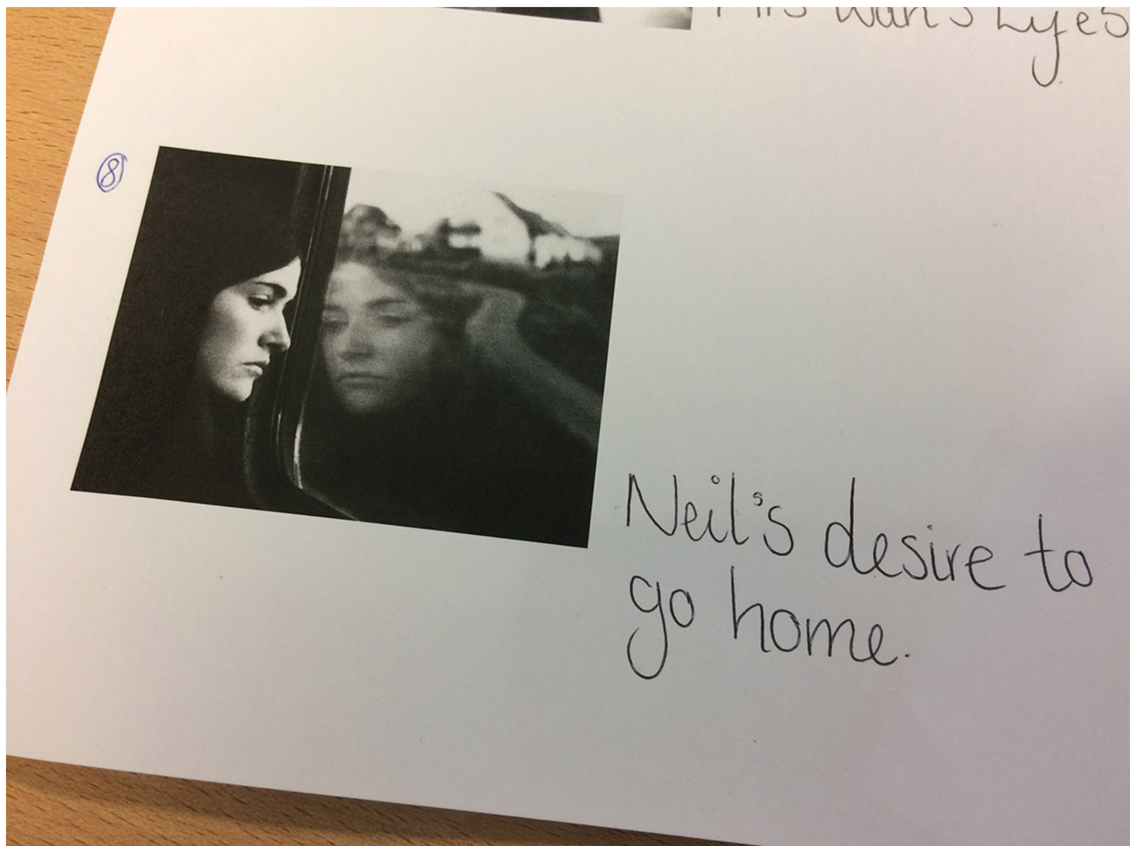


Fig.15: Visual home-work - Neil (researcher-taken photo)

T: [to me] *Have you seen this?* [pointing to what I saw as a black and white picture of a girl looking out of the window of a moving train or bus - Figure 15].
T: [to the student] *But Neil is a boy.*
S: *Yeah. But that's how he'd look.*

The teacher asked what the student had searched for, but the student shrugged, and became silent. The teacher nodded, accepted that the student didn't want to say more, and moved off to talk to students at another table. With this iteration of the *home*-work task being produced as a hard copy on A4 paper, the teacher asked for the *home*-work responses to be handed-in at the end of the class. I met with the teacher after the lesson to discuss the event, where I photographed the printed 'photograph' of Neil (Figure 15). The teacher commented on the distinctive improvement in student engagement with the visual task and participation in the discussion of their responses.

R: *So, Neil wants to go home, and that's how he'd look?*

T: *Amazing. I am amazed.* [smiles and shakes head] *John always acts the maggot. Doesn't do homework. Always tries to make a joke. Never seems to take it seriously. But today – he had it all in that picture. He gets it.*

I immediately thought of lines from Vignette 4: "*you can see it all at once*" and "*shows how you're feeling… you can't do that in text*" spoken by the students in School A, and connected this to Arnheim's 'visual simultaneity' (1969). The photograph that the student chose for Neil's sense of 'homesickness' portrays affect, percept and concept working together to produce haecceity - *this*-ness - '*this*-feeling' (the student's understanding of Neil's feeling), through the affective registers of the photograph. I continued:

R: *What else have you noticed [with the introduction of working with photographs into your classes]?*
T: *Well…* [pause, smile, intake of breath] *Engagement is through the roof. Kids who have never said a word, are contributing. Everyone is doing the home-work. Almost like it's a cool thing to do, and no-one wants to miss out.*
R: *How is this different from before?*
T: *It's like spraying WD40 into an old lock that won't turn. It's magic.*
R: *And is this because of how you're using photography?*
T: *Yes. It offers another dimension. Kids who struggle to write - whether they find it difficult, or just don't want to - are showing me their understanding. There are kids who clearly 'get it' - understanding what we're reading - very sophisticatedly. But wouldn't speak it or write it.*
R: *And now they can express themselves through a different medium?*
T: *Yes.*
R: *What is the impact of this for you and the pupils?*
T: *We can do so much more. I can help them, because I know where they're at.*
R: *And did you before?*
T: *With some, but… you know teenagers… so many were so quiet.*
R: [pause while thinking] *This seems to be really effective [sic] formative assessment, without the pupils seeing it as any form of assessment. It's almost as though they only think writing is assessment.*

T: *Yes. This way* [working with photographs] *they seem to be more open to showing what they're thinking when they don't have to 'say' it.*

As I have shown through the vignettes that produce Findings 1 and 2, the chosen photograph 'did something' that the student could not find words to do, or to replicate. In Vignettes 8: '*Visual home-work'* & 9: '*But that's how he'd look'*, working with photographs enabled the students to communicate their emerging understandings of the complexities of the characters and narrative being studied. Vignette 9 portrays Deleuze's notion of haecceity - '*this*-ness'. Selecting an existing photograph enables the virtual to become actual - and present. '*This*' is how the homesick boy would look. As the student said in Vignette 4: "*if it's in a photo, it's there and you can see it all at once".* The *'it'* is the fragmentary totality of blocs of sensation, made material through the photograph as a 'spatio-temporal actualisation of a sense-event' (Voss 2013), or perhaps as Szarkowski (2000) succinctly puts it; an act of 'pointing'. This is distinctively different from the resurrectional indexicality - the *ectoplasm* (Batchen 1999b) - of an original photograph made by a student of a lived-learning experience, as I described in the analysis that produced Findings 1 and 2. But nevertheless, both Findings 1 and 2 exemplify the rich untapped pedagogical potential of working with the affective registers of photographs.

4.3.4 Vignette 10: 'You can see it all at once… you can't do that with text' (revisited)

Responding to Barthes's insistence of something *more-than* conventional 'obvious' meaning, Burgin (2009) observes, "Psychoanalysis has shown us that the mental processes of which we are conscious are not the only meaning-producing processes which are taking place: the coveted 'absence' of meaning may mean merely that meaning has left the room, and is holding a party in the basement" (p35). Burgin continues, "in respect of Barthes's photographic paradox of the 'message without a code', we should remember that there is no paradox in the real, only in the way the real is described; the paradox is a purely linguistic (more specifically, *logical*) entity" (ibid p35). The student's own description of the distinctive 'more-than words' role that photograph can play in learning resonates deeply with Deluca's tirade against the linguistic domestication of the photograph, "the taming of its ecstasy, its excess, its exorbitant" (2006 p80).

Burgin (2009) notes that, “two levels of meaning”, are “the basis of all Barthes writing on photography: specifically…the distinction in ‘The third meaning’, between the ‘obvious’ and ‘obtuse’ meanings of a photograph” (p37). While Barthes didn’t make the connection explicit himself, Burgin asserts with conviction that, “the obvious meaning becomes the *studium* - the obtuse meaning becomes the *punctum*” (ibid p37). Thinking this way, what can be written and spoken about can be understood as ‘studium’ - the obvious meaning, or “anything we can describe with words” (Feale 2003 p4). The ‘obvious’ meaning is the basis of Mitchell’s ‘imagetext’ and the systematic deconstructing of an image to reveal the ‘studium’: that which can be written and spoken about. But O’Sullivan (2001) reminds us “you cannot read affects, you can only experience them” (p126). Vignette 9: ‘*But that’s how he’d look’* portrays haecceity at work in the ‘*this*-ness’ of the student’s chosen photograph. But I argue that Barthes’s obtuse, punctumic third meaning is also present - what can be felt, but not easily expressed in words. Barthes insists the affect of photographic punctum is the production of a “subtle beyond [that] takes the spectator outside its frame, and it is there that I animate this photograph and it animates me” (1981 p59). As the student remarks originally in Vignette 4, (and revisited here as Vignette 10) - “*You can’t do that with text’*.

In learning situations, photographs comprise ‘*more than’* can be recorded and expressed through language-based forms of inscription and description. The ‘fragmentary totalities’ of affect, percept and concept work together in ways that are “well beyond the capabilities of traditional academic writing and established sensibilities” (Hammond 2017 p49). Working with the affective registers of photographs in educational settings affords students additional/alternative modes of participation in curricular tasks, enfranchising students who struggle in situations requiring oral or written skills and competencies. Barthes insists, “we do without language but never cease to understand each other” (1981 p61). The potential of such highly personalised affect through the use of photography has yet to be harnessed purposefully in educational settings.

4.3.5 Summary

In this chapter so far, I have explored three vignettes to show how photographs chosen and harnessed into curriculum making have much untapped capacity to improve pedagogy through enabling additional modes of participation and response for students beyond a cognitivist bias (Mulcahy 2016), towards sense-making through highly-individualised, personal and prepersonal affective registers.

I have exemplified in Vignette 8: '*Visual home-work'* and Vignette 9: '*But that's how he'd look'*, how selecting existing photographic images can enable students to express - to make material - their thoughts and feelings through additional modes that both compliment and challenge the institutionalised dominance of word-based ontologies. Furthermore, Vignette 10: '*You can't do that with text'*, portrays how the photographs that students harness into learning can express *more-than* words. While for many, photographs can represent 'obvious' meaning, for some, they can serve as 'place-holders' for obtuse, 'third' meaning or perhaps 'sense-making emerging in an aleatory point - somewhere between sense and nonsense.

There would seem to be a choice between Deleuze or Barthes, but New Materialism's monist ontology dissolves this binary. Both positions recognise the personal and prepersonal, 'something inexpressible' which can be sensed - 'felt' - "outside (articulated) language, but within interlocution" (Barthes 1977 p61). In this research I argue that this is the unique affordance of the photograph. As Barthes insists; the madness of photography, "what, in the image, is purely image" (1977 p61) functioning as a "message without a code" (1981 p88). Thinking again with a monist ontology, in educational settings, this sensate approach to 'feeling' can complement rather than oppose the predominant 'linguistic' approach to 'reading' images through systematic semiotic deconstruction.

For reasons I have outlined in Chapter 2, teachers are unwilling and perhaps ill-equipped to embrace the potential of the affective registers of photographs. But perhaps thinking with a monist ontology again, when the 'false' binary implying a choice between madness or meaning is dissolved, there is much untapped potential for photographs to:

1. Catalyse and enhance sense-making through affective registers beyond the capacities of word-based ontologies,
2. To link young people's visual skills and knowledges with learning across home, school and other domains, and
3. Enable additional modes of participation and response for students.

Findings 1, 2 and 3 catalysed the discovery of Finding 4; the potential *for teachers* to contextualise and evaluate learning through working with photographs.

4.4 Finding 4

Working with the affective registers of photographs in educational settings can enable additional modes of contextualisation and evaluation of learning for teachers.

In addition to the vignettes that produce Findings 1, 2 & 3 the vignettes that resonated with me as the researcher to produce Finding 4 are:

11. 'But that's how he'd look' (revisited) - (School B)
12. The experience of unconscious bias - (School B)
13. 'Who irons pyjamas?' - (School B)
14. The student teacher: a counter-case - (School A)

While the Findings inform each other, here I specifically revisit a vignette that made a significant contribution to Finding 3, Vignette 9: *'But that's how he'd look'*. Harnessed into new assemblages with other vignettes, its affect is renewed, and together they produce Finding 4, highlighting the affordances and potential of photographs for teachers in contextualising and evaluating learning. This Finding explores the distinctive differences and overlapping similarities of what has emerged as unintended and unanticipated differences between the two cases: In School A (Science) students made original photographs of their lived-learning experiences in

classroom settings. In School B (English) students selected existing photographs to portray their emerging understandings of the written texts they were studying. To introduce this fourth Finding, I have chosen to revisit Vignette 9, but to drill deeper into the closing words of the teacher, presented here as a new vignette No:11 *'But that's how he'd look' - revisited*.

4.4.1 Vignette 11: 'But that's how he'd look' (revisited)

> R: *What is the impact of this for you and the students?*
> T: *We can do so much more. I can help them, because I know where they're at.*
> *R: And did you before?*
> T: *With some, but… you know teenagers… so many were so quiet.*
> R: [pause while thinking] *This seems to be really effective [sic] formative assessment, without the pupils seeing it as any form of assessment. It's almost as though they only think writing is assessment.*
> T: *Yes. This way [working with photograph]) <u>they seem to be more open to showing what they're thinking when they don't have to say it.</u>*

In Finding 3 I have exemplified how students can use photographs to 'do something' 'beyond language' (Barthes 1977). In Vignette 11: '*But that's how he'd look' (revisited)*, the photograph enabled the student to express - to surface - their emerging understanding of the storyline, and the emotional state of the particular character being studied. Working with photographs affords students additional/alternative modes of participation and response-making in curricular tasks, both classroom-based, and as repositioned *home*-work. Working with photographs - specifically the affective registers that operate as 'blocs of sensation' - can enfranchise students who struggle in situations requiring oral and/or written skills and competencies. This can be of significant value to teachers in the formative assessment of learning, and evaluation of teaching practice.

I returned to visit the English teacher two weeks after the '*But that's how he'd look'* conversation. I observed a lesson in which she used the affective registers of

photographs as provocation, with the intention of catalysing discussion. I portray this lesson as two vignettes.

4.4.2 Vignette 12: The experience of unconscious bias

In this vignette, the teacher anticipated the kind of photograph that students would choose in response to a task, when given a free choice. The class was still working through the short story *'More than the disease'* by Bernard Mac Laverty, and the teacher continued to set more visual *home*-work tasks. One task was to find a photograph that portrayed how they were visualising a key character in the story called 'Mrs Wan'. Students displayed their chosen image on their own phones, placing them in the centre of their respective tables for all the group to see. The teacher and I observed that everyone had appeared to choose a photograph of an East Asian-looking woman.

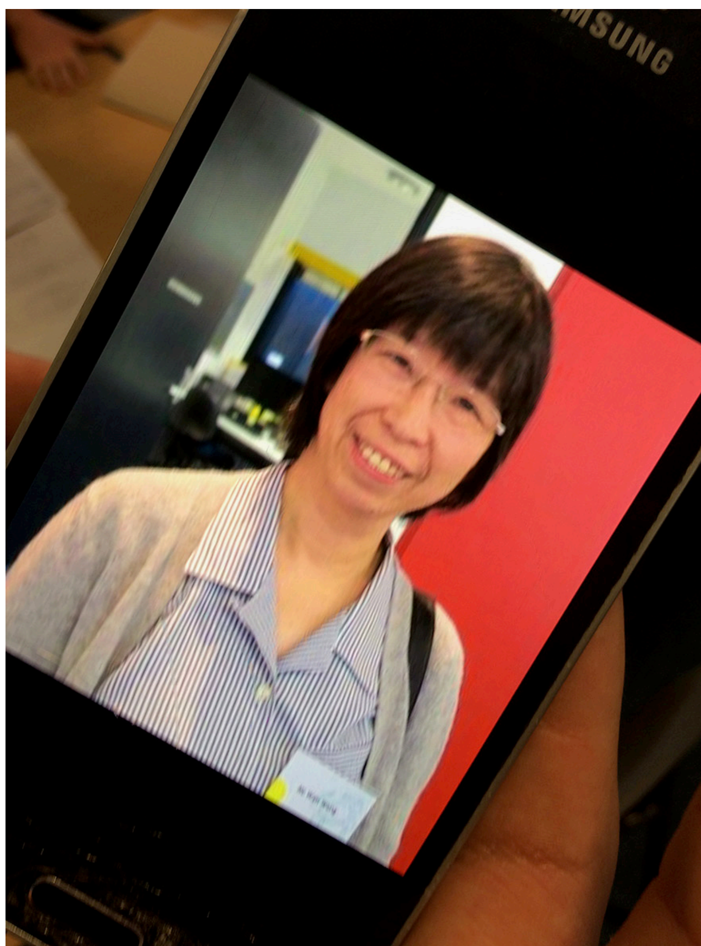


Fig.16: Visual home-work - 'Mrs Wan' on a student's phone (researcher-taken photo)

The teacher asked the whole class group why so many had made similar assumptions about Mrs Wan's appearance. I noted that discussion flowed, and attributed this to the teacher's comments on the freedom that students seemed to feel when working with photographs, and the time and space afforded to think-though their individual responses, before speaking (or writing). Students revealed they had been influenced by the character's name. The teacher then directed attention to details in the story which indicated Mrs Wan was not of East-Asian origin, and that her title 'Mrs' suggested she could have taken the name in marriage. As this revelation landed with the students there was a tangible, physical reaction of affect manifesting itself through a surge of intense discussion and rising volume levels. Albrecht-Crane & Slack (2007) note that "Teachers and students are often caught up in encounters that conjure affective 'sense-sations' - moments of energetic and resonant connection - which indicate that something significant is at work" (p99). For Deleuze & Guattari, this is "a fundamental encounter… grasped in a range of affective tones: wonder, love, hatred, suffering. In whichever tone, its primary characteristic is that it can only be sensed" (1994 p139). I 'sensed' that I had witnessed something of 'sticky' and memorable pedagogical significance for the whole class group, and the individuals therein.

Speaking with the teacher afterwards, she explained that she wanted the students to 'feel' something rather than passively listen to her explain that Mrs Wan was married. Hickey-Moody (2013) notes that affect can be felt as a "visceral prompt" (p79). The revelation about Mrs Wan was "saturated with affect" (Ahmed 2014 p11) specifically because the students' choice of photographs had made-material a collective act of unconscious bias. Drawing Ahmed's work on 'stickiness' (2010), Mulcahy (2016) argues that "learning is an intensive process of affective and material production; a practice of affective assemblage" (p211). The teacher used photography to 'palpate' a potent lived-learning experience, rather than inform the students of bias as an abstract concept. Time taken to think-through how to visualise Mrs Wan, what search terms to use, selecting a suitable image, and then seeing the assembled display of other students' choices served to heighten the affective intensity of their mistake. This 'bloc of sensation' contributed not only to a richer understanding of the character - the '*concept*' - of Mrs Wan, and her role in the narrative, but also created a lived-learning-experience of being complicit in unconscious bias. This vignette is

one of two, portraying the potential for teachers to harness the affective registers and intensities of photographs in pedagogy and curriculum-making. In the same lesson, I observed the English teacher harness the affective registers of photographs in another example.

4.4.3 Vignette 13: 'Who irons pyjamas?'

The story '*More than the disease'* addresses a young man's struggles with public attitudes towards his highly visible skin disorder (psoriasis). As described in Vignette 12: '*Unconscious bias'* (above), the English teacher had selected key moments from the narrative that she wanted to draw the students' attention to, and to do this chose to harness the affective registers afforded by working with photographs. A scene in the story describes the young man making a trip away from home, and discovering that his mother had packed neatly-ironed pyjamas in his suitcase. Not much is made of this detail in the overarching narrative, but the teacher felt it signalled something important about understanding the boy's home-life and the (Deleuzo-Guattarian) '*concept'* of his character. Using the interactive digital whiteboard, the teacher showed a photograph of neatly-folded pyjamas to the class (Figure 17).

Fig.17: 'Who folds pyjamas?" ('found' photograph used by the teacher)

[https://www.notonthehighstreet.com/britishboxers/product/children-s-pyjamas-blue-white-two-fold-flannel]

T: [addressing the whole class] *What are the ironed pyjamas 'about'? Why has the author mentioned this detail in the scene where the boy unpacked his pyjamas?*

S1: *To prevent nudity*

S2: *They show how much she loves him [her son]. She's looking after him.*

T: *Yes. But think - who irons pyjamas?*

S3: *They just get creased.*

T: *Exactly! So who did the Mum iron the pyjamas for? Her son, or herself?"*

S3: *His mum is all about appearances.*

T: *So this is what the writer is doing. Using the pyjamas as a device to make us think what must it be like for Neil, struggling with how he looks, to have a Mum who is so obsessed with tidiness and appearance, that she irons his pyjamas.*

The image catalysed an enthusiastic class discussion, about societal judgement based on appearances. The teacher facilitated the discussion with skilful use of Socratic questions drawing out different viewpoints and assumptions. After the class, I met with the teacher in the staffroom. She expressed great satisfaction with the lesson I had just witnessed, remarking that she felt it was successful in a number of ways. Student engagement was sustained for longer than the teacher had come to anticipate from attempts to catalyse discussion without using images. Notably, she felt students who were usually reticent were more participative. The affective intensities of chosen photographs afforded the teacher an additional mode to contextualise the learning. The teacher thought the lesson seemed more 'memorable' - that the key ideas she wanted the students to understand had 'resonated' with the students in ways that she felt were distinctively different from what she described as the traditional approach to 'just reading and talking'.

Jagodzinski (2015) notes the affective potential of the image, arguing that, "For Deleuze & Guattari, the image is defined as an assemblage of movements and affective vibrations, much like the interference pattern of electrons… The image is no more an image-of-an-object than it is an image-for-consciousness" (p514). Thinking this way, the photograph becomes a relation of forces - as much 'affective' as representational. The affordances of a photograph's ambiguity - or polysemy - invites

“deduction, speculation, and fantasy” (Sontag 1977 p23). Considered as "spatio-temporal actualisations of sense-events” (Voss 2013 p20) and employed as a ‘relation of forces’ rather than a copy or representation, photographs harnessed into pedagogy - or perhaps harnessed as pedagogy (Hickey-Moody 2009), can provoke and palpate pre-cognitive, pre-linguistic sensate bodily responses. De-territorialising, re-territorialising and catalysing creative possibilities for emerging sense-making. As Ahmed (2014) argues, this ‘affective transfer’ makes learning ‘sticky’.

Through the process of rhizoanalysis, I returned to the data and the vignettes. A line in Vignette 11: ‘*But that’s how he’d look*’ came to resonate with my emerging understanding of affect. The English teacher said: “*It’s like spraying WD40 into an old lock that won’t turn. It’s magic.*” Affect can speed things, expedite and ‘lubricate’, as the teacher’s analogy suggests, but affect can swell, gather, and aggregate, serving to slow things down (Niccolini 2016). Ahmed insists that “some forms of stickiness are about holding things together. Some are about blockages or stopping things moving. When a sign or object becomes sticky it can function to ‘block’ the movement (of other things or signs) and it can function to bind (other things or signs) together. ... Stickiness then is about what objects do to other objects - it involves the transference of affect - but it is a relation of ‘doing’” (2014 p91). Of particular significance to this research is the contribution that working with photographs makes to learning events in the classroom. Whether speeding sense-making up, or slowing it down, working with photographs involves ‘doing’. This participatory ‘doing’ serves to distribute responsibility for learning: Teachers can’t tell students what to photograph, or what photographs to search for. Neither can teachers predict or control students’ individual sensate response(s) to the affective registers of photographs. Working with ‘affective-photo-pedagogy’, responsibility for learning no longer resides with the ‘sovereignty’ of the teacher. Teachers and students are agential in curriculum-making, with new and unforeseen possibilities. I will discuss this - and the implications- in the next two chapters, but to conclude Finding 4, I want to present one more vignette, portraying a counter-case, when the affordances of working with photographs in classroom situations are temporarily suspended.

4.4.4 Vignette 14: A counter-case: the student-teacher

The analysis that produced Finding 4 was enriched by a significant counter-case which emerged in School A, with the arrival of a student-teacher on placement during the second semester of my fieldwork. The Science teacher I had been working with for several months informed me he was stepping-back for four weeks to enable the student-teacher to gain experience by teaching some of his classes. What unfolded portrays the impact of withdrawing what had become the normalised practice of working with photographs in these Science classes.

The student-teacher requested not to participate in my research. She had not featured in the original gathering of informed consent, and I understood her reservations about my presence in the classroom, when she would be observed by an assessor from her own Initial Teacher Education university course. During her four-week placement period, the student-teacher taught a Biology topic, including the dissection of a mouse. When the regular Science teacher informed me of the temporary hiatus in my classroom observations, he also expressed his disappointment that the students would miss out on the opportunity to photograph the dissection. He saw this as an opportunity to produce images rich in potential for the students' sense-making, and his own 'photographically-assisted' retrieval practice, which he now used at the beginning of most of his lessons.

At the conclusion of the four-week placement, the original Science teacher resumed teaching the classes and I returned to continue classroom observations. I spoke with students about the work they had done in the time with the student-teacher. Several commented on the same issue: that the student teacher had insisted there wasn't enough time in class for the students to perform their own experiments, but rather she (the student-teacher) would demonstrate the experiments, for the students to observe and take notes. Furthermore, the student-teacher had insisted that students did not take out their mobile phones during their classes, and subsequently the students took no photographs in the Science classroom for the duration of the dissection topic. The students expressed their dis-satisfaction with the student-teacher's approach to teaching and learning and an absence of opportunities to participate in learning activities.

S2: *She told us there wasn't enough time to do the experiment by ourselves so she just showed it to us and got us to copy down a bunch of stuff.*

R: *How was that?*

S3: *You don't remember that*

S5: *I don't even remember doing that.*

S6: *If you do the experiment yourself you know more about it.*

S2: *If you watched someone else doing the experiment you wouldn't remember it as long.*

R: *Did you take any photos of the dissection?*

All: *No!* [Expressions of disappointment & frustration]

S7: *She wouldn't let us. "No No No No No!"* [impersonates teacher]

S6: *She wouldn't let anyone do* *__anything__*. *She does everything herself. So you don't really understand what it's like to do it.*

R: *Is she a trainee teacher?*

Group: Yes. Training to be a biology teacher.

R: *How is she different from X [your regular teacher]?*

S6: *She has less control over the class than X [our regular teacher].*

S5: *She does multiple experiments and we just have to write it all down.*

S3: *Or she'll just tell you about the experiment, but not even do it, 'to save time'.*

I was unable to talk with the student-teacher to find out how she thought the classes had gone. But in one of my regular meetings with the Science teacher I had been working with, I relayed the students' comments and asked for his thoughts.

T: *Everyone teaches differently. She [the student- teacher] will be going by the book, thinking the kids learn what she teaches them. I've been doing this for a while now. I guess I'm willing to take a few risks. But it all comes down to trust. You've seen that I show them trust - and they show it back to me.*

I asked for the Science teacher's thoughts on the practicalities of students using their phones to take - and view - photographs in his Science classes.

T: *It's trust again. It's how I set the tone for the lessons - from the beginning. There are rules in the Science lab that have to be there for everyone's safety. The rules about using phones [to take pictures] was just another rule. It wasn't something introduced later, or, I think, anything that felt special. 'This is what we do in Science'. I can't speak for other [curricular] subjects.* [pause to reflect] *But I'll continue to do it.*

R: *You can't believe you've not being doing it before?*

T: [Smiles] *Yeah, that's right.*

The Science teacher's comment on the student-teacher's assumption that 'the kids learn what she teaches them' hints at what Mulcahy (2016) perceives as the prevalence of a 'cognitivist bias' in education, privileging the mind while "taking attention from the ability of affect to accumulate within the body and promote the desire and capacity to learn" (Watkins 2010 p279). Duff (2013) insists that Deleuze "construes learning as a rupture or shock in which a body, whether human or nonhuman, is opened up to forces of difference and becoming. Learning occurs on a line of becoming as a body is transformed or 'recomposed' in the affects, forces, percepts and concepts it may establish relations with" (p194). In this research, I argue that 'sense-making' is an intensive, personal (prepersonal) process of affective and material production; a practice of affective assemblage.

In Chapter 2 I discussed how images and photographs in learning materials can be regarded as 'decoration' or a 'side order' (Schwartz 2007) to the main course of words. Across all four Findings I have portrayed how working with photographs can be harnessed purposefully into educational settings. The two cases are not intended for comparison, but rather to exemplify (Thomas 2011) through the disciplines of Science and English Language the possibilities of 'affective-photo-pedagogy' for other educators and curricular areas.

4.4.5 Summary

This analysis draws upon these four vignettes to produce Finding 4: Working with the affective registers of photographs in educational settings can enable additional modes of contextualisation and evaluation of learning for teachers.

In this research, I chose to work with the principles of Exploratory Practice (Allwright (2005) - to work co-operatively for mutual development, and rather than seek complete solutions, to move towards a greater understanding of the complexity of the issue. These Findings show that teachers and students can work together in curriculum-making to develop meaningful, 'sticky' lived-learning experiences. Furthermore, the ubiquity of personal technologies (predicted by Mayes 1995) enabling the production and storage of photographs, presents untapped opportunities to harness the affective intensities of working with photographs in learning and teaching.

Ahmed's (2014) model of affect as stickiness adds to our understanding of what affect can do in learning. This suggests that the potential of photographs in learning and teaching is much more than the illustration (or repetition) of word-based instructions or written notes, but rather the unique, sensate punctumic affective registers of photographs made or selected as part of lived-learning experiences. Without the accompanying 'concrete' learning experience, described by Ahmed as 'doing', photographs - as portrayed in Vignette 7: *'20 copies from Boots'* - are stripped of the personal and prepersonal punctumic significance which catalyses affect, percept and concept; fuelling the aleatory point, or spilling-out to produce the 'all-at-onceness' of haecceity. This is 'affective-photo-pedagogy'.

Chapter 5: Discussion

Overview

This chapter addresses the Findings in a non-linear manner. I explain why and how I have chosen this approach, and draw upon the Findings presented in Chapter 4 to respond to my research questions:

> How can young people's sense-making through their everyday photographic practices be harnessed purposefully into educational settings?
>
> What are the implications for the wider uses of the affective registers of photographs in educational theory, policy and practice?

This research has produced four Findings:

> **1. There is much untapped potential in educational settings for photographs to catalyse and enhance sense-making through affective registers beyond the capacities of word-based ontologies.**
>
> **2. Working with the affective registers of photographs can link young people's visual skills and knowledges with learning across home, school and other domains.**
>
> **3. Working with the affective registers of photographs can enable additional modes of participation and response for students, and**
>
> **4. Working with the affective registers of photographs can enable additional modes of contextualisation and evaluation of learning for teachers**.

5.1 A caveat – on linear structure

The four Findings inter-relate, informing and producing each other, colliding - with the introduction of new vignettes, ideas and affects - to produce new assemblages and new Findings. But where to begin with a linear, written discussion of the 'affects of affect'? I am mindful of Arnheim's (1969) observation of the 'simultaneity' of the visual to show 'everything-all-at-once', and Deleuze & Guattari's notion of haecceity - the quality of *this*-ness; the 'entire assemblage' (1988). Drawing on Deleuze and Guattari's ideas about assemblages, I will approach somewhere in the 'middle', "where things pick up speed" (1988 p25) and spill outwards, rather than discuss each Finding in turn.

I will begin with the pedagogical significance of the affective registers of photographs, spanning all four Findings. Working with photographs can link learning across school, home and other domains, presenting opportunities for new, participatory pedagogical approaches that transcend the boundaries of the 'traditional' classroom. Working with photographs affords students space and structure to 'think-through' lived-learning experiences, suspending immediate recourse to words. However, Bogue (1989) reminds us that Deleuze's notion of structure is "a structured chaos, or chaos-structure: a nomadic distribution" (p76). I will discuss how this far-from-stable 'structured chaos' presents opportunities for "elongated encounters with curriculum" (Garrett & Matthews 2014 p354) and for communication and expression in registers beyond language-based modes. I will also consider the pedagogical affordances of working with photographs for teachers, in contextualising learning, in formative assessment, and perhaps, in the 'inevitable' *ultimate resort to language* (see Gauntlett 2005), as catalysts to students' writing.

The ambiguities of students' highly-personal, punctumic responses to the affective registers of photographs present challenges for educators pressured into adopting risk-averse pedagogical practices (see Ball 2003, Biesta 2014). There are implications for power, control, and trust, impacting on assumptions about roles and responsibilities, and much potential to involve students in meaningful decision-making about their experience of school and schooling (Mannion et al 2015, 2020). I will discuss issues of ethics and inclusion as we approach a point of near-ubiquitous

smartphone ownership amongst secondary school students, coupled with calls from policy-makers for outright bans on phone use in schools (Ofcom 2022, TES 2024). Teachers need support to effectively harness the affordances of photographs and young people's everyday photographic practices in educational settings. There are opportunities for continuous professional development (CPD), and areas for innovation in Initial Teacher Education (ITE) programmes to help educators become more aware of sense-making in affective registers operating beyond language, and the purposes driving young people's everyday uses of photographs and digital photography.

As I came to finalise this thesis, the issue of Artificial Intelligence (AI) came to present new lines of flight for consideration. The drawn-out nature of part-time doctoral study means that much of the preparatory work, fieldwork and analysis took place before access to AI tools became widely available. I respond tentatively to this issue with some thoughts on implications, and potential avenues for further research.

5.2 A Reflexive Note on Terminology

Throughout this research, I have struggled to find a succinct and memorable term for the role that the affective affordances of photographs can play in learning and teaching. Visual Pedagogy is an established domain with an extensive literature (Goldfarb 2002, Keddie 2009, Cambre et al 2023). But Visual Pedagogies are not specific to photographs, and demonstrate a paucity of alignment with the arena of affect. Rather, Mitchell's (1995) structural master key 'imagetext' and the 'taming' of images through semiotic deconstruction continues to dominate Visual Studies (DeLuca 2006, 2008). Similarly, work on Affective Pedagogies (Albrecht-Crane & Slack 2007, Hickey-Moody 2013, Leander & Ehret 2019, Dernikos et al 2020) omits specific focus on the visual, and photography is but a footnote.

During this research, I presented 'emerging hypotheses' (Heisley & Levy 1991) at Education conferences. In abstracts I used the term 'Photo Pedagogy', attempting to position my work as relevant to the Pedagogy and Curriculum-making discussion groups. My proposals were accepted, but I was consigned to Art Education cohorts, seemingly on the assumption I was planning to present on approaches to teaching the practice of photography.

In assembling the literature review in Chapter 2, Villi's (2012) understanding of 'visual chit-chat' offered valuable insight into what my research was about and how to explain it. For Villi, young people's everyday sense-making and communication is a conversation *with* photographs, rather than a conversation *about* photographs. 'Photo Pedagogy' is not about teaching the technical practice of photography, but rather teaching *with* the affective resonances of photographs. As Mayes (1995) foresaw, educational technologies have merged seamlessly with personal technologies, with their convenience and ubiquity affording enormous potential for learning and teaching.

But confusions with terminology persist, and so I have chosen to add "affective" to the term, settling on 'Affective-Photo-Pedagogies'. This phrase may continue to be misunderstood, but in this research it serves to clearly denote the affective potential of both photographs and the practice of digital photography in learning and teaching. In some ways my struggles to write about affect and photographs come as no surprise, having explored in great depth - in the literature review in Chapter 2 and throughout the Findings in Chapter 4 - how affect and photographs can operate in sensate registers outside language which are, "theoretically locatable but not describable… the representation which cannot be represented" (Barthes 1977 p64). And so, to the middle…

5.3 More-than words

O'Sullivan (2001) is dismissive of attempts to 'write' (or represent) affect:

> *"So much for writing, and for art as a kind of writing... all we ever have is a kind of echo, the representation of affect… Affects can be described as extra-discursive and extra-textual… extra-discursive in the sense that they are "outside" discourse understood as structure (they are precisely what is irreducible to structure) [and] extra-textual in the sense that they do not produce - or do not only produce - knowledge" (pp126-128).*

I take O'Sullivan's statement about affects 'not producing, or not-only producing knowledge' to mean affects produce '*more than*' knowledge, in ways that Lorimer (2005) suggests Non-Representational Theory could be called '*more-than*

representational theory. The inclusive positivity of ‘more-than’ is better suited than the binary negativity of the prefix ‘non’, as an orientation “to cope with our self-evidently more-than-human, more-than-textual, multi-sensual worlds” (Lorimer 2005 p83). The affective registers of photographs produce ‘more-than’ the clear and unambiguous meaning demanded in educational settings for reasons discussed in detail in Chapter 2. In the context of this inquiry, I argue that this ‘something more-than obvious’ knowledge and meaning is what Barthes sensed as the ‘obtuse’, third meaning (1977).

The ‘obvious’ meaning is conveyed by the referent of the image (the subject) and ‘common’ knowledge of the context in which the image was made. For Barthes, this is studium: obvious meaning which can be systematically derived by the processes of semiotic analysis (see Burgin 2009). The opposite to the ‘obvious’ studium is the ‘obtuse’ punctum: the personal sensate registers of a photograph that “pierce like an arrow”, resonating “with a power: affect” (Barthes 1981 p49). For Barthes (and his translators), this obtuse or ‘third’ meaning might not be well-represented by the word ‘meaning’ at all, insisting that it “outplays meaning” (1977 p63) and that “the obtuse meaning is not in the language-system (even that of symbols)” (ibid p60). Barthes’s sense of ‘something beyond’ the obvious meaning is “theoretically locatable but not describable… the representation which cannot be represented” (ibid p64). Of particular significance for this research is Barthes’s insistence that this punctumic, obtuse ‘third’ meaning eludes description and representation, residing “outside (articulated) language while nevertheless within interlocution” (1977 p61). Szarkowski (2000) likens the act of photography to the act of pointing: ‘look at *this*’. As my analysis portrays, on an everyday basis, young people use digital photographs to ‘point’ - to do ‘something’ that words can’t, or that photographs <u>*can do*</u> in ways that are distinctively different.

Drawing on Barthes, Feale (2003) highlights critiques of visual art that centre around a ‘fallacy’ of translation: “to put into linguistic context that which was meant to exist outside of language” (p4). The vignettes that produce Findings 1, 2, 3 & 4 portray how photographs can ‘hold’ in both thought and time, sensate response(s) which may otherwise be relegated to silence or be rushed into other forms of representation and inscription. This prompts me to wonder: in educational settings,

how much of what is experienced eludes representation by linguistic conventions, and thereby goes unrecognised? In this research I have shown how photographs can offer alternative modes of sense-making, and communication, but additionally enable space and 'structured chaos' to think-through lived-learning experiences.

5.4 Thinking-through

In Chapter 2 I discuss Gauntlett's observations on the unique qualities of visual research methods:

> *"If I ask you a question, it would seem strange if you didn't begin to provide me with an answer within a few seconds. Creative tasks, on the other hand, are understood to take longer, and lead to a more reflective process, where it seems natural to take time to think about what is to be produced, and how this can be achieved; and furthermore during the time it takes to make the work, the participant will have spent further time - creative time - thinking about the about the research issue and their response to it, so that by the end of the process, even if we do ultimately resort to language, they will have developed a set of responses which may be quite different to what their initial gut reaction may have been"* (2005 p3)

Gauntlett's point about 'ultimately resorting to language' mirrors Burgin's observation about the photograph being "invaded by language in the very moment it is looked at" (1982 p51), and Deluca's frustration at the taming of the 'madness' of the photograph through a form of "linguistic domestication" (2008 p669). I will return to discuss this notion of an 'ultimate resort to language' in educational settings later in this chapter. Across all four Findings I have shown how the combination of making, choosing and reviewing photographs affords space and 'structured-chaos' for thinking to emerge. But furthermore, the affective registers of the photograph serve to 'hold' emerging thoughts 'safe', in close proximity to, but simultaneously at a productive distance from the rigidity of suggested, conventional (linguistic) forms of inscription and description. Instead of immediate responses, working with the affective registers of photographs enables space and time to sustain what may be lost to silence or distorted in attempts to rush to normalised discursive modes of representation and inscription.

Hammond explains: “The subjective experience of the punctum produces a consequence, which extends well beyond the capabilities of the traditional academic writing and established sensibilities” (2017 p49). Barthes insists that this personal (pre-personal) experience of ‘third meaning’ operates in the visual domain beyond words: “what, in the image, is purely image” (Barthes 1977 p61). Deleuze (1990) accounts for this with the notion of an ‘aleatory point’ - somewhere between sense and non-sense: something apprehended or sensed without being able to express - *with words* - what that is. Mulcahy & Healy’s (2021) work on affect leads them to describe this as “gaining purchase” (p562). Working with ‘affective-photo-pedagogy’ can enable complexity and uncertainty to roam, while simultaneously being ‘held’ sufficiently steady to be apprehended - and expressed (perhaps ‘pointed to’) - by the individual as something more-than ‘*non*-sense’.

To exemplify this, I have chosen to include a final vignette. My reasoning is that a separate and distinct discussion of each Finding in turn does not enable me to effectively draw out the potential of photographs in educational settings. As components of a hybrid research/event ‘R/E’ assemblage (see Fox & Alldred 2014, and section 3.4 of the Methodology chapter of this thesis), the four Findings are themselves inter-dependent, produced by their proximity to - and connections between - each other. Indeed, these four Findings hang together somewhat like Deleuze & Guattari’s dry-stone wall of ‘fragmentary totalities’ (1994). Affect, percept and concept working together simultaneously as ‘blocs of sensation’ to produce haecceity: ‘*this* is what it’s all about’. My own reading of haecceity in terms of photographs is the capacity to express the ‘everything all-at-once’. Deleuze & Guattari remind us that haecceity is ‘*this*-ness’: the quality that makes something what it is: “the entire assemblage in its individual aggregate” (1988 p262). For me, this following vignette exemplifies the ‘nub’ of this whole thesis: the un-paralleled capacity of a photograph to ‘hold’ emerging sense-making in registers of affect, operating “outside language, but within interlocution” (Barthes 1977 p61) to portray ‘everything-all-at-once’. And through this different register, produce an individualised experience of intense personal pedagogical impact.

5.5 Vignette 15: ‘He’s scunnered, Miss’

The English teacher in School B continued to explore the affective potential of ‘found’ or ‘chosen’ photographs in her practice. As fieldwork concluded, the students moved on to another text. I paid a visit, late one afternoon after lessons had finished, with the intention of a final ‘exit’ conversation with the teacher. She explained that she had adapted the visual ‘*home*-work’ from tasks to be done specifically ‘at home’ into the present moment - activities during the lesson, in the classroom. For her, working with photographs continued to be highly effective - ‘affective’ - in surfacing students’ perceptions and assumptions in ways that were complimentary to, but also went beyond what could be easily written and spoken about. Regularly in lessons, the teacher was enacting ‘affective-photo-pedagogy’ and asking students to ‘take out their phones’ to search for images to express how they were visualising key parts of the texts they were studying.

The teacher explained that the students had been reading Hamlet in class, and analysing the characters and narrative. We briefly discussed the ‘difficulty’ students can have with Shakespeare’s language and the potential of ‘comic book’ versions of Shakespearean texts. While retaining much of the original language, these heavily abridged resources creatively combine “the aesthetics of screen and print culture” (Sabeti 2017 p338). The teacher explained that she had used these types of comic books in her post at a previous school, and liked their ‘accessibility’ for ‘less-than enthusiastic’ students. She mentioned that this school had chosen (predominantly for financial rather than pedagogical reasons) not to buy them. However, the teacher said she felt that inviting the students to work with photographs had gone particularly well, and that discussions were richer for the catalysing affects of not only looking at the photographs they had selected, but also the time taken to ‘think-through’ what to search for on their own personal devices.

The teacher explained she had something she wanted me to see. She had asked the students, “*How does Hamlet look at the point where he asks, ‘To be or not to be’?”* and invited them to use their phones to find a photograph. For context, Hamlet is an entitled young Prince who discovers his uncle has murdered his father, and is about to marry his mother, usurping not only Hamlet’s expected succession to the throne, but also plunging the somewhat effete Prince into an existential crisis about how to

respond to this threat. The teacher showed me a picture she had taken (Figure 18) of a student's response to the 'To be or not to be' task, displayed on the screen of his own phone. With her permission, I include the teacher's photograph of the student's phone screen, below:

Fig.18: "He's scunnered, Miss" - student's 'chosen' image (teacher-taken photo)

The teacher's photograph captured a student's smartphone displaying an image of a male peacock on the screen. The teacher explained this was the visual response from a student who was often reluctant to speak up in class, and often produced poor written assignments. A systematic 'semiotic' deconstruction of the image (see Burgin 2009) would identify 'obvious' signifiers and signifieds: 'a colourful bird with a bowed head', 'a man-made enclosure'. Perhaps Mitchell (1995) would read this 'imagetext' as a 'captive bird looking for food'. But in terms of haecceity, "the entire assemblage in its individual aggregate" (Deleuze & Guattari 1988 p262), '*this*-peacock' portrays Hamlet's dilemma - presented 'all-at-once', through the 'visual simultaneity' (Arnheim 1969) of a photograph. Affect, percept and concept working together in sense-making, described in practicable terms by Mulcahy & Healy as "gaining purchase" (2021 p562). "Thinking with theory" (Jackson & Mazzei 2012

p717) I see this as similar to the way that the finger holes in a ten-pin bowling ball enable us to grasp something that could otherwise prove elusive and unwieldly. Here too, Barthes's notion of third meaning is at work, the presence of something ineffable: "what, in the image, is purely image", operating "outside language, but within interlocution" (1977 p61). The student was able to portray his own recognition of Hamlet's despair through a photograph, operating in a purely visual mode, beyond words. In '*Art as Experience'* (1934), Dewey reminds us, "Each medium says something that cannot be uttered as well or as completely in any other tongue" (p110). I asked the teacher if the student had said anything to explain his choice. The teacher smiled and nodded, relaying that the student had said, "*He's scunnered, Miss*". For context, 'scunnered' is a colloquial Scots term for 'great disappointment', often connected with the dashing of high hopes, all too familiar to football fans - of which, almost all young men of school age in the west of Scotland are.

The English teacher explained to me that this particular student was quiet and withdrawn, not keen to participate in discussions and often skipped traditional, written modes of homework. She commented that without the photograph she would have been much less able to gauge this student's learning, and how well he had been following the narrative of the play. For her, photographs had become invaluable tools for formative assessment, evaluating student learning and her own teaching. The teacher described to me how the student seemed visibly emboldened by her positive reaction to his choice of photograph, and with this affirmation, the student responded to the teacher's invitation to talk-through his thinking. The student spoke-up to reveal his opinion that Hamlet was 'concerned with appearances', and 'a bit of an over-thinker'.

I have included this vignette to portray the role that photographs and young people's everyday practices with photography can play in sensate, lived-learning experiences, of intense, personal pedagogical value, and to signpost the following key points:

- Photography can sharpen students' observational skills, raising acuity and assisting discernment (Lommen 2012).
- Photography can contribute to "confidence building and stimulate feelings of accomplishment" (Göttert et al 2023 p44).

- Working with photographs enables time and space to 'think-through' thoughts and feelings Gauntlet (2005) and can elongate engagement with curricular tasks.
- Photographs can offer alternative modes of expression, beyond (and perhaps also complimentary to) what might be possible to communicate through more rigid linguistic forms of representation and inscription.
- Photographs made and stored on students' own devices can link learning across school, home and other domains.
- Teachers can use photographs to sample students' learning and evaluate their own teaching through swift and unobtrusive formative assessment.
- Teachers can align their pedagogies more resonantly with the efficiencies and convenience of young people's everyday photographic practices to make learning seem more relevant - and memorable (Mayes 1995).

The Hamlet 'photo-event' occurred in a lesson I wasn't present at to observe, and I was not able to ask the student about their search criteria and the words they entered into their chosen internet search engine. My own subsequent attempts to search online for 'Hamlet + peacock' (and variations, including a reverse 'image search') have not returned this image. There are opportunities for further research into the specific search terms that students use to find images, and the role photographs can play in formative and summative assessment. Through the space and 'structured chaos' to 'hold' emerging sense-making in an aleatory point, or to portray the haecceity of *everything all at once* - '*this*-ness' - the photograph has much untapped potential in enabling individualised and collective pedagogical encounters that could otherwise be lost to silence or distorted in attempts to rush to normalised discursive modes of representation and inscription.

5.6 Photographs as experience(s)

Vignette 15: '*He's scunnered, Miss'*, together with the vignettes that produce all four Findings portray how the 'experience' of working with photographs provides space and 'structure' for thoughts to emerge over sustained engagement with curricular tasks. As Mulcahy & Healy note, learning experiences 'saturated with affect' can play an invaluable role in "gaining purchase" (2021 p562) on the elusive aleatory point, or the fragmentary totality of haecceity. Freed from the demand to articulate sense too

soon through language-based forms of representation, ‘affective-photo-pedagogy’ invites sustained thinking, and acknowledges complexity, uncertainty and ambiguity. Photographs can ‘hold’ emerging thoughts and feelings ‘safe’, while maintaining a ‘productive distance’ (Garrett & Matthews 2014) between the apprehension and the understanding of complex, challenging experiences. This ‘productive distance’ affords space and time to ‘palpate’ and encourage new thinking, which could otherwise be ‘lost to silence’.

In both cases, working with the affective registers of photographs produced lived-learning experiences, which provoked and sustained thinking and feeling - to produce learning. To explain this terminology, some contextualisation of Kolb’s ‘*Experiential Learning’* cycle (1984) is helpful here. Kolb’s model draws heavily on the preceding groundwork of Piaget and Dewey (see Morris 2020) to argue learning is produced by reflection on concrete experience. Key criticism centres on ambiguity around what constitutes a “concrete experience” (Seaman, Brown & Quay 2017). Blenkinsop et al (2016) suggest that some educators would consider reading a book or listening to a lecture to be legitimate concrete experiences, while others would argue vociferously that they are not. Morris defines concrete experience as a “highly contextualised, primary experience that involves hands-on learner experience in uncontrived real-world situations” (2020 p1070), noting that the necessity for learning to be situated ‘in context’ was not stipulated in Kolb’s conceptualisation of Experiential Learning. Larsen (2017) argues that a concrete experience can be a “highly charged, emotional experience” (p279), contributing to a metacognitive awareness of “self”. Experience that doesn’t ‘matter’ is at the core of ineffective Experiential Learning practices. As Ahmed (2014) notes, the affective transfer that produces ‘stickiness’, comes from ‘doing’. In this research I have shown how working with photographs in ‘affective-photo-pedagogy’ is an active, participatory and sensate experience, moving beyond a ‘cognitive bias’ to include “attention to bodily sensations” (Spelman 1989 p170) and the capacity for affect to aggregate, and catalyse learning.

In Case A, the Science teacher adopted a highly participatory pedagogical approach to Science, involving students in practical experiments in the Science classroom. The vignettes in Findings 1 and 2 portray how these ‘lived-learning-experiences’

readily lent themselves to being photographed. But the Science teacher also quickly understood that the students needed to be active participants in making photographs of their learning experiences.

> T: *I think it's important that they [the pupils] take their own photos. It wouldn't work if I took the photos and got, say, twenty copies [prints] made at Boots [the Chemist], and said 'here, stick this in your jotter'. They have to do the experiment themselves, and take their own pictures.* [Vignette 6: '*Take out your phones'*]

As I discuss in Chapter 2, photographs in commercially-produced learning support materials can be stripped of personal connection to lived-learning experience. Such disconnection perhaps plays a large part in consigning images to decorative, rather than pedagogically-significant roles (see Levin 1981, Romney & Bell 2012, Gökalp & Dinç 2022). In Vignette 7: '*20 copies from Boots'*, the students said:

> P5: *You'd have to actually do the lesson, to get the photo to trigger your memory of the lesson - or you wouldn't have the memory of doing it with a photo [given to you] like that.*

> P1: *You wouldn't be thinking, "I remember that lesson", you'd be thinking, "How did this picture get in my jotter?"*

Notably, during the period when a student teacher took over the Science classes, portrayed in Vignette 14: '*The Student Teacher',* the students were denied 'concrete' lived-learning experiences. The student teacher insisted on demonstrating experiments herself for the students to watch rather than take-part in themselves, reasoning that this would 'save time'. In focus group interviews, the students protested about being denied not just the first-hand lived-learning 'experience' of actually carrying out the experiments themselves, but also the opportunity to take photographs, which they had quickly come to consider as a very useful aid to their learning in Science lessons.

Of particular significance to Finding 2 is that students' photographs are stored on their personal devices, and positioned in photo galleries together with other photographs from public and personal contexts. As the student explains in Vignette 7: '*20 copies from Boots'*, the photographs and their juxtaposition in chronologically-organised galleries serve to resurrect the affective intensities of the classroom events where and when the photographs were made or used. In addition, as I portray in Finding 1, the students' photographs can contain *more-than* written notes.

In his prophetic '*Groundhog Day'* paper, Mayes (1995) predicted that educational technology would be indistinguishable from personal technologies, and embraced on account of seamless convenience and efficiency. But rather than engaging with the educational potential of cameras embedded in smartphones, the prevailing reactionary response from educational leaders and policy makers is to ban them (Kukulska-Hulme et al 2011, Beland & Murphy 2015, Cohn 2016, Green 2019, TES 2024). In both cases, teachers involved the students in establishing 'ground-rules' for the appropriate uses of cameras and phones in the classroom. There are opportunities to engage students in discussions about their responsible uses of smartphones and the cameras embedded therein. I will return to discuss this and other implications in Chapter 6.

5.7 Sustaining & elongating (learning experiences)

The vignettes that produce Finding 2 portray how working with photographs stored on personal devices can link learning across domains of home and school, and across fragmented timetables. As I discussed in Chapter 2, in the mediation of everyday experience, the immediacy and ubiquity of digital photography spans the dualism of '*that-has-been*' and '*is-here-now*'. The affective, sensate resonances of digital photographs simultaneously serve the resurrectional qualities (Edwards 2009) of photographs, making-present past events, and the instantaneous commentary of visual chit-chat (Villi 2012). Photographs of both past and present are "saturated with affect" (Ahmed 2014 p11). In case A, the Science teacher harnessed the affective intensities of the students' own photographs efficaciously in retrieval practice (Karpicke 2009). Drawing heavily on Cognitive Load theory (Sweller 1998), retrieval practice is a well-established technique inviting students to participate actively in

recall of prior learning, and to make connections with new learning. At the beginning of Science lessons, rather than deliver a recap of the previous lesson, I observed the Science teacher regularly invite students to harness the affective intensities of their own photographs. In Vignette 6: '*Take out your phones'*, the Science teacher remarked that harnessing photographs into retrieval practice seemed to be more effective/affective, and also took much less time, than his previous strategy of starting lessons by delivering a verbal recap to the students himself. In Vignettes 1: '*More than my notes'*, and 5: '*Different part of the brain'*, the students explain the significance of their photographs relating to lived-experience(s).

> P5: *If I take a picture like that, my brain works differently and my memory, it kind of, replays as a flashback… You can see what we did.*

> P1: *You might not write down everything you did, but the photo will help to remember.*

In Vignette 7: *'20 copies from Boots'*, the student describes how making photographs is helpful, but that having access to them on his own device is very important to their effectiveness/affectiveness:

> P5: *Photos in your phone gallery remind you of what you were doing around and outside the lesson when you took the pictures, which helps jog your memory of what happened when you did the experiment.*
> R: *Is this what happens when the teacher says 'take out your phones' to look at your own photographs from the last lesson?*
> Several students together*: Yes.*
> P4: *"You remember what you did."*
> P1: *Yeah - it brings everything back - in a flash.*

In Vignette 5: '*Different part of the brain'*, the benefits of working with photographs are so apparent to the Science teacher that he exclaims, "*it's so obvious, I can't believe I've not been doing it before*". After fieldwork in school A ended, the Science teacher moved to a new school to take up the promoted position of Principal Teacher. In an email, he informed me of a top-down directive from the senior

management team, banning mobile phone use by students in his new school. The Science teacher expressed his disappointment that what he had come to recognise were the obvious benefits and affordances of students using photography in his lessons would be lost. In our conversation, the teacher highlighted the pressure on him to satisfy the requirements of a period of probation in his new role, and that for the foreseeable future, he would not be encouraging his students to photograph their lived-learning experiences. In what turned out to be our final email exchange, he enquired when this research would be published, and expressed a hope that these Findings would make a contribution to the debate on cameras and smartphones - and that the debate might include the voices of young people themselves, who he felt were eminently capable of participating in meaningful decision-making on matters affecting their education.

5.8 Collective Experience

The school in Case B was operating a top-down 'no-phones' directive. The English teacher was initially hesitant to allow students to use their phones in the classroom, but quickly recognised the catalysing affects of photographs chosen by students themselves. She made a case to the school leaders, who agreed (for the purposes of this research) to allow students to use their phones in her classroom for specific purposes (the visual *home*-work tasks). In Finding 4, Vignettes 12: '*Unconscious bias'*, and 13: '*Pyjamas*' portray how the English teacher was able to use photographs she had chosen herself, to facilitate concrete, 'collective' learning experiences. The students responded to '*home*-work' tasks to find images to portray how they were visualising characters in the text they were studying. For the character 'Mrs Wan', all the students selected photographs of women of East-Asian descent. When these individually-chosen images were displayed together, the teacher was able to point-out details in the text that indicated the character had married and changed her name. This enabled the teacher to begin an engaging discussion on unconscious bias. The lived-experience of unintentionally participating in an act of 'bias' was heightened by the students themselves visualising the character through photographs they had chosen. Afterwards the teacher remarked that working with the affective registers of photographs had "*made the students feel*

something", and had contributed directly to high levels of participation in the ensuing discussion.

In Vignette 13: '*Pyjamas*' the English teacher employed this strategy again, to catalyse another rich classroom conversation. On the interactive classroom 'whiteboard', she projected a photograph of immaculately ironed and folded pyjamas, and invited discussion about which character the image pertained to. This prompted the students to revisit their notes and the text, leading them collectively to arrive at the same response. As I explain in the vignette, the boy had to endure not only his own psoriasis, but also his mother's fastidiousness, and her own feelings of shame about her son's physical appearance. In these two vignettes, photographs serve to visualise key points in the text, *affectively* rendering abstract concepts more concrete, but also provoke strong, 'visceral' responses (Hickey-Moody 2013). Smith (2014) observes that, "Barthes's entire understanding of photography is remarkably tactile; his experience of viewing is one of being touched" (p34). Barthes insists that photographs can 'prick', 'pierce' 'bruise' and 'wound' through unanticipated intense personal response which cuts-through the culturally-conditioned reading of the studium: the 'obvious', explicit, intended meaning.

Larsen (2017) argues that a concrete experience can be a "highly charged, emotional experience" (p279), contributing to a metacognitive awareness of "self". In this research, working with the affective registers of photographs was an integral part of 'concrete' learning experiences. The intense, punctumic experience of personally-relatable 'connections' to images can be absent in the images 'decorating' commercially-available learning materials (Levin 1981, Romney & Bell 2012, Gökalp & Dinç 2022).

5.9 Resistance and the inevitable shortcut

In analysis, I encountered clues that some students were taking 'shortcuts' in the visual *home*-work, resorting quickly to expediency, and perhaps default positions of resistance to being 'told what to do'. The English teacher set tasks for the students to find photographs to show how they were visualising three key characters in the novella *Noughts and Crosses* by Malorie Blackman. As I have discussed in Vignette

8: '*Visual home-work*', at the time of fieldwork there was no definitive television or cinema version of the novel to define the characters or limit the potential of how these characters could look, in the way that a film or televised version could. The teacher invited students to show their 'found' photographs of the character 'Jude' and discuss their choices at their classroom tables (Figure 19).

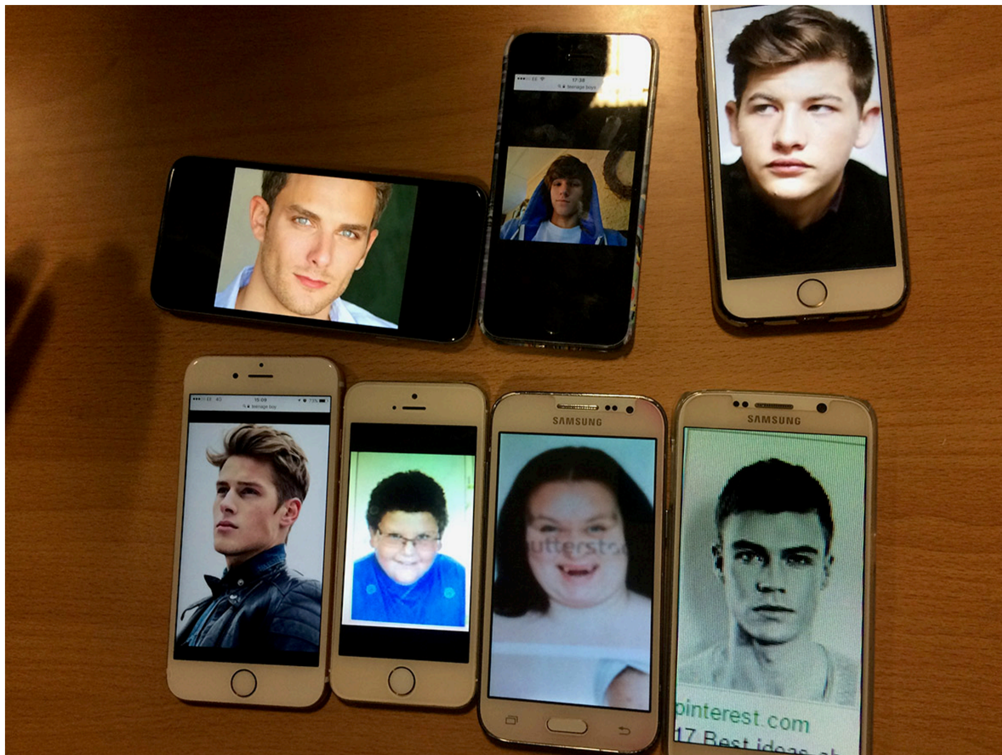


Fig.19: 'Jude' in Noughts & Crosses (researcher-taken photo) - same a Fig.12

Engagement was high, with all students participating in peer-discussion. The teacher and I circulated around the tables, listening-in on conversations. Most of the students chose photographs of a young Caucasian male in his twenties, with the chiselled features and piercing stare of a 'Hollywood' leading man. Students explained that they had based their choices on the descriptions and action in the text. But in the photographs presented on each table there seemed to be 'outliers' - rogue images that did not fit this consensus of opinion. In Figure 19, I noted that these two 'different' photographs had been placed side-by-side, by two students sitting together. I enquired as to the choice of the two images in the middle of the bottom row of my own photograph of students' phones. Mischievous glances were exchanged between them before they spoke:

S1: *Ah, that's kind of how I see it.*

S2: *Yeah* [in a mischievous tone].

I understood the students' choices to be either a sign of independent thinking, or a deliberate act of defiance, choosing to ignore the clues in the novel, and instead show an 'obtuse choice'. I use this word in a nod to Barthes's third meaning, but also in the context of choosing '<u>not</u> to fit in'; obtuse as an act of resistance. Although the Learning for Literacies in Further Education project (Ivanic et al 2009) saw much potential for teachers to align their pedagogies with the skills and knowledges that students bring with them to learning, Bernstein (2000) is cautious about 'pedagogising' students' personal lives.

The teacher asked students to show and discuss their chosen images of the character Sephy (Figures 20 & 21). This time I observed that two students at the same table had chosen exactly the same photograph. I enquired if this was co-incidence. The two students appeared somewhat amused, but insisted it was. In analysis, I noted that there is the potential for affect, percept and concept to work in ways which produce 'collective' as well as individualised experience, as discussed in section 5.8 (above). Students reading the same text could be drawn to choosing the same image, but could also conspire to lessen the perceived workload by sharing photographs between their personal devices, or by co-operating and collaborating to split tasks - see Mueller's (2009) view of discursive back channels.

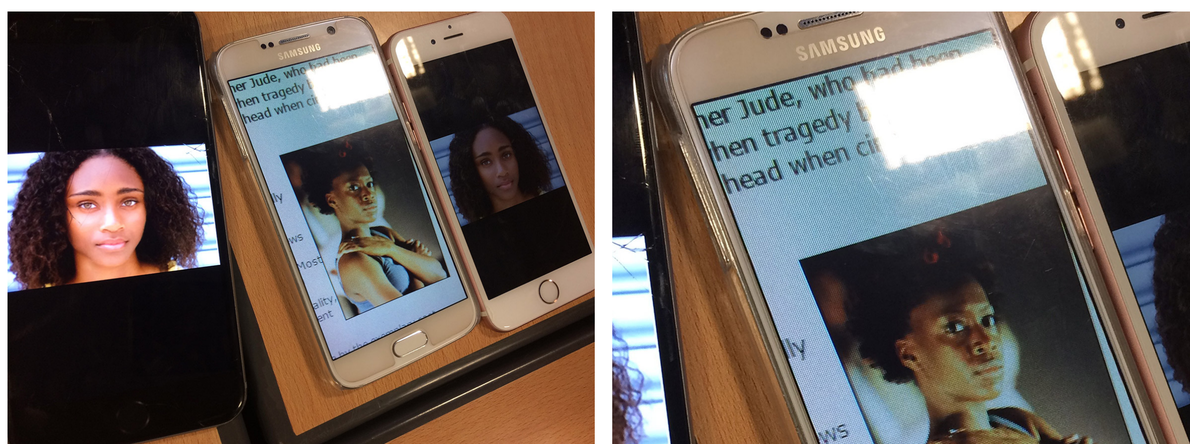


Fig.20 & Fig.21: Two Sephys and a clue (researcher-taken photos)

However, during analysis, I noticed a detail within the middle photograph, offering valuable insight into the students' search processes. On closer inspection, the text surrounding the centre image includes the word 'Jude' - the name of a character in Noughts and Crosses and also the subject of this particular visualisation task. Further inspection of the surrounding text *"…tragedy lies ahead…"* suggested the image formed part of a web page hosting a discussion or critical analysis of the storyline. This discovery 'palpated' the data, inspiring me to revisit the images, fieldnotes and audio recordings. Using the internet search terms 'Noughts+Crosses+Sephy' I found the image, and quickly traced it to an archived web page hosting a review of a production of the play at the Liverpool Playhouse in 2008 (BBC 2008).

Fig.22: Noughts & Crosses at the Liverpool Playhouse (screenshot of BBC website)

https://www.bbc.co.uk/liverpool/content/articles/2008/02/28/theatre_noughts_and_crosses_feature.shtml

Lynette, daughter and sister. Yet greater tragedy lies ahead when circumstances compel Callum to join their dark forces.

A blank stage with a white backdrop is the setting for a beach, the young couple's oasis. Switching to interiors is done via props, usually noisily hurled about on stage - and mostly furniture. The jarring effect, along with spiky music and the bringing of TV to life, where news commentators and interviewees circle those watching, does much to add to the tension. Most of this erupts from the violent hatred on both sides, creating the uneasy certainty that probably everything seen here is based on reality, although injustice is still one of the most potent means to stir emotions in an audience.

Fig.23: Noughts & Crosses at the Liverpool Playhouse - detail (screenshot of BBC website)

Perhaps some students will be disposed to regard schoolwork of any mode and manner as externally-driven tasks to be accomplished perfunctorily in the most strategic manner, requiring the least possible effort. As well as Bernstein's (2000) concerns about educators intruding into personal domains, perhaps also the concern to 'get it right' is so pervasive in the secondary education sector, driven by the 'evidential exposure' of exam results, that students (and teachers) could feel compelled to look for direct routes to existing materials and images, rather than search more openly in the pursuit of their own, individualised sense-making (see Ball 2003).

Thinking with New Materialism (Fox & Alldred 2014, 2017) and assemblages as 'events' - working with photographs in the classroom is an additional, 'sensate', affective experience within the lived-experience of the learning event. Dewey (1934) insists that pedagogical 'experience' is simultaneously emotional AND practical AND intellectual. Rather than separate, these stages (or phases) of experience are moving variations within the unity of the flow of experience, which Dewey considers as a 'train' of connected carriages or components moving in unison. As I have discussed, the affective registers of photographs can elongate learning experiences, by offering space and (chaos-)structure to 'hold' complex thoughts and emerging sense-making in affective registers. This serves to sustain encounters with the curriculum (Garrett & Matthews 2014), enabling 'something' different to emerge - thoughts and feelings - which cannot be anticipated. This is what 'affective-photo-pedagogy' can *do*.

5.10 Affective-Photo-Pedagogy

The review of literature in Chapter 2 notes the persistence of risk-aversion and a cognitivist bias in education (Watkins 2010, Mulcahy 2016) choosing to overlook, or perhaps under-estimate the capacity of affect to accumulate in the body and catalyse the desire to learn in ways that subvert the 'sovereignty of the teacher' (Niccolini (2016). From some critical quarters, affect is portrayed as 'frivolous', residing somewhere in the 'unconscious', and derided as another theoretical 'novelty' (Thrift 2008). Deleuze & Guattari (1988 p256) observe the capacity of young people to be 'Spinozists', in that they readily operate on an 'affective level', pre-cognitive, pre-

linguistic, lost to most adults, and that learning is a product of affective flow - or ‘affectus’: the materiality of change.

Watkins urges for serious consideration of the pedagogic implications of the intensity and accumulation of affect, insisting that “Affect is ever present. Our day-to-day encounters in the world involve a continual process of affective engagement with other bodies both animate and inanimate” (2006 p275). Albrecht-Crane & Slack (2007) argue that “Teachers and students are often caught up in encounters that conjure affective ‘sense-sations’ - moments of energetic and resonant connection - which indicate that something significant is at work” (p99). Ahmed (2010, 2014) describes these ‘resonant connections’ as ‘affective transfer’. “Stickiness involv[ing] a form of relationality, or a ‘withness’, in which the elements that are ‘with’ get bound together… Stickiness then is about what objects do to other objects - it involves the transference of affect - but it is a relation of ‘doing’” (2014 p91). Across all four Findings I portray how working with the affective registers of photographs can serve to make learning experiences ‘stick’. Read (2016) argues that “it is through these affects that change happens, not just the change of passing from one emotion to another, but becoming, the transformations that disrupt and undo the existing emotional order” (p124). Harnessing affect can release the transformative potential of education by working to “burst the seams of the classroom” (Albrecht-Crane & Slack 2007 p105) enabling new and renewed interactions.

Thinking this way breaks-down ‘subject-object’ and ‘mind-body’ binaries, and distributes pedagogic responsibility, to produce new capacities for thinking and doing in a renewed approach to learning and teaching. As Garrett & Matthews (2014) insist, participatory approaches to pedagogy and curriculum-making clearly signal that “sources of knowledge are ‘other’ than the teacher” (p344). Teachers can’t make meaning *for* students. Teachers can’t tell students what to photograph or what search terms to use to find images that resonate - or what to ‘feel’. Instead, working with ‘affective-photo-pedagogy’, responsibility for learning is devolved, creating space and (chaos-)structure for sense-making to ‘become’, in ways that cannot always be predicted or controlled. This loss of control (teacher sovereignty) is both a challenge to and an opportunity for teachers used to working with traditional notions of pedagogy, underpinned by a normalised cognitive bias that privileges what goes

on in the mind over the sensate capacities of affect to swell and gather in the body, and catalyse desires to learn.

5.11 Chaos (madness or meaning revisited)

A broad range of existing research offers support to educators to make more use of visuals in their pedagogies (see Goldfarb 2002, Grushka & Donnelly 2010, García-Vera 2023, Cambre, Barroni-Perlman & Herman 2023). As I have discussed in Chapter 2, Visual Pedagogies are not specific to photographs, and demonstrate a paucity of alignment with the arena of affect. Similarly, work on Affective Pedagogies (Albrecht-Crane & Slack 2007, Leander & Ehret 2019, Dernikos et al 2020) omits specific focus on the visual, and photography is but a footnote. Visual Studies continues to be dominated by the pervasive influence of Mitchell's (1995) 'imagetext'. Writing about images in an attempt to render their meanings more precise, inevitably privileges language as the primary, dominant discourse. Deluca protests that this is effectively a "linguistic domestication" (2008 p669) of images. From a perspective of 'feeling' photography, Barthes (1981) himself insists that photographs can 'prick', 'pierce' 'bruise' and 'wound' through unanticipated intense personal response which cuts-through the culturally-conditioned reading and semiotic deconstruction of 'obvious', intended - predictable - meaning.

Rather than a weakness, as I framed in the review of literature in Chapter 2, the ambiguity of photographs - their 'madness' and 'intractable immanence -' instead unleashes the 'chaos' that Hickey-Moody (2013) insists is an essential component force in affective pedagogy that 'matters' and 'sticks'. How individuals respond to the lived-learning experiences of 'affective-photo-pedagogy' cannot be predicted. Biesta (2014) asserts the necessity of risk in education, and is adamant that in learning and teaching there can be no perfect match between input and output. Such concerns lead to 'distortions' of practice in the pursuit of what Ball (2003) describes as 'performativity' - a calculated "response to targets, indicators and evaluations, [which] produces opacity rather than transparency as individuals and organizations take ever greater care in the construction and maintenance of fabrications" (p217). But 'affective-photo-pedagogy' redistributes responsibilities, embraces complexity, and elongates uncertainty, through sensate registers operating beyond language. This presents significant challenges to 'traditional', vertical pedagogic discourses

(Bernstein 1999), and practices involving control and delivery of information from teacher to student (Laurillard 2002), with concomitant implications for risk and trust. I will discuss trust and risk here, and return to them again in Chapter 6: Implications.

5.12 Trust and risk

Space here does not permit an extended analysis of trust, or a description of the whole range of scholarship it has inspired across a range of disciplines including (but not limited to) psychology, philosophy, anthropology and sociology. Within education, there is research on teachers' 'trustworthiness' (Katz 2014), and focus on the role of trust in 'engaged' pedagogy (hooks 1994) and 'radical pedagogies' (Giroux 1997, Corrigan & Chapman 2008). However, Sabeti (2017) notes that there are "relatively few *empirical* studies of trust - what it means to anticipate trust, or lack trust, and these are not engaged in discussions of educational questions per se" (p341).

In this research, 'acts of trust' that were formative in establishing classroom culture occurred early in both cases during my fieldwork observations. I did not recognise the full significance of these events at the time, but in analysis these events began to resonate differently. As I outline in section 3.7.5 of the methodology chapter (Chapter 3), both schools agreed to participate in my research. I met with several teachers in both schools to discuss the possibilities for working with photographs in their curricular areas, before deciding on two case studies - one in Science and one in English Language. I introduced myself to the students in both cases and explained the aims of the research, before asking for written consent forms to be completed.

Drawing on the guidelines and principles of Exploratory Practice (Allwright 2005), both teachers involved students in discussions about the potentialities of working with photographs in their respective subject areas. But additionally, both teachers invited the students to participate in discussions about the potential problems of phone-use. Together, the teachers and their students established their own ground-rules for 'appropriate uses' of photography, and phones in classroom situations. School A (Science) was still evaluating how to proceed with rules about phone use, while School B (English) had recently introduced a ban on students' phone use during the school-day. Both teachers explained to their students that they were

participants in research, and that no other classes in either school would be working with photographs in this way.

In negotiations to begin working with the English teacher, she revealed to me her own concerns at the disempowering effect of top-down directives and rules. She explained that at the beginning of every school year, she habitually negotiated 'English-classroom ground-rules' with all her students. She cited her keenness to help students develop 'higher order skills' of analysis and evaluation, together with negotiation skills and 'tolerance' for differences of opinion (see Bloom et al 1956, and Anderson & Krathwohl et al 2001). The teacher explained that this 'gave the students their place', and she felt that the students responded to this demonstration of respect by reciprocating respect for her. When rules were transgressed, the teacher could ask, "*what did we agree?",* and invite the students to reconsider their actions, rather than enforce top-down rules that the students felt they had played no part in establishing. For this teacher, negotiating appropriate uses of phones and photography with the students fitted-in with her existing practice and approach to classroom management.

Trust cannot be assumed, and for it to be harnessed effectively into educational settings, expectations must be addressed (Sztompka 1999). Those entrusted must be clear about - and willing to take-on - the specified responsibilities, and those placing the trust must be accepting of the risks involved. Hawley (2014) notes that trust is a tripartite relationship, between two parties and a task.

I was interested to know more about how the students' perceived the English teacher's approach to trust and was able to enquire in focus group conversations:

> S1: *She's great. Different*
> S2: *She gets us.*
> S3: *She doesn't have to shout. She gets respect because everyone thinks she's 'alright'.*
> S4: *In another class, I had my phone out to look at the time, and Mr XX shouted at me and confiscated my phone for the rest of the lesson, because I*

> *looked at my phone for the time, because I haven't got a watch. My phone is my watch. Some teachers just don't get it.*

In School B (English) the students agreed to use their own devices to search for photographs and to display them in class. The students would not use their phones to take original photographs in class, or to use their phones for networked messaging. On several occasions when the students were using their phones for 'outlawed purposes' such as messaging and checking social media, (or just to see the 'time'), I witnessed the teacher remind the students that using their phones in the English class for "*research purposes*", but they would only able to keep doing this if they stuck to the rules they had agreed. From my perspective as observer, this seemed to create a sense of belonging amongst the students - something of 'bunker mentality' - that this group were different, doing something the rest of the school wasn't doing, and that their teacher was instrumental in helping them secure a special 'privilege' that no-one was keen to lose.

In School A (Science) the teacher also involved students in negotiating ground-rules for the use of photography and phones in the classroom. But in comparison with School A, this aspect was less foregrounded, instead forming part of a larger conversation about safety in the Science classroom. Science classrooms in School A were distinctively different from other learning spaces, with sinks & gas taps at each table, and various pieces of equipment stored on shelves running around the sides of the room. I noted that the Science teacher involved the students in discussion to be clear and firm about what was safe and appropriate practice. This included uses of photographs and phones. In Science classes, the teacher encouraged students to take photographs of the experiments they participated in, but to avoid photographing each other, especially faces. Phones were to be used for taking and reviewing photographs, but not for messaging and social media. The teacher also asked students not to share their photographs, asking instead that they used them for their own purposes, making 'sense' of their work in the Science classroom. In the lessons that followed, I observed students using their phones to photograph and review practical experiments. There were few notable transgressions, and these were dealt with calmly, with the teacher reminding students of the ground-rules that they had

played a part in agreeing. I spoke with the Science teacher several weeks into the fieldwork:

> R: *I was very interested in the way you've set that group [of students] up, because you seem, to me, to have a quiet authority that they largely respect, and I wondered is that to do with the way that Science teachers teach Science, or is that to do with you as an individual?*
>
> T: *I think that's probably how I go about setting up relationships with the class – what I'm like as a person - rather than how Science teachers would do it. I taught both classes for a few weeks before the summer and I quickly realised that I could trust both classes to do specific tasks… I think they realise that there's some trust there from me. I make sure they know Science can be a little bit dangerous, and so they tend not to muck about. There are rules in the Science lab that have to be there for everyone's safety. The rules about using phones [to take pictures] was just another rule. It wasn't something introduced later, or, I think, anything that felt special: 'This is what we do in Science'.*

In focus groups at School A, I spoke with students:

> R: *What are relations like between pupils and teachers in this school?*
> S3: *Some of the older teachers are more shouty and angry. Because when they were younger that's how their teachers taught them.*
> R: *What about Mr [Science teacher]?*
> S5: *He's really nice.*
> S4: *I can have a conversation with Mr [Science teacher], but not with some of the other teachers.*
> S6: *Some of the other teachers are a bit awkward. They like doing the telling.*

To summarise, teachers in both cases mentioned the importance of trust. They both worked hard to create the classroom cultures they wanted, involving students in strategic and operational decision-making. In School A (Science), the rules on working with photographs were embedded into wider safety policies and practices in a learning environment already carrying some degree of risk. In School B (English),

the students felt ‘privileged’ to be trusted with using phones and photographs responsibly. In both cases, students reciprocated the trust they were shown, respecting and abiding by rules they had ‘a say’ in establishing in collaboration with their teachers.

In this thesis, the case studies and Findings exemplify how photographs and the practice of making photographs can be harnessed within the formal curriculum and classroom settings. They signpost possibilities for teachers to include more participatory approaches to learning and teaching, by enabling a plurality of individualised experiences. Working with photographs presents risks, and requires trust - between teachers and students, but also from school leadership. There are opportunities for teachers and students to co-create curriculum, harnessing the skills and knowledges that students bring with them to learning in new pedagogical spaces and affective encounters.

Vignette 14: ‘*The student teacher’* highlights the counter-case, in which the unintended consequences of an inexperienced student teacher’s actions served to render learning a passive experience, devoid of activity and opportunities for photography. Stripped of ‘concrete experience’, passive learning becomes less-than ‘sticky’ (Ahmed 2014). Finding 2 portrays how photographs offer significant affordances in linking learning across different domains, but can be particularly effective (perhaps ‘affective’) in connecting lessons fragmented across the school timetable. While there is significant work in this area, the potential of photographs to contribute to intense, senate embodied experiences is contingent on a renewed approach to student participation, based on mutual trust and respect which I will discuss in greater detail the ‘Implications’ chapter which follows.

5.14 The ‘ultimate resort’ to language?

Earlier in this chapter I said I would return to discuss what Gauntlett (2005) describes as the ‘ultimate resort to language’. I will begin this section by drawing on a quote from Lacan (1998): “a dream does not introduce us into any kind of unfathomable experience or mystery - it is read in what is said about it” (p96). In this thesis I have repeatedly highlighted the ‘taming’ of photographs through what Deluca (2008 p669) frames as a “linguistic domestication”. For me, first as a student of photography, a

professional photographer and then a teacher of photography, Barthes's tactile orientation towards 'feeling' the 'madness' of a photograph has prevailed over Mitchell's focus on 'reading meaning'. Photographers choose to make photographs specifically for the affordances of the photograph - "what, in the image, is purely image" (Barthes 1977 p61) - to do 'something' that other forms of inscription can't - or can't do - as *affect*-ively. In '*Art as Experience'* (1934), Dewey declares:

> *"Each art has its own medium… especially fitted for one kind of communication. Each medium says something that cannot be uttered as well or as completely in any other tongue. The needs of daily life have given superior practical importance to one mode of communication, that of speech. This fact has unfortunately given rise to a popular impression that the meanings expressed in architecture, sculpture, painting and music can be translated into words with little if any loss"* (1934 p110).

The vignettes in Findings 3 and 4 portray how in case B, the English teacher harnessed the sensate affects of photographs to catalyse engagement and discussion. Additionally, through the affordances of photographs in formative assessment, she was able to evaluate students' learning, and her own teaching. This research emphasises the importance of individualised experience when working with photographs. Photographs 'matter', but as I have discussed, these visually-mediated affective encounters can lie outside the control of educators, posing challenges to teacher sovereignty, pedagogical conventions, and classroom management. A photograph 'saturated with affect' and punctumic significance for one individual, may not exert similar intensities on another. This signposts possibilities for further research into the role(s) that photographs can play in assessment strategies and practices.

In the production of this research I have explored how the invitation to work with photographs was transforming the students' processes of apprehension and sense-making. But as I produced this chapter (late in the overall timeline of the thesis), I came to realise that I was less interested in the photographs that the students made and chose, but rather, what they had to say about those photographs. Gauntlett's (2005) pithy observation on the limitations of visual research methods, "*even if we do*

ultimately resort to language" (p3) signals the continued dominance of words as the primary ontological mode in educational settings. Whether coursework accumulated over the school year, or final summative examinations - both mainstays of compulsory schooling involve the production of written accounts.

As I have shown, working with photographs can offer space to 'hold' thoughts and emerging thinking 'safe' in sensate registers, sustaining and elongating pedagogical experiences that may be lost to silence or distorted in attempts to rush to normalised discursive modes of description and inscription. Whether the reader's preference is for Barthes's 'sticky', punctumic, intensely personal and ineffable 'third meaning', or Deleuze's aleatory point somewhere between sense and nonsense, and the 'totality' of haecceity - the lived-learning experience of working with the affective registers of photographs offers rich possibilities as catalysts to writing. In this chapter I have discussed the role that photographs and the practice of photography can play in catalysing 'concrete' learning experiences, and how (specifically in Findings 1 & 2) the resurrectional qualities of photographs (Edwards 2009) can serve to sustain and elongate their pedagogical impact. As I have discussed, teachers can't make meaning *for* students, or tell students what to photographs make or search for. Instead, working with 'affective-photo-pedagogy', responsibility for learning is devolved, creating space and structure for sense-making to 'become', in ways that cannot always be predicted or controlled.

It is for teachers to decide how they can harness sense-making and modes of expression that reside in affective registers operating beyond word-based ontologies into their own practices and curricular areas. In the Implications chapter (Chapter 6) that follows, I will discuss the support that teachers require to work with 'affective-photo-pedagogy', and the considerations for wider student participation in co-creating curriculum. Before that, some contextualising of approaches to curriculum-making is appropriate.

5.15 A Deleuzian approach to curriculum

The work of Stenhouse (1975) has significantly influenced the field of curriculum development theory and practice. Challenging the 'traditional', cognitivist teacher-centric perspective of curriculum as a predetermined set of content to be transmitted

to students, Stenhouse argued in favour of curriculum as a process, inquiry-based learning, the teacher as a researcher, and the importance of contextualising curriculum. His continuing influence has catalysed a shift towards more student-centered and participatory models aligning with contemporary educational philosophies promoting learner agency and empowerment. But balancing individual needs with common educational goals can lead to fragmentation and a lack of coherence in education systems, and continues to be a problematic area in curriculum development (Elliott 1994). Deleuzian thoughts on curriculum-making suggest further possibilities for harnessing the pedagogical potential of affect.

Wallin (2010) notes that the roots of curriculum are derived from two words: currere and cursis. The Latin word '*currere'* translates as to 'run'. Thinking with Deleuze, Wallin conjures analogies: rhizomatic root structures with new offshoots extending and connecting underground; lava flows erupting and coursing new pathways through the earth; a musical 'run' of notes, overflowing and extending tonal registers. In each of these examples, "currere creates a line of *becoming* that expands difference, implying experimentation, movement, and creation" (Wallin 2010 p2). The Greek word '*cursis*' translates as 'the course to be run', or the 'chariot circuit' that predates the modern oval athletics track. Wallin (2010) argues that 'Western' education has adopted an approach to curriculum signified by '*cursis*' as a predetermined, constrained and predictable 'course to be run', lending a new perspective to the notion of keeping students - and teachers - 'on track'.

'Affective-photo-pedagogy' is nomadic. But rather than a homeless wanderer, 'nomadic' in the sense of a latent immanence which refutes and transgresses institutionalised, "striated, or gridded" (Semetsky 2008 p viii) ways of thinking and operating. Cole (2014) considers that a nomadic approach to curriculum "promotes breakout from every criterion as unexplored, non-linear lines of flight" and as such, intensifies the potential for "creativity at every level of pedagogic functioning" (p80). A curriculum based on the notion of '*currere*' as 'free to run' is open to new potential, new connections, new experiences and new, unforseen possibilities (see Ingham & Sadowska 2023).

5.16 Ethical issues

In the context of education and photography, a number of ethical considerations require attention. These include privacy and consent, inclusivity, educational integrity, and cultural sensitivity. I will address each of these in turn.

In this research, I worked with the teachers in both cases (A & B) to establish guidelines for photography in the classroom. This has implications for the wider use of smartphones. In case A, the Science classroom, students produced original photographs of the practical activities they engaged in, using their own smartphones. In case B, the English classroom, the students did not produce original photographs, but rather used their own phones to search for and display ‘found’ photographs in response to curricular tasks, repositioned around their everyday sense-making and communication practices with digital photographs.

5.16.1 Privacy & Consent

In the Science classroom, students avoided photographing each other, concentrating instead on the practical activities they were engaged in. These activities were predominantly ‘table-top’ experiments, involving the connecting of electrical components in series or parallel, the dissection of a mouse, or the arranging of acids and alkalis in test-tubes into a logical sequence. For these reasons, and the exclusion of faces from photographs, personal privacy was not a major concern. Similarly, consent was straightforward, as no-one was distinguishable from the photographs. The Science teacher asked that students didn’t share their photographs, but reinforced that the photographs should serve personal purposes, assisting recall of lived-learning experiences. As the Science teacher pointed out, and the students corroborated across the vignettes that produced all four Findings, the affective, punctumic potential of the photograph is connected to individualised experience.

5.16.2 Inclusion (the digital divide)

Discussion of the affordances and limitations of photography needs to acknowledge the digital divide. At the outset of this research, a perceived ‘digital divide’ was a topic of earnest discussion, particularly in the arena of formal education. Socio-

economic factors can impact on access to digital, networked devices and predominantly smartphones, creating disparities in educational opportunities for students to engage with photographically-mediated learning and teaching.

Otioma et al (2019) note that individuals from higher income households in more economically-developed regions tend to have better access to technology, while concomitantly, those from less economically-advantaged backgrounds encounter obstacles to participation in digital domains. This digital divide permeates education. During the production of this thesis, I have observed a shift in smartphone ownership amongst school-age young people as still-functioning older digital devices are handed-down within families and communities. A report by the UK telecommunications regulatory body OfCom (2022) noted that in 2022, smartphone ownership could be regarded as universal amongst young people of secondary school age (12-18). At the time of fieldwork for this research (some four years prior to this date of publication), all students in both cases (Schools A & B) had access to their own device which was capable of taking and storing digital photographs. The issue of inclusion and access to digital technology will still persist in some specific cases, but these remain outliers to a ubiquity of ownership of technology for learning (Perowne & Gutman 2024).

5.16.3 Educational Integrity

Hanbridge et al (2020) note that in recent years, approaches to academic integrity have shifted from a focus on rules and punishments, towards opportunities for learning. East (2016) states, “the challenge is not only to inform students about academic integrity, but also to engage students in this education and to provide them with opportunities to develop their scholarship capabilities” (p482). Bertram Gallant (2011) argues that “schools should aim to infuse the value of integrity into structures, processes and cultures of the organization” (p13) and that this should be modelled and nurtured - practiced - rather than simply given lip-service. When academic integrity is addressed by top-down instruction, incidents of academic misconduct have been observed to not only persist, but in some contexts, to actually increase (Dee & Jacob 2012, Gillis 2015, Kezar & Bernstein-Sierra 2016). In Chapter 2, I note Baker et al’s concerns (2012) that an unintended consequence of explicitly banning

phone use in schools can be to provoke students into deliberately challenging teacher authority.

This research emphasises the importance of individualised experience, in producing original - or selecting pre-existing - photographs. A photograph made or selected by another can lack the punctumic significance - the affective intensity - that the maker or chooser brings with them to the image. I have also shown how the ambiguity, or highly-personalised & ineffable 'third meaning' of photographs, may render them unsuitable for summative assessment purposes, but rather, possess rich possibilities in formative assessment. This prompts possibilities for further research into the role(s) that photographs can play in assessment practices.

5.16.4 Cultural sensitivity

Göttert et al (2023) suggest that cultural sensitivity is of great importance when using photographs in educational settings, and that their use should respect and acknowledge cultural norms, practices, and sensitivities. This is echoed by concerns raised in Chapter 2 by Clark & Lyons (2011) who argue that pedagogical potential for images is limited by their "cultural or linguistic specificity" (p18). What means something in some contexts can mean something else in another. However, this research identifies the importance of the role of the photograph in individualised experience. Photographs are made and/or chosen for their specific relevance, and while this can be transferrable to collective experience, as portrayed in Vignettes 12: '*Unconscious bias'*, and 13: '*Pyjamas*', the underpinning principle of Barthes's punctum and 'third' meaning is that response to photographs is highly personal. Photographs made and chosen by students in educational settings do need to respect and acknowledge cultural norms, practices, and sensitivities. But as with approaches to academic integrity, there are educational opportunities to engage students in learning about these sensitivities, and furthermore, that this is practised - modelled and nurtured - rather than given lip-service through top-down instruction (Bertram Gallant 2011). These ethical considerations need consistent attention, to ensure that photographs are used as valuable tools for learning and communication while respecting and upholding ethical standards.

5.17 Afterword: Post-truth & AI

During this research process, the emergence of Artificial Intelligence (AI) has brought unprecedented challenges to many fields (Currie & Göttert 2023). Specifically for the focus of research, AI enables images to be generated that appear 'photographic', with all their concomitant assumptions about proof and evidence. Sontag (1977 p5) reminds us that "something must exist in order to be photographed". But half a century on, this is no longer the case, as the modern 'semiotic communication landscape' (Kress 2001, 2008) becomes flooded by digital 'photographic-like' images with little or no eidetic connection to a material referent (Edwards 2009), or 'ectoplasmic' connection (Batchen 1999b) to the lived-experience of the 'photograph-as-event', in either the present or past.

There have been many declarations of the 'death of photography' (Flusser 1983, Rubenstein 2005, Mirzoeff 2009). These seem to accompany each significant technological development contributing to the physical act of making a photograph easier, and therefore more accessible to a wider user base. First the advent of Kodak's pre-loaded Brownie camera in the late nineteenth century, then smaller and smaller roll-film formats, with cameras capable of more automated functions (Davenport 1991). As smartphones placed high-quality digital cameras into the hands of an incalculable number of people across the globe, some commentators were quick to associate the 'new' death of photography with 'everyone becoming a photographer' (Sarvas & Frohlich (2011, Sandbye 2012). Now the capacity of AI to generate images of 'photographic' quality is the latest demise (New York Times 2023). Of particular significance to this research is the connection between the photograph and lived-learning experience. As Vignette 2: *'The swimming pool'* portrays, photographs possess a memorative function (Barthes 1981, Batchen 2004, Edwards 2009), operating through sensate 'punctumic' registers of affect, percept and concept. Photographs made by students of learning events they have experienced first-hand in classroom settings, serve to remind them of these lived-learning experiences. Finding 1 argues that photographs do this in ways that 'go beyond' written language – as the students themselves say in Vignette 1: '*More-than my notes'*, and in Vignette 3: *'...you can't do that in text'*.

The potential of AI-generated images in educational settings is an area open to further research. However, the focus of Finding 1 on the affective dimension of the visual portrays the importance of students being involved in making of photograph themselves. The three vignettes which produce Finding 1 (‘*The swimming pool*, ‘*pH values come alive’* and *‘…you can see it all at once’*) come from case 1: School A, in which I observed Science lessons. In these lessons, the students made photographs of their practical experiments. In Finding 2, and revisited in Finding 4, Vignette 7: *‘20 copies from Boots’* portrays the shortcomings of supplying students with a ‘ready-made’ photograph ‘to stick in their jotter’. The students themselves explained that because such a photograph was removed from personal, individualised experience, the memorative function would be diminished. However, crucially for this research’s focus on the affective domain, the punctumic affect of the image lies beyond the photographer’s deliberate intention, and ‘AI-generated photographic-type images’ may serve to trigger sensate response in ways similar to photographs made by lens-based media. These are avenues ripe for further research.

5.18 Summary

In this research I have portrayed the dual pedagogical affordances of photographs: their ‘obvious’, memorative meaning and their ‘obtuse’, punctumic, catalytic ‘madness’. While the obvious and the obtuse can both operate in registers of affect, the ‘obvious’ domain can be more predictable, rendering the intended meaning of photographs more controllable. In Finding 2 I have shown how the resurrectional, ‘ectoplasmic’ (Batchen 1999b) functions of photographs can link and elongate learning across the fragmented school timetable, in collective retrieval practice, and individualised revision. But it is in the unpredictable, highly-subjective domain of punctumic affect and obtuse, ‘third’ meaning - for Barthes, “what, in the image, is purely image” (1977 p61) - that the untapped pedagogic implications of the intensity and accumulation of affect lie.

Some of the most up-to-date thinking on working with images is collected in Cambre et al’s ‘*Visual Pedagogies: Concepts, Cases and Practices’* (2023). Images, whether drawings, digital memes, diagrams, photographs or moving film are mined with linguistic tools to crack their codes and deliver their explicit meaning in what is effectively a collective paean to Mitchell’s (1995) structural approach to reading

images. Most of the authors of the papers that comprise this edited volume connect their focus on visual literacy with Frierean critical pedagogy (1972) - learning to 'read' in order to become aware of self, and the underlying structures or systems that shape the Social. The New Materialist orientation of this doctoral thesis perceives structural explanations as outcomes rather than the causes of interactions, and are 'assemblages' with 'affect economies' that themselves require study and explanation.

Furthermore, the potential of Deleuzo-Guattarian thinking in visual pedagogy is cited in the introduction to Cambre et al's collected tome, but is notably absent elsewhere, along with scant mention of affect. The contribution of my research is an empirical study of this theoretical orientation to the affective registers of the visual *as* pedagogy, rather than of the visual *in* pedagogy. Thinking with Deleuze & Guattari, I am minded not to merely define what 'affective-photo-pedagogy' *is* – but to ask what can 'affective-photo-pedagogy' *do*?

The affects produced by percepts are more-than affinities of lived experience. New lived-sensibilities and personal vocabularies are the products of 'image affections' which are 'felt' as highly context-specific and subjective 'blocs of sensation' that 'take the place of language'. Deleuze & Guattari insist that, "Something in the world forces us to think. This something is an object not of recognition but of a fundamental encounter" (1994 p139). Bogue insists that, "by 'learning' Deleuze clearly does not mean the mere acquisition of any new skill or bit of information, but instead the accession to a new way of perceiving and understanding the world" (2004 p328). For Dawney (2013), the learner is "a participant in a relay of forces, materialities, and affects" (p633). Through affect, change happens; "transformations that disrupt and undo the existing emotional order" (Read 2016 p124). Talk of embracing the 'chaos' of affect in pedagogy (Hickey-Moody 2013) to 'burst the seams of the classroom' (Albrecht-Crane & Slack 2007) and to 'transform the potential of education' (Mulcahy 2015) is met with confusion and resistance from many teachers in schools and schooling. Western teachers are hesitant and uncomfortable in establishing affective connections with their students, regulating their affective practices for fear of contravening established, educational 'norms' (Zembylas 2007b). These 'striated and gridded' ways of thinking include a normalised cognitivist bias (Mulcahy 2016)

and persistent practices of grading students by age, dividing knowledge and curricula into separate subjects, and a single teacher operating in a self-contained classroom. Such a notion of pedagogy as “efficient instruction” (Cambre et al 2023 p6) is antiquated and inadequate.

The distinctive contribution of this research is to exemplify how affect is pedagogical *in itself*, producing a transformation in what is affected (Hickey-Moody & Willcox 2020). As Ahmed (2010) notes, affect works differently for different people, in different contexts. Deleuze (1988) reminds us that affectus is the materiality of change: the increase or decrease in embodied subjective capacity “for the body and the mind alike” (p49). Indeed, for Hickey-Moody ‘affectus’ is pedagogy: “namely, a relational practice through which some kind of knowledge is produced” (2009 p273). Such relational cultural practices - the intensity and accumulation, and palpation of affect - need to be understood as occurring both within and outside places that are understood as being ‘educational’ settings.

This research has explored the significance of affect as a primary element in understanding what happens in the classroom and its relation to the world outside the classroom (Hickey-Moody 2013, Lenz Taguchi 2011, Saito 2010, Zembylas 2007a, Albrecht-Crane & Slack 2007, Johnson 2005). Thinking with Deleuze’s notion of affect, a photograph is *more-than* an image of an object. Rather, a photograph becomes an unpredictable and highly-subjective assemblage of forces. As Voss (2013 p21) puts it, “a spatio-temporal actualisation of sense-events” in which affective, ‘punctumic’ vibrations operate in registers outside and beyond word-based ontologies. Working with the unpredictable and individualised affective registers of photographs, the classroom can become more chaotic, but simultaneously a more exciting and revived space where sense-making is repositioned and co-produced in new and unforseen directions. ‘Affective-photo-pedagogies’ can explode pre-established notions of what ‘happens’ in the classroom, inviting a nomadic approach to further exploration of what students and teachers actually ‘do’ - and ‘*can do*’.

To bring this chapter to a conclusion, I have chosen to draw on Deleuze’s (1983b) argument that “to affirm is not to take responsibility for, to take on the burden of what is, but to release, to set free what lives” (p185). Thinking this way, to affirm the presence and significance of the affective registers in everyday photography is not to

take responsibility for how this can be harnessed into educational settings, but to 'set free what lives'. 'Affective-photo-pedagogy' explores possibilities for new, lived sensibilities. Whilst this ethically-imbued practice needs to adapt to different contexts and different circumstances, the point remains the same, as affect is unleashed to generate new sensations, and to create new lines of flight.

Chapter 6: Implications, conclusions and future avenues for research

The research questions in this study were:

> How can young people's sense-making through their everyday photographic practices be harnessed purposefully into educational settings?
>
> What are the implications for the wider uses of the affective registers of photographs in educational theory, policy and practice?

This research has produced four Findings:

> **1. There is much untapped potential in educational settings for photographs to catalyse and enhance sense-making through affective registers beyond the capacities of word-based ontologies.**
>
> **2. Working with the affective registers of photographs can link young people's visual skills and knowledges with learning across home, school and other domains.**
>
> **3. Working with the affective registers of photographs can enable additional modes of participation and response for students, and**
>
> **4. Working with the affective registers of photographs can enable additional modes of contextualisation and evaluation of learning for teachers**.

Overview

In this next chapter I will focus mainly on the implications of this research for pedagogy to support the practice of individual teachers, but also with attention to the policy-level which oversees, informs and governs teachers' practice. For example, I

will explore ‘next best’ professional actions for stakeholders, including teachers, schools and local authorities, and reflect on the implications for policy makers if these actions are to shape and enhance the practice of teachers from across the education system. I will consider how teachers can be supported to develop understandings of affect and the potential in - and ‘*as*’ - pedagogy, and begin to address a prevailing cognitivist bias which positions students as passive receivers of curriculum in the transfer of knowledge from teacher to student. This includes ideas of ‘trust & risk’ and ‘give & take’. I will consider opportunities for student participation in strategic and operational decision-making, and in co-creating curricula. There are issues here of resistance to perceived loss of teacher sovereignty and a reversing of roles. I will discuss the implications for photography and phone-use in schools, photographs as decoration, and the dominant representational norms of written and spoken language.

6.1 Understanding affect

There is growing interest in the significance of affect in learning & teaching. Contributions on aspects of affect have been offered, notably in Literacy studies (see Lloyd & Emmett 2023, Leander & Ehret 2019, Sedgwick 2003). But mainstream educational discourse continues to side-step affect, positioning it as a minor pedagogy (Mazzei 2017, Bardell 2018). While the early 21st century is characterised by a profusion of affect (see Clough & Halley 2007, Dernikos et al 2020), there continues to be ambiguity around suitable vocabulary, and theoretical constructs of what affect is, what it can do, and how to engage with it. Some of the reasons for this are the persistence of a cognitive bias in school education, privileging the mind over the body’s sensate capacity. Too often this positions students as receivers of curriculum, based the prevalence of the notion of ‘knowledge as transmission’, defined by Greco (2020) as “coming to know from someone else” (p9). These attitudes prevail through the pressures of performativity (Ball 2003), and aversion to risk in a creeping culture of neo-liberal accountability, and evidential exposure (Raby 2012, Biesta 2014). One of the key implications of this research is how ideas of ‘trust and risk’ are attended to as part of supporting teachers to embrace affect as part of teaching and learning.

6.2 Trust & Risk: Give & Take

In the preceding discussion chapter, I signposted the ‘risk’ of unpredictable, individual response to the affective registers of lived-learning experiences. Biesta (2014) is adamant that in teaching and learning there can be no perfect match between input and output. There is ‘risk’ for teachers in harnessing ‘affective-photo-pedagogy’ into their practice, without the certainty of what the individualised experience will be (see Isaak et al 2018). As I have discussed in the review of literature in Chapter 2, and have portrayed in the vignettes and Findings in Chapter 4, the affective registers of photographs can trigger punctumic response, the apprehension of ineffable, ‘obtuse’ third meaning, and the ‘all-at-once-ness’ of haecceity; the triumvirate of affect, percept and concept, working in sensate registers beyond words. In Dewey’s ‘trains of thinking’ (1934) and Deleuze & Guattari’s dry-stone wall of ‘fragmentary totalities’ (1994), there is an affective flow and unity within assemblages of objects, bodies, forces and affects, sustaining and elongating engagement with complexity and uncertainty. These experiences are beyond the predictable control of teachers. Teachers need to be more trusting that the individualism of affective experiences can be of meaningful pedagogical value to students.

Teachers in both cases mentioned the importance of trust. They both worked hard to create the classroom cultures they wanted. To do this, they involved students in meaningful decision-making. I co-authored research (Mannion, Sowerby & I’Anson 2015) identifying the significance of learner participation across a range of arenas within educational settings. This research with secondary school pupils (aged 12-18) found that ‘having-a-say’ in issues that matter around the formal and extended curriculum, and in decision-making groups is closely linked to improvements in achievement and attainment. But this research also recognised the positive impacts on whole school culture, including engagement and health & well-being, exemplified in this direct quote from senior phase secondary school pupil:

> *“If the teachers keep up their part of the deal, we’ll keep our part of the deal, if you know what I mean. And then if they treat us with respect we’ll treat them with respect.”* (Mannion, Sowerby & I’Anson 2015 p35)

These learnings, including ideas of trust and risk, would helpfully inform Initial Teacher Education (ITE) programmes, and those responsible for the ongoing professional learning of teachers. This is explored more in Section 6.3 Opportunities for Teacher Education.

Teachers' distraction narratives (Green 2019) and top-down policies to ban phone use in schools (TES 2024) circumvent more open debate about the affordances of working with photographs. Baker et al (2012) argue that the act of banning phone use in schools can serve to provoke the very challenges to teacher authority that the ban is intended to salve. Proponents of affect in pedagogy insist on the positive affordances of bursting open the boundaries of the classroom and connecting with the wider world. One of the implications of this research is how ideas of 'give and take' inform school policies and teacher and school leaders' attitudes to the use of mobile phones in classroom learning.

Teachers in both cases involved students in discussions about appropriate uses for smartphones in the classroom. Significant to this research is that in both cases, I did observe students use their phones in the classroom (albeit briefly) to check on messages and social media. Both teachers noticed this, and allowed students a little flexibility, which I perceived as a reciprocation of trust. Rather than enforce a top-down directive, both teachers reminded students of the ground-rules that they had played a part in agreeing. This afforded the students dignified 'ways-out' of potentially difficult situations, in lived-examples of restorative practice (Macready 2009).

Philip & Garcia (2015) note that the opportunities offered by mobile phones for students to interact with the world outside of the classroom could generate excessive pressure to reform the traditional hierarchical structures of schools and schooling. In this research, I argue that it is these very traditional hierarchies that need to be addressed and challenged. The two case studies exemplify how photographs and the practice of making photographs can be harnessed within the formal curriculum and classroom settings. They signpost possibilities for teachers to include more participatory approaches to learning and teaching, and to facilitate a plurality of individualised, learning experiences through embracing the unpredictable but pedagogically-potent, sensate registers of affect. Vignette 14: '*The student teacher*'

highlights the counter-case, in which the unintended consequences of an inexperienced student teacher's actions served to render learning a passive experience, devoid of activity and opportunities for photography. As Ahmed (2014) notes, stripped of 'concrete experience' and 'affective transfer', passive learning becomes less-than 'sticky'.

If these the traditional hierarchical structures of schools and schooling are to be challenged, this is also the work of policy makers. It is notable that the idea and term 'affect' continues to be absent from Scottish policy documents such as the Curriculum for Excellence (see Education Scotland 2017) and refreshed narrative (Education Scotland 2019), and National Improvement Framework documents (see Education Scotland 2023, 2024). Therefore, if there is to be a change, policy makers need to foreground the purpose, place and value of affect.

6.3 Opportunities for Teacher Education

Studies of performative visual pedagogies in schools (Share 2015, Grushka et al 2018, Garcia-Vera 2023) identify variable levels of proficiency with images amongst teachers. In Chapter 2, I discussed the aggregation of reasons why little use of photographs is made beyond the simple illustration of word-based pedagogies. To summarise here, there is an aversion to images as ambiguous, or as 'easy-pickings for the less able', together with a preponderance of 'traditional' didactic approaches to knowledge transmission privileging words as the dominant ontological form. There are opportunities in continuing professional development, and areas for development in ITE programmes to help educators become more aware of sense-making in affective registers operating beyond language, and the purposes driving young people's everyday uses of photographs. There are also opportunities for teachers and school leaders to include children and young people in strategic and operational decision-making.

There is a need for more research to better apprehend teachers' current understanding of affect, and how this currently informs their practice. The significance and potential of affect in learning and teaching within and across subjects, in inter-disciplinary learning (IDL) can be something which ITE programmes can usefully begin to support teachers to embed from the outset of their careers.

There are opportunities to foreground affect as part of teaching and learning in the General Teaching Council's professional standards for teacher registration.

There is a need for greater focus on affect and an enhanced understanding of affect in the context of teaching and learning for teachers and policy makers. Including affect in the standards for Headship and middle leadership programmes could this give greater prominence. This understanding could be the basis of new and innovative continuous professional learning which could be a focus for local authorities, Education Scotland, and Education departments in Higher Education institutions, to better support teachers.

This focus on affect could helpfully inform wider policy initiatives in Scottish Education during this current period of promised reform. For example, the National Improvement Framework (see Education Scotland 2023, 2024). Arguably, the focus on inter-disciplinary learning in Scotland, and the 'broad general education' (BGE), phase in lower secondary schools provide important spaces to foreground affect. Teachers will require support to be able to take this forward in their practice, through access to continuous professional learning.

6.4 Opportunities for participation

In this thesis, the case studies and Findings signpost possibilities for teachers to embrace more participatory approaches to learning and teaching, by enabling a plurality of individualised experiences. The potential of working with the affective registers of photographs to contribute to intense, senate and highly unpredictable pedagogical experiences is contingent on a renewed approach to risk, based on trust. While increasing opportunities for student participation is a worthwhile focus for on-going professional development, there is a wider perspective in which teachers can purposefully harness the skills and knowledges that students bring with them to learning by inviting students to become co-creators of curricula and learning experiences.

In the methodological approach to this research I chose to work with Exploratory Practice (Allwright 2005) for its sustainable goal to develop situated understanding of what goes on in learning environments, in order to inform action. Participants in this

research (students, teachers, and myself as researcher) collaborated to develop a greater understanding of the complexity of working with photographs, situated within the participants' own practice. This approach freed participants from the performative pressures to find clear solutions and develop generalisable guidelines, instead exploring with openness to new ways of thinking and doing. Exploratory Practice can provide a practicable method and methodology through which teachers can better develop affect in their practice.

6.5 Co-creating the curriculum

In this research, the teachers and students found ways of working with photographs that resonated with their everyday uses of photography in sense-making and communication. The students moved towards being 'more-than' students in the 'traditional model', asserting their agency and taking on more active roles in their own learning (Bovill et al 2016). Teachers in both cases began to align their pedagogies more resonantly with the skills and knowledges that their students were bringing with them to learning. In both cases, teachers reported higher levels of engagement and participation, better recall, and improvements in behaviour. For the teachers themselves, there were affordances for evaluation and formative assessment.

Kaminskiene et al (2020) define co-creation as "a way of working together where people from all backgrounds are invited to jointly produce a product or service that will benefit all of them" (p2). Hsu, Lin & Stern (2023) note that curriculum co-creation is a relatively new and unconventional concept challenging the canonical boundaries and power structures of administration-centered 'traditional' approaches to education. The primary focus is of this 'traditional' model is the presentation and delivery of information from teacher to student, with a paucity of input from other stakeholders (Laurillard 2002). This traditional model operates on the assumption that educators possess the experience and expertise to design and develop complete and comprehensive educational experiences for students to receive. But this approach can lead to passive learning experiences, resistance and outright rejection (Mann 2008, Barnett & Coate 2005, Giroux 1981).

Constructivist approaches to learning (Dewey 1938, Vygotsky 1978, Piaget 1970) are far from new, but the pressures of performativity (Ball 2003) drive increasingly risk-averse pedagogical practices away from encouraging open and critical discussion and debate. Teachers need to be supported to develop facilitation and coaching skills, to help students develop their own thinking and move towards their own conclusions. Research suggests that curriculum co-creation is a distinctively different kind of pedagogical interaction; a 'Third Space', in which unconventional, non-traditional roles, relationships, and processes can operate to produce better curricula, better learning & teaching, and better results (Lubicz-Nawrocka 2019, Bovill et al 2016, Gutierrez 2008, Bhabha 2004).

The notion of a 'Third' space resonates with Barthes's obtuse, 'third' meaning; beyond the 'obvious'. Both schools in this research consented to exploring the pedagogical possibilities of working with photographs, but in both cases, this 'Third Space' of co-enquiry resembled a form of 'guerilla' practice. In the discussion chapter I highlight issues of trust and risk, and how both teachers worked hard 'in-between the lines' of the formal curriculum to build the culture they wanted in their classrooms. In both cases, the students understood that they were 'partners' in research and Exploratory Practice, with the aim of understanding more about the potential of working with photographs. There are opportunities to involve students in these 'Third Spaces', working in somewhat unconventional ways with teachers which, on occasions can resemble peer-to-peer relationships: co-researching, co-enquiring, and co-designing curriculum.

There are understandable concerns that in these unfamiliar 'Third Spaces' of co-creation, teachers may feel a loss of control, and students may be reluctant to engage (Darsø 2017). Co-creation is not simply 'reversing roles (Hsu, Lin & Stern 2023), indeed, students may be reluctant or opposed to engaging in work they consider to be 'not their job' (Cook-Sather & Matthews 2021). Similarly, whether to involve small focus groups or whole student cohorts becomes an inclusion issue (Bovill 2020). Moving from administration-centered, 'traditional' cognitivist approaches to education, towards sharing responsibility with students and other stakeholders can require significant shifts in culture, which would need to be recognised and supported by leadership at institutional, and local authority level.

6.6 Summary

In summary, this research builds upon my own Masters-level, study which was itself based on the Literacies for Learning in Further Education (LfLFE) project (Ivanic, et al 2009). The four Findings expressed in this doctoral thesis point to the pedagogical potential of working with photographs operating in affective registers beyond the capacities of word-based ontologies, and that photographs can be 'felt' for their punctumic 'obtuse' meaning, as much as 'read' in linguistic terms to reveal their conventional 'studium' - the photographer's intended meaning. In an increasingly visual culture (Kress 2008), teachers' underestimation of the affordances of these affective registers continues to consign photographs to simple illustration, and a supporting 'side-order to the main course of words' (Schwartz 2007).

The LfLFE project recognised that its Findings were contextualised understandings, and explicitly chose not to 'generalise' for all contexts, but rather positioned itself to 'infer' how the Findings of the research might be recontextualised in other contexts (2009 p179). In the Methodology chapter of this thesis, I drew upon Thomas (2011), and understandings of phronesis as 'situated', 'practicable' knowledge - an "example viewed and heard in the context of another's experience (another's horizon) but used in the context of one's own" (p31). Indeed, the two case studies in this thesis were chosen not for comparison, but to exemplify what might be possible for other educators willing to work with the principles of Exploratory Practice (Allwright 2005) and engage students as active participants in exploring the pedagogical potential of the skills and knowledges they bring with them to learning. The specific focus of this research is the affordances of young people's everyday sense-making and communication through the ubiquity of digital photography, and access to digital photographs.

The teachers in this research worked with their students to establish rules for responsible use of phones in the classroom. I have shown in this chapter how 'risk & trust' was ventured and rewarded through consistency and fairness - through the joint efforts of teachers, and students. With these agreements in place, teachers worked with students as co-enquirers. At the outset of the fieldwork in both schools, neither myself as the researcher, nor the two teachers had a clear idea of how

students’ everyday uses of photographs could be purposefully harnessed into learning & teaching - or curriculum-making. But together, in what Lubicz-Naewocka (2019) and Bovil et al (2016) describe as ‘Third spaces’, we collectively established what was possible with digital photography in the classroom. In Case A, the activities and practical experiments within the curricular area of Science lent themselves to being photographed. Students’ own photographs served multiple purposes: connecting-up learning between lessons scattered across the school week, ‘palpating’ written notes with what Barthes insists is “what in the image, is purely image” (1977 p61) - ‘*more than my notes*’ - and assisting the teacher in highly-*affective* and timeously-efficient retrieval practice: ‘*Take out your phones’.* The affordances of photographs served to make learning in the curricular area of Science ‘memorable’ and contextualised. As Ahmed (2014) puts it: ‘sticky’. Notably, the Science teacher only had to ‘let photography in’. The students knew what to do, and when to do it. This significant ‘disruption’ to a normalised ‘cognitive bias’ (Mulcahy 2016) was achieved with little or no disruption to the Science teacher’s classroom management. In his own words: “*It’s so obvious, I can’t believe I’ve not been doing it before…”* [Vignette 5: ‘*Different part of the brain’*]

In Case B, the English classroom did not easily lend itself to original photographs being made. But the English teacher recognised the role that ‘visual chit-chat’ (Villi 2012) plays in young people’s everyday sense-making and communication. With the students’ agreement, together they repositioned homework as work to be done specifically with the tools and practices that students used in their personal lifewords - at home: a different form of ‘*home*-work’. The students told me working this way “*seemed more relevant”*, “*felt easier”*” and “*made sense”*. In Case B, the English teacher embraced the affective registers of photographs to create concrete experiences (Kolb 1984), provoking strong reactions as students ‘felt’ their individual and collective mistake in choosing images that misrepresented a character in the story they were studying. Moreover, Vignette 15: ‘*He’s scunnered, Miss’,* exemplifies how the opportunity to use photographs to ‘point’ (Szarkowski 2000) affords students an alternative mode to express thoughts and feelings, which may otherwise be ‘lost to silence’ in the struggle to find expression through the rigidity and constraints of written and spoken language.

The 'obtuse' affective registers of photography co-exist alongside the more conventional, predictable and 'obvious' meaning of photographs. While highly individualised and somewhat *unpredictable*, posing 'risks' for teacher sovereignty, these affective registers can serve to 'hold' emerging sense-making and new thinking, delaying the pressure and expectation for immediate and coherent expression through words. This 'structured-chaos' can afford time and space to assist students with "gaining purchase" (Mulcahy & Healy 2021 p562) on difficult ideas in the way that the finger holes in a ten-pin bowling ball enable us to grasp something that could otherwise prove slippery and elusive.

These examples 'infer' what might be possible for educators and their students in their own curricular areas, across compulsory and post-compulsory education sectors. As Mayes (1995) foresaw, the ubiquity of digital photography only needs to be welcomed in. Establishing groundrules for appropriate use can be an intrinsic and valuable part of any lesson, rather than perceived as time that could be 'better spent on teaching'. As Lundy (2007) points out, if young people have spent the majority of their lives at school, and they're not capable of participating meaningfully and purposefully in conversations about the form and direction of their own learning - then what have their teachers been teaching them? And furthermore, what does this suggest about adults' attitudes to the 21st century skills, knowledges and resources that young people make use of everyday, but are increasingly being forced to leave outside school?

This thesis offers practicable, concrete possibilities for all educators that can assist them to embrace sense-making and communication through the affective registers of photography, and to adapt them to their own contexts. To support educators, I wish to emphasise this key implication:

> **Affect can operate beyond the capacities of words, and photographs are uniquely placed to catalyse individualised and collective experience(s) of intense pedagogical significance. Working with the affective registers of photographs can afford time and space to '*think-through'* the uncertainty and complexity of emerging sense-making, offering alternative modes of expression for voices that may otherwise**

be lost to silence, and delaying the immediate performative pressure to articulate thoughts and feelings clearly through the constraints and linear rigidity of written and spoken language. 'Affective-photo-pedagogy' can complement rather than work against word-based ontologies, and offer valuable assistance to students - and teachers - in what may continue to be an inevitable 'ultimate resort to language' in formal educational settings.

6.7 Limitations of the study

Ethnographic studies are inherently limited (Van Maanen 2011, Yin 2013). They produce an account of what the researcher or fieldworker experienced in a particular setting across a particular period of time. Through my own methodological choices, I set boundaries on what I did and did not observe, but researching in schools has its own limitations on the extent that I was able to observe how young people worked with photography, and how I have been able to represent these encounters in written form. Consequently, in this thesis I am able to offer a partial picture of two case studies in two secondary schools with young people between the ages of 13 and 15. I do not seek to apply the Findings further than these situated accounts.

The focus of my research was intentionally limited to enable a fine-grained exploration of how everyday photographic sense-making practices can be enacted in educational settings. Broadening this study in terms of the number of participants or scope of inquiry would have diluted the rich detail that I was able to observe by concentrating on two cases in distinctively different core curricular areas in the secondary school sector: English and Science.

Findings from these two detailed case studies are not meant to be compared in cross-case analysis, or applied generally as typical, or standard practices across different contexts. Rather, they offer 'exemplary knowledge'. Thomas (2011) describes this as an "example viewed and heard in the context of another's experience (another's horizon) but used in the context of one's own" (p31). For Grundy (1987 p61) the situated combination of knowledge, judgement and 'taste', produces 'discernment': a practical reasoning and judgement, about what is 'fitting' in

specific circumstances. Thomas (2011) calls this phronesis: “the ability to see the right thing to do in the circumstances” (p23). Barry (2013) insists that ethnographic accounts employing new materialist approaches can include very detailed fragments of life that will ‘never likely to add up to a complete picture but will nonetheless reveal something that was perhaps unexpected or unanticipated’ (p418). Thinking with Deleuze & Guattari’s dry-stone wall of fragmentary totalities, perhaps the ‘complete picture’ that Barry anticipates is unlikely to ‘materialise’. Rather, the gaps can take on as much import as the solidarities.

In this thesis I draw on Deleuze’s argument that “to affirm is not to take responsibility for, to take on the burden of what is, but to release, to set free what lives” (1983b p185). This research outlines possible professional actions (lines of flight) for educational stakeholders to choose whether to address and pursue. But rather than attempt to prescribe a clear path, I stand with Barry (2013) who insists that research should not shy away from endeavouring to, “tell us something new that makes application difficult or problematic” (p417). Thinking this way, to affirm the presence and significance of the affective registers in everyday photography is not to take responsibility for how this can be harnessed into educational settings, but rather to ‘release that which lives’, and through this thesis and the ‘raw tellings’ of the vignettes, offer exemplary knowledge “to be used in the context of one’s own” (Thomas 2011 p31). The production of this thesis did signal additional avenues for further research, and I offer emerging thoughts on these possibilities in the sections below.

6.8 Future avenues for research:

6.8.1 Visuals

Kress notes that education is a future-oriented practice, too often tied to the pasts of teachers. In an increasingly participatory, visually-mediated communication landscape Kress warns of an emerging “mutual incomprehension between generations” (2010 p24). Technological development is unrelenting, and during the production of this research much has changed. The quality of cameras embedded in smartphones has improved dramatically, along with greater onboard storage capacity, and more recently cloud storage. The ‘hand-me-down’ effect of circulating

personal digital devices between family members and care-givers has led to near ubiquitous smartphone ownership across secondary school students between the ages of 12-18 (OfCom 2022).

In this research I chose to focus on the still photograph, influenced by my own background as a student of photography, a professional photographer and then teacher of photography. There are possibilities for further research into the educational potential of young people's everyday sense-making through other visual modes and digital media, including, but not limited to: video, animated gifs, and rebus-type memes comprising both image and text. As I concluded this thesis, the potential of artificial intelligence (AI) came to prominence too late to be given sufficient consideration. The educational potential (and pitfalls) of 'photographic-like' images being produced without a lens-based camera-type device, but generated from linguistically-mediated (spoken or written) instructions, presents another rich seam for further research.

6.8.2 Larger scale and wider scope

I chose to limit this inquiry to two cases for the purposes of assisting doctoral study. I worked as the lone researcher to broker access to schools, undertake fieldwork and analysis, and to produce this final thesis. Working with other researchers on a larger scale project would enable a wider scope of other curricular areas and educational sectors.

In Scotland where this inquiry took place, this research focused on the secondary school sector with students between the ages of 12-18 in year-cohorts running from S1 to S6. In the two cases I worked with students in the 'lower school' cohorts of S2 and S3, between the ages of 12-15, specifically to avoid any disruption to final examinations which usually take place in years S4, S5 & S6. I chose to work with secondary school students for their access to mobile phones. There are possibilities to expand the scope of this research to include the post-compulsory sectors of Further and Higher Education. Work in the primary school sector with 5 to 11 year-old students was not considered in the development of the proposal to undertake this doctoral research on the grounds that students would not have ready access to personal mobile devices. During this research, much has changed, and smartphone

ownership is become increasingly ubiquitous among younger children through a ‘hand-me-down’ approach to recycling still-functioning, older digital devices.

There are possibilities for longitudinal studies, following students through different educational sectors over an extended period of time. The constraints of doctoral study limited fieldwork to a single school year, although some conversations with the teachers from both cases did spill over as they continued to report their observations on the affordances of working with photographs (see Vignette 15: ‘*He’s scunnered, Miss’*).

6.8.3 Sensory-based methods

In the production of this thesis I have also reflected on possible directions and focus for future studies. In terms of methodology, and the theoretical orientation towards ‘feeling’ photographs, the influence of these affective, sensate encounters became more prominent as the research progressed. In reflections on my own fieldwork and the dominant role of the visual, my awareness of sensory-based ethnographic methods could have been further developed and proved helpful in apprehending the sensory relations that I witnessed.

Pink (2015) notes that the “senses provide a route to forms of knowledge and knowing not accounted for in conventional forms of ethnography” (p53) while Robben (2012), acknowledges that renewed attention to sensate registers can offer “a whole new realm of ... understanding and interpretation” (p443). Applying these sensory methodologies to the study of young people’s everyday sense-making practices can afford many possibilities:

- challenging dominant modes of linguistic inscription
- reshaping debates about the potential of the visual beyond illustration
- acknowledging the role of affect and affective intensities in pedagogy

- and together, recognising that “there are other and diverse ways of knowing and especially of knowing ethnographically” (Vannini 2015 p319).

6.9 Reflecting on becoming a New Materialist researcher

New Materialism afforded me the theoretical and methodological tools to undertake this enquiry, and next I offer some thoughts on the affordances of limitations of this orientation.

My own lived-experience of being a photographer and teacher of photography inevitably influenced what I witnessed and how I understood it during this research project. Taylor (2016) insists that research using New Materialist approaches is "an enactment of knowing-in-being that emerges in the event of doing research itself" (p18). Jones (2008) insists, "the practice of the world always exceeds and bamboozles theoretical attempts of capture" (p20). For Jones, "research is a creative act of practice", and suggests a "modest" way to respond is "witnessing and narrative" (ibid p20). *More-than* observing, witnessing is an act of 'empathy' (Harrison (2002), and 'acknowledgement' (Barnett 2005). Through vignettes, Masny (2013a) exemplifies how raw tellings can offer 'narrative'. Jones (2008) sees this as "sharing both the positive and negative through affective registers", and is key to "open our ability to witness otherness" (both p22). In this research the 'otherness' I witnessed is what Barthes acknowledged as 'something inexpressible' and Deleuze called 'something indiscernible' - residing in affective registers, somewhere "in-between the lines" (Read 2016 p109). Indeed, 'in-between the lines' is where I as the researcher and author of the thesis have been most comfortable. The linear structure of academic writing has proved to be an 'awkward container', for the haecceity - the '*this*-ness' - of what photographs can do in educational settings. As Szarkowski (2000) notes, and I have come to realise I have spent much of my career doing, photography is an act of 'pointing' - without the need for words. I have tried to express what I witnessed with 'narrative', which as I come to conclude this thesis, I feel has sometimes wandered. But those who wander are not always lost… rather, we are nomadic.

In the fieldwork and (rhizo)analysis, I wondered if was possible to witness events without some kind of judgement related to my own position within the research. Thinking with New Materialist ideas enabled me to focus on paying attention to the details of events - the forces and affects that unfolded. This afforded me some distance from my own ideas and assumptions to witness what was happening, and

consider how to report these events as vignettes. Working consciously with a New Materialist approach, I have witnessed and attempted to describe different the ways that working with photographs shaped the participants in this research, and also how the experience shaped me.

6.10 Concluding thoughts

In Chapter 2 I discuss how attitudes persist towards images playing 'decorative' roles in support of words, but it was a particular 'event' that occurred during the research and writing of this thesis which illuminates the extent of the 'tyranny of words' (Thrift 2008) that continues to dominate the expression and communication of ideas in education and the reporting of research. I present this here as a final vignette.

A post-script Vignette: Lost in translation

'*Camera Lucida*' is the title of the English language translation of Roland Barthes's final book '*La Chambre Claire'* (1980). Rather than a direct translation from the original French version, the title '*Camera Lucida'* makes reference to an early optical device, designed to assist artists to trace a projected optical likeness by hand on to paper. This camera lucida device pre-dated the invention of the silver halide chemical process that was to enable the automatic capture of a 'photographic' image projected by a rudimentary 'camera'.

The significance of this change of title from '*La Chambre Claire'* to '*Camera Lucida*' and whether Barthes approved, are debated (see Batchen 2009), with suggestions that Barthes was unconcerned over the nuances of translation, opting to trust Richard Howard (who had translated several of Barthes's other works). However, in the process of this research, I learned that the original French language version of '*La Chambre Claire*' (1980) contained a photograph missing from the English version '*Camera Lucida*' (1981) and all subsequent English language versions. I obtained a first-edition copy of the original French version and discovered that before any words are written, the book begins with a reproduction of a Polaroid photograph by Daniel Boudinet from 1979. Knight (1997) notes that Barthes had attended an exhibition of Boudinet's photographs: '*Fragments from a Labyrinth'* during the writing of '*La Chambre Claire'* (between April & June 1979).

Titled simply ‘Polaroid 1979’, this colour photograph depicts daylight creeping into a darkened room through a small gap in the thin, woven fabric of casually-drawn, dark green curtains. Barthes does not refer to Boudinet’s photograph anywhere in the text of the book. The translation of the phrase ‘la chambre claire’ is commonly reported as ‘the clear room’. This phrase can also translate, perhaps to the photographically-minded, as ‘the light room’. Immersed in photography, I see this as play on words: the ‘darkroom’ is from where every analogue photograph ever made in Barthes’s lifetime would have emanated from (Barthes wrote in an entirely analogue age of photography). But this seems much more than an in-joke amongst photographers. Boudinet’s photograph, deliberately chosen by Barthes for the publication of the original French version some two months before his death, is the opening statement of a book in which he intended to shed ‘light’ on the affective resonances of photographs - to illuminate the ‘madness’ of photography, and its sensate ‘punctumic’ *affects* operating somewhere outside language. Before any words, Barthes chose to use a photograph, I suggest for reasons Barthes himself asserted: ‘what, in the image, is purely image’ (1977 p61).

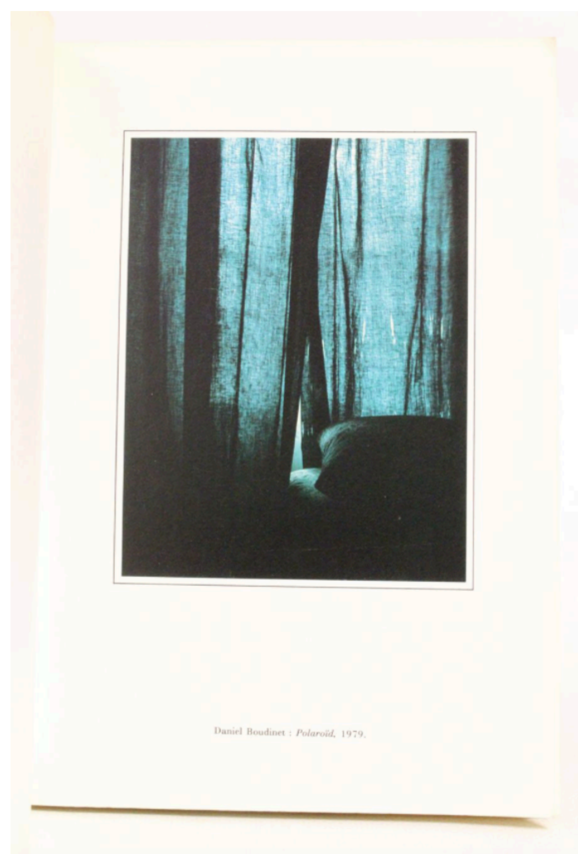


Fig: 24 ‘Daniel Boudinet Polaroid 1979’ (frontispiece in ‘La Chambre Claire’)

The discovery of this ‘missing’ photograph had a profound ‘punctumic’ affect on me, such that I have chosen it as a way to conclude this thesis. Perhaps some of the punctumic affect of the photograph was ‘time’. I have lived with ‘*Camera Lucida’* for nearly 40 years. I’ve bought, lent, lost and bought again, more copies than I can remember. But I had not seen Boudinet’s photograph until I found a French first edition. For me, Boudinet’s Polaroid adds ‘something indescribable’ to my understanding of the book. Hammond makes a valiant attempt: “a surge of memories, experiences and associations within a sea of swirling and subjective contexts” (2017 p 49). I sit with the lived-experience of Deleuze’s aleatory point. I feel something, but I can’t find the words to say what that is. Perhaps it is my own personal sense of ‘*Barthes*-ness’: the *haecceity* of Barthes - the entirety of the assemblage, ‘held’ in the affective registers of a photograph.

In this research, I have discussed the recurring theme of an underestimation of the ‘mysterious’ and unpredictable affective registers of images. Here in Barthes’s own seminal publication on photography, Boudinet’s Polaroid photograph seems to have been regarded by publishers as merely decorative, and removable from most subsequent versions of the book without detriment to the printed words therein.

Evaluating the role of photographs in research-reporting, Göttert et al (2023) argue that photography can enrich the reporting process, “capturing the essence of participatory activities within the realms of science and education”, noting that, “effectively and succinctly conveying outcomes and experiences through traditional written reports alone can prove challenging” (p27). Maasri et al (2023) observe that photographs feature more commonly in ‘grey’ literature venturing perspectives & editorials, and in low-impact journals, while technical papers in higher-ranking journals rarely include photographs. A perceived paucity of purposeful uses of photographs in the reporting of research prompts Göttert et al to opine, “one might get the impression that a photograph alone does not have enough significance” (2023 p29). Just a side order, to the main course of words.

Or perhaps *something* ‘in-between the lines’…

“We do without language, but never cease to understand each other” (Barthes 1977 p61).

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Appendix 1: Ethical approval

Research Project Ethical Approval

DECISION FORM

To be completed by the School of Education Ethics Committee Chair or Vice-Chair.

Applicant: **Matthew Sowerby**
Title: Beyond illustration: Harnessing young people's vernacular photo-literacies in curriculum making and pedagogy within secondary schools and Further Education colleges.
IS INTERIM APPROVAL NECESSARY **NO**
Interim Decision (please highlight):-
Interim Approval By & Date
Date Considered by SoE Ethics Committee: 26 January 2016
Decision :- Approval granted following discussion of re-submitted application at Committee and further review by two members of panel. Note: this lengthy application was submitted too near to the date of the Committee meeting to be given full attention and the decision was made to (i) ask the nominated reviewers to look more thoroughly at the document after the Committee meeting and (ii) ask the Chair to act on the recommendations of the reviewers.

Chair's Signature

… …………………………………………………

Date …23 February 2016…………………………………………………………………..

Appendix 2: Consent form

UNIVERSITY OF STIRLING

Invitation to Participate in a Research Project

Your school is taking part in a research project with the University of Stirling to find out more about visual literacy. How young people currently use photographs and digital photography in their everyday lives, and how innovative use can be made of communication and meaning-making through digital photography by pupils and teachers in educational settings.

For the first stage of this research, you will be invited to discuss your everyday uses of digital photography with the researcher. These interviews promise to be relaxed and enjoyable. What you say will be (audio) recorded and treated with the strictest confidence. In the second stage, together with other pupils, your teachers and the researcher, you will be invited to participate in activities exploring how photographs and photography can be used innovatively in learning, teaching and assessment. You will be invited to take and discuss photographs. The researcher will not take any photographs of pupils.

Your studies will not be disrupted or inconvenienced during this research project, which will take a few months. It will not be compulsory to take part in the research. You can opt in or out at any time, and request anything you've said or done as part of the research to be withdrawn from the project. You and your school will not be identifiable when the research is published.

For now, in the form below we would like you to say whether you are happy to be part of the research. Please fill in the form and return it to your class teacher. Pupils under the age of 16 should ask their parent or guardian to sign the consent form too.

Please feel free to ask your teacher for further details or if you have any questions - throughout the research process, you can ask the researcher at any time. Thank you for your co-operation and support.

NOTE: Researchers' conduct and activities are subject to the guidelines issued by *The British Educational Research Association (BERA)*. Senior lecturer in the School of Social Sciences at the University of Stirling, Dr Greg Mannion (E-mail: gbgm1@stir.ac.uk Tel: 01786 467614) is another point of contact should you have any questions.

Pupil & parent/guardian consent:

Pupil: I am happy to participate and be interviewed as part of the research……………………............... ☐

Pupil: I am happy for my contribution to the research project to be documented, and for these audio recordings, and photographs I have taken to be used as part of the research .... ☐

Pupil: Signed ______________________________ Print name ________________________________

Parent/Guardian: I am responsible for the child identified above and give my permission for them to participate in this research project. ☐

Parent/Guardian: Signed ____

Print name ____ Date ____________________

Research Lead: Matthew Sowerby, matthew.sowerby@stir.ac.uk