

*Children's Experiences and Perceptions of Drawing Across the Curriculum in a UK  
Primary School.*

Being a thesis submitted in partial fulfilment of the requirements for the Degree of Doctor  
of Education in the University of Reading

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## Declaration

I declare that the work presented in this thesis is all my own work and the use of all material from other sources has been properly and fully acknowledged.

## Abstract

Drawing is central to the Art and Design Curriculum (OFSTED, 2023) in the National Curriculum in England (DfE, 2013) and has been recognised for its educational value; yet children's engagement in drawing has been recognised to decline with age (Fava, 2019). Historically, research has focused on early years development, the content analysis of children's graphic representations or the diagnostic assessment and practice within art therapy. There is little research that explores children's responses to, and experiences and perceptions of, drawing in all subjects across the primary curriculum at key stage 2 (ages 7 to 11), from the children's perspective. The purpose of this study is to close that gap.

This research builds on the socio-constructionist work of Vygotsky (1978, 1962) and Brooks (2002, 2004, 2005a, 2005b) and focuses on the *process* of drawing and its links to language acquisition and development, child development and children's engagement with drawing. It is influenced by early art educator's views of drawing (Ruskin, 1856-1857; Rousseau 1979/1792; Froebel, 1887) and key art educationists on children's drawing (Adams, 2013; Brew, 2011; Hall, 2010; Watts, 2010; Hope, 2008; Matthews, 2003; Eisner, 2002; Efland, 2002). It uses an *Embedded mixed method* case study approach framed within an interpretivist paradigm. Data were collected from participant observations during a six-month drawing intervention of daily drawing across the curriculum, child questionnaires including drawings of familiar subjects, and a parent questionnaire. These data were analysed using thematic analysis techniques.

The findings provide evidence of the ways in which the children in this study expressed their enjoyment of drawing and demonstrated markedly different behavioural and verbal responses to different drawing activities. The findings shed light on how daily drawing has potential benefits in the promotion of children's vocabulary and language acquisition, communication and development. It builds on Ruskin's concept of *seeing*, Vygotsky's concept of *Verbal*

*Thought* (1962) and Brook's concept of *Visual Thought* (2002) in relation to drawing and puts forward a multisensory framework of drawing that recognises the multimodal and multisensory nature of drawing. It sheds light on the affordances of drawing on the children's cognitive awareness and development, on children's social, emotional and well-being and children's drawing engagement, ability and drawing self-efficacy, the promotion of which may help to reduce or ameliorate the decline in children's drawing engagement at key stage 2. Finally, it sheds light on the importance of seeking the parental view in education.

It is hoped that the findings from this study provides insight into the pedagogical benefits of drawing for teachers and educational practitioners in the field of art,β primary education and wider education knowledge.



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## **CHAPTER ONE – INTRODUCTION**

### **Background and Rationale**

Drawing is a primal form of communication (Petherbridge, 1991). It has been recognized for its educational and pedagogical value (OFSTED, 2023) in many disciplines including the recognition of children's cognitive development (Brooks, 2005b; Piaget, 1928, 1962), intellectual development (Irwin and Winton, 2021; Wood & Hall, 2011; Hall, 2010; Matthews, 2003; Goodenough, 1926) the promotion of cognition and meta-cognition (Eisner, 2002; Efland, 2002;) memory (Fernandes, Wammes & Meade, 2018; Cohn, 2012; Brooks, 2009), language and communication (Binder & Kind, 2017; Adams, 2013; Hall, 2010; Eisner, 1998; Gardner, 1980), observation (Hall, 2014, Wright 2010; Jolley, 2010; Carline, 1968; Ruskin 1856-1857), understanding the world around us (Lindqvist, 2011, Thistlewood, 1982), identity (Hall, 2020), mathematics (Bakar, Way & Bobis 2016) and scientific enquiry (Carney, 2018; Katz, 2017). However, drawing plays a relatively minor role in primary education beyond its value as an art skill, medium and form of expression in art and design education (Adams, 2014; Eisner, 2002).

Drawing is problematic because it is diverse, ever evolving (Garner, 2008) and not only multimodal (Hall, 2010; Hope, 2008; Wright, 2007; Matthews, 2003) but multidisciplinary and interdisciplinary (Kelly, 2004). It is therefore difficult to define. There is a plurality of definitions of drawing and a search for a singular definition is ultimately a frustrating occupation (Petherbridge, 1991). Drawing is viewed and researched from disparate lines of inquiry and from different academic disciplines including art education, psychology, philosophy and cognitive science - which hinders the emergence of drawing as a distinctive

domain (Garner, 2008) to inform the day-to-day teaching and practice of drawing. Furthermore, as Professor Anita Taylor, the director of the *Jerwood Drawing Prize Project* points out, within art practice itself, drawing is often categorised as a lesser activity than the main artefact or product, and whilst it remains an intimate element of art practice, the discourse in the field of drawing has often been marred by romantic visions of what drawing could and should be and how it might or might not be taught (Taylor, 2008).

Previous research has approached drawing from two disparate standpoints viewing drawing as either a *product* or a *process* and there is debate about the functions of drawing (Adams 2014). Researchers that focus on the *product* tend to adopt positivist quantitative analysis of the content of children's drawings (Hall, 2010; Cox, 2005; Anning & Ring, 2004) and the links between drawing and children's psychological or intellectual development (Wood and Hall 2011; Hall, 2010; Piaget, 1928, 1962; Goodenough, 1926) and children's intrinsic motivations to draw through spontaneous play or drawing for sheer pleasure (Matthews, 2003). Meanwhile, those that focus on the *process* of drawing (Adams 2017, Hope, 2008; Eisner, 2002; Efland, 2002) apply a more interpretive approach to the practice of drawing promoting the act of learning to draw and the development of numerous skills entailed in drawing (Adams, 2017; Brooks, 2002; Hope, 2008) in relation to graphic design (Schenk, 2005), technical drawing (Maclaren, 2008) and digital technology (Fava, 2014). Researchers that focus on drawing as a *process* of drawing have often limited their research to older students and adult engagement with, for example, the mechanics of drawing including eye-contact, eye-tracking and hand-eye coordination (Tchalenko et al., 2014). Alternatively, research into the *process* of drawing However, as Blythe, Steward and Valk (2013) explain, it is the multisensory, holistic, empirical, emotional, inscrutable and tacit nature of art, of which drawing is an element, that has blurred the lines between it being academic and non-academic.

Previous research has focused on drawing in early years education (Wood & Hall, 2011, Hall, 2010; Anning & Ring, 2004; Cox, 2005; Anning, 2003; Matthews, 2003), secondary school contexts (Alford 2015) or higher education (Owen, 2020) with comparatively little rooted in the intervening years of primary education (Watts, 2010). This study focuses on children's responses to, experiences and perspectives of the *process* of drawing in subjects across the curriculum in those intervening years at key stage 2 (ages 7 to 11).

It has been widely recognised that children's drawing engagement - the active involvement in the drawing process (Einarsdottir & Dockett (2009) - declines with age (Fava, 2020; Jolley 2010; Matthews, 2003; Davis 1997; Cox, 1989; Gardner, 1980; Viola, 1936; Luquet, 1927/2001; Cizek, 1904 in Viola 1936). There is what Trautner and Milbraith (2008) call 'the artistic slump' amongst middle school children and adolescents (see also Jolley, 2010; Davis, 1997; Rose et al., 2006; Luquet 1927/2001) although those who surveyed the opinions of children report that the decline may not be as prevalent as first thought (Burkitt, Jolley & Rose, 2010).

Various reasons have been offered to explain the decline in children's drawing engagement and development including **children's attitudes** (Burkitt et al., 2010); **teachers' attitudes** (Jolley, 2010; Watts, 2009; Cox and Watts, 2007), **parental attitudes** (Burkitt et al., 2010; Anning, 2004), and **whole school attitudes** to drawing (Nicol & Taplin, 2012).

Many teachers recognise the value of drawing (Burkitt et al., 2010; Jolley, 2010; Cox and Watts, 2007; Anning, 2004). In a UK wide, qualitative action research entitled *Power Drawing: Active Learning* (Adams, 2003) – an educational initiative within *The Campaign for Drawing* (2000) encouraged educators to engage in exploring the opportunities and use of

drawing across the curriculum with pupils from ages three to eighteen - teachers recognised that,

*Drawing had helped nurture not only intellectual development, children's capacity to think, but also emotional and social development, their capacity to feel and to relate to others. Teachers and educators found that drawing improved children's motivation and capacity to learn, enhanced their enjoyment of learning, helped to raise educational standards and developed children's visual and spatial understanding, as well as facilitating the development of the imagination and powers of invention. Teachers also discovered that it had an important role to play in developing literacy skills. They found that drawing gave children strategies to become more effective learners and were adamant that it was for all pupils, not only for those supposedly gifted and talented, or those who were disaffected or disadvantaged.* (Adams, 2009, p.233)

Yet subsequently, Adams (2014) found very little empirical evidence of the teaching or nurturing of drawing in mainstream schools beyond early years apart from within art and design education. This prompted Adams (2017) to further promote the concept that 'drawing makes you think' (p.251) and to recommend to teachers, policy makers and researchers that

*Visual education should be framed not only in terms of art and design. It should be based on learning through making: making sense, making meaning, making things and making things happen...it should permeate the curriculum.* (Adams, 2017, p.251)

Up until recently a major problem had been the role of teacher in regard to drawing which had been viewed somewhat negatively in terms of teachers lacking skill and confidence in their own drawing ability (OFSTED, 2023; Tambling and Bacon, 2023; OFSTED, 2009; Clement, 1994) or lacking an understanding of what constitutes children's competence in observational drawing (Watts 2009) leading to a resistance to teaching drawing (Nielsen, 2014). Historically, this had been a result of historical art educators and researchers long accepting the view that it was bad practice to teach children to draw as it stifles children's creativity (Richardson, 1948) and attempts to 'teach' children to draw was perceived as corrupting (Lowenfeld, 1939; Cizek, 1904). This paradigm promoted the notion that child art should be left unfettered by lessons

and directive teaching (Ruskin, 1856-1857) and should be allowed to develop naturally with little interference from adults apart from encouragement (Cooke et al., 2004). This may explain why trainee teachers often receive only the briefest instruction in teaching drawing skills (Thistlewood, 1992, p.163) leading to a decline in the quantity and quality of art education at primary as a result of poor subject knowledge (OFSTED, 2023; Tambling and Bacon, 2023). In the past the teacher's role has been viewed as one of provider of materials and ideas to draw (Cox et al., 1995) and of facilitator (Hargreaves and Galton, 1992) and 'limited provision for teachers' professional development has meant that weaknesses in the teaching of drawing – a fundamental subject skill – have not been addressed' (OFSTED 2011 p.1). Teachers cite a number of additional factors including schools' focus on reading, writing and number work (OFSTED, 2023; Cooke et al., 2004), a lack of time and increasing interest in other activities (Jolley, 2010), which impact on children's drawing behaviour and interest. Whilst encouraging results from the *Power Drawing* initiative (Adams, 2017) reported that, as a result of drawing across many subjects, 'teachers developed a higher level of confidence both in drawing and supporting learning through drawing' (Binder & Kind, 2017 p.59), drawing remains categorized firmly within art and design and the value of drawing in teaching training remains unchanged allowing children's skills to stagnate and their interest in drawing to decline (Watts 2010). Two recent reviews on art education: the *Art Research Review* (OFSTED, 2023) and a report entitled *The Arts in Schools: Foundations for the Future* by Tambling and Bacon (2023) call for the need 'for adequate training in the arts in order to teach them effectively' (Tambling and Bacon, 2023 p. 19) however the onus is placed firmly on the teachers, the teachers of art and lead co-ordinators in art.

Historically, research in children's drawing has reflected a 'topdown' approach (Brooks, 2004; Ring and Anning 2004) which takes the pursuit of realistic representation or *product* as its goal and stage theories linked to cognitive and psychological development, generalised from

the work of Luquet (1927/2001); Lowenfeld 1939; Piaget (Inhelder & Piaget, 1956), Kellog (1970) and Cizek (1904) as its modes of development (Matthews, 1992). Rarely have researchers sought children's opinions on the *process* of drawing (Papendreu, 2014) with a focus on using drawing in teaching and learning in subjects across the curriculum in the holistic development of the child and 'production of knowledge' rather than uncovering meanings (Foucault, 1972) within the *product* of drawings. Nor have researchers observed children regularly drawing in subjects across the curriculum, within and beyond art and design, observed their behaviours and listened to children's verbal utterances when engaged in different types of drawing as part of wider teaching and learning. This study aims to close that gap.

Recently, there has been an increasing focus on children's voices in social and educational research which acknowledges children as competent and capable agents in their own lives who have something meaningful to say (Danby and Farrell, 2004; Thompson 2008). Fielding (2004) suggests that children are able to speak for themselves and advocate for a 'dialogic alternative' in schooling, where educators speak 'with' rather than 'for' children (p.305). Moreover, researchers are beginning to 'listen to' children (Brooks, 2014; Cox, 2005; Kress, 1997) when they are drawing. As Kress explains,

*Within the process of drawing and the accompanying talk that they may do as they draw, children act energetically, intelligently, perceptively, out of the interest to communicate and represent their experiences* (Kress, 1997, p.113)

This study aims to extend this knowledge.

## **Aims of the Research**

The purpose of this study is to explore the ways in which children respond to, communicate and experience the *process* of drawing when it is used as a tool for teaching and learning I all subjects across the curriculum, beyond art and design, in a primary school setting. Researching children's experiences of drawing across the curriculum at key stage 2 (ages 7 to 11) is, according to my research, new to research in children's drawing and therefore requires an exploratory and interpretive approach. However, it is underpinned by research outlined in the literature review on the impact of drawing on children's vocabulary and language communication and development, children's cognitive and emotional development and children's engagement with drawing.

## **Conceptual and Theoretical Framework**

The conceptual framework for this study (see figure 1) draws on the Social Constructionist Learning Theory developed by Vygotsky (1962) and Bruner (1996), and it's link to drawing developed by Brooks (2014), plus previous research on Drawing, Language and Communication (Binder & Kind, 2017; Adams, 2013; Brooks, 2009; Hall, 2010; Willats, 2005; Hawkins, 2002; Gentle, 1981; Golomb, 1992; Wilson & Wilson, 1977; Vygotsky, 1978; Arnheim, 1974; Read, 1943) to examine children's experiences, and behavioural and dialogic engagement with different drawing activities across the curriculum at key stage 2. Drawing is not solely an act of visual expression (Vygotsky, 1962; Brooks 2014); it also intertwines with language and communication development. Through drawing, children can tell stories, communicate with others, ask questions, and solve problems. Understanding the relationship

between drawing and language acquisition is crucial for comprehending the nuanced ways in which children develop their linguistic abilities and express themselves.

By adopting a social constructionist and social theory lens, this doctoral thesis aims to unravel the complex dynamics between art, drawing and child development. The study is influenced by early art educators (Ruskin, 1856-1857; Rousseau, 1911; Froebel, 1887; Pestalozzi, 1827 in Kelly, 2011, p.25) and their pedagogical approach to drawing with respect to the sensory nature of drawing and its benefits to thinking and learning. It is also influenced by recent art educators focused on drawing (Adams, 2013; Brew, 2011; Hall, 2010; Watts, 2010; Hope, 2008; Matthews, 2003) and those who have highlighted the cognitive and metacognitive function of the arts and promoted the integration of the visual arts in the art curriculum (Eisner, 2002; Efland, 2002).

It aims to provide valuable insights into how the drawing environment impacts children's engagement with drawing activities and understand further links between Art, Drawing and Child Development through themes that encompass various aspects of drawing including: creativity, emotional development (Eisner, 2002), developing fine motor skills, cognition and metacognition (Eisner, 2002; Efland, 2002), problem-solving abilities (Adams, 2014; Hope, 2008), building confidence, and facilitating a deeper understanding of the world. By examining these themes, this thesis seeks to explore the intricate connections between art, drawing, and the holistic development of children.

The study is further guided by the recognition that drawing engagement declines with age. Its aim is to explore children's drawing engagement and disengagement with regular drawing at key stage to deepen our understanding the ways in which children view and engage with drawing in order to help to reduce or ameliorate any future decline in children's engagement with drawing.



The study is underpinned by the importance of listening to children's voices in relation to education (Ofsted, 2012) and in relation to drawing (Brooks 2014; Cox 2005; Kress, 1997). At the heart of this study is the children's experiences and perceptions of drawing including their behavioural and verbal responses to a variety of daily drawing activities across the curriculum. The recent promotion of the 'pupil voice' (also called 'learner voice' or 'consulting pupils') in education, which involves listening to and involving children and young people in decision-making (DFE, 2014) and engaging pupils as active participants in their education is of particular relevance to my research. It has been recognised that promoting the pupil voice contributes to achievement and attainment – young people involved in participative work benefit in a range of different ways: increased confidence, self-respect, competence and an improved sense of responsibility have all been reported by young people who contribute in school...schools also report increased motivation and engagement with learning (DFE, 2014).

The study is further underpinned by the importance of seeking the parental view in education (Driessen, Smit and Slegers, 2005) in order to gain a full picture of children's experiences of the process of drawing.

The drawing activities employed in the drawing intervention in this study are guided by Hope's work on *Drawing as a Tool for Thought* (Hope, 2004), *Thinking and Learning through Drawing in Primary Classrooms* (Hope, 2008) and *Enabling Children's Learning Through Drawing* (Sedgewick, 2002) which accentuate the significance of the playful drawing experience to trigger the child's development of observation, perceptive, language, emotive, cognitive and meta-cognitive skills.

A review of the literature and critical analysis of the concepts in relation to this framework will be examined more closely in Chapter Two.

The research question underpinning this study is as follows:

**What are children's experiences and perceptions of daily drawing across the curriculum in a UK primary school?**

The subsidiary questions posed to address this question are:

**Q1. Drawing and Language and Communication: What and how do children communicate when engaged in different types of drawing?**

**Q2. Art, Drawing and Child Development: How do children experience and respond to daily drawing activities in subjects across the primary curriculum?**

**Q3. Engagement and Disengagement: In what ways does a daily drawing intervention impact children's engagement or disengagement with drawing.**

**Q4. Parental Perspective: What are parents' perceptions of the children's experiences of drawing across the curriculum?**

### **Thesis in Context – Personal Reflection**

By putting this thesis in context, I aim to share my personal reflections and reasons for undertaking this study. I feel this is particularly relevant as it will allow the reader to have an understanding of my positionality as a researcher carrying out a study within the interpretivist paradigm.

My thinking and research interest were influenced by my personal experience of learning to draw. For many years I held a fixed belief that I was unable to draw until, in my forties, when teaching a year 1 class of 5 to 6-year olds I noticed how freely children of that age group engage in drawing. They drew without hesitation or expectation on the outcome. I was inspired to

embark on ‘teaching’ myself to draw by following the drawing principles and exercises outlined in the book *Drawing on the Right Side of the Brain* (1993) by Betty Edwards. I immediately experienced a dramatic improvement in my drawing skills and more importantly drawing confidence which inspired me to draw more. Fundamental to my personal drawing improvement was the experience of surrendering to the process of drawing and accepting the concept of not knowing what the drawing outcome would be - an element of what Eisner calls ‘*magic and surprise*’ in the drawing experience (Eisner, 2002). I noticed that many my drawing activities would start with mental notions of doubt (“I can’t draw properly!”, “Will it go wrong?”, “Where do I start?” etc.). However, I became aware that as soon as ‘surrendered myself’ to the drawing practice, to having a go, or more accurately to *letting go* of the negative thoughts about my ability to draw, then my drawing outcomes improved dramatically, freely and more fluently. I also became more adept at recognising challenges and problem-solving any ‘mistakes’ that I made and soon learned to appreciate the ‘mistakes’ as indicators for development or serendipitous improvements. The improvement in my drawing confidence had a significant impact on my drawing self-efficacy (my view of myself as a competent drawer) which encouraged me to try more ambitious techniques, styles and compositions. The more I committed myself to the act (singular drawing activity) and process (drawing activities over time) of drawing the more I became immersed in ‘the flow’ (Csikzentmihályi (1975) and experienced a subtle and pleasurable trans-like state where I lost track of time after which I felt very calm and relaxed. It is a phenomenon that Edwards (1993) refers to as the Left Brain-Right Brain shift from logical to creative thinking (Sperry, 1967) that occurs when a person is absorbed in the activity of drawing:

*You are attentive and concentrated and feel "at one" with the thing you are concentrating on. You feel energized but calm, active without anxiety. You feel self-confident and capable of doing the task at hand. Your thinking is not in words but in images and, particularly while drawing, your thinking is "locked on" to the object you perceive. On leaving R-mode state, you do not feel tired, but refreshed.*

(Edwards, 1993, pp 62-63)

In response to regular drawing, I became increasingly aware of a heightened sense of personal observation of the world around me, an increased ability to recognise shape, form, shading and highlighting and I experienced a subtle feeling of calmness after drawing. As a result of this personal experience of learning to draw, I questioned whether engaging in regular drawing employs both logical and creative thinking. This led me to explore the use of drawing as a teaching and learning tool to promote children's confidence in drawing and to explore the affordances of drawing on children's thinking and emotional development. Were there any parallels between how I responded to regular drawing and the way children responded to regular drawing?

I reflected on the role of drawing in primary education, categorised within Art and Design Technology, which led to my enquiry into children's drawing in relation to their wider learning and emotional development. I also reflected on children's engagement and disengagement with drawing in and outside of school and felt it important to gain the parental views on children's engagement with drawing outside of school.

The relevance of this study is that it enables me to improve myself as practitioner and teacher, by gaining an insight into what and how children respond to regular drawing, what and how children communicate when they draw particularly in terms of cognition and metacognition, language and communication, and emotional development. Drawing is, I suggest, underutilised and undervalued as a tool for teaching and learning in all subjects across the curriculum as it is categorised firmly within Art and Design Technology. In addition, in my experience teachers have a reluctance to use drawing beyond Art and Design Technology. Many teachers have developed a reliance on using photocopied sheets in order to provide visual images which often require children to colour in, label and stick into exercise books therefore underutilising the opportunities for children to attempt to draw images/objects themselves. Thus, it limits and restricts the opportunities to develop children's curiosity as independent thinkers, in

addition to becoming competent and confident drawers. Do children feel the same? I hope this inquiry provides a deeper understanding of the affordances that drawing has to offer primary school children, teachers, parents and practitioners.

## **Significance and Outcomes**

Much of the research regarding children's drawing views drawing within art and design technology and takes a 'top down' approach (Brooks, 2004; Ring and Anning 2004) focusing of the *product* of drawing in relation to early years development, children's cognitive development or in its uses in the assessment and practice of art therapy. Although drawing has particular significance in art, craft and design education, drawing has wider relevance (Petherbridge, 2010) in relation to children's language, cognitive, and emotional development. As Adams (2014) explains,

*"Drawing in schools needs to be seen less as a practical skill and more as a learning strategy that can be used across the curriculum. It offers ways of knowing, thinking and doing that link cognitive, affective and practical modes of study: not only does it nurture intellectual curiosity and visual intelligence, but it also contributes to emotional intelligence."*  
(Adams, 2014, p.3)

There exists a gap in knowledge in the lack of empirical research on children's experiences and perceptions of, and behavioural and verbal responses to, the *process* of drawing in all subjects across the curriculum at key stage 2 (ages 7 to 11). In addition, there is a lack of meaningful frameworks for examining what it is that children are doing when they draw (Brooks, 2004), how children respond to drawing and links between drawing and 'ways of knowing, thinking and doing that link cognitive, affective and practical modes of study'

(Adams, 2014, p.3) and their emotional development. This study seeks to address these gaps in current research on children's drawing in education.

Through an insider researcher approach (Floyd and Arthur, 2012), this study aims to provide an interpretation of children's experiences and perceptions of drawing within and beyond art and design at key stage 2. While it is not claimed that this research is generalisable, it is hoped that the data acquired from this study will shed light on how children respond to different drawing activities when used in all subjects across the curriculum and the importance of drawing to children's learning and emotional development. It is hoped to provide insights and knowledge on drawing to help generalist teachers, practitioners and professional practice in primary education and the affordances of drawing to children's learning and development.

## **Overview of Thesis**

This thesis is organised over eight chapters. Chapter One has outlined the key areas for focus for this thesis, drawing the reader into the study. These include the role and function of drawing in primary education and the importance of children's voice and parental views in education. Chapter Two sets out the conceptual framework and a review of current literature around the four key concepts of language and communication, drawing and child development and children's engagement and disengagement with drawing. These have been critically analysed highlighting current shortcomings in the literature pertaining to this case study. Chapter Three justifies the chosen research methods underpinning the interpretivist paradigm, carefully considering associated ethical implications of this case study. Chapters Four, Five, Six and Seven analyse and discuss the data from the observations of behaviours and transcripts of children's verbal commentaries, child questionnaires and parent questionnaires in relation to the key concepts. This thesis concludes with Chapter Seven, which summarises this case study

outlining the original contribution to knowledge, as well as reflections and implications of this study.

## **Summary**

Chapter One offered an introduction and an overview of the thesis. The next chapter presents the literature review.

## **CHAPTER TWO - LITERATURE REVIEW**

This thesis aims to explore children's responses to, experiences and perspectives of, drawing across the curriculum at key stage 2 in a primary school in England, UK. Its purpose is to shed light on children's behavioural and dialogic responses to and engagement with a drawing intervention of daily drawing activities in all subjects across the primary curriculum in order to recognise the links between regular drawing and children's language and communication, cognitive and emotional development. It also aims to explore the affordances of regular drawing on children's drawing engagement, confidence and drawing self-efficacy.

The research question underpinning this study is as follows:

**What are children's experiences and perceptions of daily drawing across the curriculum in a UK primary school?**

The subsidiary research questions posed to address this question are:

**Q1. Drawing and Language and Communication: What and how do children communicate when engaged in different types of drawing?**

**Q2. Art, Drawing and Child Development: How do children experience and respond to daily drawing activities in subjects across the primary curriculum?**

**Q3. Engagement and Disengagement: In what ways does a daily drawing intervention impact children's engagement or disengagement with drawing.**

**Q4. Parental Perspective: What are parents' perceptions of the children's experiences of drawing across the curriculum?**

This chapter aims to outline the conceptual framework for this investigation and review the literature surrounding the key concepts of the social constructionist theory of learning; drawing and language and communication; art, drawing and child development; and children's engagement and disengagement with drawing. It aims to establish links to previous work on children's drawing, highlight gaps, and demonstrate how the study's research questions have



been formulated. The chapter is organised by outlining the social constructionist theory of learning in relation to drawing (Vygotsky, 1962, 1978; Bruner, 1986; Brooks, 2003) followed by an examination of current research on links between children's drawing and language and communication particularly in relation to storytelling, communication with others, questioning and problem solving. This is followed by an examination of the key themes relating to art, drawing and child development (sensory, development; creativity; building self-confidence; learning about the world around them; developing fine motor skills; cognition, metacognition and problem-solving skills; and emotional development) and children's engagement and disengagement with drawing that underpins this research. This followed by an examination of the importance and value of art education and definitions of drawing and the drawing initiatives that guided and influenced the drawing intervention used in this research. This is followed by current research on the importance of listening to children's voices and a concluding summary.

## Conceptual Framework and Theoretical Underpinnings



Figure 1. Conceptual Framework

### *Social Constructionist Learning Theory*

From a constructionist perspective, in any learning context, the relationships between the social, cultural and historical aspects inherent in the various forms of communication utilized combine to influence not just what is learned but also how it is learned (Vygotsky, 1962, 1978; Wink & Putney, 2002; Moll, 2002). In a social constructionist learning context, expertise is shared in order to negotiate and construct meaning. The learner brings prior knowledge and combines it with new knowledge through his or her interaction with others (Duran &

Syzmanski, 1995). Social Learning Theory is a theory of learning that suggests that people learn by observing and imitating the behaviour of others. This typifies the classroom setting whereby children interact, communicate and learn from each other and the adults around them.

As Bruner wrote:

*Most learning in most settings is a communal activity, a sharing of the culture...learning is an interactive process in which people learn from each other.* (Bruner, 1996, p.22)

Co-construction has typically been understood as the interaction between adult and child, and child and child. Here learning and development and working together is a dynamic process in a socio/cultural/historical context and is primarily dialectical in nature (Vygotsky, 1978, 1962). Vygotsky (1962) suggests that the “rational, intentional conveying of experience and thought to others requires a mediating system, the prototype of which is human speech born of the need of intercourse during work” (p.6). Vygotsky (1978) argued that drawing is dialogic in nature and the higher mental functions rely on the mediation of behaviour by signs and sign systems including symbols, algebraic systems, art, drawing, writing, and diagrams, the most important of which is speech. The diagram below (see figure 2) illustrates Vygotsky’s theory of the connection between thought and speech and the development of *Verbal Thought* (Vygotsky,1978).

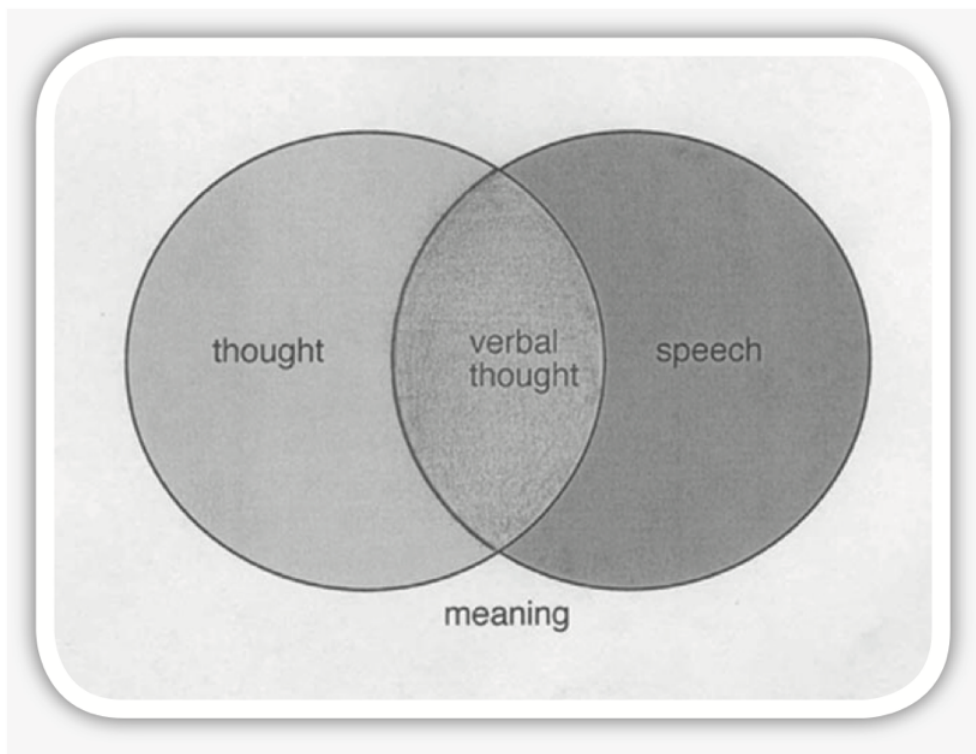


Figure 2. Vygotsky's Theory of Verbal Thought (Wink & Putney, 2002)

Brooks (2005) took Vygotsky's concept of *Verbal Thought* and extended the notion of co-construction and related it to children's engagement with drawing to include children's engagement with other children's drawings as well as their own drawings. Brooks pays particular attention to the immediate interactive relationship between what Vygotsky (1978) calls *interpersonal* and *intrapersonal* drawing dialogues. According to Vygotsky (1978) the *interpersonal* is where new mental processes exist first in shared contexts before they are internalized and that learners are active and interactive agents in their learning. The *intrapersonal*, or internal, is where new knowledge is internalized, absorbed and the dialogue continues at a metacognitive level. Vygotsky proposed that even when we are carrying out a mental action in isolation, we are not really participating in an individual mental process but are, rather, still operating in a social context. This could be said of the *process* of drawing as it reflects the context in which drawing takes place (Brooks, 2005).

According to Brooks (2005) the *interpersonal* and *intrapersonal* relationships with drawing are two distinct processes that work together in a continuous interactive spiral and drawing can mediate and support the dialogic learning processes and children's thinking. As Brooks (2005) explains,

*The focus of discussions about the drawing should be the meaning and information it contains rather than drawing skills and aesthetic qualities. This shifts the focus from a performance criterion to one that is concerned with the meaning that the children are trying to make of certain phenomena through their drawing. Such an approach opens a dialogue that involves children actively at a cognitive level.* (Brooks, 2005)

Focusing on early years and scientific enquiry, Brooks (2009, 2005a, 2003) considers drawing to be a mediation tool or communication system that supports meaning and operates in similar ways to language. Brooks replaces the word 'speech' with the word 'drawing' to provide a framework for examining children's drawing processes that helps us to understand how drawing might function at the referential level as well as being a mediator between a child's spontaneous acquisition of a concept and a child's cognitive understanding of a concept. Brooks (2003) further suggests that the permanency of a drawing offers possibilities for an extended dialogic engagement that speech does not, especially when children do not yet have fluency with text, or perhaps language, then drawing offers a viable mediating role for communication, meaning making and problem-solving.

Brooks (2002) illustrates a connection between thought, drawing and the development of *visual thought* (Brooks, 2002) and demonstrates how drawing is an important mediation tool for thinking and for meaning making (see figure 3).

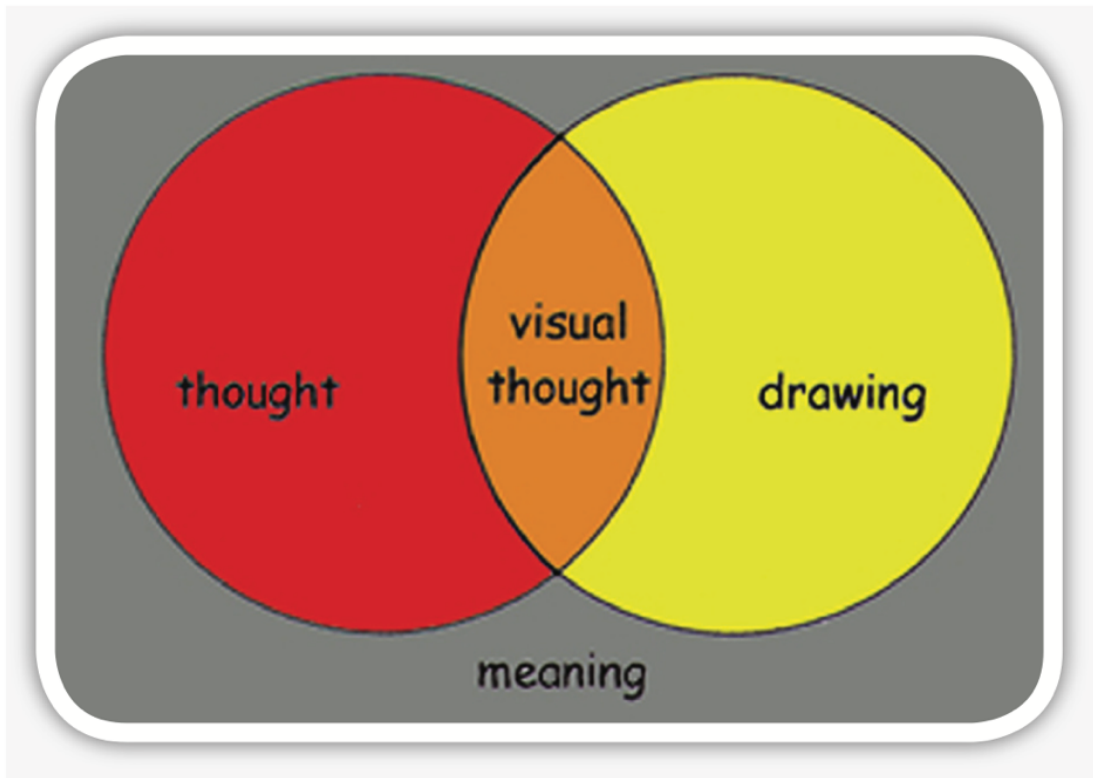


Figure 3. Brook's Theory of Visual Thought (Brooks, 2002)

This study aims to utilise the dialogic principles in Vygotsky's (1962) *Verbal Thought* and Brooks' (2002) *Visual Thought* frameworks to explore the mediation tool of speech with children at key stage 2 (7 to 8 years) who engage with different types of drawing in all subjects across the curriculum. It aims to further understand the dialogical nature of drawing and the links between drawing, language and communication (Binder & Kind, 2017; Adams, 2013; Brooks, 2009; Hall, 2007; Willats, 2005; Hawkins, 2002; Gentle, 1981; Golomb, 1992; Wilson & Wilson, 1977; Vygotsky, 1978; Arnheim, 1974; Read, 1943).

### ***Drawing and Language and Communication***

Drawing is not only a primal form of human communication (Petherbridge, 1991) but a spontaneous language (Steele, 2014) and one of the many languages that young children use

to 'talk' about their world in informal settings, both to themselves and to others (Lindqvist, 2001; Pahl, 1999; Kress, 1997). As Wright (2007) explains:

*Language as a communicational medium is inadequate for the expression of everything that we think, feel or sense. Hence, drawing, graphic-narrative play and other forms of artistic expression offer important and distinct forms of meaning-making through figurative communication, which is intricate, multifaceted, symbolic and metaphoric.*  
(Wright, 2007, p.38)

Drawing intertwines with language and communication development, as through drawing children can tell stories (Irwin and Winton, 2021; Davis and Miller 2020; Cox, 2005; Reese, Cox, Harte and McNally, 2003), communicate with others (Nigam, Schunn, & Katartzi, 2015; Brooks, 2005a; Vygotsky, 1962), and engage in asking questions and solve problems (Jolley & Kali, 2013; Shach & Fried, 2005; Eisner 2003).

Drawing has been recognized for its benefits to children's narrative development (Davis and Miller, 2021) and storytelling skills (Irwin and Winton, 2022) by providing them with a visual representation of their ideas. Irwin and Winton (2022) found that drawing can help children to better understand the structure of stories and to develop their narrative skills. Drawing has been found to promote children's language development, communication (Binder & Kind, 2017; Adams, 2011& 2013; Hall, 2010; Eisner, 1998a; Hubbard, 1989; Gardner, 1980) and literacy (Binder & Kind, 2017; McKee and Heydon, 2015; Dyson, 2013; Monroe, 2009) by being viewed as a form of visual language (Gentle, 1981; Hawkins, 2002; Read, 1943) with its own grammatical 'syntax' and 'semantics' (Sweo, 2017; Ives, 1979; Arnheim, 1969). Children have visual systems of expression and representation long before speech, and early painting and drawing episodes share a similar structure with that of conversational language (Chafe 1994; Matthews, 1999). In the way that babbling is the precursor to talking, scribbling can be seen

as the precursor to writing or drawing accurately or as an expression of ideas because children will draw what they want to say (Levin and Bus, 2003) and draw pictures and write to organize ideas and construct meaning from their experiences (Baghban, 2007). Particularly in the early years childhood (Dyson and Perry, 2022; Irwin and Winton, 2021; Davis and Miller 2020; Hall, 2010; Brooks, 2005a; Gentle, 1981; Golomb, 1992; Hawkins, 2002; Read, 1943; Vygotsky, 1978) researchers have alluded to the symbiotic relationship between the arts, drawing and the development of language in the literal sense but also the exploration of language, and communication of ideas, in the literary, poetic and metaphorical sense (Eisner, 2003; Ruskin, 1947, 1911). According to Eisner (2003), language is the primary means through which images recollected are given public countenance and vice versa,

*Art develops the student's ear for the melodies, cadences, tropes and metaphors of language and helps them organize language so that its aesthetic form becomes source of meaning...the visual arts are languages through which both meaning and mind are promoted.'*  
(Eisner, 2003, p.342)

Researchers have recognised the positive impact of drawing on children's writing development (William and Jones (2021). In contrast, from sociocultural approaches to literacy, drawing has tended to be viewed as a vital rehearsal for writing (Dyson, 2013) and/or a vehicle for expressing complex notions of literacy (Kendrick and Jones, 2008). Drawing has also been, within the context of an explicit multimodal literacy framing, presented as part of compositional ensembles that orchestrate myriad modes (McKee and Heydon, 2015) because it invokes semiosis, as literacy (Albers and Murphy, 2000). Monroe (2009) highlighted the relationship between seeing, telling, drawing and writing is an intimate, essential and significant aspect of teaching the writing act and drawing offers a way to solve problems visually and to plan responses (Monroe, 2009). In a recent longitudinal study, Dockrell and Messer (2020) found that children who were good at drawing were also more likely to be good at writing. Similarly, Dyson and Perry (2022) found that drawing and writing development are



closely linked, and that they are both influenced by a variety of factors, including motor skills, cognitive skills, and social-emotional development. This study aims to explore these links.

Drawing has been recognised to promote speech and language (Vygotsky, 1978; Brooks, 2005). It has been viewed as a powerful tool which children can use in a variety of ways to represent, and be articulate about, their world which involves quite complicated modes of thinking and reasoning which inform and create order in the drawing (Atkinson, 2009 p.145). It helps children communicate with others (Brooks, 2009; Hope, 2008; Kress 2003; Edwards, 1993; Foreman, 1993) and as such should be respected in the same way as any other “conventional” language, spoken or written (Hall, 2010). In the Reggio Emilia approach to early years education drawing is considered to be one of “the hundred languages of children” (Edwards, Gandini, & Forman, 1993) and is used as an integral part of learning to develop the “remarkable” confidence that children develop through experience and experimentation with visual media (Edwards, Gandini, & Forman, 1993). For children with language and communication deficits, drawing is particularly useful as it ‘provides a “common ground” between the student and the teacher because it is less dependent on verbal communication and less fundamentally concerned with cognitive ways of knowing’ (Osborne, 2003 p.36).

Vygotsky (1934/1986) recognised in drawing the existence of children’s ‘inner speech’ which he described as covert, silent and hidden and children’s ‘private speech’ or self-talk, the phenomena of speech that is apparently not directed at any listener. Vygotsky (1934, 1987) viewed private speech as: 'A revolution in development which is triggered when preverbal thought and pre-intellectual language come together to create fundamentally new forms of mental functioning.' (Fernyhough & Fradley, 2005, p. 1). Unlike Piaget (1923), who viewed children’s private speech as egocentric or immature, Vygotsky (1934, 1986) argued for children’s self-directed ‘private speech’ as both a mechanism for the consolidation of

children's experiences, language practice and the promotion of dialogue and an important tool for learning, leading a child to self-regulation, communication with the self and voiceless verbal thinking. According to Vygotsky (1978, 1962) private speech acts as a tool used by the developing child to facilitate cognitive processes, such as overcoming task obstacles, enhancing imagination, thinking, and conscious awareness. More recently, Irwin and Winton (2022) have viewed drawing as a window into young children's thinking by finding that drawing can help children to better understand the structure of questions and to develop their critical thinking skills. Similarly, Davis and Miller (2021) found that when given drawing prompts designed to elicit questions, young children who drew were better able to ask questions and to answer them. This leads to the question: Would the same be true for older children? What insights could we gain on their language communication and cognitive processes if we pay close attention to how children experience and engage with drawing as part of everyday learning?

Language is not only about communication, it is also about shaping thought (Adams, 2014) and according to Vygotsky (1978) the school is an important setting for promoting the shift from personal experiences and interpersonal dialogues to more complex thinking. This study aims to listen for and discover signs of the intrapersonal 'inner speech' and the intrapersonal private speech that children make when drawing and to shed light on what and how children communicate and think when drawing. Especially as children's private speech appears to be functionally related to cognitive performance: children use private speech most often during intermediate difficulty tasks because they are attempting to self-regulate by verbally planning and organizing their thoughts (Winsler et al., 2007) in tasks related to executive function (Fernyhough & Fradley, 2005), problem-solving tasks (Behrend et al., 1992) and mathematics (Ostad & Sorensen, 2007).

When children are exposed to ideas through their interactions with others in their community, they are able to grow into the intellectual life of those around them (Vygotsky, 1978). Through drawing children are able to exchange ideas about the topic they are studying as well as support each other...and the conversation often includes commentary on the use of drawing materials as well as the representation processes and ideas being explored (Brooks 2005). As Brooks (2005) explains,

*When drawing is one of the modes of classroom exchange, drawings can be preserved as a record of children's current thinking that can be reviewed and revisited by both teacher and children. They can also serve as a vehicle of exchange within the wider learning community. Children are able to represent complex ideas in their drawings, extract information from the contexts in which they work, and transform these new ideas through their drawings.* (Brooks, 2005, p.90)

Furthermore, drawing is a multimodal activity which can be supported by other parallel communication actions, such as narration, singing, writing, sound effects, gestures, movements, and dancing (Hall, 2009; Hope, 2008; Wright, 2007; Matthews, 2003; Kress, 1997). Children often use language, drawing and other forms of expression to improve the communication process (Pappendrou, 2007). As Adams (2014) explains,

*Drawing as communication is that which assists the process of making ideas, thoughts and feelings available to others. Here, the intention is to communicate sensations, feelings or ideas to someone else. It is likely that certain codes or conventions will be used so that the viewer will be helped to understand what is being communicated. It might be for an unknown audience. It might be to support group interaction, discussion or other learning activity.* (Adams 2014, p.2)

This study aims to understand and explore the multimodal nature of drawing and the relationship between drawing and language acquisition, which is crucial for comprehending the nuanced ways in which children develop their language, express themselves and promote their linguistic abilities through drawing. By integrating a variety of different drawing activities into an existing curriculum at key stage 2 (in this case ages 7 to 8) this study aims to enable

this type of interaction and exchange of ideas and further understand whether engaging in regular drawing has potential benefits for children to nurture and promote verbal systems of expression, communication, questioning and critical thinking.

### ***Art, Drawing and Child Development***

Early art educators recognised the pedagogical benefits of drawing and sensory development. Ruskin (1857) thought that art (primarily drawing) could teach us *to see*: to notice rather than merely to look. He emphasised connections between art (drawing), looking, understanding and thinking and suggests that art leads to the promotion of language and thought:

*To be taught to read-what is the use of that, if you know not whether what you read is false or true? To be taught to write or to speak - but what is the use of speaking, if you have nothing to say? To be taught to think - nay, what is the use of being able to think, if you have nothing to think of? But to be taught to see is to gain word and thought at once, and both true.*  
(Ruskin, 1911)

According to Ryle (1949) seeing is an achievement, not merely a task. It is the result of making sense a part of the world and it requires a mode of attention that is rarely employed in “ordinary” living (Eisner, 2002). As Langer (1979) explains,

*“Seeing” is not a passive process, by which meaningless impressions are stored up for use of an organising mind, which constructs forms out of these amorphous data to suit its own purposes. “Seeing” is itself a process of formulation’ our understanding of the world begins with the eyes*  
(Langer, 1979, p.84)

Particularly through observational drawing children learn to see in more specific ways and disregard what is merely superficial and become attentive to the more subtle qualities and changes of form, whilst gaining greater insight into the world around them (Barnes, 2002). As Fitch (2011) demonstrates through personal experience, drawing is a way of seeing things that do not exist:

*I draw to discover what I am thinking — to see how it looks — to flesh it out, a way of working out ideas.* (Fitch, 2011, p.147)

Adams (2014) suggests that learning to *see* requires practice and exposure to ‘*seeing*’ opportunities. This is enabled through the *process* of drawing because different kinds of drawing develop our capacity for different kinds of thinking (Adams, 2014).

By definition drawing is primarily a kinaesthetic or haptic (relating to the sense of touch, the manipulation of objects and proprioception) activity that promotes the sensory, somatic engagement with learning. Read (1934) was the first to recognise the haptic nature of drawing and he suggested that education of the senses should begin in the primary grades and should consist in the training of touch, sight and hearing. Witkin (1974) expanded on this idea, by arguing that ideas take shape when the drawer experiences what he calls ‘reflexive oscillation’ between impulse, ideas and mark, receiving feedback from the marks appearing on the page, which prompt further thought and mark-making. As Bell (2023) in a book entitled *Ways of Drawing* explains from his personal experience,

*Thinking of drawing as a somatic process means viewing it as something that is born from the whole body and the body’s various ways of understanding and being in the world. I can learn about the world through drawing, but equally my experience of being in the world can change my drawing.* (Bell, 2023, p.198)

Drawing within an educational context has been recognised as a precursor to speech and a powerful tool for learning by encouraging the student to learn through *seeing* and *doing* (Ruskin, 2018, 1856-1857). As Berger (1972) points out seeing comes before words:

*The child looks and recognizes before it can speak...we never look at just one thing; we are always looking at the relationship between things and ourselves...seeing establishes our place in the surrounding world.* (Berger, 1972, p.7)

However, drawing is also viewed as a multimodal activity (Stein, 2007; Cox, 2005) ‘that enables experience of the world, promotes identity; it strengthens our position in the world and our grip on that world’ (Sedgewick, 2002, p.12) through a variety of senses, primarily the sense of sight, linguistics and the haptic sense of touch and feel. Children adopt an ‘eclectic use of drawing to represent aspects of their experience’ (Atkinson, 2009, p.145) or draw for sheer pleasure (Matthews, 2003, 1999). This is particularly relevant in the early years when children use anything that they can get their hands on to form the beginnings of symbolic thought (Kress, 1997). In this way drawing can be used to promote creativity in the form of the expression of personal and cultural values and identity which has a range of personal, social and developmental benefits for children (O'Connor & Dunmill, 2005; Efland, 2004a; Eisner, 2002; Jarvis, 2004;). It can generate ideas; it can help us externalize and manipulate ideas to clarify, order, develop and refine thinking; it can enable us to put ideas into effect (Adams, 2014). As Adams (2014) explains,

*Drawing as invention is that which assists the creative manipulation and development of thought. This is where you cannot think the thought until it is made visible and accessible, capable of change and manipulation. Ideas are at an embryonic stage, unformed or only partly formed at the beginning of the process of drawing.*

(Adams, 2014, p. 2)

According to Eisner (2002) the senses are our first avenues to consciousness which promotes cognition and metacognition. The nervous sensory system is the organ of the mind...the activity of our senses is “mental” not only when it reaches the brain but in its very inception, whenever the alien world outside impinges on the furthest and smallest receptor (Eisner, 2002). Researchers in children’s drawing, particularly in early years development, have recognised that drawing may have meta-communicative and meta-cognitive elements because it helps young children to make sense of the world around them (Matthews, 2003; Cooke , Griffin & Cox, 1998; Anning, 1997; Cox 1992) and making sense is both a cognitive process and an affective process (Hall, 2010).

Eisner (2002), influenced by Ruskin's holistic approach, recognised that art, of which drawing is a element, plays a role in transforming consciousness. The arts help us learn to notice the world and a major aim of arts education is to promote the child's ability to develop his or her mind through the experience that the creation or perception of expressive form makes possible. In his seminal work *Arts and the Creation of the Mind*, Eisner (2002) argues that learning in and through the arts can develop complex and subtle aspects of the mind and cognition, and the role of arts, including drawing, is to transform consciousness. As Eisner (2002) explains,

*Arts transform our consciousness refine our senses so that our ability to experience the world is made more complex and subtle; they promote the use of our imaginative capacities so that we can envision what we cannot actually see, taste, touch hear and smell; they provide modes through which we can experience the world in new ways; and they provide the materials and occasions for learning to grapple with problems that depend on arts-related forms of thinking.* (Eisner, 2002, p.17)

Efland (2004) in his work *The Arts and Cognition*, recommends the integration of the visual arts in the curriculum, sharing the view that the creation and understanding of works of art, though endowed with feeling and emotion, are nevertheless cognitive endeavours (Efland, 2004).

In the past, cognition was the term used to designate propositional thinking with verbal and numerical symbols while the arts were deemed non-cognitive and therefore inferior in academic domains (Efland, 2004). As Efland explains,

*Certain subjects that require reason and logic, like math and theoretical physics, would be inconceivable without such symbols and the rules by which these are manipulated. By contrast it was assumed that the arts, which relied on sensory images, either did not employ this propositional thought or did so to a far lesser degree. The arts were despatched to the non-cognitive or affective domains with little or no reduction in the learner's cognitive capabilities. These noncognitive realms, which gave play to feelings and emotions, were often seen as inimical to the rational powers of thought.* (Efland, 2004, p.770)

Yet, as Eisner explains,

*Art provides the conditions for awakening to the world around us and in this sense, the arts provide a way of knowing...Learning to engage in a process is when perception is refined, imagination stimulated, judgement fostered, and technical skills developed and given the complexities of these demands it is ironic that the arts should be widely regarded as noncognitive.* (Eisner, 2002, p.15)

Fortunately, the current sense of the term cognition embraces all forms of thought including mental images obtained through perception, including all forms of sentience by which the human organism comes to know itself and its environment (Efland, 2004). Art includes the ‘most sophisticated forms of problem solving imaginable through the loftiest flights of the imagination and thinking, and in any of its manifestations, it is a cognitive event’ (Eisner, 2003 p.9). In addition to drawing, doodling (aimless or absent-minded mark making or sketching) has been recognised to promote cognitive functions as it activates your brain’s “unfocus” circuits, gives your “focus” circuits a break, and allows you to think more creatively and tirelessly solve a problem at hand (Andrade, 2009). In relation to children, doodling has been found to promote cognition in the improvement of children’s retention of facts and information and increase concentration (Chinchanchokchai, Duff & Wyer, 2011; Andrade 2010; Brown 2015; Chan, 2012).

Drawing can operate as a unique mental tool (Brooks, 2005) because drawing makes you think (Adams, 2017). At the artist Michael Moore at a symposium on the *Power and Value of Drawing* suggests, when drawing, people go on and forth between perception and conception, using one to augment the other (Moore, 2011). Moore explains,

*Talk, sketch, gesture, model. These cognitive artifacts, externalisations of thought, expand the mind. They enable thought, guide variations, allow play, discovery and invention.* (Moore, 2011)



Drawing can foster problem solving skills and innovative thinking (Winner and Hetland, 2000; Jolley & Kali, 2013). It has ‘an inherent quality of expedience and clarity’ (Esber, in Kantrowitz, Brew & Fava, 2011, p.115), and ‘requires a core, rather than a peripheral, cognitive ability’ (Cohn 2012, p.188). It is a process that, in common with writing and mathematics and other forms of notation, is driven by a need to both construct and reconstruct multi-dimensional events as readable two-dimensional matter’ (Farthing in Kantrowitz et al, 2011). In addition, drawing promotes *tacit knowledge* - the flexible and dynamic realm of knowledge, (van Sommers, 1984) which is hidden, invisible to the eye of the practitioner but foundational *of* and *for* their practice, as something that exists at the level of the subconscious: an unspoken, silent and subjective form of knowledge, embedded in the practice (Blythe et al., 2013). It is here, however, where the line between the tangible and intangible becomes blurred.

References to esoteric, holistic realms of the subconscious or ‘romantic visions’ appear to be widely recognised as a fundamental element of drawing practice: learning to *see* (Ruskin 1856-1857); the *magic* and *surprise* of art education (Eisner, 2002); the disablement of the logical Right side of the brain and engagement with the creative Left side (Edwards, 1993); a *liminal state* between the conscious (supraliminal) and unconscious (subliminal) (Petherbridge, 1991); the *immanence* or ‘*thisness*’ of art education (Atkinson, 2017); the *thinking-feeling* aspect of experience (Massumi, 2011) and *poiesis* referring to a process of appearing, a coming into presence, a movement from non-being into being, from concealment into full view (Agamben 1999). It is this personal, subjective, intangible and unquantifiable element of drawing that keeps the drawing discourse categorised in the rationalist-defined non-academic domain (Riley, 2004, 2001). This could explain why drawing lacks status and remains relatively underutilised and undervalued in education. Yet, this esoteric element of drawing may have potential benefits to not only to children’s engagement with the *process of* drawing, but to children’s cognitive and emotional development and consequently their learning.

Moreover, drawing is ‘a cognitive activity that stretches across many and diverse subject domains’ (Burton, 2011, p.4). As Adam’s (2013) points out ‘drawing is not just a practical skill but is an intellectual activity with a much broader compass that can be used to foster learning in a range of disciplines, not only art or design. Drawing is a learning strategy that can be used in any subject area ‘(p.10). Petherbridge (2010) argues that,

*Drawing (both as act and artefact) does not solely relate to the art world, but belongs equally to engineering, architecture and design, to science, philosophy, to literature, to music, to every possible area of creative and communicative endeavour that involves making and thinking, and to every person who picks up a pencil (or indeed a computer mouse) to sketch out an idea. It is a universally ubiquitous means for generating and critiquing ideas and forms for investigating the world.* (Petherbridge, 2010, p.17)

A *Thinking Through Drawing* symposia (Katrowitz et al., 2011/2012) positions practitioners, theorists and researchers of drawing in parallel, and demonstrates that cognitive scientists’ research findings are often in sync with practitioners’ intuitive and sometimes poetic assertions about the nature and purpose of drawing. Brew, Kantrowitz & Fava (2012) highlight new opportunities involving artists and art educators in scientific enquiry and raise questions about the potential of tacit forms of knowing that drawing offers. Wright (2019) found that in the medical professional drawings are regularly used to teach complex anatomical structures and surgical procedures or as a means of recording and explaining while Professor Mark Trieb (2008) notes that in architectural practice,

*‘We think and we record thought using drawings; we propose and we test ideas and designs; we adjust and create. At some point – and this is one of the miracles of drawing – the image begins to tell us more than we have projected into it; new or unrecognised relationships or ideas emerge that stimulate further creativity’.*

(Trieb, 2008, p15)

In the psychological domains, researchers recognise the therapeutic and psychological benefits of art and drawing for children with emotional difficulties (de Botton & Armstrong 2013, Hill; Malchiodi, 2007; 1945, Kramer, 1958; Naumburg, 1941). In terms of emotional expression (De Petrillo & Winner, 2005) drawing can serve as a non-verbal means for children to express their emotions. Through the use of colours, symbols, and imagery, children can convey their feelings and experiences visually. Drawing has also been shown to promote children's emotional regulation (Brecht, Laroie & Luminet, 2020; Drake and Winner, 2013). For example, personality traits like perfectionism, often in gifted students, has been shown to have a negative impact on children's drawing (Basak 2009; Stornelli et al., 2009) and drawing activities can provide children with a creative outlet and serve as a form of self-soothing which helps children to process and cope with challenging or overwhelming emotions. Drawing helps to elevate mood in children through distraction by expressing something unrelated to the negative feelings (Zimmer-Gembeck & Skinner, 2012) although research has found that this is dependent on the types of drawing tasks children engage with (Drake and Winner, 2013). In art therapy, assessment and diagnosis (Malchiodi, 2011, 2007; Cohen, Hammer & Singer, 1988) drawing has been widely used as 'a medium through which feelings and ideas can be expressed and as a tool to convey information' (Hickman, 2008 p.21). In therapeutic situations drawing can promote the lowering of energy, which enables the patient to illicit or talk about the unconscious and giving it visual form as 'often the hands will solve a mystery that the intellect has struggled with in vain' (Jung, 1972 p. 180). As a result, researchers have now advocated for the positive emotional benefits of the arts in education (Eisner, 2002). Some researchers have put forward a case to incorporate drawing, as part of the curriculum, to provide therapeutic and psychological benefits especially for those children experiencing Social, Emotional, Mental, and Health (SEMH) difficulties (de Botton & Armstrong 2013; Malchiodi, 2007; Kramer, 1958; Naumburg, 1941).

According to Eisner (2002), art promotes observation. It invites children to pay attention to their environments, to expressive features and to the products of their imagination and to craft something so that it expresses or evokes an emotional ‘feelingful’ response to it (Eisner, 2002 p.23). The arts ‘invite the development of a disposition to tolerate ambiguity, to explore what is uncertain, to exercise judgement free from prescriptive rules and procedures’ (Eisner, 2002 p.10) and when promoted ‘the child’s sensibilities are refined, distinctions are made more subtle, the imagination is stimulated, and skill areas developed to give form feeling’ (p.23). Engaging in the arts promotes children’s independence of thinking which leads to the promotion of autonomy over what they are learning. As Eisner explains,

*In the arts, the locus of evaluation is internal, and the so-called subjective side of ourselves has an opportunity to be utilized. In a sense, work in the arts enables us to stop looking over our shoulder and to direct our attention inward to what we believe or feel. Such a disposition is at the root of the development of individual autonomy.*  
(Eisner, 2002, p.10)

From the artistic perspective ‘every artist draws as a visual way of thinking and feeling or exploring both their interior and exterior worlds’ (Goodman, 2019, p.11). As Eisner (2002) explains,

*To be able to create a form of experience that can be regarded as aesthetic requires a mind that animates our imaginative capacities and that promotes our ability to undergo emotionally pervaded experience.*  
(Eisner, 2002, p.xii)

By observing and listening to children engaged drawing, this study aims to understand and enable children’s exploration of their interior and exterior worlds.

## ***Children's Engagement and Disengagement with Drawing***

Drawing engagement refers to a child's active participation in the drawing process (Dyson 1993). Prothero (1977) defined drawing engagement as "the extent to which a child is involved in the drawing process." She identified three components of drawing engagement:

- Attention: The child's ability to focus on the drawing task.
- Effort: The child's willingness to put forth effort in the drawing task.
- Enjoyment: The child's experience of pleasure or satisfaction in the drawing task

However, Dyson (1993) argues that drawing engagement is not simply a matter of attention or effort, but also involves the child's ability to make choices, to experiment, and to take risks. It can be observed through a child's enthusiasm, focus, and willingness to invest time and effort in their drawing tasks. Meanwhile, Einarsdottir & Dockett (2009) defines drawing engagement as "the child's active involvement in the drawing process, which is characterized by concentration, enjoyment, and a sense of purpose." They argue that drawing engagement is a complex phenomenon that is influenced by a number of factors, including the child's age, personality, and experiences.

Many factors contribute to children's engagement in drawing including intrinsic motivation, task persistence, emotional expression, creativity and imagination, personal significance and interactivity and motivation. Intrinsic motivation refers to a child's internal drive and enjoyment while drawing. When children are intrinsically motivated, they draw for the sheer pleasure (Matthews 1999) and interest in the activity itself, rather than for external rewards or pressures (Winner & Hetland, 2000). Drawing engagement can be measured by the child's ability to stay focused and committed to the drawing task, even when faced with challenges or distractions (Winner & Gardner, 1981). Children's drawing engagement may also be related to their willingness to express emotions and feelings through their artwork. Engaged drawing

often involves a genuine emotional investment in the creation process (Cangelosi, 1993; Kellogg, 1983). Drawing engagement can involve the child's curiosity and exploration of different drawing materials, techniques, and styles (Winner & Gardner, 1981) and it allows children to tap into their creativity and imagination, exploring new ideas and visual representations (Winner & Gardner, 1981).

Within educational research, it has been widely accepted that most young children enjoy drawing (Bromley & Turner, 2019; Dove, Everett & Preece, 2010) and children have a natural inclination for the activity of drawing (Lowenfeld and Brittain, 1975; Lowenfeld, 1957; Goodenough, 1926; Spencer, 1911). Children draw without any encouragement (Pestalozzi in Kelly, 2011, p.25) and whilst children's enjoyment of drawing has been shown to be influenced by their age, their drawing skills, and the context in which they are drawing (Desrochers & Cousineau, 2004) children take a positive disposition to drawing activities (Anning & Ring, 2004).

Despite this, researchers in children's drawing have long recognised that children's drawing engagement declines with age (Jolley 2010; Matthews, 2003; Davis 1997a&b; Cox, 1989; Gardner, 1980; Sully, 1896; Lowenfeld, 1947) and there exists what Milbraith and Trautner (2008) call 'the artistic slump' amongst middle school children and adolescents (see also Jolley, 2010; Davis, 1997; Atkinson, 1991; Paine, 1984; Luquet 1927/2001). Gardner and Winner (1982) formulated a U-curved theory of graphic development which posits that while the visual artwork of young children and mature artists seem to share certain important features: authenticity, directness, formal inventiveness, and expressive force - in between these two endpoints is the poor aesthetic performance typical of late childhood and early adolescence. However, this theory has been contested because of its so-called Modernist bias in favour of abstract expressive work (Wilson & Wilson, 1981; Duncum, 1986; Korzenik 1995) and others,

who surveyed the opinions of children and report that the decline may not be as prevalent as first thought (Rose, Jolley, & Burkitt, 2006; Burkitt, Jolley & Rose, 2010).

Research also suggests that the age at which children's drawing engagement or self-efficacy declines is in dispute. Sully (1896) suggests that at a certain age the child is concerned, not with linear description but with a symbolic explanation and at a very young age children represent on their paper what they know to be there rather than what is in front of their eyes. As a result, intelligence gets in the way of artistic vision (Kelly, 2004, p.79). Luquet (1927/2001) noted that many children stop drawing between 10 and 12 years of age. During this period the child's intentions are frustrated Luquet (1927/2001) and they experience what Luquet calls "synthetic incapacity" whereby the child has difficulty in organising, arranging and orienting elements of drawing. This is combined with children's lack of motor skills and poor attention span and by not paying close attention to what he is doing leads to them overlooking certain essential details.

Cizek (1904) recognised an almost complete halt in creative growth in children at about fourteen years of age when the child experiences an awakening intellect and becomes hypercritical of their work, which he called 'the great ceasura' (Viola, 1936, p. 89). Nevertheless, various reasons have been offered to explain the decline in children's graphic development, enjoyment of drawing and their drawing self-efficacy, that is, children's belief in themselves as proficient drawers or artists. The reasons include **children's attitudes** (Burkitt et al., 2010; Rose et al., 2006; Lowenfeld, 1947), **teachers' attitudes** (Burkitt et al., 2010; Jolley, 2010; Cox and Watts, 2007; Anning, 2004; Clement, 1994), **parental attitudes** (Burkitt et al., 2010; Anning, 2004), and **whole school attitudes** to drawing (Nicol & Taplin, 2012; Woods, Ashley & Woods, 2005; Jünemann & Weitmann, 1977).

Lowenfeld (1947) saw the free expression of children in artistic media as necessary for the healthy growth of the individual. Emotional or mental disturbance results when children are thwarted, either by a loss of self-confidence or by the imposition of adult concepts of so-called 'good' art. Lowenfeld (1947) also identified two expressive types of individuals that arise with the onset of adolescence. The first is the *haptic type*, which is primarily concerned with bodily sensations and subjective experiences in which individuals are emotionally involved. By contrast, the *visual type* usually approaches the world from the standpoint of appearances. Such students feel more like spectators than participants. Lowenfeld (1947) suggested that each creative type needed a different instructional approach.

Drawing has been recognised to evoke an emotional response which may explain why some people love it, why most young children enjoy drawing. Or alternatively, why some children begin to fear it. Artist Ishbel Myerscough (2019) describes drawing as emotionally 'scary' and an activity during which the drawer will inevitably ask themselves questions: 'Will it go wrong? Will it look like them? What will other people think?' (p.30). As the then HRH The Prince of Wales (now King Charles III) the Royal Founding Patron of the Royal Drawing school suggests, most people feel so emotionally close to their drawings that they are often embarrassed or ashamed of them. It is though they offer a direct window on their interior lives or their dreams – I often think that is why people say, "I can't draw" (HRH The Prince of Wales, 2019, preface). This is particularly relevant for the child with perfectionist traits who become anxious, fixated on detail and self-critical about drawing in the art classroom (Basak, 2009; Stornelli, 2009).

Edwards (1993) claims that the problems people have in drawing what they see are rooted in the strong tendency to substitute left-brained schema for right brained observation. Put simply people draw what they logically think something should look like rather than trust their observation of what they see. Cox, Cooke and Griffin (1995) noted that many children want



to be able to draw in a fairly realistic fashion by the age of nine years and they usually give up if they do not acquire this skill. Hobbs and Rush (1997) suggest that adolescents become less confident in their art making abilities and need special support from their teachers to continue to be involved with art as a subject to prevent a decline in engagement.

As explained earlier, people who engage in drawing make reference to experiencing variations on the theme of esoteric, holistic realms of the subconscious during their drawing practice which may be a contributing factor to children's disengagement with drawing. As Eisner (2002) explains,

*Representation can and often does begin with an elusive and sometime evanescent idea or image and there often involves the element of surprise – surprise is itself a source of satisfaction and delight. It is from surprise that we are most likely to learn something.*  
(Eisner, 2002, pp 6-8)

Describing drawing in these terms - elusive, evanescent with the element of surprise – aligns with the view of drawing as holistic, empirical, emotional, inscrutable and tacit in nature (Blythe et al., 2013) but becomes problematic when trying to define, measure or interpret for academic purposes. However, is it possible that this elusive, evanescent, inscrutable element of ambiguity within drawing could offer potential benefits and affordances to enable children to 'explore their own inner landscape' (Eisner, 2002, p.10).

Teacher's attitudes to drawing has been suggested as a reason for the decline in children's drawing engagement. A 2009 Ofsted report on art, craft and design in primary and secondary schools identified teacher confidence in the teaching of drawing as an issue in maintaining standards:

*Many of the primary school teachers surveyed lacked confidence in drawing. This detracted from their effectiveness as teachers and from their pupils' achievements. This*

*raises concerns about the limited professional development opportunities provided to help primary teachers overcome their fear of drawing.* (Ofsted, 2009, p.14)

Yet two recent reports: The *Art Research Review* (OFSTED, 2023) for Teachers and Leaders and *The Arts in Schools: Foundations for the Future* (Tambling and Bacon, 2023) imply that little has changed. The *Art Research Review* (OFSTED, 2023) makes reference to the Fabian Society report *Primary Colours* (Cooper, 2019) which reveals that two thirds (68%) of primary school teachers in England say there is less arts education now than in 2010, and half (49%) say the quality of what there is has got worse. Both OFSTED (2023) and Tambling and Bacon (2023) found a decline in the quantity and quality of art education at primary level which was suggested to be linked to subject knowledge, a decline in funding, and focus being placed on other subjects. All three reports emphasize the importance of teachers' attitudes in the quality of art education in schools recommending that schools should provide support to teachers in developing their confidence, enthusiasm, and knowledge of art.

Historically, various reasons have been offered for teachers' lack of confidence to teach drawing including art educators and researchers accepting the view that it is bad practice to teach children to draw (Lowenfeld, 1939; Cizek 1865-1946 in Kelly, 2004). As Matthews (2003) suggests the practice of teaching observational drawing skills to young children is problematic, maintaining that the process of learning to draw 'has to be both spontaneous and solitary' (p.110) whereby the teacher adopts a laissez faire perspective by seldom intervening while the child is drawing (Matthews, 2003), unless the interventions are made in matters of a practical nature (Anning, 1999; Brooks, 2002; Hall, 2010). Cox et al. (1995) suggest that many teachers are so concerned not to interfere that they treat children's artwork as sacred and feel that their pupils will be psychologically damaged if their work is criticised. As a result, the teacher's role has become one of provider of materials and ideas to draw (Cox et al., 1995) and

facilitator (Hargreaves and Galton, 1992) rather than active participant in the drawing process or one that seeks to promote children's drawing development. Whilst it is over three decades since Thistlewood (1992) highlighted that trainee teachers often receive only the briefest instruction in teaching drawing skills there is little evidence in the literature to suggest much has changed.

A further contributing factor to the decline in children's engagement with drawing is the increasingly peripheral role played by art and design with many primary schools under pressure to raise standards in literacy and numeracy (Herne, 2000). For this reason in their *Research Review Series: Art and Design*, OFSTED (2023) recognise the need to place drawing more firmly within the art and design curriculum and outline the drawing concepts that need to be taught:

*Concepts such as line, shape and form; the use of different media such as pencil, ink or pastels; technical terms and phrases, such as 'observational drawing,' 'outer edges' and 'where lines intersect', which help pupils to draw what they are seeing, rather than what they imagine they see; and drawing media other than pencils, brushes and pens, such as wire or string"*

(OFSTED, 2023)

OFSTED recommends that practice needs to be 'built in' to the curriculum to include, for example longer tasks that encourage them to draw on other forms of knowledge (OFSTED, 2023). This study explores many of these elements of drawing within and beyond art across the primary curriculum the findings of which may help enable teachers to utilise drawing more confidently in their teaching.

## The Value of Art Education

Going back to the origins of art education, Aristotle (4<sup>th</sup> century BC) believed that knowledge comes from experience and the purpose of school was to develop and exercise students' potential for reasoning, to form ethical character, and provide a skill and knowledge base (Burnet, 1967). Since then art education has been recognised for its value in understanding children's cognitive development (Brooks, 2005; Piaget, 1936), intellectual development (Hall, 2010; Matthews, 2003; Goodenough, 1926) and the promotion of cognition and meta-cognition (Eisner, 2002; Efland, 2002; van Sommers, 1984), memory (Iordanou, Allen & Warmelink, 2022; Meade & Fernandes, 2018; Cohn, 2012; Brooks, 2009), language and communication (Binder & Kind, 2017; Adams, 2013; Hall, 2010; Eisner, 1998; Gardner, 1980); observation (Wright 2010; Jolley, 2009; Carline, 1968; Cooke 1855; Ruskin 1856-1857); understanding the world around us (Thistlewood, 2002; Lindqvist, 2001; Pahl, 1999, Kress, 1997), scientific enquiry (Tytler et al., 2020; Carney, 2018; Katz, 2017) and engineering (Henderson, 2019). As Hickman (2008) points out,

*The arts are essentially areas of human experience that can provide new ways of seeing the world; it makes sense to harness the power of the arts as a vehicle for recording the human condition and as an endeavour that reveals new truths, to help explore educational experience, not only in the arts but in all areas of teaching and a learning.*

(Hickman, 2008 p.23)

This study focuses on the drawing element of art education to explore the educational experience in all areas of teaching and learning.

## Definitions of Drawing

One of the problems with defining drawing is that it has been understood in different ways across different disciplines throughout history. Drawing is both an activity (the verb: to draw) and a product of that activity (the noun: a drawing). The etymology of the verb draw dates back to an Old English (c1200) word *dragen* (originally German) meaning ‘to drag back, to pull’ as in carthorses and battle lines; ‘to pull a weapon’ and later (early 14c) ‘to draw a criminal’ (from the horse to a place of execution) (Barnhart, 1988). A recent dictionary definition defines drawing as ‘to produce an image of someone or something by making lines and marks on paper’ (OED, 2018), whilst art educationist Leslie Perry (1992) in his essay *Towards a Definition of Drawing* explains more expansively:

*It is making marks on a surface, with or without line, with or without colour, with or without black and white, with tools and selected surfaces or dispensing with them, with or without prior aim and purpose. It shades off, with no clear distinction, into painting, low relief carving, etching, computer graphics, and many other activities in science and engineering.* (Perry, 1992, p.167)

There is no one definitive way to draw, in the same way that there is no one way to sing, dance, paint, photograph, learn, communicate and so on. There are many skills and techniques within the process of drawing including outlining, shading, blending, sketching, measuring, stippling, contour drawing that indicate the way in which marks, lines and patterns are made. There are many approaches to drawing, for example tracing, copying, doodling, observational, technical, cartoon, comic, and graffiti; and a drawing might be described as anything from representational, technical, accurate, informative to expressive, suggestive, gestural, sensitive and so on. However, the approaches commonly used in primary education are tracing, copying, observational drawing, technical drawing and doodling (see glossary in Appendix I for a brief explanation of these types of drawing that explore the kinaesthetic nature of drawing

As previously explained, drawing plays a major role in art education and development, however more recently drawing has gained increased recognition for its educational value in development of subjects across the curriculum that promote Science, Technology, Engineering and Maths (STEM) learning; more recently referred to as S.T.E A.M. to include the arts. Drawing promotes scientific enquiry as it helps visualise and rationalise our thinking (Carney, 2018) particularly in the secondary education context where it has been found to play a significant role in improving pupil engagement, communication skills and students' ability to understand and reason about the scientific subject matter that they are learning (Carney, 2018;). Hubber, Tytler & Haslam (2010) also found that students who drew in their science lessons engaged more in class, discussed at a higher level, and performed better in their exercise books. Carney (2018) also highlights the benefits of drawing within professional practices and its ability to 'create rational thought' by considering the differences and similarities between the processes of science and drawing, and how observation, adaptation, collaboration, knowledge and serendipity play roles in the pursuit of both (p.6). It begs the question: how can drawing in the primary school setting help children to make their ideas visible (Brooks, 2005), create rational thought and promote all forms of communication including tacit forms of knowing, verbal articulation and visual representation of ideas?

In this enquiry, the drawing *process* is valued as being of equal importance to the *product* or outcome as I am keen to understand if the *process* of drawing across the curriculum provides insights into how children respond to, engage with, perceive, experience a variety of drawing. This includes the ways in which children observe, think, cognate, communicate when drawing and emotionally respond to drawing which could potentially impact their personal and educational development including their confidence and drawing self-efficacy. For the purpose of this thesis, my definition of drawing is: *the process and product of making visual representations, using a variety of media*. The act of drawing relates to a singular drawing

activity and the *process* of drawing refers to the undertaking of many drawing activities and exercises over time with a focus on engagement rather than solely the outcome.

As this research is new to children's drawing - exploring children's responses to, experiences and perceptions of, the *process* of drawing (Papendreu, 2014) across the curriculum at key stage 2 it has taken guidance from literature, previous research and UK wide drawing initiatives that promote learning through drawing across the primary curriculum (e.g. Brooks, 2002, Adams. 2002; Sedgewick, 2002; Hope, 2008;).

In her doctoral thesis, at the University of Alberta, Canada, entitled *Drawing to Learn*, Brooks (2002) conducted an ethnographic study with a Grade 1 class in which the children were encouraged to talk about, share, revise and revisit their drawings. Brooks found that the drawing processes extended the children's thinking, their awareness of different possibilities for representation and their drawing repertoire. Brooks found with grade 1 children that drawing allowed for thoughtful responses to experiences by engaging children with the subject in meaningful ways for longer periods. Drawing seemed to mediate between thought and action to support progressively complex ideas. It begged the question would there be the same response with key stage 2 children?

As part of the UK-wide drawing initiative entitled *Campaign for Drawing* (2002) Eileen Adams (2001) created the *Start Drawing!* initiative focused on drawing in nursery and primary schools stressing the importance of drawing activities to support learning in the early years 'to intensify experience, to reflect on it, to understand the world, to think and to do things' (Adams,

2002). It recommended that children in primary schools have personal notebooks, which can help children to observe, record, analyse, remember, reflect, organise, dream, fantasise, experiment, visualise and transform 'mistakes' into ideas for development (Adams, 2004).

Subsequently the *Power Drawing* (2002) research and development programme was created to promote drawing in educational institutions. It set out an approach for using drawing in general education as a medium for learning, to support the development of skills of perception, communication and invention whilst the *TEA* initiative (Adams, 2012-2013) was aimed at secondary education to promote drawing as thinking, expression and action.

Fred Sedgwick (2002) in his book *Enabling Children's Learning Through Drawing* has argued for the need for children to draw in subjects across the curriculum and to experiment with conventional and unconventional graphic tools because 'art teaches us to question everything-our own nature, the way the world works and our own relationships with the world' (p.10) To Sedgewick (1998) it is imperative that integrating art into all areas of the curriculum doesn't result in a watering-down of art into something purely decorative rather than a subject of central importance (p.63).

Gill Hope (2011), in a book entitled *Thinking and Learning through Drawing in Primary Classrooms*, provides a framework for drawing that accentuates the significance of playful drawing experience as it triggers the child's development of perceptive, emotive, cognitive and meta-cognitive skills (Hope, 2011). Depicting on manifold aspects from the developmental and social-constructivist theories of learning, Hope (2011) provides arguments for the biological, social and cultural significance of drawing and drawing as a process for the human being. Hope explores six dimensions of drawing that promote drawing as a process for learning and thinking including: 1) drawing to play; 2) drawing to mean; 3) drawing to feel; 4) drawing to see; 5)



drawing to know; and 6) drawing to design. Using these dimensions as guidance this study aims to emphasize drawing as a playful experience and, by extension, drawing as exploration.

The drawing intervention in this study is guided by the drawing elements outlined in these drawing recommendations and initiatives.

### **Listening to Children's Voices**

The pupil voice is children's right to express their views freely, including an entitlement to have these views heard, which in turn affects children's agency, a point at which their views translate into actions such as making decisions, influencing change, and providing evidence (Kellet, 2016). More effective listening cultures have led to an acceptance that children are experts on their own lives and capable of meaningful participation in matters that affect them. In relation to art, in their report *The Arts in Schools: Foundations for the Future*, Tambling and Bacon (2023) recommend the promotion of learner agency whereby children and young people should be active contributors to every part of school life with the voices of all children and young people contributing to the arts. This study explores the occurrence and nature of children's voices, their 'inner speech' and self-directed 'private speech' through their engagement with drawing (Vygotsky (1934, 1986).

### **Summary**

This chapter has outlined the conceptual framework and theoretical paradigms of social constructionist theory of learning in relation to drawing; children's drawing and language and communication; art, drawing and child development; and children's engagement and

disengagement with drawing that underpin and guide this research. It has examined the importance and value of art education and provided definitions of drawing and the drawing initiatives that guided and influenced the drawing intervention used in this research. It also outlined the importance of listening to children's voices which is at the heart of this study.

Gaps and weaknesses in the current literature have been identified that researchers have largely focussed on early years children's drawing development and the content analysis of children's drawing in relation to stage theories of development or aesthetic quality and maturity. There is little empirical research that focuses on the process drawing and drawing utilised as a tool for teaching and learning across the curriculum or drawing at key stage 2. This study attempts to addresses that gap using the methodologies outlined in Chapter Three.

## CHAPTER THREE – METHODOLOGY

The aim of this research is to explore children's responses to, and experiences and perceptions of, drawing activities in subjects across the primary curriculum at key stage 2 to gain further insight into links between drawing and children's language and communication, cognitive learning and emotional development and children's engagement with drawing. To gain a full picture it seeks both the children's views and the parental view on children's engagement with drawing.

The research takes an *Embedded mixed method* approach (Cresswell & Clark, 2007) as it allows for flexibility exploring the issue in question. The *Embedded mixed method* comprises observations including listening to children when drawing, children's questionnaires including requests for children's drawings of a familiar subjects, and a parent questionnaire, in order to explore the overarching research question:

**What are children's experiences and perceptions of daily drawing across the curriculum in a UK primary school?**

The subsidiary questions posed to address this question are:

- Q1. Drawing and Language and Communication: What and how do children communicate when engaged in different types of drawing?**
- Q2. Art, Drawing and Child Development: How do children experience and respond to daily drawing activities in subjects across the primary curriculum?**
- Q3. Engagement and Disengagement: In what ways does a daily drawing intervention impact children's engagement or disengagement with drawing.**
- Q4. Parental Perspective: What are parents' perceptions of the children's experiences of drawing across the curriculum?**

This chapter is organised by outlining the rationale for undertaking the research and justifying the choice of an *Embedded mixed method* approach to explore the research questions. A

description of the research design is presented including an outline of the context in which the research took place, a description of the participants and a detailed description of the six- month drawing intervention. This is followed by an outline of how the data were collected and analysed, the steps taken to ensure quality and rigour in the study, the ethical considerations and limitations of the study and a concluding summary of the chapter.

### **Paradigm Rationale**

All research starts from a philosophical paradigm that is dependent on the researcher's ontological position - how they view reality - and their epistemological position – how that reality can be verified (Scotland, 2012). In social research this denotes how the researcher views what is real in, for example, people's behaviours, beliefs, actions, and responses and how that reality can be observed, measured, verified and subsequently interpreted and predicted (Cresswell, 2003).

Historically, there have been two paradigms for framing educational research – positivist and interpretive. A positivist paradigm holds the belief that 'knowledge about the social world can be obtained objectively: what we see and hear is straightforwardly perceived and recordable ...things of the social and psychological world can be observed, measured and studied scientifically' (Thomas 2013, p.74). The positivist approach often starts with a hypothesis and involves the analysis of quantitative data that can be presented in a quantifiable format and usually stems from an observation of a gap or anomaly in society or a situation (Collins, 2010). Inherent within positivist research is a belief that the researcher should seek truth without bias whilst acting objectively (Roni et al., 2020).

Interpretivists reject this view, seeking instead to understand the participant's subjective view of their human experience, recognising the individuality that each participant brings to the

research. Thus, seeking to view the world through a participant's eyes (to the extent that is possible) (Cohen et al., 2009), recognises that different people view the same or similar situations in different ways (Denzin & Lincoln, 2018), thereby adding a layer of richness to the data that positivist research cannot. A challenge to the interpretive approach is that it is viewed as more subjective as a result of individual interpretations of views and behaviours made by the researcher of the participants (Thomas, 2013). However, within the interpretivist paradigm, there is an inherent understanding that words, events and observations can have different meanings for each of us (Thomas, 2013) and researcher insight plays a significant role as it allows for the researcher to bring subjectivity to their role, particularly when the researcher is able to embrace their role and observe changes that take place during the research process (Patton, 2002)

## **Ontology**

Interpretive research involves a naturalistic approach ‘...attempting to make sense of or interpret phenomena in terms of the meanings people bring to them’ (Denzin & Lincoln, 2018, p. 10) in this case children's reality of drawing as part of learning. Naturalistic methodology involves examining situations through the participants' eyes in a natural setting. Rather than seeking to establish an objective truth, which is the concern of positivists, interpretivists recognise there may be multiple realities and are concerned with discovering ‘what people do in their everyday lives and what their actions mean to them’ (Erickson & Ransome Hales, 2018). The main research question in this study attempts to identify how children respond to, engage with, experience, perceive and communicate when drawing, and explore links to children's cognitive learning, emotional development and drawing self-efficacy. It was important, therefore, to provide a variety of drawing opportunities across the curriculum in the children's natural setting and context for them to respond to. By observing children's

behavioural and verbal responses to daily drawing activities as part of everyday learning, it is hoped to gain an insight into how children observe, articulate and communicate, share their ideas and understanding, cogitate, make cognate connections, problem solve, through drawing, and how they emotionally respond to drawing. In addition, it was decided to track changes to children's drawings of familiar subjects over time in order to gain evidence of children's engagement, observation, cognitive development and changes in drawing confidence and efficacy. Furthermore, by exploring parents' perceptions, beyond school, of children's responses to daily drawing across the curriculum we may gain a full picture of the affordances, of drawing on children's educational and emotional development and drawing engagement.

Since the UN Convention on the Rights of the Child (United Nations, 1989), there has been growing interest in the idea of focusing on students' voices in order to facilitate improvements in schools. Cook-Sather (2006) argues that “‘voice’ signals having a legitimate perspective and opinion, being present and taking part, and/or having an active role’ (p. 362). Furthermore, inspired by the Rose Review (2009) that (although shelved) recommends we give children more ownership of their learning it was necessary to explore drawing from, as much as possible, the children's perspective. For this reason, an interpretive approach was essential to the research design as it recognises that ‘children's actions, interactions, viewpoints and responses require understanding, interpreting and explaining from a subjective and empathetic perspective’ (Thomas, 2013, p.69) and ‘considers the children's perceptions and perspectives as fluid and elusive...that require interpretation’ (Thomas, 2013 p.68). It allows for developing knowledge of children's lived experience (Tangen, 2008).

It is human interactions and interpretations that underpin the interpretive paradigm. Humans are social beings and human action is always embedded in a range of social cultural, physical or virtual environments that considerably affect how any individual person may think, feel, act

or behave (Dörnyei and Ushioda, 2021). What is sought here is an in-depth insight into children's experiences and their multiple realities (Denzin & Giardini, 2010) of daily drawing in the natural setting of their everyday classroom, with their class teacher, and undertaking a pre-planned curriculum within their usual timetable.

Being a teacher and researcher in the children's natural setting, thereby observing the subjects in their natural setting (the classroom where they work and learn), allows for first-hand observation (Thomas 2018) of children's social behaviours as it occurs in the real world (Thomas, 2018). The children are able to react, behave and respond to the drawing activities in an authentic way. Being a teacher and researcher in the children's natural setting can be viewed as advantageous as it allows for the children to react, behave and respond to the drawing activities in a natural, authentic way (Clark 2011). Hearing children's voices is an important tool at the educational practitioner's disposal (Murray, 2019) and a teacher and researcher I am able to notice things that might never have encountered in a lab or an unnatural setting (Thomas, 2018). However, it is important to be aware of the socio-cultural influences on the children's drawing experience and thus an understanding of the contextual nature of my data is important and my own experiences are recognised within this study.

## **Epistemology**

There are three main epistemological stances that one can take: *objectivism* which argues that meaning and meaningful reality are both universal and value-free (Rand, 1990); *constructionism* that holds the view that all knowledge, and therefore all meaningful reality as such, is contingent on human practices, being constructed in and out of interaction between human beings and their world, and developed within an essentially social context (Crotty, 1998,

p. 42); and *subjectivism* that views all knowledge as merely subjective and that there is no external or objective truth. This research accords with the principles of constructionism in which the children's views and opinions are paramount and that knowledge is socially constructed between the researcher and participant, and between participant and participant.

Constructionism, in the context of learning and education, is based on the idea of reality as a product of one's own creation. Children begin to construct drawings from an early age as a form of exploration and communication and they are the pre-cursor to how children express themselves before they can speak and write (Petherbridge, 1991). Therefore, drawing is arguably a fundamentally constructionist form of learning that employs an 'internal construction where individuals assign meaning to experiences and ideas' (Savin-Baden & Howell-Major, 2013 p.63). Thus, provided with the opportunity, all children draw and provided with many and varied opportunities children have the potential to draw more independently, confidently, adeptly and with individual style.

Social Constructionism (see theoretical framework in chapter 2) emphasizes the collaborative nature of learning (Vygotsky, 1978), which informs our collective and individual understanding of the world. However, social constructionists believe it is impossible to separate learning from its social context; in this case the classroom and the teaching environment (see details of the context later). Crucial to this research is the intention to capture the reality or meaning of children's perspectives of, and responses to, daily drawing within their individual and collective experience as revealed through their drawing engagement, social interaction and verbal communication when drawing, through written responses to questionnaires and through a simple analysis of the children's drawings of familiar subjects over time. For this reason, a qualitative interpretative approach is required as it seeks to reveal individual attitudes and viewpoints, recognises the context of the study and allows for



flexibility, adaptability and the opportunity to collaborate with associated participants by including them as an active part of the research process (Thomas, 2013).

### **Research Design - Embedded Mixed Method**

Underpinned by an interpretivist paradigm, this study uses an *Embedded mixed method* approach (Creswell and Clark, 2007) where the primary collection of qualitative data is enhanced or supported by the collection of supplementary quantitative data. The aim is not to make generalisations (Yin, 2018) but to provide insight and represent the case (Stake, 2005).

To gain a complete picture of how children experience, respond to and perceive the use of daily drawing across the curriculum the following research methods have been used to collect data:

- observations of children's behaviours and listening to their verbal commentaries (including quantitative recording of silences and heightened chatter) when undertaking a six-month drawing intervention of daily drawing activities in subjects across the primary curriculum
- three child questionnaires comprising a combination of open-ended (qualitative) questioning and closed (quantitative) questioning. The child questionnaires included requests for children to draw subjects familiar to them (for both quantitative and interpretive qualitative analysis).
- a parent questionnaire comprising open-ended (qualitative) questioning.

Each of the sets of data collected were chosen to gain a full picture of how children respond to, experience, view and engage with drawing activities. Figure 4 below presents a diagram that demonstrates how the primary qualitative data is supplemented by the collection of quantitative data followed by numbered steps outlining the embedded design in more detail.

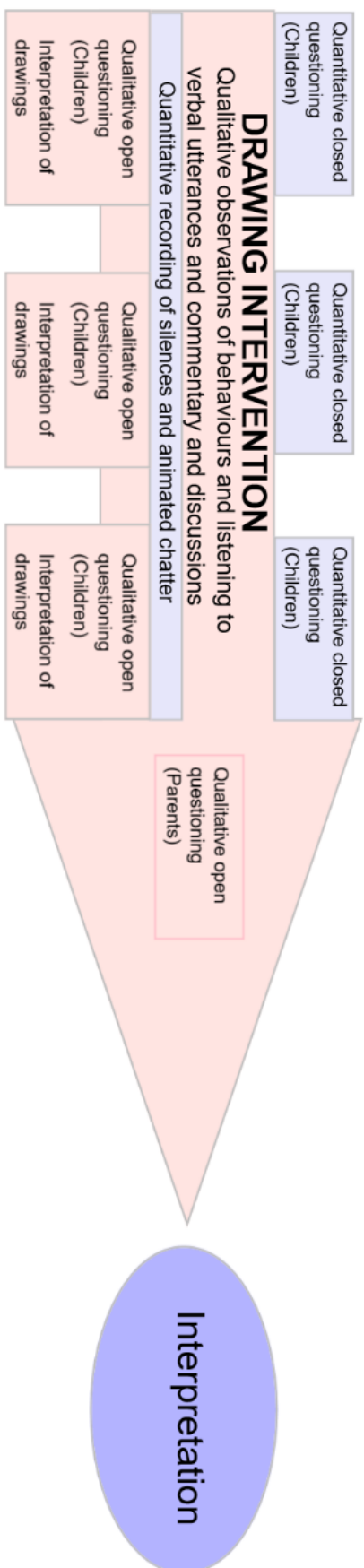


Figure 4. Embedded Mixed Method Design

1. At the start of the drawing intervention, prior to any new drawing activities, every child participant was presented with a questionnaire involving closed (quantitative) and open (qualitative) questioning. The intention was to gauge the children's initial views on drawing and engagement with drawing and collect information on outside influences (if any) on the children's drawing prior to the drawing intervention. In questionnaire 1 the children were asked to draw pictures of subjects familiar to them: a person, a tree, a building a chair and a flower. A combination of quantitative content analysis and qualitative interpretation of the drawings was made in order to track evidence of engagement with drawing and any changes in drawing efficacy over time. All 30 child participants undertook and completed questionnaire 1.
2. A six-month drawing intervention of daily drawing activities in all subjects across the across the curriculum was implemented. Observations of behaviours and listening to children's verbal utterances, comments and conversations were made during daily drawing activities. Quantitative recordings of silences and chatter were made during the drawing activities.
3. Halfway through the drawing intervention (after three months), a second children's questionnaire comprising closed (quantitative) and open (qualitative) was administered. The intention was to track any changes in the children's subjective views on drawing in response to engagement with daily drawing activities across the curriculum. The children were, again, asked to draw pictures of subjects familiar to them: a person, a tree, a building a chair and a flower for a combination of quantitative content analysis and qualitative interpretation of the drawings in order to track evidence of engagement with drawing and any changes in drawing efficacy over time. All 30 child participants undertook and completed questionnaire 2.
4. On completion of the six-month daily drawing intervention a third, children's questionnaire was administered comprising the same closed (quantitative) and open

(qualitative) questioning in questionnaires 1 & 2 to gauge any changes in the children's views and experience of drawing over time. All 30 child participants undertook and completed questionnaire 3.

5. On completion of the six-month drawing intervention a parent questionnaire comprised of open (qualitative) questioning was sent out to the parents of each child participant in order to gain insight into children's responses to and engagement with the drawing intervention beyond the classroom and from the parental perspective.

## **A Case Study**

Conducting a case study is an established approach to educational research such as this, as it involves an in-depth research into one, or a small set, of cases (Davies, 2007) and is the study of either a single student or a whole class (Stake, 2005), within a real-life context (Yin, 2018) in natural settings (Bassey, 1999). Thus, studying one cohort of students in a single class in their natural environment is appropriate for this kind of study.

In order to gain a full picture of the children's responses to, and experiences of, drawing activities across the curriculum, an *Embedded mixed method* approach (Creswell & Clark, 2007) was chosen as it allowed for the flexible collection and analysis of both quantitative and qualitative data to explore and examine children's perspectives on drawing from different angles including the parents' perspective. Mixed method research designs are often used where the phenomena under investigation is relatively new (Yu and Khazanchi, 2017) – in this case exploring the *process* of daily drawing across the curriculum at key stage 2 from the children's perspective. Mixed method designs also provide richer insights into phenomena of interest that cannot be fully understood using only quantitative or qualitative methods and address

research questions that call for real-life contextual understanding and multi-level perspectives (Venkatesh, Brown, & Sullivan, 2016). As Venkatesh et al. (2016) suggests a mixed method approach is particularly useful when researchers want to get “a holistic understanding of a phenomenon for which extant research is fragmented, inconclusive, and equivocal (p.36).”

A case study is of particular value when employing primarily qualitative methods of research because the close collaboration between the researcher and the participant/s enables people’s stories to be told (Crabtree and Miller, 2022) in this case children. In this study the “case” represents my class of 30 key stage 2 (year 3) pupils in a UK primary school. However, to gain a deeper understanding, five children were randomly selected from the class of 30, then recognised for any educational needs and closely tracked (these are outlined in greater detail later in the chapter).

Following recommendations outlined in an international project on Ethical Research Involving Children (ERIC), which focuses on refining research that respects the rights, dignity and well-being of children in research, it was important that all the children were treated equally, that the research was beneficial to the children. More specifically that the methodology allowed for maximum opportunity for every child to benefit from the drawing activities and were given opportunities to volunteer or contribute their views of their reality of the use of drawing as part of their education should they so choose. This would also enable me, the researcher, to better understand the children (Robottom & Hart, 1993) and how they engage with, respond to and benefit from drawing. It was also critical to recognise how my attitudes, values, beliefs, assumptions and practice shape the research experience for children.

## **Insider Research**

As a case study involving a class of children that I am employed to teach, this research is an example of insider research; an approach common in interpretive studies in education where researchers undertake studies in their own workplace involving colleagues or students (Trowler, 2016).

Insider research is useful for observing and listening to children in their everyday educational setting as it reduces disruption to the children's timetable and curriculum or the flow of social interaction. As a teacher researcher, I am by definition a participant observer with direct involvement with the children being studied on a frequent basis, providing access to children's lives (Harrington, 2002).

Advantages of insider research include the ease of access to the sample group, economic benefits, existing interpersonal relationships with opportunities to generate in-depth data, and insight into the culture and practices of the institution (Atkins and Wallace 2012). My role as teacher is integral to the children's school life and plays an active part in the planning. This is useful when implementing drawing activities across the curriculum. My familiarity with the children helped to provide knowledge regarding the issue (Smyth & Holian, 2008) including prior understanding of the children's educational needs.

Trowler (2016) suggests that insider research gives better access to naturalistic data and to respondents, in addition to enabling researchers to produce 'emic' accounts (ones meaningful to actors), especially using a participant observer approach. It allowed for the extraction of true data from the participants as they can relate well to me as their teacher (Bonner and Tolhurst, 2002). Defined by Comstock (2013), "interaction" in research includes any "occasion when the researcher and subject communicate" (p. 170) and there is a need for trust between

the researcher and the participant. In this case as their teacher, I had gained the students' trust several months prior to the research.

In this position, I could more easily administer the questionnaires and collect data in the form of on-going field notes on observations of non-verbal behaviours (facial expressions, mannerisms, gestures and reactions) and verbal responses (dialogue, conversations, comments and utterances, and silences) to drawing *in situ*. However, to ensure that the children's reactions and responses were child-led, as much as possible, I adopted more of an observer role, by standing back, making natural observations and documenting the children's non-verbal behaviours (body language, gestures and facial expressions) and verbal utterances, commentaries and conversations or silences.

Whilst capable of yielding rich data, insider research can also pose dangers and requires the open acknowledgement of subjectivity – such reflexivity is the hallmark of qualitative research. Openly addressing the presence of the researcher in the study represents transparency and should allow others to determine the researcher's impact, or otherwise, on the findings (Roth, 2013). My roles as art coordinator and head of creativity allowed for the opportunity to provide a wide range of drawing opportunities to be implemented into all subjects across the primary curriculum. As the children's teacher my role provided knowledge of the pre-existing planned curriculum, which enabled me to integrate drawing tasks seamlessly into existing timetable and lessons across the curriculum. My personal experience of drawing, and learning to draw, enabled me to recognise and understand the children's responses and experiences through the behaviours and verbal communications they demonstrated and shared, which is central to this study.

I also needed to consider that I could not view the children's reactions and responses with the freshness of an outside perspective. Although the children were engaging in drawing on a regular basis as part of everyday learning, our perspectives were different. I could not presume to know what it is like to have drawing as part of my primary education and therefore it is not a shared repertoire as may exist in some insider researcher studies (Floyd & Arthur, 2012). Therefore, there is merit in the suggestion that insider research exists on a continuum, rather than being a distinct position (Trowler, 2016) and my position varies when looking at my relationship to drawing and to the students. Being explicit about my position in this respect allows others to reach their own conclusions on such matters.

My relationship with the students as an insider researcher was also important in terms of bias. Although I was in a privileged position as the children's teacher, I had to be alert to the potential effects of bias, firstly, in terms of my enthusiasm for the subject of drawing and, secondly, the children's social desirability bias. As the children's teacher with a role as head of creativity and art co-ordinator there is the potential for the children to demonstrate socially desirable behaviours and responses to please their teacher instead of choosing responses that are reflective of their true feelings. (Grimm 2010). To address this issue the children were encouraged, from the outset, to draw in their own way and express their own opinion.

## **Research Context**

This study took place in a school that is larger than the average-sized mixed primary school with 480 children and a demographic that is fairly homogenous with the vast majority of community state schools across the UK. The school was chosen for its convenience because I



was an established teacher and art-coordinator at the school with prior knowledge of the art and drawing provision across the school. As the children's teacher I had control of implementation of the curriculum and could therefore undertake the research using a drawing intervention of drawing activities in all subjects with little disruption to the children's learning.

## **Research Sample**

Researchers in qualitative educational studies with primary school children recommend a sample group of between twenty and forty (Cresswell, 2007; Denzin and Lincoln, 1994). The participants in this study were my class of thirty, year 3 children (ages 7-8 years), in the school of my employment of eight years as full-time teacher, art co-ordinator and senior leader as head of creativity. The age group of 7-8 years is significant to drawing as it is just before the age when children are inclined to give up drawing (Gardner 1980; Luquet, 1927) or form fixed views on their inability to draw which was highlighted in a pilot study. The five case study children were chosen randomly to gain a cross-section of the class cohort.

Aligning with an interpretative qualitative paradigm the research was conducted in the children's school environment (their classroom, with their teacher, in their school) so that they would feel at ease when engaging with the drawing activities and offering their views as valued and respected contributions (Christenson, 2004). It allowed for an authentic and close interaction between the children and me as the teacher researcher. It also allowed for the inclusion of a variety of drawing activities including observational, teacher led step-by-step guided tasks, to more learner-centred (O'Sullivan, 2003) and experiential (Kolb, 2014), which from a constructivist perspective gives importance to activity, exploration and independent learning (Carlile & Jordan, 2005). In this study, by providing the children with drawing

opportunities then standing back to observe and listen to them as they engage with them, the children can make choices according to their needs during the process (Burnard, 1999), whereby the learner proceeds both affectively and cognitively (Eisner, 2002). The children are active in the learning process (Lea, Stephenson & Troy, 2003) during the research.

As mentioned, prior to the research, I had built a relationship of trust and mutual respect with the children that benefits a teacher. The children viewed me as a familiar figure in their educational setting, which meant that they should engage with and respond to the drawing activities in an authentic way. Logistically this was advantageous, as it allowed for the implementation of a drawing intervention of drawing lessons and activities to be evenly scattered across the sample group. The drawing activities could be filtered seamlessly into the curriculum and timetable with minimal disruption to the children's learning. Moreover, resources for the drawing activities could be quickly and conveniently acquired thereby reducing interruption to the timetable. In addition, as the children's teacher, I had readily available access to relevant special educational needs and disabilities (SEND) or social, emotional and mental health (SEMH) information on individual children along with parental views that would be required for the purpose of undertaking the research.

To gain a deeper insight into this cohort of 30 children, a further case study of five children (3 boys and 2 girls) were also selected 'to reflect the instances of their learning phenomenon, as part of a larger set of parallel instances'(Orum et al., 1991 p.2). These children, Will, Marcus, Millie, Mia and Dan (their names have been changed for ethical data protection purposes) were selected randomly and analysed for any special educational needs and disabilities (SEND) or teacher observations. Table 1 below shows an outline of the SEND needs and teacher observations of these five children.

<b>Five Study Children Educational Needs and Teacher Observations</b>	
<b>Name of Child</b> (name changed for GDPR)	<b>SEND and teacher observations</b>
<b>Will</b>	Registered on the SEND register and diagnosed with Dyspraxia and Tourette's Syndrome manifesting in poor fine motor including handwriting, poor gross motor skills and low self-esteem.
<b>Marcus</b>	Working at above age-related expectations (ARE) but displays elements of perfectionism and low self-esteem manifesting in outbursts of frustration e.g., crying, hitting his head or banging the table.
<b>Millie</b>	Working at above ARE but in class displays perfectionism manifesting in her crying when she feels she could do better at her work.
<b>Mia</b>	Registered on the SEND register as recognised for her global under development. She is working a well below ARE.
<b>Dan</b>	Currently being assessed for dyslexic tendencies. He is an anxious and a severely reluctant writer. He works at all times at a slow and methodical pace.

Table 1: Five case study children and their SEND needs and teacher observations

All five case study children were more closely examined as part of the class observations during drawing tasks and monitored for behaviours and verbal commentaries.

A review of the literature found no studies specifically relating to the intervention of daily drawing activities across the primary curriculum at key stage 2. Therefore, a pilot study was carried out prior to the drawing intervention being implemented.

### **A Pilot Study**

Prior to the implementation of the six-month drawing intervention with Year 3 children, a pilot study was carried out in the natural setting of the classroom within the normal conventions of the timetable, with my then current class of 30, Year 5 students (age 9-10 years). I was teaching

full-time, in the same school that participated in the final research. The purpose of the pilot study was to explore the following:

- the feasibility of integrating drawing tasks into all subjects across the curriculum
- different drawing techniques and activities to variety of skill, technique or observation
- the appropriate questioning for questionnaires
- the logistics of data collection of children's drawing behaviours and verbal commentaries during activities.

For the pilot study, drawing tasks were used wherever possible in a pre-existing planned year 5 curriculum and manual field notes were taken recording observations of children's behaviours and verbal utterances, reactions and comments on drawing tasks.

Questions about drawing were trialled with open and closed questioning with a view to yield data relating to the research questions. The scale of answer options in response to the closed questioning was also explored.

The manual notetaking of observations of children's behaviours and verbal commentaries in the pilot study was explored in order to ascertain the most feasible and effective ways to illicit children's behaviours and verbal responses.

### **Findings from the Pilot Study**

It was found that children in the pilot study, aged nine to ten, had very fixed opinions of their drawing ability, or lack thereof. The children were distinctly aware and vocal about who in the class was a "good drawer", and that it is often *that* child who engages most frequently with drawing, independently, suggesting that the desire to draw is linked to a child's positive perception of their drawing ability.

The pilot study allowed for the recognition of the feasibility of implementing a drawing intervention of drawing activities across the curriculum, including the collection of data. The pilot study highlighted that drawing activities can be easily integrated into all subjects across the curriculum and can provide both support and exploration of learning. Observations during the pilot study highlighted that different drawing activities engender different vocal responses from the children. For example, during some drawing activities the children were highly animated in their chatter and vocal utterances whilst during other drawing activities the whole class would fall quiet or silent for prolonged lengths of time. This piqued an interest in exploring any correlations between the occurrence of quiet periods or prolonged silences and inner speech or private speech, and any significant moments of chatter during drawing activities and any apparent emotional responses to drawing from the children during and following drawing activities.

Trialling questions in the pilot study provided an opportunity to gauge children's ability to respond to questions asked and to refine or modify research techniques (Thomas, 2009). Questioning the children about drawing, during the pilot study, indicated that, prior to my asking, the children had not been asked questions about their views on drawing. It also highlighted that many children of the age group being observed - 9 to 10 years (year 5) - held fixed beliefs on their ability or inability to draw. The children viewed themselves as either adept at drawing or lacking drawing ability and several children used the term "I can't draw" to clarify their lack of drawing self-efficacy. Furthermore, the children were vocal in recognising who in the class they deemed as 'the best' drawers – a term the children used. These insights provided further justification for research to promote children's sustained enthusiasm for drawing and the importance of teaching drawing to children, ages 7 to 8, before children have come to the decision that they "can't draw" and give up the practice of drawing for good.

The manual notetaking of observations of children's behaviours and verbal commentaries trialled in the pilot study allowed me to explore ways to view the children, and to identify how children communicate when drawing, ensuring that as many as possible of the children's views were recorded accurately. Taking manual notes of observations and verbal commentaries was shown to reduce any disruption to pre-planned lessons or interruption to the natural classroom setting. Furthermore, the manual note taking minimised any changes in the power dynamic between the teacher-as-researcher and the children. Whilst the children were aware that I was taking notes, they were engaged with the drawing activity and therefore were not focused on, or distracted by, the notetaking.

Thus, the pilot study allowed for the acquisition of informed knowledge of which methods would provide valuable and rich data for the case study (Thomas, 2011) including how to record observations of the children's behaviours and their verbal reactions to drawing activities. It also informed the design and length of child friendly questionnaires comprising closed and open-ended questions.

## **THE DRAWING INTERVENTION**

The drawing intervention took place over six months (February to July) using a variety of daily drawing activities in all subjects across the curriculum, within and beyond art and design. Knowledge gained from the pilot study and previous drawing recommendations and initiatives outlined in the literature review (Adams, 2013, 2002; Hope, 2008; Brooks, 2002; Sedgewick, 2002, 1993;) were used to implement drawing in all subjects to explore, develop, consolidate or support subject learning.

The types of drawing activities included the following:

**Doodling** – directed doodling (where the teacher sets a doodling task e.g., drawing random sized circles on a page and drawing lines across the page that circumvent the circles or drawing a series of wavy lines from the corner of the page) or self-directed doodling (where the child creates their own doodles).

**Freehand drawing** – drawing without instruction, devices or mechanical aids.

**Copying** -using an image as reference to replicate

**Step-by-step guided drawing** – teacher guides or directs students through each step, showing them with visual drawing demonstration and verbal guidance exactly where and how to make the next line or mark on their drawing.

**Tracing** – using tracing paper to replicate an image.

**Observational** – drawing from life: it involves looking at a subject and then making a representation of that subject through drawing.

**Exploratory and experimental drawing** – drawing that enables the drawer to explore the act of making marks on a surface, the sensory and physical actions of drawing and the medium being used.

In total, 143 drawing activities were incorporated into the learning on 90 consecutive school days in all subjects across the primary curriculum: Art and Design, English (fiction and non-fiction), Maths, Science, History, Geography, Music, Information Technology and Computing (ITC), Physical Education (PE), Personal Social and health Education (PSHE). Spare moments and whole class story times were also utilised for drawing and doodling activities. See Appendix I for an outline of the drawing skills, techniques and activities used throughout the drawing intervention and see Appendix X for a list of the daily drawing activities. The drawing activities were integrated into 78 pre-planned lessons, 24 whole class story time reading sessions, 31 morning work sessions, 24 whole class reading sessions and in 10 spare time sessions. The pre-planned lessons included Art (19) Science, including the topic of Space (19), Maths (8), English (6), History (5), Religious Education (4), Computing/IT (4), P.S.H.E (3) P.E. Games (3), Dance (2). Drawing was utilised for the exploration or practice of a variety of drawing techniques and approaches including observational, copying, freehand, tracing,

step-by-step guided and more experimental and exploratory drawing (see drawing task list in Appendix X).

The drawing intervention was integrated into the existing pre-planned year 3 primary curriculum, with little or no interruption to the timetable by making the four changes to my teaching practice:

- All photocopied sheet activities were replaced with a drawing activity.
- Drawing tasks were added to planned lessons that had direct links to learning objectives and cross-curricular links.
- Morning work time, ‘spare-few-minutes’ time and whole class reading time were utilised to develop drawing skills and techniques; tracing activities; doodling or to promote drawing from memory.
- Drawing activities were utilised in all new lesson planning.

A six-month time period was deemed a feasible time frame to demonstrate potential benefits of drawing to children’s educational learning and emotional development. Six months would allow for the multi-layered data collection to take shape and for the drawing to become a more natural element of the teaching and learning. It would also allow for the development of reflexivity, and an analysis and comparison of themes to develop over time. The intervention was restricted to six months to ensure that the children were not overwhelmed or saturated with drawing (especially if they did not enjoy it) and to keep it within the educational year timetable.

The class of participants were numbered from 1-30 (in register order) for administrative purposes and it allowed the researcher to maintain some objectivity and to avoid, to some degree, bias in the final analysis. It was not necessary to secure the children’s total anonymity, as the researcher and the children would observe each other children’s drawings throughout the drawing intervention.



The financial cost of the drawing was minimal as the resources were used from the school's art supplies, apart from the cost of new B (black) and H (hard) pencils which was minimal but necessary to introduce to the children the use of graphic medium and explore effective shading.

### **Introductory Discussion with Drawing Leaflet**

As recommended (Barker and Weller, 2003; Thomas et al., 1999; and Morgan et al., 2002), the drawing intervention was introduced and explained to the children with the help of an explanatory, child-friendly leaflet (see figures 5 and 6). This leaflet listed the types of drawing activities that were to be explored and enabled me to address any misconceptions about the intervention and reassure the children about drawing or the research. Only one child (case study child Dan) showed signs of apprehension which was usual for him when presented with an unfamiliar task. A copy of the leaflet was sent home to the parents of each participant for the children to share and discuss their ideas and to keep the parents fully informed of the drawing intervention.



Figure 5. Introductory Leaflet listing and featuring the drawing activities – 1



Figure 6. Introductory Leaflet listing and featuring the drawing activities – 2

All drawing tasks that were integrated into curriculum subjects were undertaken in the children's relevant subject exercise books. For example, drawings of cross-sections of plants were drawn in Science books; all features of History and Geography topics were drawn in topic books, and non-fiction labelled diagrams or illustrations of imaginary characters in narrative stories were undertaken in English books. In addition, each child was given an A4-size grey sketchbook with plain, white sheets which were used to document art and extra drawing sessions undertaken during spare moments. The children were also given a doodle book of folded and stapled pieces of A3 paper to doodle on during story time sessions.

## **DATA COLLECTION**

Data were collected over a period of six months, starting in February 2015, through observations of a drawing intervention of daily drawing activities in subjects across the curriculum; and through three child participant questionnaires, which included children's drawings of familiar subjects, and a parent questionnaire.

The methods of data collection were chosen based upon the findings of the pilot study and a critical evaluation of methods that would be suitable for exploring an understanding of how children communicate their thinking when, and through drawing and to understand children's and parents' perceptions of drawing in relation to their learning and emotional development. This included an initial consideration of methods that were unsuitable, such as interviews and focus groups, and the use of drawing tasks that were not compatible with the children's learning at this age. Each of the data collection methods will be examined in greater depth in the sections which follow.

## **Data from Observations**

The primary focus of this case study is a qualitative interpretation of the children's behavioural and verbal responses to drawing by 'watching, listening, reflecting and, engaging with the children' (Mayall, 2000, p. 1). The intention is to gain insight into how children respond to a variety of drawing activities across the curriculum and gain insight on the affordances of drawing on children's language and communication, pedagogical and cognitive, emotional development and children's drawing engagement. Using natural observations was chosen as it involves the use of all the senses (Flick, 2009) and takes place in the participants' natural environment and it would yield rich and authentic data on children's perceptions of drawing with minimal disruption to the children's everyday learning.

### *Data from Observing Children's Behaviours*

Field notes on the interpretation of children's behavioural engagement with drawing were recorded in a journal in chronological order of the drawing activities and included recordings of the date and nature of the drawing task (e.g., observational, exploratory, doodling), subject, length of task, time of day, drawing techniques, vocabulary, number of children, number of children engaged, prolonged silences and heightened chatter, children's behavioural responses, children's verbal comments were typed up at the end of each week throughout the drawing intervention (see Appendix X).

Observations were made on how engaged the children were in the different drawing tasks. During each drawing activity, the classroom would be scanned as the children were drawing in order to record behaviours of engagement and disengagement. Engagement would include attention, effort and enjoyment (Prothero (1977), concentration (Einarsdottir & Dockett, 2009), eye contact with the hand, eye contact with the pencil, eye contact with the paper (or alternative media), eye contact with the subject matter, noticeable concentration or focus on the detail of

the drawing or animated gestures and speed of drawing, making choices, to experiment, and taking risks (Dyson (1993). Disengagement would include a child putting down their drawing pencil, pen etc., looking away from the drawing task or the subject matter for sustained lengths of time or signs of their body language denoting detachment from the task (e.g., head rested on folded arms on the table), or alternative displacement activity. All forms of ‘disengagement’ were to be recorded in the form of a notation in the field notes and compared with individual responses to questionnaires. All nuanced behaviours including facial expressions, gestures, mannerisms and body language were recorded in field notes as they occurred or at the end of the lesson.

The recording of children’s behaviours was limited to what I, the researcher, noticed at any given time. It is therefore probable that not all significant data was recorded.

#### *Data from Listening to Children’s Verbal Communications*

It is through talking, as much as through looking, that children develop clarity and sensitivity and the importance of talk: describing, questioning, analysing, cannot be overemphasised (Clement, 1994). Equally, questioning is a key feature in drawing, just as it is in other areas (Perry, 1989). Thus, verbal data was recorded in field notes in the journal by observing and listening for children’s spontaneous utterances, comments, commentaries, conversations and questioning were recorded verbatim in the field notes journal (see Appendix X)

The recording of the children’s verbal commentaries proved challenging as I, the researcher, was limited to one part of the classroom at any given time. It is therefore probable that not all significant verbal data was recorded. However, every attempt was made to capture the essence of the children’s utterances and questioning when drawing and after drawing. Children’s verbal comments during follow up whole class discussions, were also recorded in the field

notes journal. To ensure authenticity during the group discussions it was important not to influence children's responses in any way by using 'leading' or 'loaded' questions (Kirby, Lanyon, Kronin, & Sinclair, 2003; Clark and Moss, 2001; Kirby, 1999). Therefore, the follow up class discussions were predominantly child-led or prompted by a generic open question: *What did you think of that drawing activity? What was it like drawing at high speed? How did you find drawing with your non-dominant hand? What was is like drawing with both hands? Did you enjoy tracing? What was it like to do upside down drawing? What was it like using both hands to draw with? Did it feel different drawing with a pencil on the end of a stick?* (see Appendix X).

As highlighted in the pilot study, different drawing activities prompted different verbal reactions – prolonged silences and significant moments of chatter - from the children. To record the silences, a mobile phone was set to stopwatch at the start of every drawing lesson and when an extended silence occurred it was timed and recorded in the field notes. The occurrence of prolonged silences and animated chatter during the drawing activities were recorded and added to the transcripts of behaviours and verbal commentaries (see Appendix X).

### **Data from Questionnaires**

Questionnaires were used to collect both quantitative and qualitative data from the children and qualitative data from the parents as they allow responses or opinions to be gleaned neutrally and objectively (Klein, 2003, p.72). A combination of closed (quantitative) and open (qualitative) questioning in the children's questionnaires was chosen to strengthen the potential to understand any quantitative changes in children's attitudes to drawing and to explore any insights that may be gained from the children's individual and personal responses to open ended questions about drawing.

The questionnaires were also used to collect examples of the children's drawings of subjects familiar to them and to track changes in the children's drawing engagement and drawing efficacy.

Open qualitative questions were chosen for the parent questionnaire to gain individual parental perspectives on the impact of daily drawing on their child's learning and development.

### *Child Questionnaires*

Three questionnaires were administered to every child participant throughout the six-month intervention: one at the start, one halfway through (after approximately three months) and one on completion of the drawing intervention (after six months).

The writing of questionnaires is crucial to ensuring that the questionnaires act as a successful research tool. There is little or no literature on the writing of questionnaires relating specifically to the research on children's views on drawing across the primary curriculum at key stage 2. For this reason, the children's questionnaires were formulated using guidance from the pilot study and recommendations to suit the cognitive, linguistic and social competence of this age group. It was important to be mindful that the children's cognitive, communicative and social skills are still developing, which may affect their ability to answer survey questions (Cynammon and Kulka, 2001) and that children may experience 'questionnaire fatigue' (Bucknall, 2012). Therefore, as recommended, time was spent on ensuring that the questionnaire format was child friendly (Clark, 2005), that there was a variety of types of questions (Cohen, et al 2011) and that the terminology was explained with importance placed upon the language used for each question to avoid ambiguity or misrepresentation (Bell, 2005). In developing the questionnaires, as recommended, the purpose of each question and what I aimed to achieve from each response (Thomas, 2009) was considered and by including several

types of question, I was able to gather a range of useful and comparative data (see Appendix II for a copy of a children's questionnaire).

The child questionnaires were drafted onto paper and numbered 1-30 in line with the number of child participants to allow for comparative analysis between each questionnaire and with the observations and verbal communications, and with the parent questionnaire.

Each child participant questionnaire was disseminated and undertaken in the children's classroom at the end of the day when the children are usually relaxed and comfortable (in non-curriculum time). The questions were completed as a class, in number order, with time allowed for any misunderstandings to be addressed. It was made clear throughout the questionnaires that if a child did not feel they could answer a question then they were to leave it blank. All 30 (100%) children completed all three questionnaires and only the researcher had access to the completed questionnaires. The advantage of using a questionnaire allowed for all 30 children to have access to the same questioning and to be able to give their own personal responses to the open-ended questions and provide drawings of familiar subjects that could be interpreted for changes in engagement with the drawing.

#### *Quantitative Data from Children's Questionnaires*

Quantitative closed questioning was used to gain quantifiable data on levels of children's initial interest in drawing, the frequency in their engagement with drawing, the types of drawing materials they had access to outside of school and what they liked to draw and any changes in children's interest in drawing, the importance of being good at drawing, the impact on their learning, drawing efficacy, handwriting and observations as a result of daily drawing activities across the curriculum.

In questionnaire 1 it was important to gain an understanding of the children's initial interest and engagement in drawing. The children were asked the following questions: *Do you like*



*drawing?* with the option to answer, *No, not at all; Not much; A bit; Quite a bit and Yes I love it* (numbers 0-4 were also provided for those children that found it easier to answer numerically); and *How often do you draw?* with the option to answer, *Never, Rarely, Occasionally, Once a day, Many times a day* (again with numbers from 0-4 for numerical simplicity).

In order to gain an understanding of any outside influences that may impact their drawing the children were asked, *Do you draw at home or somewhere out of school?* with the follow up question *If yes where?* This was followed up with an enquiry into the drawing materials and media that the children have access to with the question, *What sort of things do you have to draw with?* with the options of *Drawing pencils, Coloured pencils, Felt tips, Crayons, Paints, Drawing books Drawing paper* to choose from and the option to write *Anything else?* The children were also asked about any family members that influence their drawing with the question, *Is there someone in your family that draws with you?* with the option to answer *Yes* or *No* and the follow up questions *If you answered yes, who?* and *Do they teach you to draw?* with the option to answer *Yes* or *No*. This was then followed by the question *Do you know anyone in your family that does a lot of drawing for school for work?* With the follow up question *If yes who?* These questions would provide a clear picture of the children's outside influences on their drawing beyond school which may impact the findings.

To gain further insight into the children's engagement with drawing they were asked about the subjects they like to draw with the question, *Do you have a favourite subject that you like to draw?* with the follow up question *If yes what do you like to draw?* The children were then requested to *Please draw something that you like to draw.*

To explore the children's attitudes about being good at drawing they were asked *Do you think it is important to be good at drawing?* With the option to answer *Yes, No* or *Not sure*. The

children were also asked *Do you think anyone can be good at drawing?* with the option to answer *Yes, No* or *Not sure*.

To explore the children's views on the amount of drawing in schools the children were asked, *Do you think we should have more drawing in school or less drawing in school?* with the option to tick or circle *More Drawing* or *Less Drawing*. This was followed up with the question *If you circled more drawing in school what type of drawing would you like to do?*

To ascertain if the children recognised any benefits of drawing to help them with their learning they were asked, *Which subjects do you think drawing can help you, when learning them?* with the option to tick or circle one or more of the following: *Art, DT, Literacy, Maths Science, Geography, History* and *Other...*

To gain an understanding of if, or how, regular drawing lessons had an impact on the speed on their drawing, the children were asked in all three questionnaires *Do you like to draw quickly or slowly or on between?*

The quantitative, closed questions asked in questionnaire 1 were also asked in questionnaire 2 to explore changes in the children's engagement. Apart from, that is, questions enquiring about the children's outside influences on their drawing including family members that draw with children, teach them to draw or who undertake drawing as part of school or work. These questions were removed from questionnaire 2 as the data relating to home and outside influences on drawing had been collected in questionnaire 1 and were unlikely to change.

Additional questions were added to questionnaire 2 including an enquiry into the impact of three months of daily drawing lessons on the children's choice of drawing subject with the question, *Having had some drawing lessons has it changed the things that you draw?* with the option to tick or circle *Yes* or *No* and the follow up question *If yes, what do you now draw?* In

addition, an enquiry into the children's self-efficacy as a result of daily drawing with *Do you think you are any better at drawing?* with the option to tick or circle *Yes* or *No*

In order to track any changes in the children's views on drawing over six months, the quantitative, closed questions asked in questionnaire 1 and 2 were asked in questionnaire 3. However, in the latter part of the intervention the children were introduced to drawing that explored different scales - miniature and large scale, which prompted the children to be asked in questionnaire 3, *Do you like to draw...?* with the options to tick or circle *tiny*, *small*, *medium*, *big* *huge* or *all of the above* to gauge any impact on their drawing.

In addition, as the intervention progressed, I had noticed some changes in the children's handwriting and was interested to find out if the children had noticed any impact of drawing on their own handwriting and in questionnaire 3 asked them, *Do you think your handwriting has changed since you started drawing more at school?* with the option to tick or circle *Yes* or *No*.

### *Qualitative Data from Children's Questionnaires*

Qualitative questioning is a fruitful research method as respondents are invited to proffer opinions and make their own interpretation which affords rich insightful data. Qualitative open-ended questioning was used to collect children's opinions of, and responses to, drawing from across the range of participants. It was chosen particularly to gain insights from children who are reticent to engage in verbal commentaries, dialogue or voice their opinion when engaged in drawing activities or class discussion.

To ascertain the children's initial or changing views on the importance of drawing, in all three questionnaires as a follow up to the closed question *Do you think it is important to be good at drawing?* the children were asked *Why do you think it is important or not important to be good at drawing?* The concept of being *good* at drawing was left open for the children to interpret.

In questionnaires 2 and 3 (after three months and six months of daily drawing respectively), as follow up to an enquiry into the children's self-efficacy *Do you think you are any better at drawing?* the children were invited to express their views on their drawing ability by answering the questions *If yes in what way?* and *Having had some drawing lessons how has your drawing changed?*

In questionnaires 2 and 3 as a follow up to the question *Do you think we should have more drawing in school or less drawing in school?* with the option to tick or circle *More Drawing* or *Less Drawing* the children were invited to further explain their answer with the question, *Why do you think that?*

To find out if the children had recognised any links between drawing and learning, in questionnaire 3 as a follow up question to *Which subjects do you think drawing can help you, when learning them?* with the option to circle or tick Art, DT, Literacy, Maths Science, Geography, History, Other..... the children were asked the open question *How has drawing helped you learn?*

In questionnaire 3 to gain an insight into the children's awareness of any impact of drawing on their handwriting the children were asked *Do you think your handwriting has changed since you started drawing more at school?* with the option to tick or circle *Yes* or *No* and with the follow up question, *If yes, in what way?*

In questionnaire 3 to ascertain if the children were aware of any impact of drawing on their observation skills the children were asked *Do you think you observe things differently having done more drawing?*

The final question in all three questionnaires invited the children to share their individual views on drawing by being asked, *Do you have any thoughts on drawing that you would like to share?*

All thirty child participants (100%) completed all three questionnaires.

### *Qualitative Data from the Parent Questionnaire*

Whilst the primary focus of the research was on the children's behavioural and verbal responses to drawing, and their written perceptions of drawing, a parent questionnaire was sent out to the parent/carer of each child participant on completion of the drawing intervention (see Appendix III for a copy of a parent questionnaire). The intention was to ascertain the impact of the drawing intervention beyond the classroom and the parent's perceptions of the impact, if any, of the drawing intervention on their child's observation, articulation and drawing efficacy through the following qualitative open questions: *Have you noticed any changes in your child's attitude to drawing since the start of the drawing lessons? Have you noticed any changes in how they observe things? Have you noticed any changes in how they articulate themselves when drawing? Do you think your child's drawing has changed in any way? If yes, in what way? Has your child's favourite subject to draw changed since the start of the drawing lessons? Have you noticed any changes in your child's handwriting since they started drawing more at school?* and to glean parental views of drawing as part of learning through questions including *Do you think we should do more drawing in school or less drawing in school? Is it important for your child to be good at drawing? If so, why?* and *Do you have any thoughts about the drawing lessons that you would like to share?* A conscious decision was made not to allude to learning and emotional wellbeing in the questioning so that any responses referring to these domains would be unsolicited and 'authentic'.

Each parent questionnaire one was numbered 1-30 to correspond with the numbering of the child participant questionnaires. This allowed for comparative analysis between data from the parent/carer and the data from their child participant. The parent questionnaires were presented

in a paper format and sent home in corresponding numbered envelopes on completion of the drawing intervention. All thirty parents (100%) completed the questionnaire and returned them in the numbered envelopes.

## **Data from Children's Drawings**

### *Qualitative interpretation of children's drawings*

The focus of this study is on the children's experiences and engagement with drawing. An on-going qualitative interpretation of the children's drawing in subjects across the curriculum throughout the Drawing Intervention was made for their quality (from a teacher/art coordinator's viewpoint) in relation to the children's responses to their drawing outcomes.

These drawings were undertaken by the children and produced in subject-specific exercise books, in individual sketchbooks or on a variety of art papers and media.

### *Quantitative interpretation of children's drawings*

In order to gain an insight into the children's drawing engagement, confidence and drawing self-efficacy, data were collected on the children's drawings of familiar subjects. In all three questionnaires the children were asked to draw a person, a tree, a building, a chair and a flower.

The intention was not to use a quantitative content analysis of the drawings (Ivanova, 2021; Khzail, 2021; Hall, 2010; Anning & Ring, 2004; Cox, 2005; Anning, 2003; Hawkins, 2002; Malchiodi, 1998) and assess the outcome as measurement of intelligence as in the 'Draw A Figure' Test (Goodenough, 1926 and Harris 1963) but to use a primary teacher/art coordinator's basic criterion of art/drawing including detail, proportion and size, elements of three-dimension, occlusion and subject matter (further details are explained later in the section under data analysis). Any evidence of improved engagement, drawing efficacy, confidence in

drawing could then be correlated with the children's written responses in the questionnaires and triangulate with their parental view.

### Timeline of Data Collection and Analysis

A timeline of the data collection and analysis process is presented in Table 2 below which outlines the comparative and iterative process (Augustine, 2014; Merriam, 2014; Thornberg & Charmaz, 2014) of the data collection and analysis.

Timeline of Data Collection				
January 2015	Ethical permission gained from headteacher of school, child participants and parents			
02.02.15	Introduction to the research study with introductory leaflet			
Spring Term		<b>Daily observations of drawing in subjects across the curriculum</b>	<b>Child Questionnaires</b>	<b>Parent Questionnaires</b>
	February 2015	<p>First of daily drawing activities 03.02 2015</p> <p>Data from daily observations in daily drawing lessons, typed up colour coded and analysed: 06.02.15, 13.02.15, 20.02.15, 27.02.15</p> <p>Child comments relating to themes in research questions colour coded.</p>	<p><b>First Children's Questionnaire administered 02.02.2015</b></p> <p>Reponses to <b>quantitative</b> questions tallied, organised and analysed</p> <p>Reponses to <b>qualitative</b> questions tallied, organised and analysed</p> <p>Children's drawings analysed, tallied and organised and analysed. Interpreted for quality of engagement.</p>	

		<p align="center"><b>Half Term</b></p> <p>All data analysed for themes relating to research questions, anomalies and emergent themes.</p> <p><b>Comparative Analysis</b> A comparative analysis with children's written responses and qualitative questions compared to behavioural and verbal responses to daily drawing intervention and children's drawing outcomes.</p>		
	March 2015	Data from daily observations in daily drawing lessons typed up colour coded and analysed: 06.03.15, 13.03.15, 20.03.15, 27.03.15		
		<p align="center"><b>Easter Holidays</b></p> <p>Data analysed for themes relating to research questions, anomalies and emergent themes.</p> <p><b>Comparative Analysis</b> A comparative analysis with children's written responses and qualitative questions compared to behavioural and verbal responses to daily drawing intervention and children's drawing outcomes.</p>		
Summer Term	April 2015	Data from daily observations in daily drawing lessons typed up, colour coded and analysed: 17.04.15, 24.04.15	<p><b>Second Children's Questionnaire administered</b> 27.03.2015</p> <p>Reponses to <b>quantitative</b> questions tallied, organised and analysed</p> <p>Reponses to <b>qualitative</b> questions tallied, organised and analysed</p> <p>Children's drawings analysed, tallied and organised and analysed.</p>	



			Interpreted for quality of engagement.	
	May 2015	Data from daily observations in daily drawing lessons typed up, colour coded and analysed: 01.05.15, 08.05.15, 15.05.15		
		<p align="center"><b>Half Term</b></p> <p>All data analysed for themes relating to research questions, anomalies and emergent themes.</p> <p><b>Comparative Analysis</b> A comparative analysis with children's written responses and qualitative questions compared to behavioural and verbal responses to daily drawing intervention and children's drawing outcomes</p>		
	June 2015	Data from daily observations in daily drawing lessons typed up, colour coded and analysed: 05.06.15, 12.06.15, 19.06.15, 26.06.15		
	July 2015		<p><b>Third Children's Questionnaire administered:</b> 03.07.2015</p> <p>Reponses to <b>quantitative</b> questions tallied, organised and analysed</p> <p>Reponses to <b>qualitative</b> questions tallied, organised and analysed</p> <p>Children's drawings analysed, tallied and organised and analysed. Interpreted for quality of engagement.</p>	<p>Parent questionnaire sent out 03.07.2015</p> <p>Parent questionnaires Collected 17.07.2015</p>

				Reponses to <b>parent questionnnaire</b> read, typed up, colour coded, organised and analysed.
		<p style="text-align: center;"><b>Completion of Data Collection</b></p> <p>All data analysed for themes relating to research questions, anomalies and emergent themes typed up.</p> <p><b>Comparative Analysis</b></p> <p>A comparative analysis with children’s written responses and qualitative questions compared to behavioural and verbal responses to daily drawing intervention and the quantitative analysis ad qualitative interpretation of the children’s drawings.</p> <p>Responses to parent questionnaire compared to data from child responses to questionnaires and child’s behavioural and verbal responses to the drawing intervention.</p>		

Table 2: Timeline of data collection and analysis

Data collection began with the first child questionnaire administered on the first day of the drawing intervention. The qualitative data from the children’s written responses were typed up in question order and colour coded and organised into themes relating to the research questions plus emergent themes, immediately in order to get close to the data (Charmaz, 2014) and gain initial picture of landscape of the children’s initial experiences, views and opinions of drawing. Quantitative data from closed questions in the first child questionnaire were tallied manually and organised in question order into tables using Microsoft Excel and analysed for initial themes. The children’s drawings of familiar subjects (a person, a flower a tree a chair and a building) first child questionnaire were analysed, tallied and organised and analysed as a cohort to gain an understanding of children’s initial engagement and efficacy in drawing.

Data collection from the drawing intervention of daily drawing activities commenced on day two with an introductory leaflet. Field notes on each daily drawing activity (recordings of the

date and nature of the drawing task, subject, length of task, time of day, drawing techniques, vocabulary, number of children, number of children engaged, prolonged silences and heightened chatter, children's behavioural responses, children's verbal comments) were typed up at the end of each week throughout the drawing intervention to track the children's behaviour and verbal responses to the drawing tasks and highlight recurrent themes relating to the research questions and emergent themes. (See Appendix X)

The second child questionnaire was administered approximately halfway through the drawing intervention (after three months of daily drawing). The qualitative data from the children's written responses to the second child questionnaire were typed up in question order and colour coded and compared to responses in the first questionnaire immediately to gain a understanding of any consistent themes, emergent themes and changes in children's responses views opinions on drawing after three months of daily drawing across the curriculum. Quantitative data from the second child questionnaire were tallied manually and organised in question order into tables using Microsoft Excel analysed and compared to the data from the first questionnaire and with children's behavioural and verbal responses to the drawing intervention. Data from children's drawings of familiar subjects (a person, a flower a tree a chair and a building) in second questionnaire were interpreted, analysed, tallied and organised individually and then interpreted as a cohort and compared to drawings in first child questionnaire to gain an understanding of and changes children's engagement and efficacy in drawing after three months of daily drawing.

The third child questionnaire was administered on the final day of the six-month drawing intervention. Quantitative data from the third child questionnaire were tallied manually and organised in question order into tables and compared to the data from the first and second questionnaires and compared with the data from the children's behavioural and verbal

responses to the drawing intervention. The qualitative data from the children's written responses were typed up in question order and colour coded and compared to responses in the first and second questionnaires in order to gain a understanding of any consistent and recurrent themes, emergent themes and changes in children's views and opinions on drawing over time. The children's drawings of familiar subjects (a person, a flower a tree a chair and a building) in third questionnaire were analysed, tallied and organised and analysed as a cohort and compared to drawings in first and second child questionnaire to gain an understanding of any changes to children's engagement and efficacy in drawings after six months of daily drawing.

The parent questionnaire was sent out on the final day of the drawing intervention, and two weeks later. The qualitative data from the parent written responses to the questionnaire were typed up in question order and colour coded themes relating to the research questions and emergent themes.

The child questionnaires were then collated, by child, and re-read alongside the parent questionnaire of each child to ascertain any similarities, differences or anomalies between them and compared with the child's behavioural and verbal responses to the drawing intervention.

## **Data Analysis**

Data analysis reduces the rich, detailed data produced by qualitative research to generate clear explanations of the findings and make meaningful connections or identify patterns and themes emerging from the participants' experiences (Cohen et al., 2011). Meanwhile data analysis of quantitative data reduces quantifiable measurements of a phenomena and changes over time to numerical form or into graphs and charts (Cohen et al., 2011). Relevant to this study is

understanding both the individual and group experience, as well as discovering commonalities, differences and similarities, was important for understanding the case and making conclusions (Cohen et al., 2011). As the children's teacher I, the researcher, was in a position of trust, which imposed a responsibility to be faithful to how they responded and to the verbal comments they shared. Interpreting the data was done with care to avoid bias and avoid losing meaning so that the range of children's experiences were accurately portrayed. Here it is important to acknowledge the hermeneutic process involved, in other words, the requirement to interpret the students' own interpretations of their experiences (Giddens, 1976, as cited in Cohen et al., 2011).

### ***Analysis of Observations of Children's Drawing Behaviours***

Data analysis of the field notes on observations of the children's behaviours was an on-going process throughout the drawing intervention. For pragmatic reasons and to remain connected to the data (Charmaz, 2014) the field notes on observations of the children's drawing behaviours were personally transcribed onto a computer at the end of each week.

The transcripts were then analysed for recurrent non-verbal behaviours gestures and facial expressions to denote engagement and disengagement (explained above under data collection). This process provided familiarity with the data and recognition of recurring themes and themes of children's behavioural responses to drawing relating to the research questions.

### *Analysis of Children's Verbal Commentaries*

The field notes on the children's verbal utterances and commentaries were transcribed onto a computer and at the end of each week. Manually transcribing the observations and verbal commentaries was time-consuming, however, it enabled familiarity with the data and helped to gain insight incidental to the actual words spoken, an understanding of the manner in which the children vocalised their thoughts, the language children use when drawing and how they communicate with each other and themselves during and after drawing activities. In addition, it allowed for the recognition of patterns and relationships between drawing activities and the occurrence of heightened chatter and prolonged silences.

The children's commentaries and verbal utterances were scrutinised using a process of colour coding or 'focused coding' involving determining the 'adequacy and conceptual strength' (Charmaz, 2014a, p. 140) of the children's comments in relation to the themes in research questions, emerging themes and anomalies (Merriam, 2014). Reichertz (2014) described this as bringing order to the chaos of data. As transcripts can have multiple meanings revealed through multiple readings or interpretations, with meaning being particularly personable and context driven I was careful to code in such a way as to create meaningful categories (Cohen, et al., 2011). With the children's subjectivities central to the research this use of content (Charmaz 2014) and thematic analysis (TA) (Braun & Clarke, 2006) allowed for a rigorous interpretation of every child's experiences and recognise recurring themes that the children shared about drawing.

For coherence, the children's verbal responses to the drawing activities were arranged into recurrent and emergent themes including interest and enjoyment of drawing (red); cognitive thinking (using words '*know*' or '*think*') and questioning (blue); observation (using words

‘observe’, ‘see’, ‘look’, ‘notice’) (orange); emotional response to drawing (purple); drawing efficacy (turquoise); fine motor skills (pink); imagination and creativity (yellow) and comments relating to independence or autonomy in learning (green). These themes were then aligned with the written responses to children questionnaires. In addition, the utterances of fear or apprehension of a drawing task (grey); comments on the suspension or speeding up of time (lilac) and comments on drawing as a shared or collaborative experience (brown) emerged from observations of children drawing. Following is an indication, in more detail, of how the children’s comments were identified:

### *Language and Communication*

Verbal comments relating to **language acquisition and communication (green)**

- Communication with others
- Telling Stories
- Asking questions
- Problem solving
- Comments of talking to self

### *Emergent themes*

- Using technical or subject specific language
- Mimicking language

**Comments related to drawing as a shared or collaborative experience (brown)**

- Comments relating to taking turns when collaborating with others
- Recognition of drawing techniques in other children’s drawings
- Recognition of improvement in each other children’s drawings
- Comments on sharing ideas with others

### *Art, Drawing and Child Development*

Verbal comments related to **cognitive thinking (blue)**

- Comments containing the use of the words *know* or *think*
- Comments relating to problem solving
- Comments relating to decision making

*Emergent themes*

- Recognition of mathematical concepts - 3D shapes and geometry, fractions and percentages.
- Comments relating to relationships between things
- Comments relating to cross-curricular links

Verbal comments relating to **emotional response (purple)**

- Comments on how drawing makes you feel
- Comments relating to emotions (happy, calm)

*Emergent Themes*

- Comments relating to resilience in facing obstacles when drawing

Verbal comments relating to **drawing efficacy (turquoise)**

- Recognition of improvement in own drawing skills
- Comments related to improvement in confidence in drawing
- Recognition of techniques of drawing
- Comments on personal skills in drawing – line formation, shape, size, accuracy
- Recognition of mathematical concepts in drawing

Verbal comments relating **Fine Motor Skills (pink)**

- Comments about handwriting
- Comments about holding a pencil
- Comments about holding a paintbrush
- Comments about using the computer mouse more easily

Verbal comments relating to **observation of world around them (orange)**



- Use of the words relating to see, look, notice
- Comments using words connected to observation of shape, lines, details, shadows, spaces etc.
- Comments on observational skills relating to drawing tasks

### *Children's Engagement and Disengagement with Drawing*

Verbal comments relating to **interest and enjoyment (red)**,

- Verbal utterance reactions to drawing tasks expressing interest or using the word 'interesting', "like" or "love"
- Comments on the enjoyment of drawing often including the words 'fun', 'exciting'
- Utterances implying excitement and eagerness to draw e.g. "Oh good", "great", "cool" and "yes!"
- Demonstrating prior experiences
- Taking risks

#### *Emergent themes*

- Requests for more drawing

**Comments or utterances of fear or apprehension (grey)**

- Comments relating to "I can't" draw
- Emergent themes*
- Negative comments relating to the feasibility of the task

**Comments on the suspension or speeding up of time (lilac)**

- Comments relating to the absence of time
- Comments relating to the recognition of time speeding up

The colour coded verbal comments were then organised on the computer in relation to the themes relating to research questions. Sometimes an area of text could sustain more than one code and would be duplicated and organised under different themes.

All commentaries made by the five case study children were copied under the case notes for each child including their observations of behaviours.

The quantitative record of timings of silences and chatter during the drawing tasks were correlated with each type of drawing task and a process of comparative analysis (Cohen et al., 2011) between the behaviours and verbal commentaries was then made to explore any links or relationships between the children's verbal and emotional responses to drawing activities. The data from the verbal commentaries were correlated against the field notes on the observations of behaviours during drawing activities and read alongside and compared to the children's written responses to the questionnaires.

#### *Analysis of the Children's Questionnaires*

The children's questionnaires were analysed using mixed quantitative and qualitative methods (Cohen, et al., 2011). Similar to the analysis of the transcripts of the observations the use of content (Charmaz 2014) and thematic analysis (TA) (Braun & Clarke, 2006) allowed for a rigorous interpretation of every child's viewpoint and recognise recurring themes that the children shared about drawing and related to the research questions.

#### *Analysis of Qualitative Data from Children's Questionnaires*

The qualitative data from the three questionnaires collected through children's written responses to open questions were personally transcribed on to a word document on a computer in numerical order by question and then in child number order.

In qualitative research the analysis is often descriptive (Fallik and Francis, 2016) and thematic analysis offers flexibility to interpret the meaning of the data and consider the problem that

was being studied (Cavanagh, 1997; Hsieh and Shannon, 2005). Thus, the children's responses to open-ended questions were personally transcribed into a Word document on a computer and coloured coded (by changing the font colour) to highlight recurrent themes relating to the research questions and emergent and recurrent themes (see Appendix X).

For coherence, the children's written responses to the questionnaires were colour coded and organized in the themes that emerged from the observations: interest and enjoyment of drawing (red); language acquisition and communication (green); cognitive thinking (blue); observation (orange); emotional response to drawing (purple); drawing efficacy (turquoise); fine motor skills and handwriting (pink); fear or apprehension (grey) ; speeding up or suspension of time (lilac)- shared or collaborative experience (brown).

On completion of the drawing intervention the child questionnaires were organised into child numerical order. Every child's questionnaires 1, 2 & 3 were read to track changes in each child's individual views and experiences of the drawing intervention over time.

### ***Analysis of Quantitative Data from Children's Questionnaires***

The quantitative data from the closed questions in the children's questionnaires were viewed as 'statistics that describe' (Thomas, 2009) and refer to finding out how much the children enjoy drawing, how frequently the children engage in drawing outside school, the types of drawings they like to do, what drawing materials they have access to outside of school, outside influences on their drawing and their perception of the importance of drawing.

The quantitative data from the closed questions in questionnaire 1 were analysed manually using tally charts, in question order and then in child participant number order within each question. Responses to questions were mathematically calculated in terms of percentages of the cohort of 30 children. The quantitative data from the first questionnaire were entered analysed and formatted into readable visual representations (tables). Data from the first questionnaire provided valuable initial and background information about the children's enjoyment of drawing and exposure to drawing influences and materials. Significantly the results from the first questionnaire showed that a high percentage of children enjoyed drawing prior to the intervention. Therefore, rather than seek improvements in the children's enjoyment of drawing the intention was to track consistency or increase in enjoyment or negative changes in the children's views on drawing as a result of daily drawing activities in questionnaires 2 and 3.

### ***Qualitative Interpretation of Children's Drawings***

For this study the intention was to make primarily qualitative interpretations of the quality of the children's drawings and this was done in response to the children's behavioural responses to the different drawing task.

### ***Quantitative Analysis of Children's Drawings of Familiar Subjects***

However, in order to track the children's drawing engagement over time and compare it to changes in the children's drawing efficacy and self-efficacy over time a simple teacher's/art co-ordinator's quantitative content analysis of the mark making of the children's drawings (Hall, 2010, Cox 2005, Atkinson, 2009; Gardner 1980). The children's drawings of familiar

subjects familiar to them - a person, a flower a tree a chair and a building (undertaken in questionnaires 1, 2 & 3) were tallied against a basic set of primary teacher's criteria: detail, proportion and size, elements of three-dimension, occlusion and subject matter. It was felt that this would indicate a positive or negative engagement and improved drawing confidence and efficacy in the drawing tasks. For example, the features that I would look for to denote engagement would be the completion of the drawing of the familiar subjects and features to denote improved drawing confidence and efficacy include the following:

- Number of pencil marks or strokes (fewer, expected and more than required for the task)
- Purposeful pencils marks or strokes denoting shape or form
- Size of the drawing (relative to the task and paper given)
- Increased detail in the drawing for the task
- Original elements of detail in the drawing
- Elements of three-dimensional drawing
- Elements of occlusion
- Movement and expression in the brush strokes
- Movement and gestures in figure drawing
- Additional personal details indicating imagination

The tallied elements were organised into tables for each drawing of a familiar subject to give a picture of the children's engagement and drawing efficacy as a cohort.

The drawings of familiar subjects (a person, a flower a tree a chair and a building) were the organised by child, in questionnaire order to track changes in individual child's engagement and drawing efficacy over time.

### ***Analysis of Parent Questionnaires***

Qualitative written responses to the open-ended questions in the parent questionnaire were personally transcribed onto a computer in question order and read alongside the questionnaires

of their child. This allowed for a recognition of each child's engagement with the drawing activities beyond the classroom and themes concurrent with the children's responses to emerge or new themes to become apparent.

A comparative analysis (Cohen et al., 2011) between the field notes of observations and verbal utterances during the drawing intervention, the children's questionnaire responses, analysis children's drawings of familiar subjects, and the parent questionnaires was undertaken. A recursive process involving movement back and forth between the different sets of data (Charmaz 2014) was done to provide full and nuanced picture and interpretation of how children respond to, experience and perceive drawing across the curriculum and how children communicate their thinking through the drawing process.

Once the drawing intervention was complete, the data were organised in order to categorise it into broader units of meaning that related to the research questions. The strengths and limitations of using these methods are discussed below.

### **Quality Criteria**

As explained above, the rationale for using a mixed method approach was that a combination of sources of data would provide a full picture of children's responses to, experiences and perceptions of drawing which could not be generated by one method alone. Like all research, when using a mixed method approach there is a need to demonstrate the quality criteria that has been applied to the research (Sale & Brazil, 2004). This has been addressed in several ways. Firstly, the mixed methods have been tailored to explore the research questions (Bryman, 2006a) and explicit and transparent use of the methods is presented.

The goal of the quantitative data, derived from the closed questioning in the children's questionnaires, was to provide a sense of the degree to which children's views on, engagement with and enjoyment of drawing changes over time or is sustained as a result of daily drawing activities across the curriculum, which may indicate the importance of drawing to children's learning and development. The use of data derived from noting the occurrence of prolonged silences or significant levels of chatter during drawing activities was intended to explore evidence of the children's engagement with the drawing tasks and any insight into how the children cognitively engage, communicate and emotionally respond to drawing.

Employing observations on how the children responded to and engaged with the drawing activities, provided opportunities to observe and listen to the children's responses to and experiences of drawing in greater depth than would be possible in a more formal research scenario. For example, setting drawing tasks out of the context of the children's learning or conducting one-to-one interviews or focus group discussions may have disrupted the natural setting of their learning environment and produced inauthentic responses to drawing. Undertaking observations in the natural environment of the classroom enabled the children to engage with, to respond to and make natural and spontaneous verbal utterances and communications in response to drawing activities in an authentic manner.

The open-ended questions in the children's questionnaire provided the children with the opportunity to amplify their comments (Bryman, [2006b](#)), to express their individual views on drawing, to promote their voice and, in doing so, promote the children's agency in relation to their engagement with their learning and development. This qualitative data was then corroborated with the parents' observations of their child's engagement with drawing.

The qualitative data derived from the open-ended questions in the parent questionnaire provided further evidence of the children's engagement with, and responses to, drawing outside the school environment. It also provided parents with the opportunity to express their views and attitudes on drawing in relation to their child's learning and development.

When collecting and analysing qualitative data there is a need to be interpretively rigorous (Denvin and Lincoln 2011). Rigour refers to the quality and trustworthiness of the research and demonstrates the credibility and authenticity of qualitative research (Liamputtong, 2013). In qualitative research, credibility demonstrates that the realities constructed by participants have adequately been represented. In supporting the interpretations made in this research, quotations from participants were provided verbatim. As Baxter and Eyles (1997, p. 508) state, quotations are vital for "revealing how meanings are expressed in the respondents' own words". This was addressed by recording the children's behavioural responses as authentically as possible and recording all verbal communications verbatim. All transcripts of observations, verbal commentaries and written responses to the open-ended questions were interpreted and presented according to what was transcribed verbatim. The findings are presented according to the researcher's interpretation of the transcripts; however, it is the children's engagement with drawing, how they communicate what they are thinking when drawing and their authentic perceptions of drawing that are at the core of this research and which have been respected and presented honestly and transparently.

### **Subjectivity and Reflexivity**

An interpretive qualitative approach is by nature a reflective and recursive process (Ely, Anzul, Freidman, Garner, McCormack-Stenmetz, p.179) and the social constructionist approach places the researcher, the research process and product in social, historical, cultural, situational and interactive context (Charmaz, 2017). It acknowledges the researcher's subjectivity and



social and professional positions and calls for reflexivity about the process and one's own interpretations and decisions in the process and analysis of the research.

In this study I recognise how my own personal interest and enthusiasm for drawing and art and my qualification in art specialism will have impacted how the drawing intervention was constructed and delivered, which may have influenced the children's and parents' views and perceptions of drawing. However, care was taken to communicate and develop a co-constructed understanding of drawing with the children. I recognise that the meanings constructed are not static and permanent but situated within the specific context of the class I was teaching and school where the research was set.

Reflexivity is particularly important when engaging in research with children (Davis, 1998). As both the teacher and researcher, I recognise that I cannot be considered independent of the research process (Ely et al., 1991, p.126) as I share the social world of the child participants, I shapes the ways in which drawing was introduced to the children and I provided the opportunities for them to engage with and perceive drawing activities as part of their learning. The disadvantage is the risk that I could be seen as a figure of familiarity which could engender social desirability bias where the children simply respond with behaviours and verbal commentaries to please or impress their teacher.

I recognise that my interpretation of the children's behaviours, verbal utterances, questionnaire responses and drawings of familiar subjects are guided by prior and in-depth knowledge and understanding of the children in terms of their academic ability, special educational and emotional needs. An advantage of being a trusted and familiar adult (the children's teacher) in the children's lives, and their parents' lives, is that I needed no introduction prior to the research

and, essentially, I required little justification for undertaking the research. This, along with the positive endorsement of the head teacher, was, I suggest, an influential factor in 100% of the parents agreeing to their children's involvement in the research. In addition, the research could be undertaken in the children's natural setting and therefore responses and engagement were authentic to the implementation of drawing into their education.

Conversely, I needed to be aware that the children may not share my enthusiasm for drawing and I was aware of the potential that the children may behave out of character due to such a focus on drawing. I was further mindful that although the children may be in a natural context and carrying out every day educational activities, the drawing intervention might alter, to some degree, the usual dynamics of the classroom.

### **Power Relations**

An important consideration in this study was the power relations, previously touched upon, between researcher and the child participants. Brinkmann (2018) considered various ways in which the power imbalance in research is manifested such as the fact the researcher controls the research process – in this case the drawing intervention serves the researcher's purpose – and the researcher has a monopoly over interpretation of behaviours verbal commentaries, drawings and written responses.

As explained above, in this study the role of teacher as researcher allowed for the shift in the power balance in favour of the children taking more ownership of their learning. The intervention was implemented and conducted whereby the majority of the drawing tasks were the replacement of photocopied sheets or an extension of a pre-existing planned curriculum. However, during the drawing tasks the children were guided or left to engage independently

with minimum interaction and intervention from the researcher. Children's utterances, comments, commentaries and conversations were spontaneous or, as much as possible, child led. The aim at all times was to ensure that the children's voices, thought processes, views and engagements with drawing were brought to the fore.

## **Ethical Considerations**

Specific ethical procedures were approved by the University Research Ethics Committee (see Appendix IV) and all ethical procedures were designed to be accessible to children. Included within the British Educational Research Association guidelines lies the statement that researchers must 'seek to minimise the impact of their research on the normal working and workloads of participants' (BERA, 2011 p. 7). For this reason, the research took place in a class that I was responsible for, where I had access to all information on the educational needs of the children and where the drawing lessons could be interwoven seamlessly into an existing curriculum and timetable without or with minimal disruption.

As already indicated, from the outset, the children were informed of the nature of the research, its purpose, and exactly what would happen to them and their data (BERA, 2011). This was achieved through a class discussion and explanation of the research followed by a question-and-answer session. Each participant was also given a child-friendly information leaflet (see Appendix VIII) and a child-friendly consent form (see Appendix V), which was filled in following the introductory presentation. All 30 children signed the consent forms.

Prior to the research, parents and carers received a letter outlining the details of the research with an invitation for each one of them to discuss any misconceptions or apprehensions, or to simply find out more about the research (see Appendix VI). The parents also received a copy of the children's information leaflet, an accompanying consent form including a right to withdraw. All 30 parents signed the consent forms.

Permission was sought from the head teacher for the research to take place in the school and with the specified Year 3 class, the child participants and the parents (see Appendix VI). Throughout the research, the research supervisor and head teacher were informed of any evolving ethical considerations related to the research. The right to withdraw was set out clearly within all the aforementioned paperwork. This was reiterated at the start of all data-collection activities and it was respected throughout. All 30 children demonstrated a willingness to participate and it felt appropriate to consider the children's willingness to participate as assent, that is the children's acquiescence to participate rather than make a commitment to take part. However, throughout, I was mindful to detect any non-verbal signals or behaviour reflecting any discomfort or dissent on account of the child's agreement to participate being considered provisional (Percy-Smith and Thomas, 2010).

In terms of gaining consent from the parents, a benefit was offered by my study in that the drawing interventions support the current National Curriculum on learning. In fact, at the start of the research several parents expressed a keen interest in the study by asking questions and talking animatedly about their children's previous drawings. These observations suggest that the parents did not consider the process as intrusive or detrimental to their child's learning or that the children were going to have a negative experience from participating in the research.

To ensure confidentiality was maintained, all recorded field notes on observations and completed questionnaires were kept in a locked draw and any electronic data on a password-protected computer. As predicted by Alderson and Morrow (2011), some children actually wanted their work acknowledged and in the case of drawing, it is important that works of art are celebrated by displaying them on the wall. This is standard practice in school life and did not impinge on the confidentiality of the research, however the drawings themselves were respected in the same manner as any other personal data (Malchiodi, 1998).

### **Limitations of the Study**

The timescale of six months proved to be sufficient time to implement drawing across the curriculum and gain an insight into how children think and express themselves when drawing and in response to drawing and for parents to observe any affordances of drawing on their child's educational or emotional development. However, a longitudinal study of drawing over the course of a primary school career would potentially provide understanding of the long-term impact of drawing on children's learning and development and engagement in drawing.

The use of observations proved to be an effective method for gaining insights into how children engage with daily drawing in everyday learning and how children cognitively and emotionally respond to drawing activities. However, refining the field notes of the observation and the children's verbal commentaries proved challenging, particularly with regard to gaining a full picture of how all 30 children were responding. Using cameras and audio devices may have captured more data, however, the manual notetaking of observations was deemed to be effective, and more conducive to the natural setting for the children.

I recognise that my personal interest in drawing as an art specialist and my passion and enthusiasm for the subject will have permeated my teaching and may therefore have had an impact on the children's positive engagement with this research. It will also have influenced the way in which I carried out the guided drawing activities. I realise that not all class teachers may have the same enthusiasm for, and confidence in, this practical way of working and so a similar 'drawing intervention' success cannot be guaranteed. However, the drawing intervention is easily transferable to all age groups and primary educational settings, as the school setting was a typical educational environment. This allows for the study to be replicated across the UK which strengthens the validity and generalizability of the results.

## **Summary**

This chapter sets out the research questions investigated and established how the study was designed, data was collected and how it was analysed. The rationale for adopting the methods used was established; issues related to the trustworthiness of the data discussed and my presence as the researcher acknowledged. Finally, the ethical issues considered when designing and undertaking the study were outlined. In the following chapters, the data gathered from the questionnaires, observations of behaviours and verbal commentaries and the children's drawings will be analysed and the results presented.

## **CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION – SUBSIDIARY**

### **QUESTION 1 relating to Drawing, Language and Communication: What and how do children communicate when engaged in different types of drawing?**

As outlined, the main purpose of this study is to explore children's experiences of, and their behavioural and verbal responses to, and engagement with, a drawing intervention of daily drawing activities in all subjects across the primary curriculum at key stage 2. The aim is to shed light on the links between drawing and children's language and communication, cognition and emotional development. It also aims to explore the affordances of regular drawing on children's drawing engagement, confidence and drawing self-efficacy by asking the question: **What are children's responses to, experiences and perceptions of daily drawing across the curriculum in a UK primary school?**

The data analysis method, described in chapter 3, underpins the analysis and discussion of the findings presented in the following four chapters which aim to answer the research questions. Qualitative and quantitative data are analysed below each sub-research question. Findings are presented thematically in response to specific sub-research questions and are supported by data extracts in the order of observations, verbal utterances and commentaries, child questionnaires and parent questionnaires.

This chapter focuses on the first of the study's sub-research question relating to drawing and **Language and Communication: What and how do children communicate when engaged in different types of drawing?**

This sub-research question concerns the insights gained into the ways in which children communicate with each other when drawing and the benefits of drawing on children's language acquisition and development.

Significant to this research was exploring the dialogical nature of drawing (Vygotsky, 1962; Brooks, 2003) by listening to children as they engage in different types of drawing activities to and in order to shed light on the ways in which drawing promotes language acquisition and communication development.

It was observed throughout the six-month drawing intervention that the children in this study communicate with each other in different ways when drawing and have markedly different verbal responses to response to different drawing activities.

When observational drawing the children were observed to communicate with themselves (Brooks, 2009; Hope, 2008; Kress 2003; Edwards, 1993; Foreman, 1993) and overheard to express their observations and thoughts “out loud” in whispered tones. These were often expressed in a ‘running commentary’ style of expression whereby the children appeared to be ‘talking at’ their peers with a stream of conscious observations rather than in a two-way reciprocal form of conversation. This aligns with Vygotsky’s (1934/1986) observation that children engage in self-talk or ‘private speech’ Vygotsky (1934/1986) when engaged in intermediate difficulty tasks, in this case observational drawing. Interestingly, the children working close by were often overheard to respond to the original ‘talking at’ vocalisations by repeating the original observation in agreement whilst maintaining a focus on their own drawing as an acknowledgement of their own observations. These articulations of observations were conducted as a vocalisation of agreed observations. In this way, the children’s self-talk or ‘private speech’ Vygotsky (1934/1986) gives weight to the importance of drawing in the social constructionist theory of learning (Vygotsky, 1962, 1978; Bruner, 1986; Brooks, 2003) as it not only makes ideas visible and accessible, capable of being shared and manipulated (Adams, 2014) it provides a mechanism for the consolidation of children’s experiences, language practice and the promotion of dialogue as an important tool for learning leading a



child to self-regulation, communication with the self and verbal thinking (Vygotsky, 1962, 1978)

In contrast, when engaged in more open ended, free-flowing exploratory and experimental drawing, for example, high-speed portrait drawing, contour drawing, bi-lateral (two-handed) drawing, the children were observed and overheard to communicate both with themselves as self-talk or 'private speech' and with others (Brooks, 2009; Hope, 2008; Kress 2003; Edwards, 1993; Foreman, 1993) through the articulation of their observations, questioning, sharing ideas, problem solving (Jolley & Kali, 2013; Eisner 2003) and recognition of drawing challenges at heightened levels of volume (explained in more detail in chapter five).

When undertaking familiar drawing tasks, for example, morning work memory recall tasks, tracing, copying and colouring in, the children were overheard to engage in general chatter about everyday subjects unrelated to the drawing task which could be argued as the promotion of children's language development and communication (Binder & Kind, 2017; Adams, 2011 & 2013; Hall, 2010; Eisner, 1998a; Hubbard, 1989; Gardner, 1980).

Interestingly, the children were rarely overheard to engaged in impromptu storytelling through drawing (Irwin and Winton, 2021; Davis and Miller 2020; Cox, 2005; Reese, Cox, Harte and McNally, 2003) apart from during unstructured play times. The most likely reason for this is the nature of the drawing activities being task based, directed or integral to the teaching and learning in subjects across the curriculum with specific and focused instructions. However, during tasks involving the creation of storyboards of a particular story, drawing was shown to be beneficial to the children's storytelling skills (Irwin and Winton, 2022) and narrative development (Davis and Miller, 2021). For example, creating a storyboard of The Legend of Buddha in Religious Education and a story map of Theseus and the Minotaur in English/IT

drawing provided the children with the visual representation of their ideas to support their written work. It provided a sequence and structure for the children to refer to (Irwin and Winton, 2022) which supported the development of their narrative writing skills.

When working on collaborative drawing tasks, for example, during Science when drawing each other shadows outside the classroom on large pieces of paper, the children were overheard to negotiate the taking turns of drawing each other children's outlines and discussing the scientific understanding of shadow formation when waiting for the sun to appear from behind the clouds. This aligns with recognition that collaborate drawing can be an effective tool for communication (Brew et. al., 2012) and for promoting scientific enquiry (Carney, 2018, Katz, 2017).

The most significant from observing and listening to children drawing occurred during the step-by-step guided drawing tasks which were used as a learning tool to create accurate labelled diagrams in History, Geography, Science and English. During these step-by-step guided drawing activities, the children were overheard to mimic the language and vocabulary used in the guided instructional demonstration. For example, during an English lesson when exploring a familiar character's personality (Roald Dahl's character Matilda) with effective adjectives, the children were given specific instructions on how to draw Matilda in a given order(see figure 7 below).

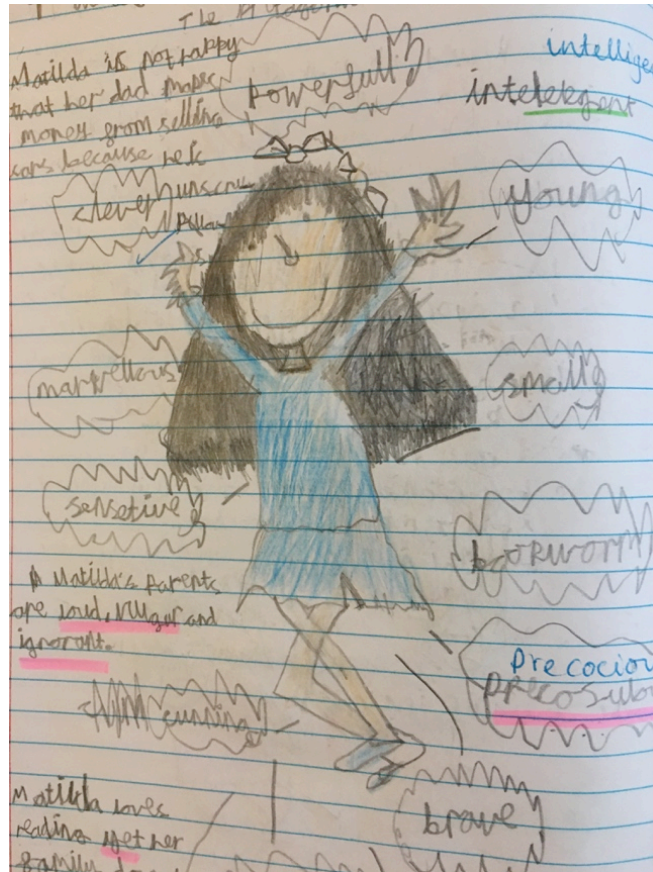


Figure 7. Example of guided step-by-step drawing of Roald Dahl's Matilda

The children were overheard to mimic the following (children's comments in italics) in a 'running commentary style as they were drawing:

Head... *"head...straight brown hair"*

Eyes, just dots... *"dot dot"*

Big smile like a U... *"big smile like a U"*

Nose straight line down and a u at the bottom... *"nose straight line down and a u at the bottom"*

Dress... *"dress"*

Spikey fingers... *"spikey fingers"*

Flat blue shoes and white ankle socks... *"flat blue shoes"*

The children's mimetic response occurred during every step-by-step guided drawing of a labelled diagram task which highlights how receptive children are to vocabulary and language being introduced to them through step-by-step guided drawing instruction. Moreover, the children were overheard to repeat the subject specific language to themselves as they were drawing each feature.

The children's mimicry of vocabulary and language used in the step-by-step guided instructional demonstrations, plus the repetition of the same vocabulary and language used when drawing the character, appeared to enable the children to embed the vocabulary and language, consolidate their understanding and share their thoughts. In this case about the character of Matilda. For example, as the children were drawing, they were overheard to express their ideas and the vocabulary they were to use to describe her in their writing including:

*"Matilda is clever and a good reader"*

*"Matilda is intelligent"*

*"Matilda is wiser than her parents because she reads books"*

*"She is sensible"*

*"I'm drawing some books next to her"*

*"She reads a lot"*

*"She likes reading"*

More importantly, the act of drawing was shown to promote vocabulary and language acquisition for all the children but was of particular benefit to the lower ability children that

struggled with using effective vocabulary. Those children were able to hear, listen to, absorb and learn relevant vocabulary and language from the articulations and discussions that occurred during the drawing activity. This resulted in every child, including the academically-less-able children, to successfully label their drawings of Matilda with effective adjectives (see fig 89 as an example).

The children's mimetic behaviour was observed during every step-by-step guided drawing task, for example, drawing a cross section of a volcano or rock formations in Science (see Appendix X for examples). Moreover, during the follow-up whole class discussions at the end of the tasks the academically-less-able were observed to be more inclined to volunteer ideas that they had overheard from more articulate members of the class when drawing, using subject specific, scientific or technical language. It was observed that the children in this study, mimicked the instructions, verbalised their graphic representations and shared their ideas to other children who would hear, listen, absorb and respond to what was being spoken, discussed and articulated around them when engaged in drawing. In this way, children engage in vocabulary and language acquisition and development in a four-fold multisensory process:

1. Firstly, the children receive subject-specific, factual, technical, observational, aesthetic or descriptive vocabulary and language visually and auditorily via the visual and verbal instructions during the guided demonstration (see page 149 for further explanation and examples).
2. Secondly, the children mimic the instructional vocabulary and language, to themselves and to others around them, when drawing. This consolidates and embeds the language and the children's mimicry of the vocabulary and language enables the children to receive the vocabulary and language, auditorily, multiple times.
3. Thirdly, the children use and apply the new vocabulary and language within commentaries and discussion when drawing.

4. Fourthly the children consolidate the vocabulary and language through the of sharing the drawing experience and drawing outcomes.

### ***Multisensory Framework of Drawing***

If speech is viewed as a mediating system that expresses what Vygotsky (1962) calls ‘the rational, intentional conveying of experience’ then the element of auditory reception and interpretation of that speech, inherent in hearing and listening when drawing, also needs to be considered. This finding builds on Ruskin’s concept of *seeing*, Vygotsky’s concept of *Verbal Thought* (1962) and Brook’s concept of *Visual Thought* (2002) to conceptualise a multisensory framework of drawing which combines the connection between senses of seeing, haptic touch speech, auditory hearing and verbal communication when drawing. Below I have created a diagram that illustrates this new multisensory framework of drawing that recognises the visual, verbal, haptic or kinaesthetic and auditory elements of drawing that I would argue leads to the promotion of thought, meaning, knowledge and understanding (see figure 8).

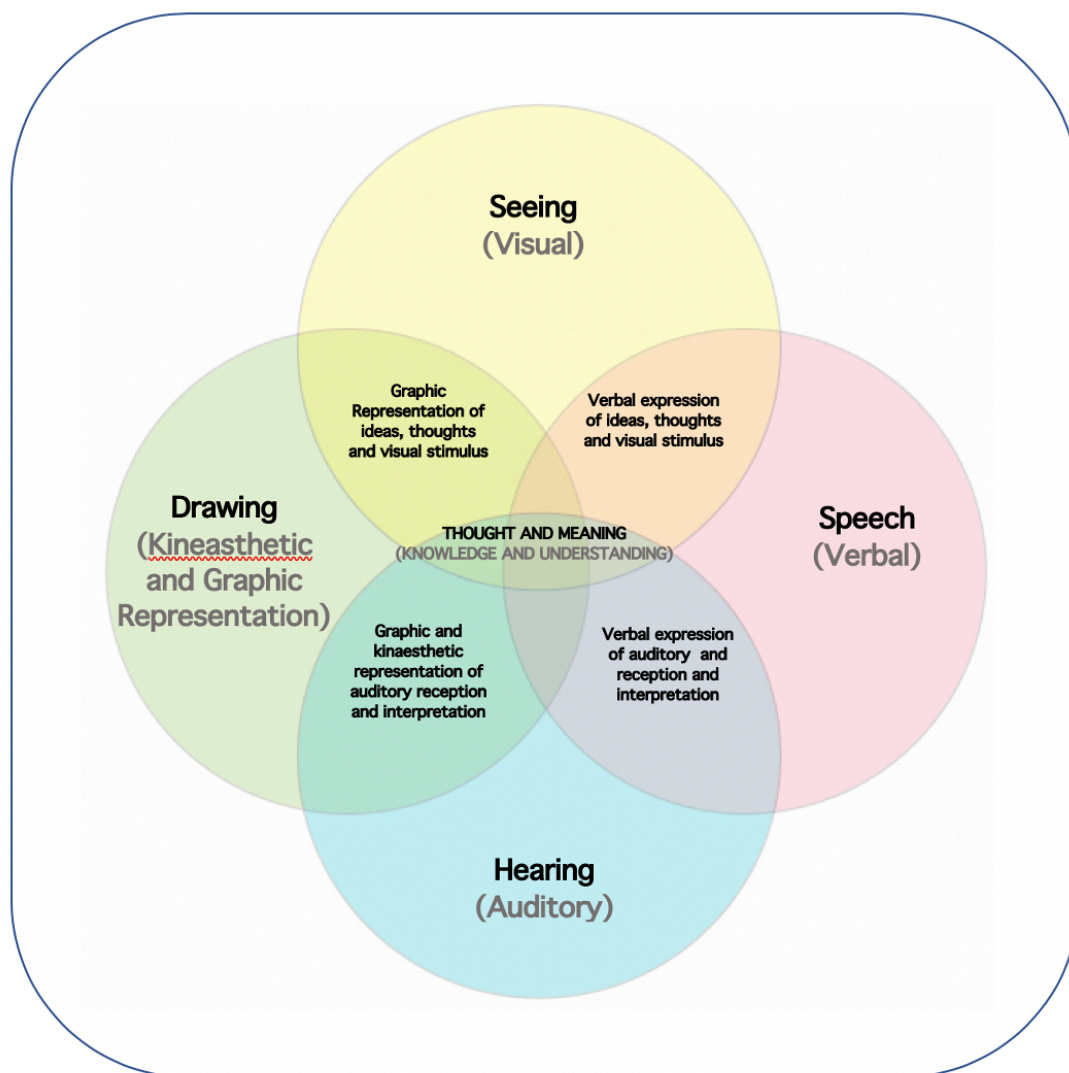


Figure 8. A Multisensory Drawing Framework (Visual, Verbal, Kinaesthetic/Haptic, Auditory,)

This framework bridges the *interpersonal*, where new mental processes exist first in shared contexts incorporating ‘private’ and ‘public’ speech and collaborative conversations before they are internalized via ‘inner’ speech, to the *intrapersonal* where new knowledge is internalized, absorbed and the dialogue continues at a metacognitive level (Vygotsky, 1962).

Observations of children engaged in step-by-step guided drawing tasks highlight the nature of drawing as not only multimodal (Hall, 2009; Hope, 2008; Wright, 2007; Matthews, 2003) but multisensory (Brew, 2015; Vygotsky 1978; Richardson 1948; Lowenfeld, 1939; Ruskin, 1856-1857). When engaged in drawing children not only employ the senses of sight, haptic touch

and speech but also the auditory sense of hearing. This finding provides empirical evidence that drawing is dialectical in nature (Vygotsky, 1962) and a communicative tool (Farokhi & Hashemi, 2011; Callaghan, 2005) that promotes language acquisition a (Brooks, 2009; Eisner, 2002) and language development and communication (Binder & Kind, 2017; Adams, 2011& 2013; Brooks, 2009; 2005 Hall, 2007) and drawing can improve the communication process (Pappendrou, 2007). This supports the view of drawing as a dynamic process in a socio/cultural/historical context and gives weight drawing's place in the social learning theory (Bruner, 1996).

In contrast to drawing being dialectical in nature (Vygotsky, 1962) the findings from this study also support the view of drawing as tacit in nature (Fava, 2011). For example, when doodling the children engaged in very minimal talking although doodling was invariably undertaken during whole class story time. More significantly, when engaged in observational drawing the children were observed to fall into silent focused concentration and on several occasions the children experienced prolonged periods of silence whilst producing successful drawing outcomes (according to the children). Without exception, during every observational drawing activity the children demonstrated high levels of concentration and communicated their observations in whispered tones at a low volume level. On several occasions, the children fell silent for extended periods of time, with no prompting or coercion. The longest silences occurring during the following observational drawing tasks:

2'00" silence drawing butterflies and beetles (Science)

2' 01" silence drawing the Roman Colosseum (History)

2'13" silence drawing botanical flowers (Science)

2' 13" silence upside down drawing (Art)

2' 36" silence drawing portraits of peers (Art)

3'23" silence drawing shoes (Art)



For example, during an observational drawing lesson when the children were tasked to draw their own shoes, as part of a P.S.H.E lesson on identity, the classroom noise level was recorded to fall silent for an extended length of time of three minutes twenty-three seconds. This was the longest recorded silence during the drawing intervention. The occurrence of this and other prolonged silences during observational drawing tasks indicate that the children are able to engage with high levels of concentration and become fully engaged and immersed in this type of drawing practice which aligns with Edwards claim that in observational drawing ‘you are attentive and concentrated and feel "at one" with the thing you are concentrating on and thinking is not in words but in images and, particularly while drawing, your thinking is "locked on" to the object you perceive ‘ (Edwards, 1993, pp 62-63).

It could be argued that in these prolonged moments of silent focused concentration the children are communicating with themselves and engaging in *intrapersonal* ‘inner speech’ (Vygotsky 1962; Brooks) and voiceless verbal thinking Vygotsky (1962). This is supported by the occurrence of concentrated body movements, mature eye-hand coordination, minimal head movements and the success of the children’s drawing outcomes in observational drawing (explained in detail in chapter five).

## **Summary**

To summarise, the findings from this study shed further light on the dialectical nature of drawing (Vygotsky, 1978, 2011) and the different ways in which children communicate with themselves and each other in response to different drawing activities. When undertaking familiar drawing tasks, the children engaged in general chatter about everyday subjects. During observational drawing the children were observed to communicate with themselves (Brooks, 2009; Hope, 2008; Kress 2003; Edwards, 1993; Foreman, 1993) in self talk or

‘private speech’ (Vygotsky, 1978, 2011) at low volume levels often in a ‘running commentary’ style of expression or fall into silent focused concentration arguably demonstrating the occurrence of ‘inner speech’ (Vygotsky, 1978, 2011). When engaged in experimental and exploratory drawing the children engaged in self-talk or ‘private speech’ and communicated with others (Brooks, 2009; Hope, 2008; Kress 2003; Edwards, 1993; Foreman, 1993) through the articulation of their observations, questioning, sharing ideas and problem solving (Jolley & Kali, 2013; Eisner 2003) at heightened levels of volume.

The most significant finding sheds light how step-by-step guided drawing promotes and develops children’s vocabulary and language acquisition and communication in a four-fold multisensory process, which recognises the sensory elements of sight, touch, haptic or kinaesthetic and auditory, engaged in drawing. This finding builds on Vygotsky’s concept of *Verbal Thought* (1962) and Brook’s concept of *Visual Thought* (2002) to conceptualise *a multisensory framework of drawing*. It gives weight to the importance of drawing in the social constructionist theory of learning (Vygotsky, 1962, 1978; Bruner, 1986; Brooks, 2003) and highlights the pedagogical benefits of drawing as part of children’s learning across the curriculum.

## **CHAPTER FIVE: DATA ANALYSIS AND DISCUSSION – SUBSIDIARY QUESTION 2 relating to Art, Drawing and Child Development: How do children experience and respond to daily drawing activities in subjects across the primary curriculum?**

This chapter focuses on findings that give insight into the relationship between art, drawing and child development through the second of the study's sub-research question: **How do children experience and respond to daily drawing activities in subjects across the primary curriculum?** Findings are presented thematically and are supported by data extracts in the order of observations, verbal utterances and commentaries, child questionnaires and parent questionnaires.

Observing the children engaged in a variety of drawing activities over six months revealed that the children in this study had markedly different behavioural and verbal responses to different drawing activities.

### ***Children's behavioural responses to different drawing activities***

When first introduced to observational drawing many of the children appeared to position themselves before drawing or repositioned themselves when observing and drawing an object or subject. The children did not vocalise their reasoning for repositioning themselves, however this behaviour appeared to be in order to gain an optimum viewing angle or position from which to draw. This was particularly noticeable during a lesson when the children were tasked to draw their own shoes. Simple verbal instructions were given by me their teacher and researcher at the start of the lesson: *"Take off one of your shoes, place it in front of you, take time to look and observe its shape and details and, when you are ready, start drawing."* In response to this instruction, the children were observed to place their shoe or themselves in a position or angle from which to draw. This behavioural response suggests that the children

have an awareness of an optimum viewing angle from which to draw or awareness of their own drawing capabilities or limitations. Or alternatively that the positioning matches their aesthetic choice – for example a near position would be appropriate for a ‘close-up’ drawing, and a position further away would be appropriate for a distance drawing. Nevertheless, the finding provides insight into the children’s perceived capabilities as drawers, which requires further investigation, but I would argue that it provides evidence that drawing promotes increased agency and autonomy in children’s learning and drawing development.

The purpose of observational drawing is to learn ‘to look, to see, to focus, to concentrate, to sustain your concentration’ (Duff, 2010) therefore the children were encouraged to ‘look before drawing’ when engaging in observational drawing tasks. What is surprising is the ease with which the children were able to ‘pay attention’ (Eisner, 2002) by employing and adopting high levels of concentration and mature drawing habits of still body movements, and look at, observing and pausing on their subject for increasingly greater lengths of time, prior to commencing to draw.

Very quickly and without prompting, during observational drawing, the majority of the children were observed to adopt the habit of maintaining longer eye contact with their object or subject and less eye contact with their pencil and paper (or alternative media). In addition, the children adopted drawing behaviours of expert eye and hand movement (Tchalenko, 2009a) with minimal head movement (Tchalenko, 2009a) to pause (Brew 2011) or adopt phases of *not* moving (Brew, 2011) which Brew (2011) describes as a behavioural factor that distinguishes experts from novices. Figure 9 below shows children employing these drawing behaviours when drawing their own shoe.



Fig 9 Example of children employing lower procedural motor level of eye and hand movement

The photograph demonstrates the stillness of the children's body movements when drawing, and the angle of their head maintaining focused eye-contact on the object they are drawing whilst simultaneously creating a graphic representation on the paper.

The result was detailed drawings of the children's shoes (see figures 10 and 11) which the children themselves deemed to be accurate as revealed in their discussions about the drawing outcomes.

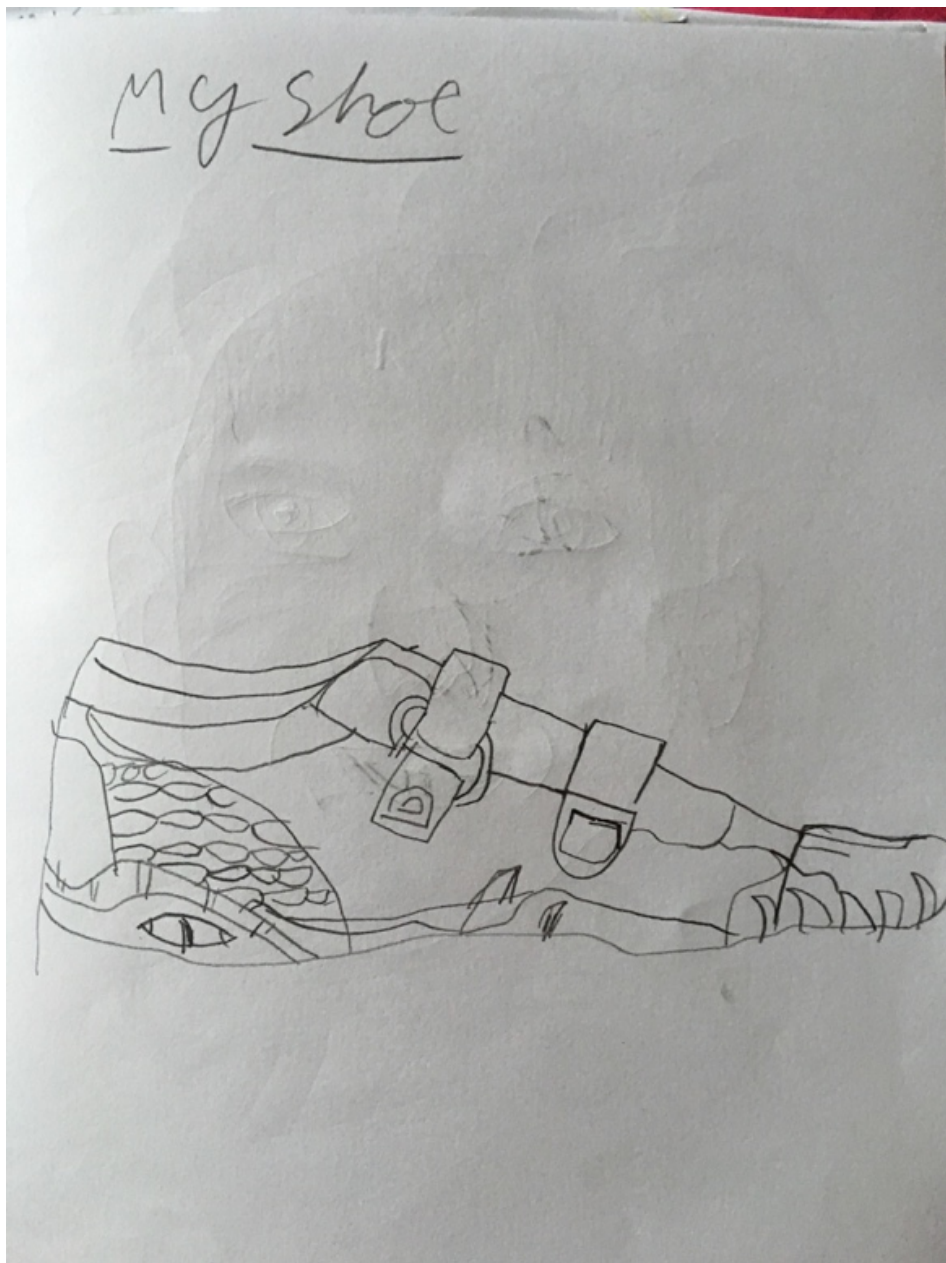


Figure 10. Child's observational drawing of their own shoe in profile



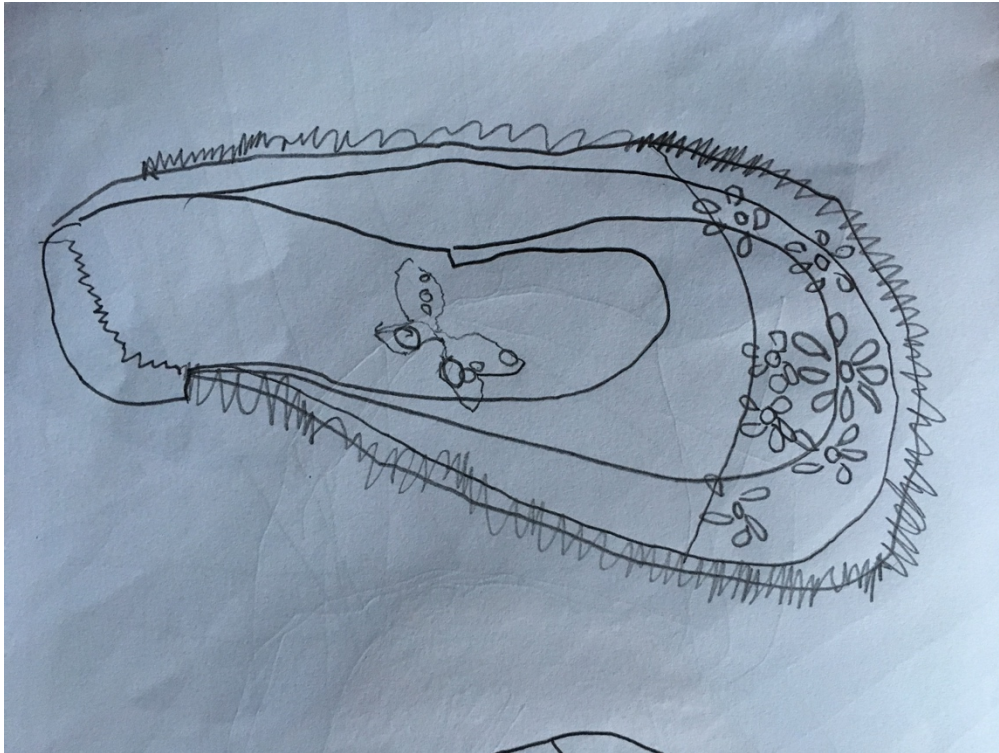


Figure 11. Child's observational drawing of their own shoe from the ariel view

This finding provides evidence that children in this study were able to engage in '*seeing with the innocent eye*', i.e., learning how to observe and draw with accuracy, co-ordinating hand to eye, and pausing on details and features (Ruskin, 1856-1857) and employ Tchalenko and Miall's (2009) concept of lower procedural motor level of eye and hand movement (see fig 9). According to Langer (1979) "seeing" is itself a process of formulation, our understanding of the world begins with the eyes (p.84) and the children's improved behaviours of observation and focussed attention I suggest impact favourable on the children producing more successful representations of what they were observing or copying, according to the children themselves. This was evident through their confidence in sharing of their drawing outcomes.

In addition, to developing mature body positioning and eye and hand movements, during observational drawing, the children were observed to draw at a slower pace and undertake intentional mark making of smaller segments of lines (Brew, 2011) This aligns with Edwards' (1999) view that the movements of drawing bring about a new style of perception (Brew, 2011) and the drawing experience leads to complex eye hand interactions, the taking of longer time, pausing more and for longer. This was particularly evident during a lesson, recommended by Edwards (1993), on upside-down drawing (copying an inverted image). The children were given simple instructions to 'pay attention' to the lines within the inverted image in terms of length, shape and angle, and the spaces and between the lines. Without further being prompting, all the children were observed to produce a drawing of the inverted image with effective results (see figures 12 and 13).



Figure 12. Drawing upside down in action



Figure 13. A finished upside-down drawing

Whilst it is the intention of upside-down drawing to hone observation skills and focus on the lines, what is significant here is that the children in this study were able to 'pay attention' to the quality of the lines and spaces. Similar to Kantrowitz's (2011) observations, the children in



this study expressed their recognition of acute and obtuse angles, and applied their knowledge of scalene, isosceles, equilateral or right angles to help them draw the inverted image of a seated man more accurately. The children appeared to be able to go forth between perception and conception, using one to augment the other (Moore, 2011). I observed and noted that all 30 children made an upside-down drawing of the seated man with improved accuracy and proportion, including those children with SEND (examples can be seen in figs 26 and 27). From this it could be suggested that this is evidence that children of this age group have a natural affinity for upside-down drawing and to pay attention (Eisner, 2002).

The quality of attention is difficult to quantify and measure, however, by observing children engaged in observational drawing we may gain a recognition and understanding of the quality of children's ability to pay attention to lines, shapes and spaces, details etc., for prolonged lengths of time. In addition, we may learn how to enable children to draw beyond "what they know" to what they see (Farokhi and Hasemi, 2011) and to continue to develop expert eye and hand movements (Tchalenko 2009a) and to pause when observing which could lead to a proficiency in line or mark making (Burkitt et al, 2010).

By observing the children more closely, when engaged in observational drawing, I noticed that the children's eyes appeared at times to move in a slow more detailed way that resonates with Brew's (2015) description as 'scanning an object, to allow a fine-grained presentation'. At other times the children's eyes would move a great deal from side to side when observing an object or subject in 'micromovements and synchronisation of the eyes and hands' (Coen-Gagli et al., 2009; Tresset & Fol Leymarie, 2005). This requires further investigation; however, its occurrence aligns with Brew's (2015) description of drawing as 'making many fixations and weaving a web of connections...a mode of perception, rather than depiction with great potential for discovery and knowledge production, about the visible world, relationships, thought,

perception and action.’ By observing children engaged in observational drawing I would argue that we are able to gain an understanding of drawing as a perceptual process (Brew, 2015) and the ease with which children of this age group are able to adopt mature drawing behaviours and engage in what Brew (2015) describes as the reflexive nature of drawing: the action of the hand elucidating vision and in turn influencing the behaviour of the eye.

In contrast to the focused, still body movements and eye-hand co-ordination apparent in observational drawing, the children responded to more experimental and exploratory drawing tasks with increased animated body movements and behaviours and became what I would describe as ‘dynamically engaged.’ By this I mean the children displayed behaviours of increased animated body movements and drawing gestures, with a vigour and speed in their mark making. The children appeared to draw with more freedom, to be less restricted by what was expected of them in terms of a drawing outcome thus with less overthinking about shapes and proportion etc., which has been a criticism of observational drawing. The children’s ‘dynamically engaged’ behavioural response suggests that exploratory or experimental drawing activities have the potential to engender increased dynamic embodied engagement with children’s learning. This was particularly noticeable during high-speed drawing tasks in which the children moved their pencils (or alternative media) with increased speed and vigour or moved their body around the drawing paper with increased animation as if “thinking with the body” (Kirsh, in Brew et al. 2011 p.124). During the high-speed drawing tasks, in which they were given a set time to complete their drawing e.g. 2 minutes, 3 minutes and 5 minutes, the children were observed to focus more on the time left to complete the drawing and less on the outcome. This resulted in the children creating high-speed, vigorous, ‘expressive’ mark making and drawings that reflected this ‘dynamic engagement.’ Figures 14 and 15 are examples of a child’s high-speed portrait drawings of a classmate.

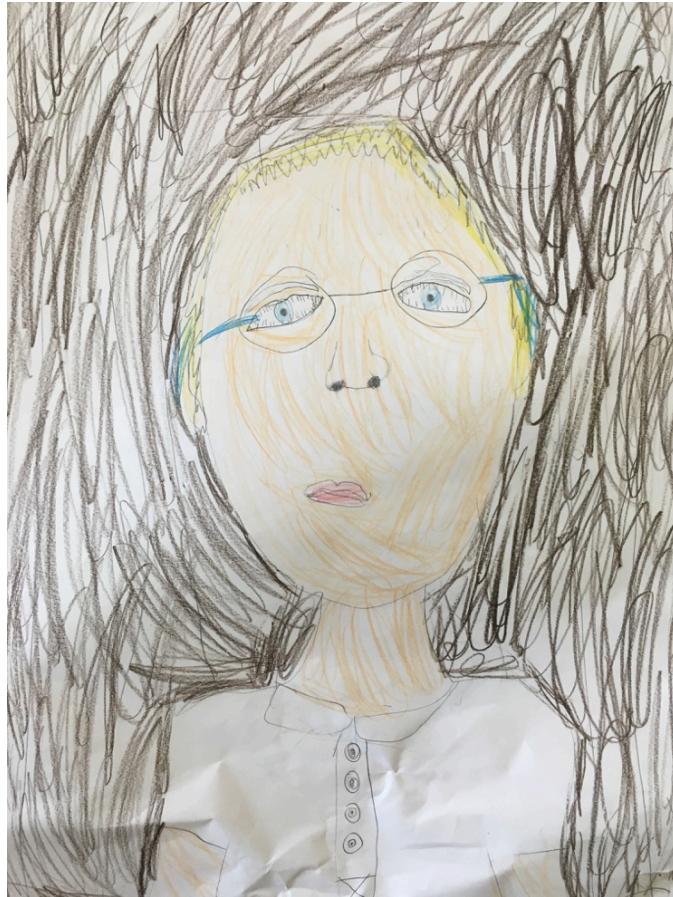


Figure 14. Child's high-speed portrait drawing of a classmate (by case study Marcus)



Figure 15. Child's high-speed portrait drawing of a classmate on a larger A3 sheet of paper (by case study Marcus)

The pencil strokes in the above examples of the children's high-speed portraits of a classmate denote speed, movement, vigour and 'dynamic engagement,' which I suggest are indicators of the children's improved confidence and enthusiasm in the high-speed drawing process. This dynamic, physical response from the children aligns with the view that in the activity of drawing children become involved through whole body actions (Hall, 2010) and drawing as marking is a kind of sketching with the body index (Kirsh, 2011). The ease with which the children engaged in the high-speed drawing reflects the view that children's experiments with mark making reflect an instinctive engagement with the process (Watts, 2010) that art is a mode of human experience (Dewey, 2009; Eisner, 2002) by which the body itself could be used as a sketching instrument (Kirsh, 2011). This insight could be very useful when reflecting on the

potential experiential benefits of drawing on children's global development and engagement with their learning.

### ***Children's verbal responses to different drawing***

In addition to different behavioural responses to drawing the children in this study had markedly different verbal responses to different drawing activities.

Without exception, during every observational drawing activity the demonstrated high levels of concentration and the children communicated their observations in whispered tones at a low volume level or the children fell silent for extended periods of time, with no prompting or coercion. The longest silences occurring during the following observational drawing tasks:

2'00" silence drawing butterflies and beetles (Science)

2' 01" silence drawing the Roman Colosseum (History)

2'13" silence drawing botanical flowers (Science)

2' 13" silence upside down drawing (Art)

2' 36" silence drawing portraits of peers (Art)

3'23" silence drawing shoes (Art)

For example, during the observational drawing lesson in which the children were tasked to draw their own shoes, as part of a P.S.H.E lesson on identity, the classroom noise level was recorded to fall silent for an extended length of time of three minutes twenty-three seconds. This was the longest recorded silence during the drawing intervention. The occurrence of this and other prolonged silences during observational drawing tasks indicate that the children were

able to engage with high levels of concentration and become fully engaged and immersed in this type of drawing practice. It could be argued that these silences during observational drawing are evidence that the children were engaging in *intrapersonal* 'inner speech' (Vygotsky 1962; Brooks) and voiceless verbal thinking Vygotsky (1962). In the aftermath of observational drawing the children remained quiet for some time which suggests that observational drawing had a lasting effect on the children.

In contrast to the observational drawing tasks, the children's verbal response to exploratory or experimental drawing tasks was one of increased volume levels of observations, discussions, problem-solving, decision-making, chatter and laughter. For example, during high-speed and experimental drawing tasks it was regularly recorded that the children engaged in verbal utterances of excitement, the sharing of observations, ideas, decision-making, and inquisitive questioning at a higher 'enthusiastic' level of volume. This verbal response of increased volume, excitement and communication was particularly noticeable during high-speed drawing tasks. The children found the element of '*racing against the clock*', as one child described it, amusing and they would often laugh as they drew at high speed.

There is a paucity of research relating specifically to exploratory and experimental drawing with children with which to make comparisons, however the children's behavioural and verbal responses to exploratory and experimental drawing tasks were observed to be spontaneous, unprompted and arguably instinctive, which aligns with the claim that children become involved in drawing through whole body actions and accompanying dialogue or sound effects (Hall, 2010; Matthews, 1984).

In the aftermath of exploratory and experimental drawing tasks the atmosphere in the classroom could often be described as a 'buzz' of excitement with lots of chatter, laughter and

sharing of drawing decisions and outcomes. I recorded that the children regularly made enthusiastic comments following exploratory or experimental drawing tasks such as:

*“That was amazing”*

*“I didn’t know I could draw that fast and so big”*

*“I love that we do fast drawing”*

*“I’m really pleased with it”*

*“Can we do it again?”*

The increase in the children’s physical energy and body movements combined with the heightened chatter, verbal communications and laughter, are significant indicators of the children’s enjoyment of exploratory and experimental drawing and resonate with the view that the arts, in all their manifestations, are close in attitude to play (Huzinga, 1955) and that drawing is ‘fun’ (Kirk, 2007) especially when used in an exploratory and experimental way.

### ***Drawing and children’s cognitive engagement***

Observing and listening to children engaged in different drawing activities was shown to provide insight into the ways in which children reveal their cognitive engagement, cognitive awareness and metacognitive processing - decision making, problem solving, making connections - through drawing behaviours and verbal commentaries.

When drawing, particularly observational drawing, the children would tacitly position and re-position themselves prior to and during drawing activities. This positioning and re-positioning behaviour suggests that children of this age group display a *tacit knowledge* (van Sommers, 1984) or cognitive awareness or indeed ability to position themselves in a viewpoint that helps to maximise their ability to produce an accurate and/or aesthetically pleasing drawing outcome.

This behaviour demonstrates that children of this age group have awareness or recognition of the problem-solving challenges and decision making that make drawing a cognitive event (Eisner, 2003) and possibly what is required to achieve a successful drawing outcome. Alternatively, it could be indicative of the children's cognitive awareness of their own drawing limitations by positioning themselves in a viewpoint that requires less challenges and problem solving when graphically representing an object or subject.

This study found that children of this age group are not only able to engage with a variety of different drawing activities across the curriculum but able to focus to the point of falling silent and adopt drawing behaviours that indicate they can 'pay attention' (Eisner, 2002) to the image or object/subject and 'pause' on visual references when observing and when copying or creating successful graphic representations according to the children, often in very small sections of the image/object/subject with short pencil strokes or mark making.

The children's response to fall silent when observational drawing was unprompted and aligns with Fava's (2011) view of drawing as tacit in nature and suggests that children of this age group have the cognitive awareness and ability to commit to the sustained focused attention that is required of observational drawing, or the cognitive awareness to recognise the need for quiet. In that aftermath of the observational drawing tasks the children were often very calm and some children expressed an awareness of a loss of time or an increase in the passing of time. This suggest that children experience the tacit nature of art, of which drawing is an element (Blythe et al., 2013) and arguably the holistic, inscrutable *liminal state* between the conscious (supraliminal) and unconscious (subliminal) (Petherbridge, 1991); a kind of meditation (Riley, 2001). If this is the case then it is possible that drawing as an aspect of visual art can 'stabilize what would otherwise be evanescent' (Eisner, 2002, p.10) and enable children 'to explore their inner landscape' (Eisner, 2002, p.10). If so then this has implications



for our pedagogical understanding of the potential benefits of drawing on the promotion of children's concentration, cognitive engagement and development.

When engaged in copying an image from a picture or engaged in observational drawing of a subject or object, the children in this study were observed to develop, without prompting, develop expert eye and hand movements (Tchalenko 2009a) and behaviours of keeping their head and eye movements to a minimum with eyes focused on the image/object/subject and then the pencil and paper (or alternative media) for prolonged lengths of time. In addition, when copying and engaged in observational drawing the children were observed to adopt the repetitive action of looking and pausing to observe (Brew, 2011) on elements or details of the image/object/subject before drawing, then looking and pausing to observe (Brew, 2011) on the drawing and back again and the habit to pause when observing leading to a proficiency in line or mark making (Burkitt et al, 2010). Close observations of the children drawing suggest that the children are pausing to engage their memory to secure mental images of, for example, the details, shape, proportion before recording it in graphic form. These behaviours align with Brew's (2015) description of drawing as both an action and a form of perception, finely tuned for detail by the coupling of the movements of the eye with those of the hand...that drawing is a two-way conversation between eye and hand, whereby the eye learns from the hand, and develops a slower 'hand-like' way of looking, that enables drawing. It also echoes current research on eye tracking in artistic drawing (Scalera, Seriani, Gallina and Lentini, 2021; Hellebrand, Mayer and Opfermann, 2019) however, this needs further investigation. Nevertheless, the finding suggests that children of this age group have ability to undertake the cognitive engagement inherent in copying and observational drawing. In addition, it gives weight to Eisner's claim about the arts that 'learning to engage in a process is when perception is refined, imagination stimulated, judgement fostered, and technical skills developed (2002, p15) which by definition makes it cognitive. I would argue that the children's drawing

behaviours highlight the process of drawing ‘as thinking’ (Brew et al., 2011) which naturally has the potential pedagogical benefits in the promotion of children’s ability to observe for longer periods of time in order to retain then replicate features and details of an object, subject or image through the engagement of cognitive memory skills. From this standpoint it could be argued that drawing enables children to embed and consolidate their understanding of what they are observing and then copying or interpreting.

Throughout the intervention the children were observed to engaged in tacit displays of cognitive and metacognitive engagement when drawing. For example, when given the challenge to draw in miniature format (see task 100 in Appendix X) large format (see task 108 in Appendix X) with minimal or no guidance the children were able to cognitively reduce the size of their drawings to fit miniature-sized paper and upscale their drawings onto large A3-sized paper. This was particularly evident when portrait drawing when the majority of the children (including those with SEND challenges) were able to cognitively scale up or down their graphic representations to fit significantly different sizes of paper. Every child was able to draw a large portrait on the large A3 sized paper although two children drew their portrait with elements and features (e.g., hair) that went ‘beyond the page.’ Not one child drew a portrait too large for their miniature piece of paper although two children over compensated and drew exceptionally small portraits. This tacit upscaling and downscaling of a drawing demonstrates that children of this age group have the cognitively awareness and ability to enlarge or reduce an image to fit a particular area or size of paper with little guidance. This finding supports Eisner’s (2002) claim that ‘many of the most complex and subtle forms of thinking take place when students have an opportunity either to work meaningfully on the creation of images’ (Eisner, 2002, p.xii) and it provides important understanding of the cognitive awareness and ability of children of this age group.

When asked to draw familiar subjects from memory as part of early morning task, the children were overheard to vocalise, question and discuss features and details of the familiar subjects. For example, when asked to draw a giraffe (animal), a racing car (machine) and a tall building the children were overheard to question and comment:

*“Let me think what does a giraffe look like?”*

*“It has long legs”*

*“It has funny tufty things on it head. Not horns though”,*

*“I’m doing hexagon markings. They are sort of hexagons”*

*“They have long necks”*

*“I’m going to draw a crowd at the finish line”*

*“I’m giving my driver a helmet”*

*“I’m doing the Empire State Building*

*“I need to do a little person next to it to make it look tall”*

These children’s articulations provide insight into the process of cognitive memory recall and metacognitive decision making of details and ideas that the children undertake when drawing familiar subjects from memory. This aligns with the view that mental imagery is the source of ideas and visual ideas for drawing might originate in the mind (Richardson, 1948). From this it could be argued that drawing-from-memory tasks promote questioning and articulation of ideas and the exploration of children’s memory (Richardson, 1948).

Doodling was also shown to promote children’s memory recall (Cohn, 2012; Barlow, Jolley and Hallam, 2011) of narrative events in the class story. Story time sessions took place at the end of the day were combined with directed and non-directed doodling (see figures 16 and 17) in order to develop the children’s fine motor skills and familiarity with using pencils.



Figures 16 & 17 Examples of guided doodle patterns

When recapping the class story, the children demonstrated effective memory recall of previous events in the narrative. This requires further investigation however it aligns with the claim that doodling improves children's retention of facts and information and increases concentration (O'Keefe and Andrade, 2011; Andrade 2010). However, the findings support the view that doodling may potentially aid to the promotion and development of children's memory recall (Cohn, 2012; Barlow, Jolley and Hallam, 2011).

The most significant finding to emerge from the study is the observation that the children in this study had significantly different behavioural and verbal responses to different drawing activities which could imply different cognitive engagement depending on the drawing activity. When observational drawing the children fell quiet or silent and adopted habits of upright posture, still body movements and focused attention (Eisner, 2002), the use of expert eye and hand movements (Tchalenko 2009a), pausing to observe (Brew, 2011) whilst adopting slow, intentional mark making (Brew, 201).

As explained in Chapter Four, listening to the children engaged in observational drawing revealed that children verbalise their observations, thoughts and decision making at a low

volume level, in whispered tones, often in a ‘running commentary’ style of communication to themselves or ‘at’ others around them shedding light on the cognitive process that children engage in when drawing. For example:

*“I’m drawing mine from the side view”*

*“It goes up like that, in a bit and over and then down and round, there”*

*“Her hair goes like this down her face (gesturing with his fingers),*

*“He’s got freckles on his nose and cheeks”,*

*“You’ve got two teeth missing”*

*“Mine has lots of creases I need to draw”*

*“I’m going to do the stitching and the creases on my shoe”*

*“It’s going to be easier if I draw it from this angle” (side on)”*

From these verbal comments we can gain insight into the cognitive skills inherent in the activity of drawing specifically what and how children observe, how they organise their thoughts, and engage in the decision-making in order to achieve a successful drawing. This finding provides evidence to support the view of observational drawing as a means of visual thinking and analytical learning (Fava, 2011) and supports the argument that drawing enables the range of cognitive learning represented by Bloom’s (1956) taxonomy for learning: ‘observation’ ‘communication’ ‘speculation’ ‘visual analysis’ ‘decision-making’ ‘editorial skills’ and ‘solution.’

In contrast to the observational drawing tasks, the children’s verbal response to exploratory or experimental drawing tasks was one of increased volume levels of observations, discussions, problem-solving, decision-making, chatter and laughter. For example, during high-speed and experimental drawing tasks (non-dominant hand and drawing with pencils on sticks) the

children engaged in verbal utterances of excitement, sharing of observations, ideas, decision-making, and inquisitive questioning and laughter at a higher ‘enthusiastic’ level of volume. This verbal response of increased volume, excitement and laughter was particularly noticeable during high-speed drawing tasks. The children found the element of ‘*racing against the clock*’, as one child described it, amusing and they would often laugh as they drew at high speed.

There is a paucity of research relating specifically to exploratory and experimental (open ended, free flowing, focused on the *process* rather than the *product*) drawing with children with which to make comparisons, however the children’s verbal responses to exploratory and experimental drawing tasks were observed to be spontaneous, unprompted and arguably instinctive, which aligns with the claim that children become involved in drawing through whole body actions and accompanying dialogue or sound effects (Hall, 2010; Matthews, 1984).

Listening to the children engaged in exploratory drawing tasks revealed the children’s articulation of how they cognate the challenges to achieve a successful graphic representation. For example, during a high-speed portrait of a classmate task two children were overheard to voice the following challenges:

*“Oh no, I’ve got to do her glasses”,*

*“How am I going to draw all those criss-crosses on your dress?”*

Amongst the heightened chatter of the exploratory drawing tasks the children were regularly overheard to engage in animated questioning and discussion. For example, during portrait drawing of a classmate the children were overheard to cognitive question the shapes of their own and each other’s features including:

*“What shape are my eyes?”*,

*“Do I have freckles?”*

*“Let me see your nostrils”*

Throughout the drawing intervention, when engaged in drawing the children were overheard to communicate the cognition of what they observed, noticed or discovered when drawing.

When drawing a shell in large scale, the children were overheard to observe:

*“This shell has got different size craters all over it,”*

*“There’s a spiral on one side and it’s shiny inside”*

*“It’s going to be easier if I turn it round this way”*

For example, the children verbalised a recognition of the concepts of line:

*“I am drawing my lines really close together”*

and

*“This is going to take so long to fill in the lines”*

shape:

*“What shape are my eyes?”*

form:

*“Her hair goes like this down her face”*

details:

*“He’s got freckles on his nose and cheeks”*

and texture:

*“There’s a spiral on one side and it’s shiny inside”*

*“This shell has got different size craters all over it”*

the decisions they made when drawing:

*“I’m going to do the stitching and the creases on my shoe”*

or the problems they were solving:

*“It’s going to be easier if I draw it from this angle” (side on).*

The children’s verbal commentaries shed light on the cognitive and metacognitive observations and intentions of the children (Brooks, 2004) and demonstrate how children articulate what features, challenges they look at, see and notice, and how they cognitively investigate, explore, make decisions and problem solve when drawing (Adams 2014). It also highlights the many problem-solving and meaning-making activities that are inherent in the process of drawing for children (Brooks, 2004). In this way the findings provide evidence to support the view that drawing enables children to make sense of the world around them (Cooke , Griffin & Cox, 1998; Anning, 1997; Cox, 1992) and as Hall (2010) points out, making sense is both a cognitive process and an affective process.

On several occasions the children verbalised their prior knowledge, experiences beyond the classroom and the connections they made between subjects including identifying similarities. For example, a child was engaged in an observational drawing of his shoe and commented that the shape of a crease in his shoe:

*“... looks a bit like a fortune cookie.”*

The children had been learning about China, at the beginning of the school year, and in this comment this child had articulated a cognitive connection he had made between a previous learning experience, therefore, drawing from his long-term memory and understanding and relating that to his current drawing experience. This provides further evidence that drawing is a thinking or cognitive tool (Brew, 2011; Farthing and Betts, 2011).



Whilst the questioning in the children's questionnaires did not relate specifically to cognitive thinking, the children's written responses alluded to the cognitive thought processes they engaged with when drawing, by commenting about how they now draw:

*"I was concentrating more on the shapes in his face"*

*"It is like I am getting my brain to tell my hand what to do"*

*"I would look at the shape of the nostrils until it was in my head"*

These comments shed light on how drawing makes them think and the type of thought process children undertake when drawing and that children of this age group are able to recognise the relationship between the mental and physical mechanics of drawing which aligns with the view of drawing as shaping thought (Adams 2014) and inherent to perception and cognitive understanding (Healey, 2010). This supports the view that drawing is a way to develop cognitive processes (Brew et al., 2011) which gives weight to Eisner's argument that learning in and through the arts can develop complex and subtle aspects of the mind (Eisner 2002).

### ***Drawing and the Children's Cognitive Awareness in Subjects Across the Curriculum***

In addition to the children behavioural and verbal responses to drawing and their written responses to questionnaires, the children's cognitive awareness was expressed in subjects across the curriculum in their understanding and graphic representation of ideas and subject specific concepts including P.E. games, mathematical, scientific and historical concepts. For example, in a mathematics lesson, following a prior lesson drawing 3D shapes (see figures 18 & 19) including properties of lines (horizontal, vertical, diagonal and convergent) the children were able to effectively imagine or recall the properties of lines and 3D shapes when tasked

with perspective drawing (see figures 20 & 21). As a result, the process of drawing 3D shapes and the properties of lines in Maths was shown to be effective for the children's discussion and basic understanding of perspective and perspective drawing.

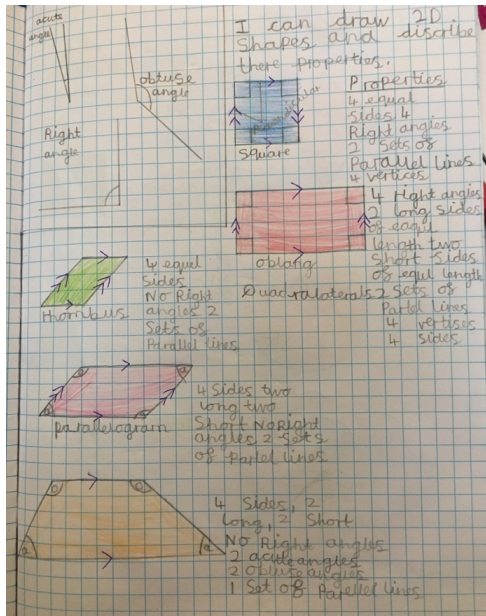


Figure 18. Drawn and labelled 2D shapes

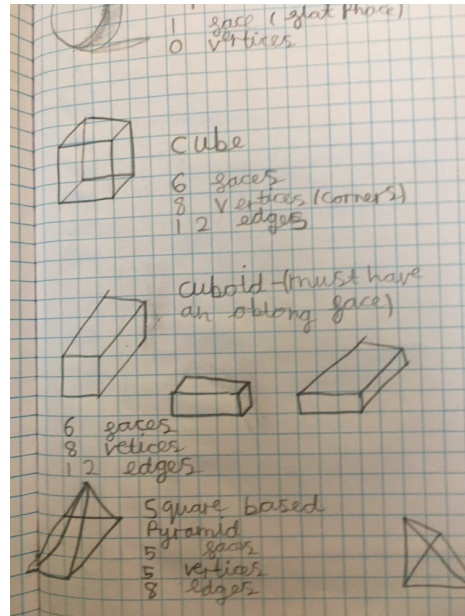


Figure 19. Drawn and labelled 3D shapes



Figures 20 & 21. Perspective drawings using the mathematical concepts of horizontal, diagonal parallel, converging, fractions and shapes.

Drawing scientific concepts was shown to have significant benefits to the children's scientific enquiry (Carney, 2018; Katz, 2017). For example, by drawing of magnetic forces (see figure 22) appeared to enable the children to articulate and consolidate their understanding of magnetic fields that opposite fields attract.

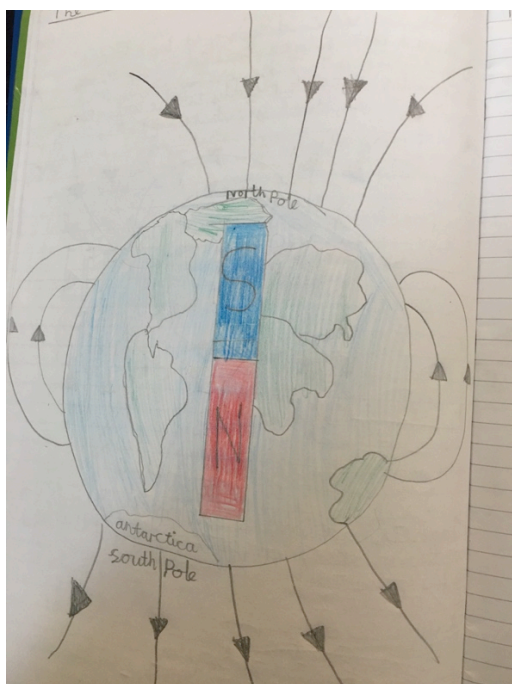


Figure 22. Drawn concept of magnetic forces

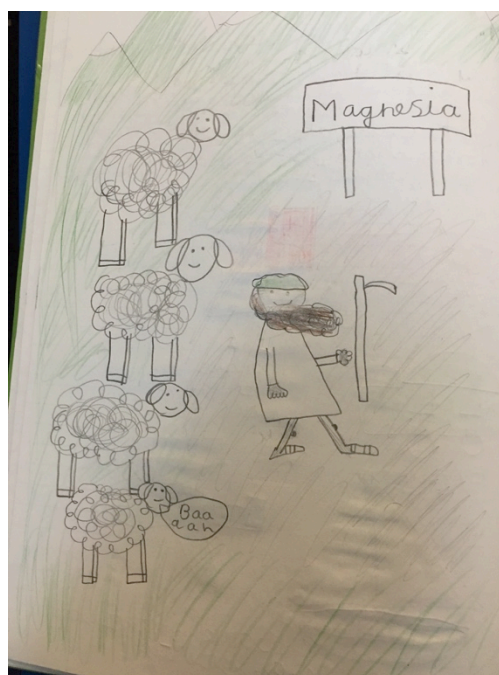


Figure 23. How Magnesia was discovered

Drawing the story of the discovery of magnesia as part of the study of forces (see figure 23) enabled the children to embed the concept of magnetic reactions through visual storytelling. Similarly, when the children engaged in step-by-step guided drawing of labelled diagrams of scientific concepts the children demonstrated clear articulation of the processes and concepts. This was particularly evident when the children drew a cross-section of the stem of a flower (see figure 24) followed by flowers in botanical detail (see figure 25) drawing them was shown to be an effective tool for promoting scientific enquiry (Carney, 2018, Katz, 2017) in the form



of close observation of plants and articulation of the structure and mechanics of plants in addition to creating successful drawings.

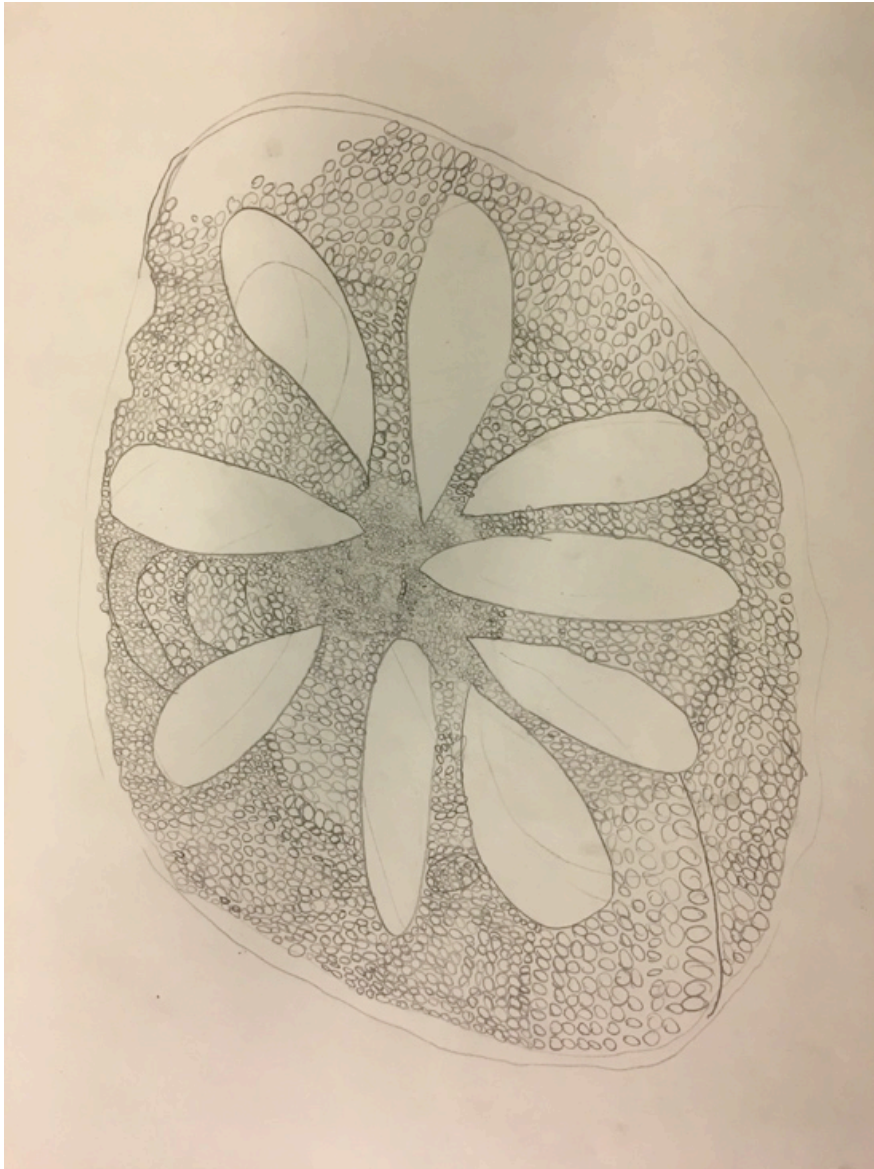


Figure 24. Drawing of a cross section of the stem of a plant



Figure 25. Botanical drawing – copying a vase of ranunculus

As mentioned in Chapter Four, collaborative drawing was showing to be effective for the children's communication and sharing ideas around the understanding of 'light and shadows.' The children collaborated by working in pairs to outline each other's shadows at different times of the day and at different times of the year (see figures 26 & 27). Having to wait for the clouds to move and the sun to appear allowed for the children's discussion and recognition of the need for sun (the light source) to create shadow.

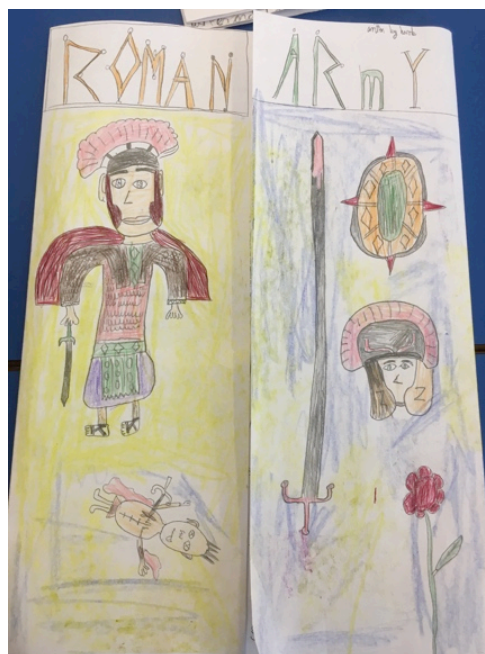
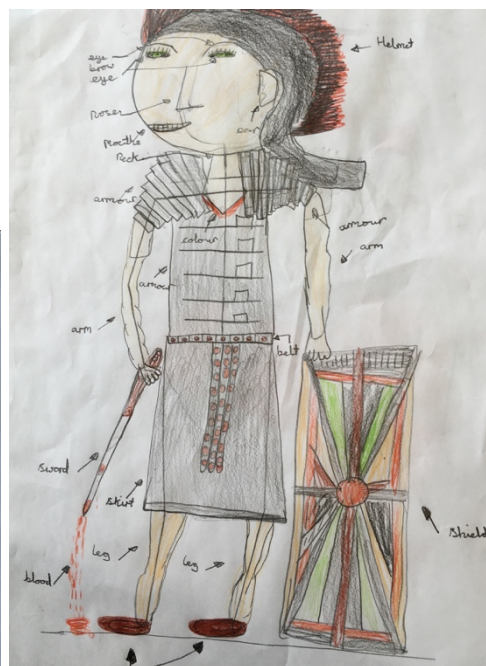
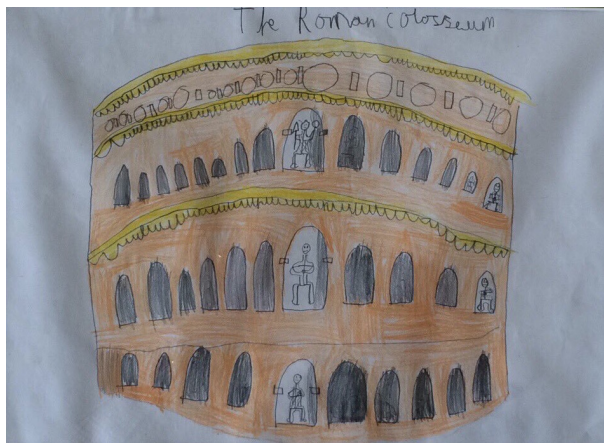


Figures 26 & 27. Collaborative drawing to support understanding of light and shadows

In History, when copying important historical figures and features the children were able to recognise historical faces, and observed in close detail historical clothing, jewellery, armour, weapons, houses, dwellings and settlements in order to develop their historical knowledge and understanding. For example, by following step-by-step guided drawing demonstrations of Roman buildings (see figure 28), Roman armour (see figure 29) and Roman army formations (e.g., phalanxes and the Tortoise formation) enabled all the children, including children with SEND challenges to produce accurate labelled diagrams with subject specific and technical language. This allowed for the development of the children's understanding of historical concepts, language and vocabulary to be used, applied and embedded and consolidated.

Furthermore, drawing in subjects across the curriculum allowed for cross curricular links to be made. This was evident when the children were tasked to use the knowledge of Roman soldiers drawn in History to create leaflets on Roman History as part of non-fiction text in English (see figures 30 & 31) and when designing 3D Roman shields in DT.





Figures 30 & 31. Front covers of leaflets about the Romans created in English

Similarly, geographical features were explored using step-by-step guided demonstrations to draw geographical features of cross-sections of volcanoes and rock formations by (see figures 32 and 33) which enabled the children to articulate the geological process more clearly.

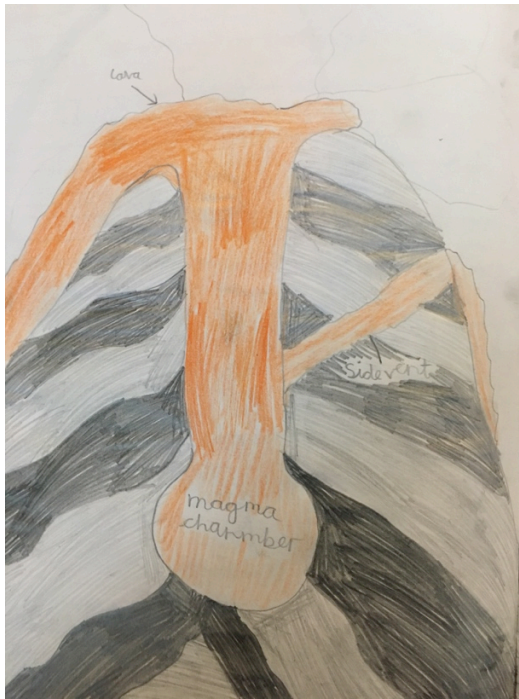


Figure 32. Cross-section of a volcano

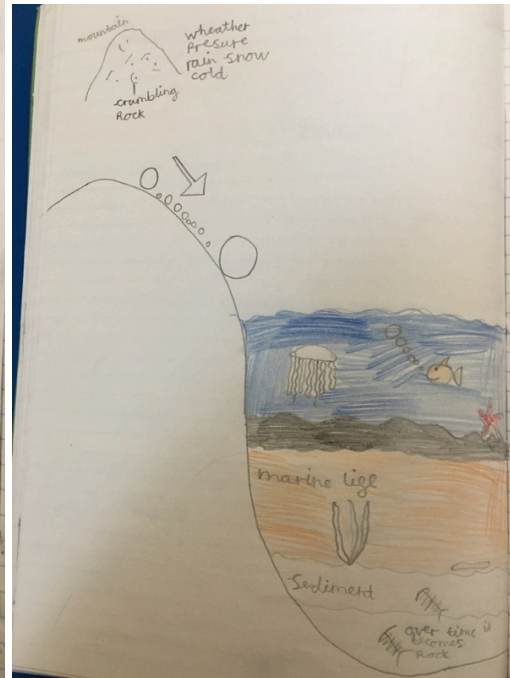
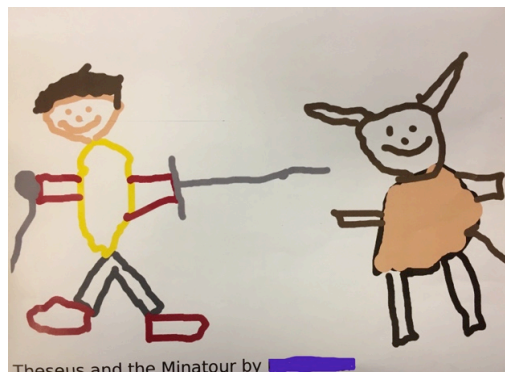


Figure 33. Drawing of formation of sedimentary rock



Figures 34 & 35. Children's drawing interpretations of Greek Myths using the Paint computer program.

By using drawing and animation programmes in Computing and IT (e.g., Scratch, 2 Simple and Paint) the children allowed the children to cognate and make cross-curricular links English and History when creating animations of myths and mythical creatures (see figures 34 & 35). The use of focused drawing in this way appeared to enable the children to explore and develop



the potential uses of the computer mouse and drawing tools whilst promoting cognitive links between subjects.

***Children's cognitive awareness and development expressed through their graphic representation***

As explained in the methodology (chapter 3) in all three questionnaires – disseminated at the beginning, halfway through and at the end of the six-month drawing intervention – every child was asked to draw pictures of subjects familiar to them: a person, a tree, a building, a chair and a flower. The intention was not to undertake a content analysis of the drawings (Anning & Ring, 2004; Cox, 2005; Anning, 2003; Hawkins, 2002; Malchiodi, 1998) in relation to intellectual maturity as in the 'Draw A Figure' Test (Goodenough, 1926 and Harris 1963) but to use a basic art teacher's criterion as an interpretation of the children's drawings to recognise any apparent cognitive aware or development. It is particularly significant as the drawings were undertaken independently with no instructions or guidance. A simple quantitative and qualitative analysis of the children's drawings of a person, a tree, a building, a chair and a flower was undertaken, and a tally created from coded themes in terms of detail, size, proportion, and stick figure detail. Table 3 shows the results of a tally of the features of the children's drawings of a person over the tree questionnaires.

<b>Proportion</b>	<b>Questionnaire 1</b>	<b>Questionnaire 2</b>	<b>Questionnaire 3</b>
Just the head	1	1	1
Head and shoulders	8	10	10
Whole Figure	21	19	19
Total	30	30	30
<b>Extra Details</b>			
Simple stick figure	1	2	0
Triangular body	4	3	1
Very small figure in proportion to page	3	2	2
Very large figure Drawing beyond the page	0	1	1
Neck and shoulders	13	18	22
No neck	14	12	8
Simple Detail	20	8	6
Detailed	10	22	24
Well proportioned	10	14	25
Elements of 3D or occlusion	0	1	6

Table 3: Simple analysis of children's drawings of a person from questionnaires 1,2 &3.

The results in Table 3 show that at the end of the six-month intervention a majority of 25 (83%) children drew a well-proportioned drawing of a person independently. There was a significant increase in the number of children from 13 (43%) to 22 (73%) who were able to draw a person with the correct structure of the neck and shoulders. It is possible that this improvement is a result of regular drawings of portraits however the children had consolidated the concept of the correct structure of the neck and shoulders independently.

After a comparative analysis of each child's drawings of a person in questionnaires 1, 2 & 3 it was found that every child produced evidence of improved depiction of scale, proportion or details in their drawing of a person. This indicates development in the children's drawing ability; however certain elements in the drawings also imply some improved cognitive ability. Below are some examples that demonstrate the cognitive development, as revealed in a child's graphic representation of a person in questionnaires 1, 2 &3 (see figures 36, 37 & 38).

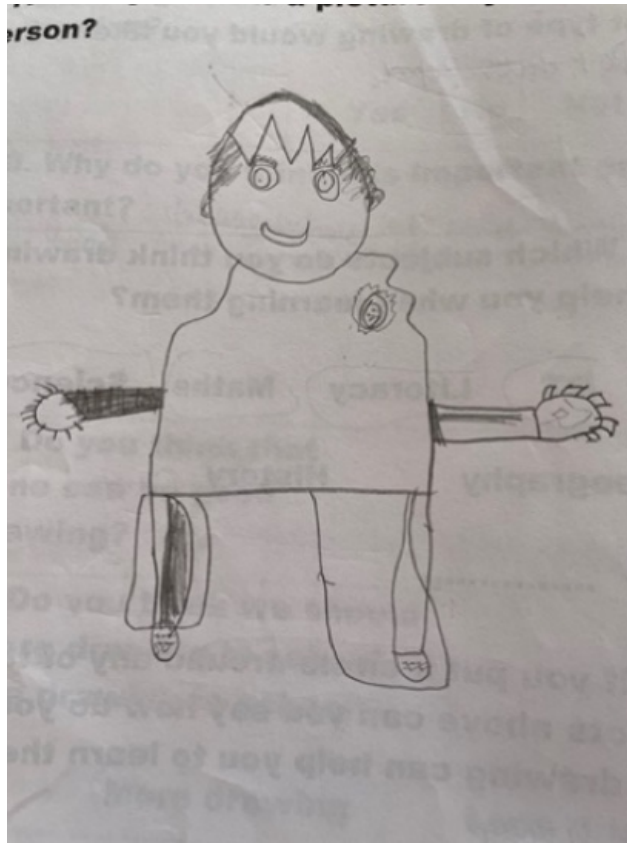


Figure 36. Child's drawing of a person in questionnaire 1

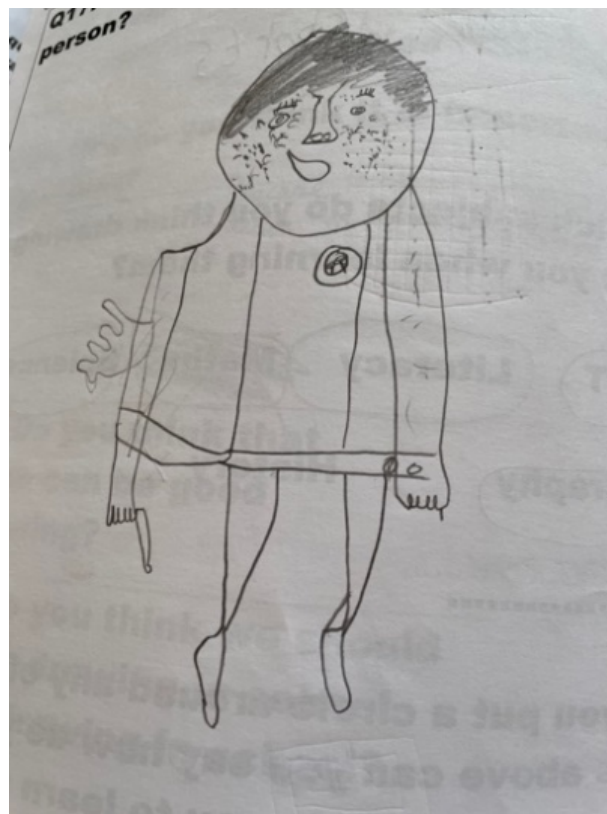


Figure 37. Child's drawing of a person in questionnaire 2



Figure 38. Child's drawing of a person in questionnaire 3

The above drawings show one child's improved awareness of the proportion and anatomy of the figure of a person. For example, the arms in the first drawing are drawn coming out of the side of the body and there is no neck; in the second drawing the arms are drawn from the shoulder area but there is no neck; and in the third drawing the body is in good proportion with arms extending from the shoulders and a defined neck is drawn. Secondly this child has drawn elements of 3D and occlusion in fig 40, for example, the hair being drawing across the front of the shoulder and the flower stems being hidden behind the hand. As children age, it is usual for their drawings to exhibit these stages of development, which are often age related (Luquet, 1927; Lowenfeld, 1952; Piaget, 1964, 1967). However, I would argue the drawing intervention accelerated this development. What is significant is that as result of daily drawing across the curriculum, which included several attempts at portraits, every child demonstrated improvement in their drawings of a person, in terms of proportion and relevant features. From this it could be suggested that regular drawing has the potential to promote children's cognitive

understanding development of the concepts of proportion and details. Importantly, the children developed their understanding of proportion in different ways. To illustrate this further, below is another example of a child's cognitive development expressed through elements of proportion in drawings of a person in questionnaires 1, 2 & 3 (see figures 39, 40 & 41).

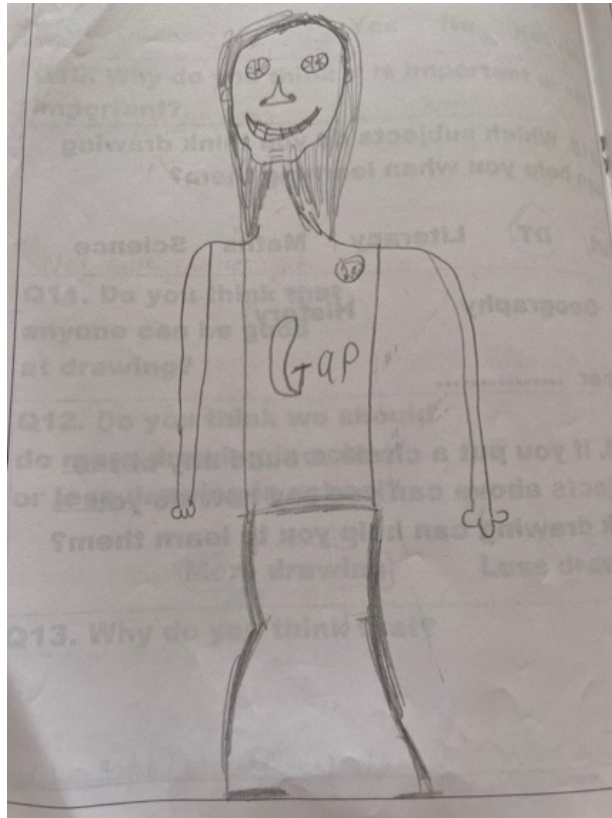


Figure 39. Child's drawing of a person in questionnaire 1

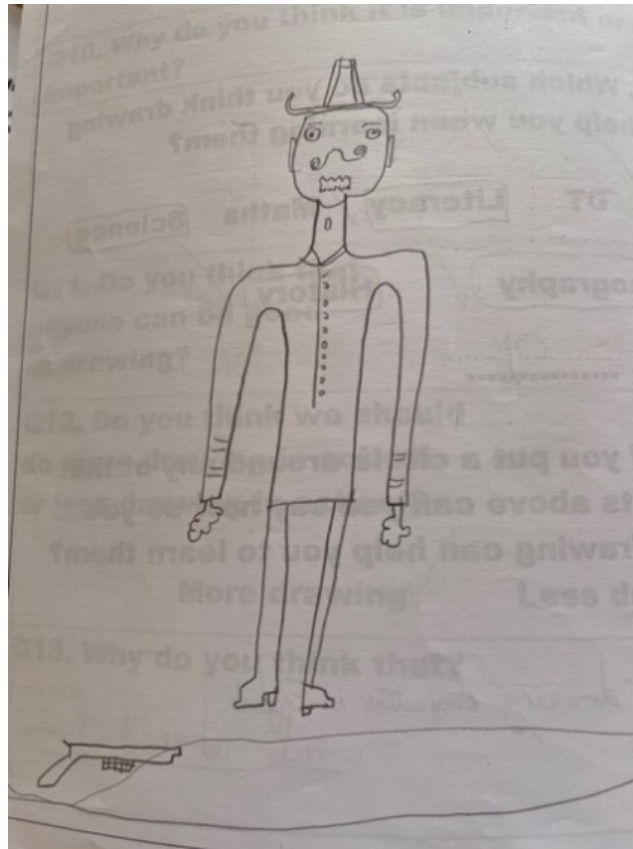


Figure 40. Child's drawing of a person in questionnaire 2

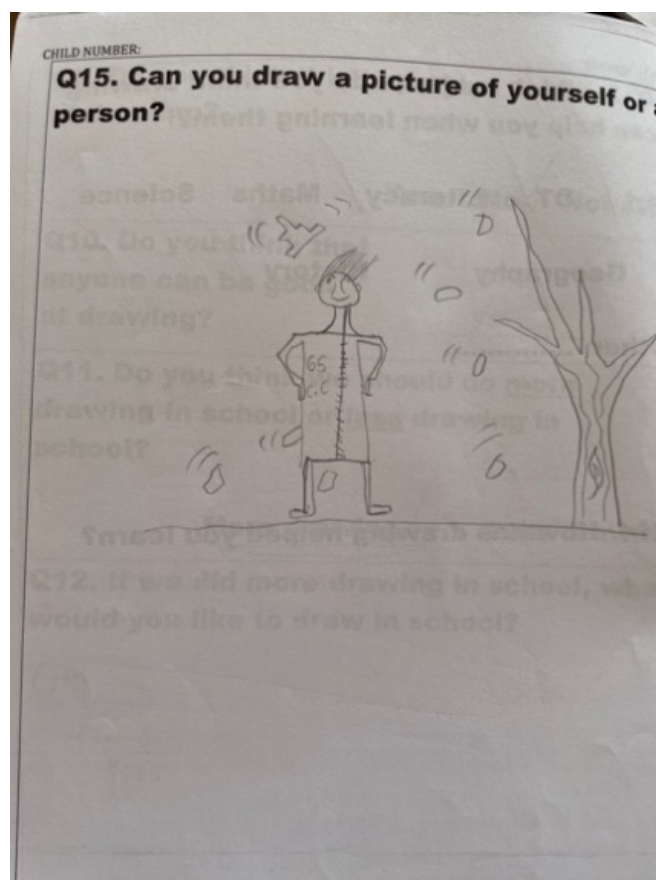
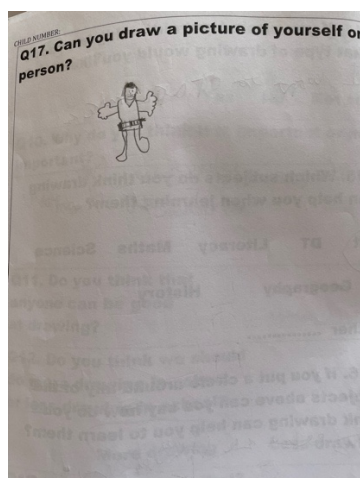


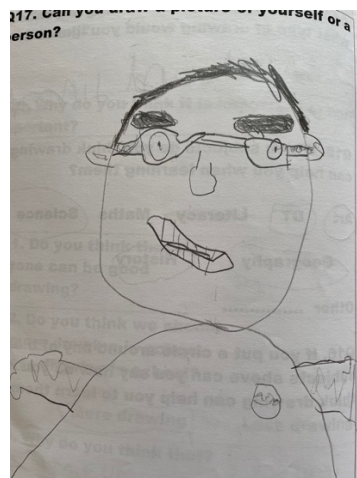
Figure 41. Child's drawing of a person in questionnaire 3

This child has demonstrated an improvement in proportion of the figure from drawing in questionnaire 1 to 2 with neck and shoulders being more defined in the drawing after 3 months of daily drawing. Secondly, the second drawing demonstrates the child's decision to add detail in the clothing and imaginative features of a unique hat, moustache and to lay a gun on the ground. Thirdly, in their third drawing in questionnaire 3 this child has added elements of movement by drawing a leafless tree and leaves and a hat at different angles with the movement lines next to them plus an element of 3D and occlusion with one of the leaves being drawn partially behind the person. These elements of movement, 3D and occlusion drawing, I suggest, demonstrate the cognitive choices that the child has made when graphically representing a person at the three stages of the drawing intervention – the beginning, and after three and six months.

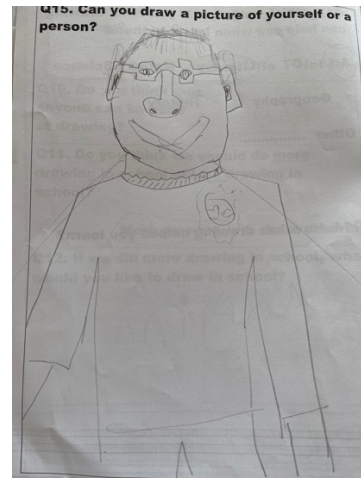
Focusing more closely on five case study provided deeper insight into some of the most significant improvements in the drawings of a person produced by three of the case study children Will, Meg and Dan. Below are the three drawings of a person produced by case study child Will (see figures 42, 43 & 44).



Questionnaire 1



Questionnaire 2



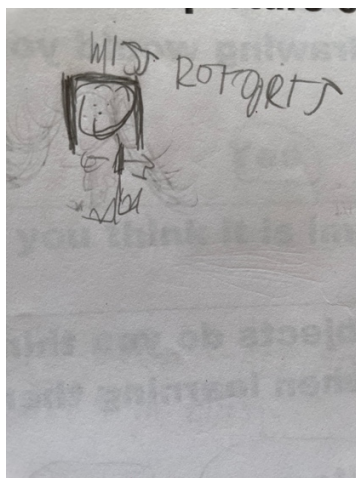
Questionnaire 3

Figures 42, 43 & 44 Case study child Will's drawings of a person in questionnaires 1, 2 & 3



Will, who is on the SEND register and recognised for his difficulty in performing gross and fine motor tasks produced drawings of a person in questionnaires 1, 2 & 3 that demonstrate significant cognitive development. In his first drawing in questionnaire 1 Will demonstrates a lack of awareness to fill or match the size of the page on which he is drawing (see fig 44). After 3 months of drawing Will shows an improvement in his drawing of a person in terms of proportion and details of the face – adding eyebrows, pupils in the eyes, glasses and ears with ear holes (see fig 45). After 6 months Will demonstrates improved cognitive engagement in his drawing of a person with improved accuracy in proportion of the figure with its defined neck and shoulders and further improvements in the detail of the ear holes and nostrils (see fig 46). These improvements in Will's graphic representation of detail and proportion demonstrate Will's improved cognitive awareness and development in his decision making and ability to draw a person based on what he is thinking, independently.

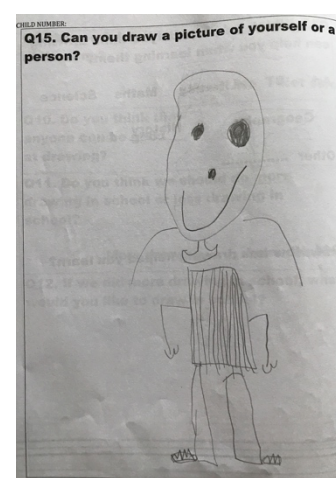
Case study Meg who is recognised for having SEND challenges in global underdevelopment also demonstrated significant cognitive development with improvements in her drawings of a person (see figures 45, 46 & 47).



Questionnaire 1



Questionnaire 2



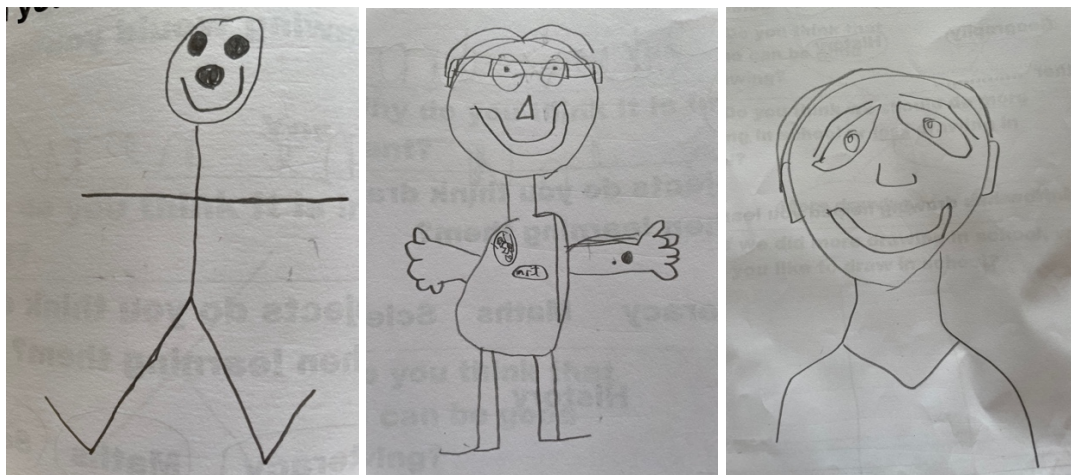
Questionnaire 3

Figures 45, 46 & 47. Case study child Meg's drawings of a person in questionnaires 1, 2 and 3



The first drawing of a person Meg produced is a near stick figure drawing that suggests a lack of understanding of proportion relative to the size of the page which I suggest reveals naivety and limited drawing ability (see fig 47). After three months Meg demonstrated an improved awareness of proportion in her drawing of a person in questionnaire 2 particularly in terms of the size of the dress, the addition of detail in the features of shoes and drawing ears with ear holes (see fig 48). After six months, Meg's drawing of a person demonstrated a significant improvement in her cognitive awareness to produce a drawing of a person with more accurate sense of proportion of the human figure with a head, body, neck and four limbs (see fig 49). Whilst the arms are out of proportion, they bend at right angles which suggests that Meg has grasped the concept of elbows.

Case study Dan, a recognised reluctant writer, demonstrated a significant cognitive thinking and development through his three drawings of a person (see figures 48, 49 & 50).



Figures 48, 49 & 50. Case study child Dan's drawings of a person in questionnaires 1, 2 and 3

In Dan's first drawing of a person, in questionnaire 1, Dan represented a person as a stick man with simplistic facial features of round eyes and nose and with a curved line for a mouth (see fig 50). In questionnaire 2, Dan's graphic representation of a person is more well-proportioned

with the features of a head, neck, body and four limbs that have structure, and in the case of the hands, digits for fingers. He has also drawn facial features that demonstrate a cognitive awareness of eyes with pupils and spectacles and a mouth with dimension. After six months, Dan's drawing of a person, albeit simplistic in its representation, is well proportioned. Dan has added an iris, pupil and eyebrows to each eye and drawn ears in the correct placement for the face. I would suggest that Dan has made the cognitive decision to draw a person as the head and shoulders with a well-shaped neck and a line to suggest clothing. These features are evidence of Dan's cognitive development represented through his drawing of a person.

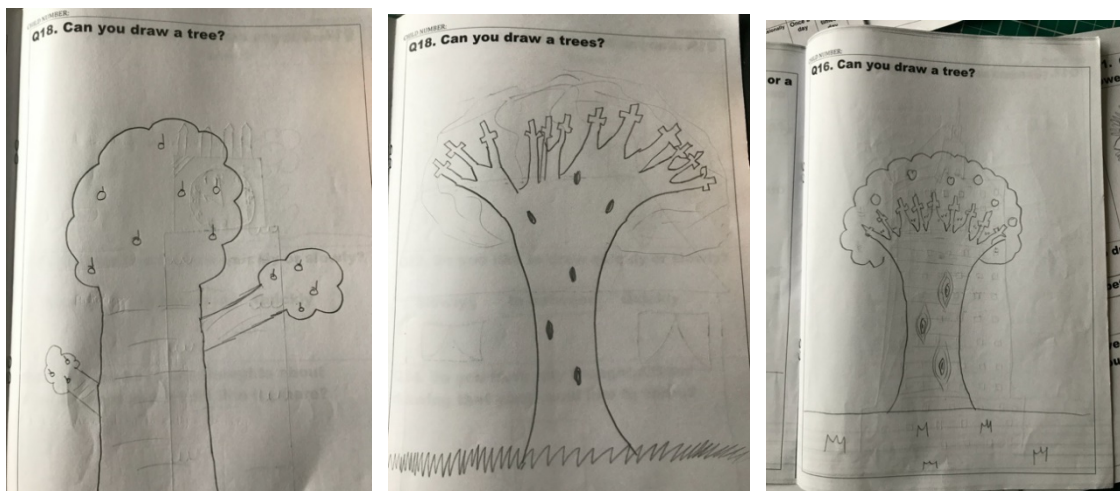
Similar findings of cognitive development were present in the children's drawings of a tree. A comparative analysis of each child's drawings of a tree in questionnaires 1, 2 & 3 and analysed and coded in order to gauge evidence of improved depiction of scale, proportion or unique details in their drawing of a tree. See Table 4 for the results.

	Q1	Q2	Q3
Type of Tree Drawn	No. of children	No. of children	No. of children
Well proportioned	1	9	15
Simple attempt at tree shape	12	11	11
Lollipop tree (Oblong trunk with circle for branches area)	11	9	2
Rectangular trunk and branches	5	1	2
Tiny tree	1	0	0
Total	30	30	30
Extra details			
Attempt at drawing branches	12	16	22
Bird in tree	4	7	7
Unique details (e.g. bark markings)	7	23	24
Falling leaves			1
Elements of occlusion		1	1
Element of 3D			1

Table 4: Simple analysis of children's drawings of a tree from all three questionnaires

The results show a marked improvement in the children's ability to draw a tree in terms of proportion and attention to detail. At the end of the drawing intervention, 15 children (50%) independently drew a well-proportioned tree in comparison to 1 child (3%) at the start of the intervention (see figures 51,52 & 53 as an example). After six months of drawing 24 (80%) children added unique details which is an increase of 14 (47%) children since the start of the intervention.

Below is an example of how one child's drawings of a tree developed from a simple structure in questionnaire 1 to a more well- proportioned and detailed drawing of a tree in questionnaire 3.



Figures 51, 52 & 53. Examples of one child's drawings of a tree in questionnaires 1, 2 & 3

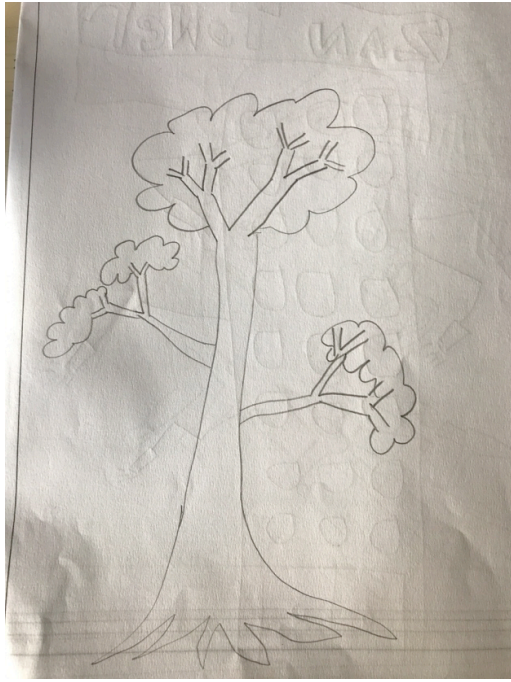


Figure 54 Child's example of well-proportioned tree

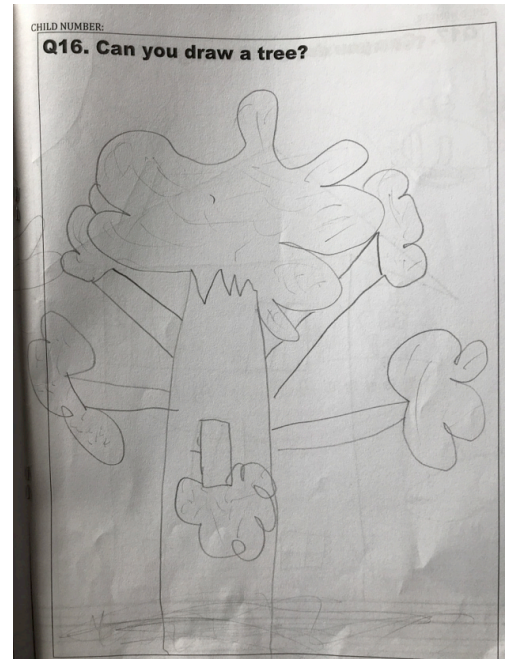


Figure 55 Child's example of tree with elements of 3D and occlusion

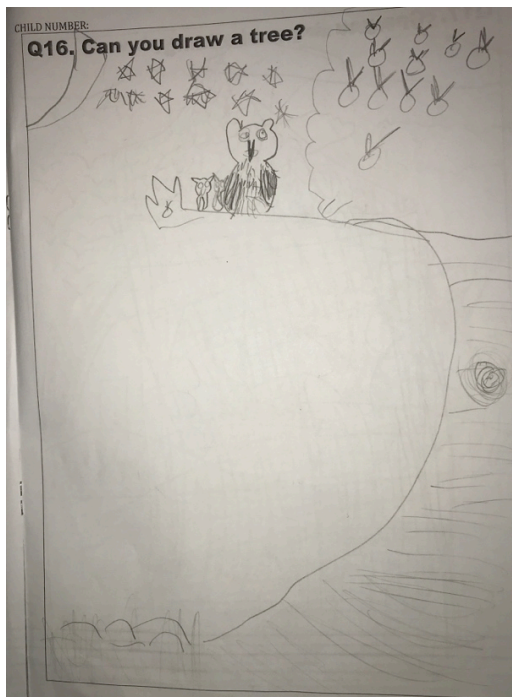


Figure 56 Child's tree with unique detail and composition

At the end of the intervention, half the children drew a well-proportioned tree (see figure 54 for an example) with a majority of 22 children (74%) attempting to draw trees with branches. One child demonstrated features of 3D and occlusion by drawing branches behind the crown of the tree (see figure 55) and 24 children (83%) drew trees with unique details and composition including entwined branches and detailed bark markings, for example, the eyes on a silver birch

tree bark, apples, a bird house and a portion of a tree with an owl family at night with crescent moon and stars (see figure 56 above).

In a similar way to the drawings of a person and a tree, the children's drawings of a building showed improvements in the type of building being drawn and the presence of unique details and elements of 3D. See Table 5 for the results.

	Q1	Q2	Q3
<b>Type of Building Drawn</b>	Number of times recorded	Number of times recorded	Number of times recorded
House	6	12	9
Block of Flats	6	5	5
Clock Tower building	3		3
Castle building	1		1
Sky Scraper building	6	4	2
Unique design or structure	9	11	16
Pyramid		1	2
Total	30	30	30
Extra Details			
Highly detailed	9	10	16
Attempt at 3D elements	6	10	12
Interior detail	3	1	0

Table 5: Simple analysis of children's drawings of a building from all three questionnaires

Below is an example of a child's inclusion of unique details, in this case, a helicopter, a smoking chimney and a TV aerial (see fig 57). The results show an increase in the number of children drawing buildings with unique designs or unique details from 9 (30%) children at the beginning of the drawing intervention to 16 (53%) children at the end. A possible reason for this increase is the children's growing maturity in creating detailed pictures however by

observing the children's drawings for elements of cognitive development we may gain inside into how the children are thinking and improving in their thinking.

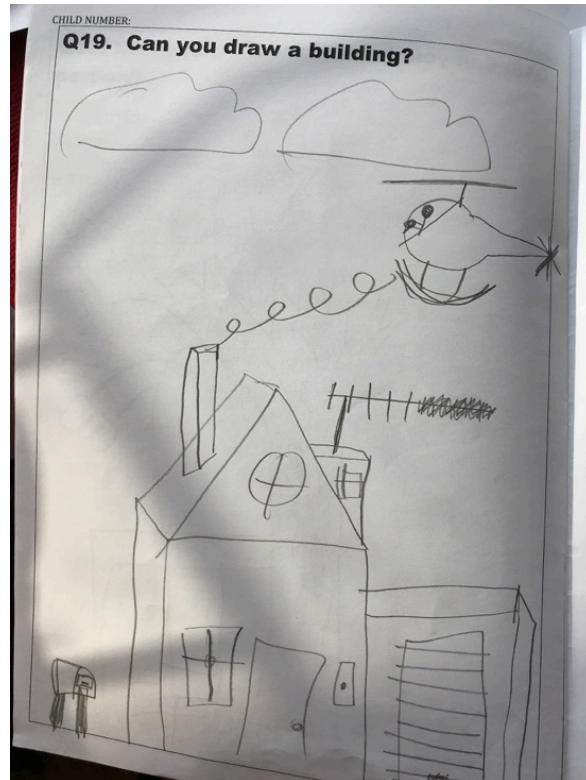


Figure 57. Child's drawing of a 3D house with unique details and helicopter



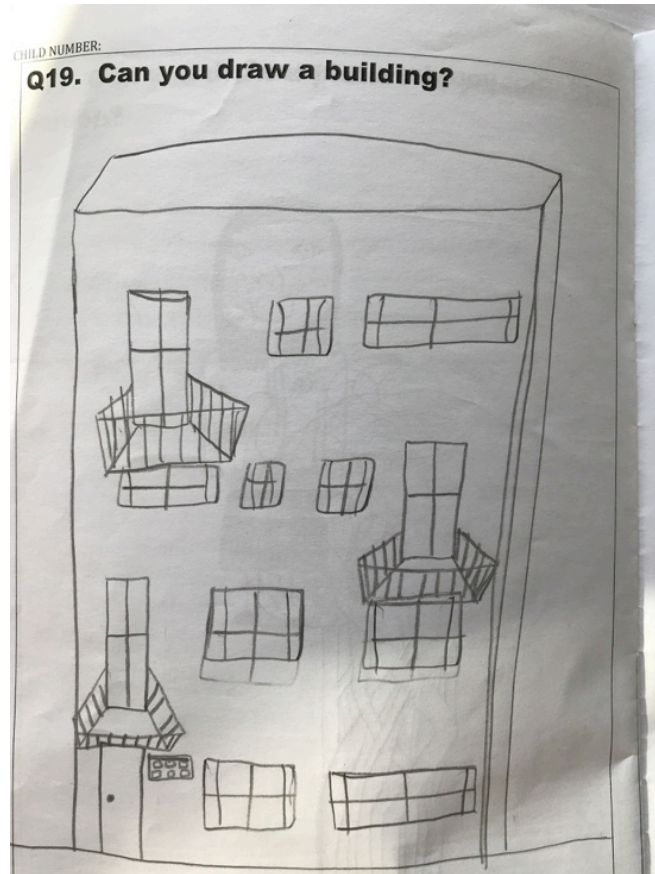


Figure 58. Child's drawing of a unique design with elements of 3D

The number of children attempting to draw a building with 3D elements (see figure 58 for example) doubled from 6 (20%) children to 12 (40%) children after six months. The improvements in the children's drawing of buildings were not as apparent as in the drawings of a person or trees, however, of particular note, is the cognitive thinking displayed in the drawing of a building by one academically able child. In questionnaire 1 this academically able child produced a drawing of a three-dimensional building with detailed elements of interior design features and sky lights in the roof (see figure 59). This indicates that this child had an initial aptitude for drawing and 3D thinking from the start of the intervention. However, it was evident through her drawings that this child continued to explore it through drawing.

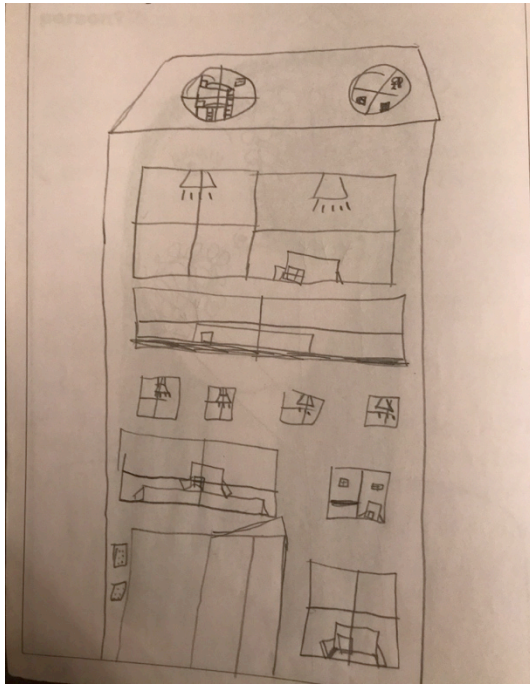


Figure 59. academically able child's drawing of a building with interior features and sky lights in questionnaire 1

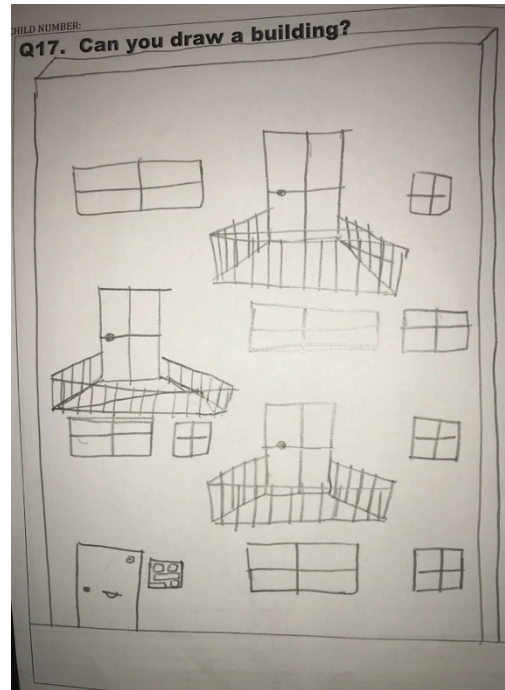


Figure 60. Academically able child's drawing of a building with 3D balconies in questionnaire 3

This child added features of three-dimensional balconies below some doors drawn in accurate perspective (see figure 60). This is evidence of cognitive thinking as she had created her design of a building with 3D elements independently. Another child demonstrated his cognitive awareness and understanding of three-dimensional thinking in his unique 3D design of a building in questionnaire 3 with accurate perspective and detail dimensions (see fig 61).



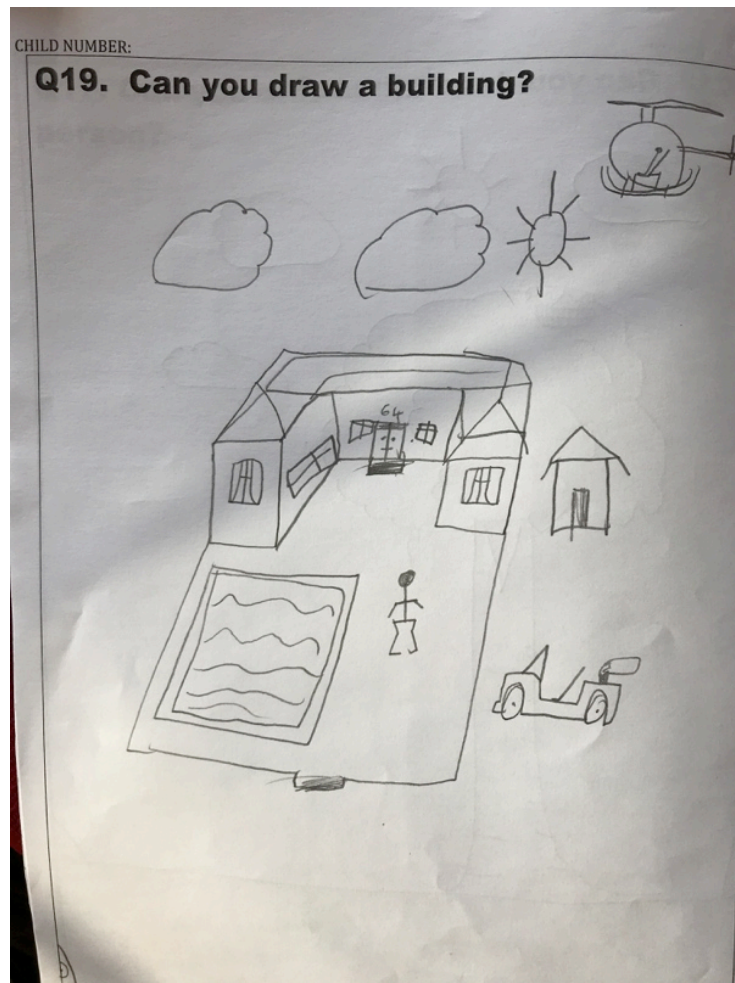


Figure 61. Drawing of a building with unique design details and elements of 3D perspective

It is possible that children's accurate and creative representation of three-dimensional perspective could have been in direct response to the instructional drawing lessons across the curriculum during the intervention e.g., drawing in 3D (Maths) and perspective (Art). What is significant is that children of this age group can demonstrate their cognitive aptitude for three-dimensional thinking through drawing which I would argue reveals cognitive awareness and understanding.

The children's graphic representations of a chair provide further indications of an improved ability to draw what they see in a more realistic fashion. The drawings were analysed and tallied under the categories of: front view, side view, rear view, aerial view,

flattened view, many angles, and in terms of unique style, design or details or attempt at 3D, someone seated on chair. Table 6 shows the results of the tallied drawings.

	Q 1	Q 2	Q 3
<b>Type of Chair Drawn</b>	Number of times recorded	Number of times recorded	Number of times recorded
Front view chair	10	13	15
Front view at angle	2	5	11
Side view chair	13	12	7
Rear view chair	1	2	3
Aerial view chair	3	3	5
Flattened chair	2	0	0
Many angles/viewpoints	1	0	0
Total	30	30	30
Extra Details			
Attempt at 3D chair	6	9	14
Someone seated in chair	2	1	1
Unique design chair	4	7	10
Bench chair	3	0	0

Table 6: Simple analysis of children's drawings of a chair

The most significant results from the children's drawings of a chair are the change in angle from which the children chose to draw a chair and an increase in the children drawing with elements of 3D or unique design. At the beginning of the intervention the majority of the children 13 (42%) chose to draw a chair from a relatively simple side view (see figure 62).

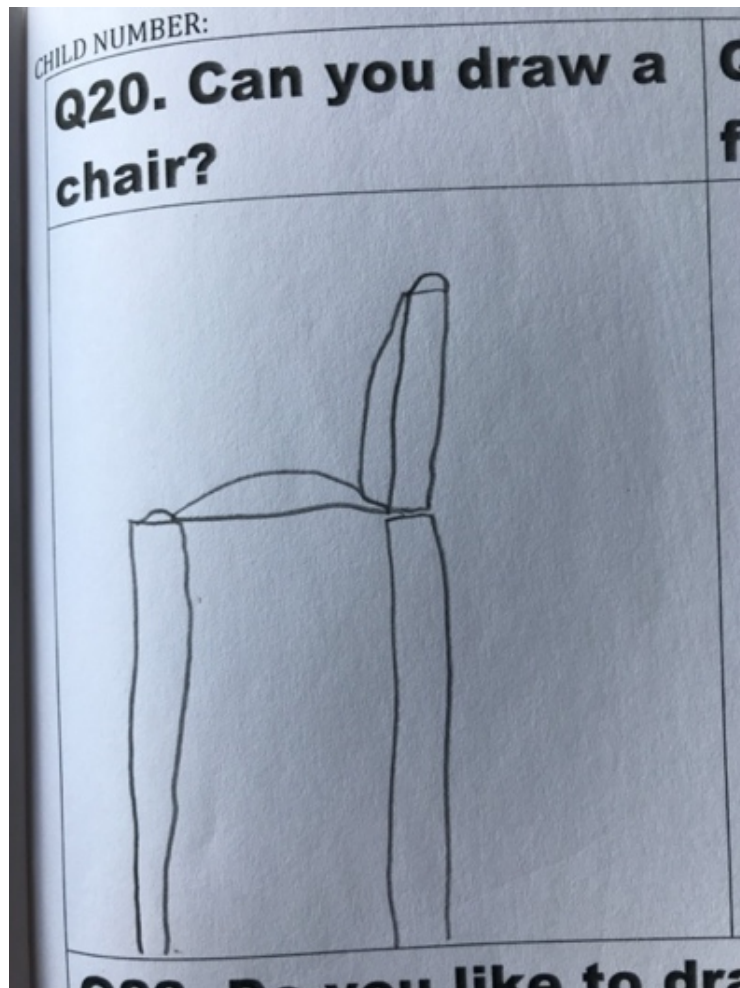
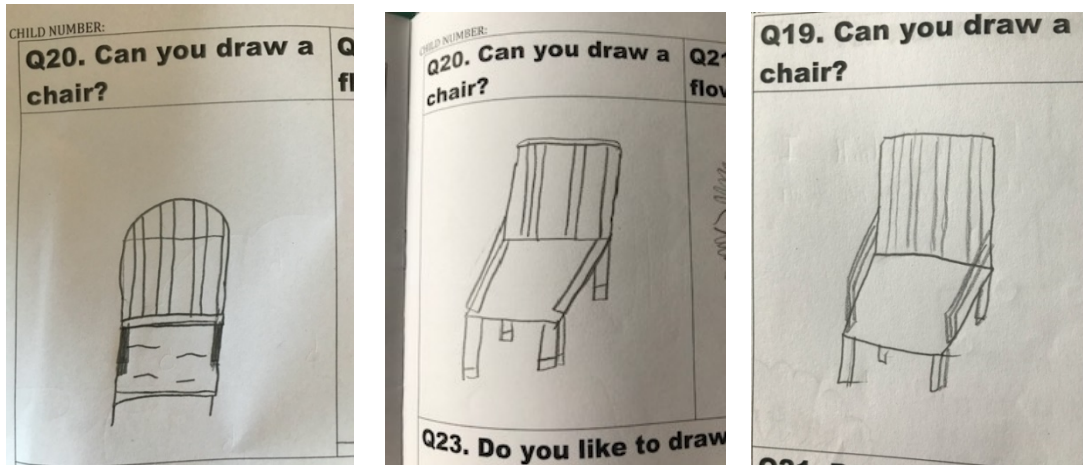


Figure 62. Chair drawing from simple side view

However, after six months of daily drawing a majority of the children 15 (50%) independently chose to draw a chair from a front view with 11 of those children drawing a chair from the front at an angle which involved elements of three-dimensional drawing and perspective. Figures 63, 64 and 65 below is an example of one child's development of their drawings of a chair drawn from a front angle to diagonal with elements of 3D.



Figures 63, 64 & 65 Examples of one child's drawings of a chair in questionnaires 1, 2 & 3

In total, an increase of 8 (27%) children to a total of 14 (47%) children attempted elements of 3D in their drawings of a chair at the end of the intervention and an increase of 6 children and a total of 10 (33%) children by the end created a chair with elements of a unique design. This finding suggests that, in response to daily drawing, children of this age group demonstrate the capacity and aptitude to attempt and produce drawings that imply developed cognitive thinking e.g., elements of 3D, front view, at an angle, and of unique creative design.

The children's drawings of a flower in each questionnaire were tallied under the following categories: well proportioned, simple stem, wide stem, very small, stick flower and close-up flower, and in term of style or details: detailed flower and vase. Table 7 shows the results of the tallied drawings.

	Q 1	Q 2	Q 3
Type of Flower Drawn	Number	Number	Number
Simple stem flower (Long oblong stem, circular flower with rounded petals)	9	3	1
Wide stemmed flower	7	7	2
Very small flower	1	1	1
Stick flower	6	6	1
Close up of flower	2	2	8
Well-proportioned flower	5	5	17
Total	30	30	30
Extra Details			
Detailed flower	9	11	21
Flower with vase	3	2	1
Drawing going beyond the frame	1	1	8
Insects	3	6	11

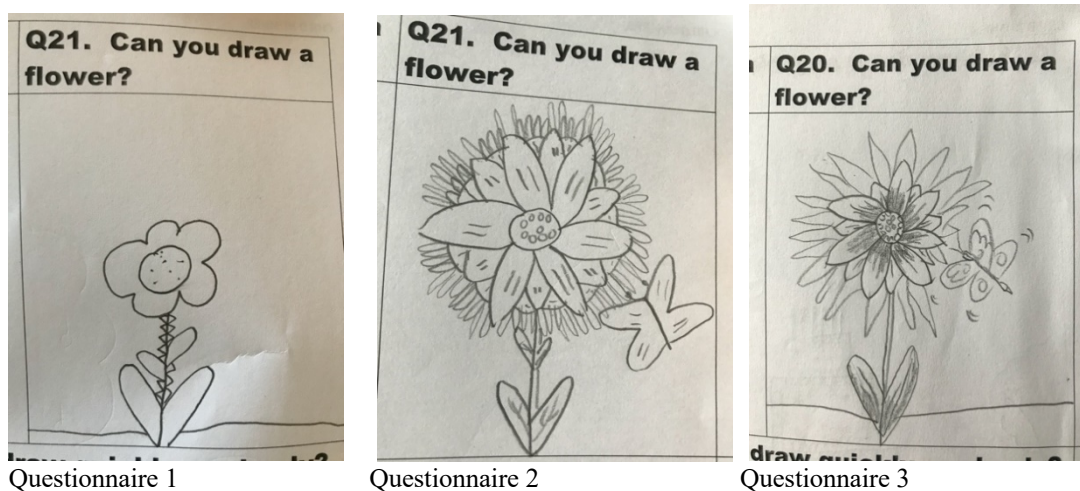
Table 7: Simple analysis of children's drawings of a flower in questionnaires 1, 2 & 3.

The results from the children's drawings of a flower show that the number of children drawing a simple stick flower at the beginning of the intervention had reduced from 6 (20%) children to one child (3%) by the end of the drawing intervention. The number of children drawing a simple stem flower had reduced from 9 (30%) children to one child (3%); and the number of children drawing a wide stemmed flower reduced from 7 (23%) children to 2 children (6%).

Meanwhile, the number of children drawing well-proportioned flowers by the end of the intervention had increased significantly from 5 (16 %) children to 17 (57%) children. In addition, a total of 21 (70%) children produced detailed drawings of flowers; 8 (27%) children drew flowers beyond the frame (the square provided) and a total of 11 (37%) children added insects to their drawings. These elements of well proportion, detail and 'thinking outside the box' demonstrate a shift in the children's cognitive engagement - decision making - with their representation of a flower. Whilst it is likely that the children's ability to represent their understanding of the structure form and detail of a flower is the

result of the children learning more about the structure of flowers during science lessons it could also be argued that the observational drawing of flowers enabled the children to apply that knowledge and understanding and thus represent it in a more realistic graphic form independently.

Figures 66, 67 & 68 below are examples of how one child's drawings of a flower developed in terms of proportion, detail and elements of 3D as the intervention progressed.



Figures 66, 67 & 68. Examples of one child's drawings of a flower in questionnaires 1, 2 & 3

With a majority of the children independently producing drawings of familiar subjects with improved elements of proportion, detail, three-dimension and creativity adds weight to the view that drawing plays a part in the promotion of cognition and meta-cognition (Eisner, 2002; Efland, 2002; van Sommers, 1984).

### ***Children's emotional and social responses to daily drawing***

Outlined in Chapter Six are the findings that demonstrate that the children in this study derived consistent enjoyment and pleasure from engaging in daily drawing activities across the

curriculum as part of a six-month drawing intervention. Significant to this question are the findings that reveal links between daily drawing and the children's emotional and social development.

As outlined in Chapter Four, throughout the drawing intervention the children demonstrated significantly different responses to different drawing tasks: quiet or silent focused attention in response to copying and observational drawing tasks and heightened discussion, questioning, problem solving, 'dynamic engagement' and laughter in response to more experimental and exploratory drawing tasks. It could be argued that this finding suggests that children have markedly different emotional and social responses to different drawing activities. Significantly, in the aftermath of copying and observational drawing tasks the children remained quiet for some time and displayed calm and relaxed behaviours which suggests that drawing has a lasting effect on children. In contrast, in the aftermath of exploratory and experimental drawing tasks the atmosphere in the classroom could often be described as a 'buzz' of excitement with lots of chatter, laughter and sharing of drawing decisions and outcomes. This disparity in the children's behavioural and verbal responses to different drawing activities needs to be investigated further however it is worth bearing in mind when considering the emotional benefits of drawing to children's learning at key stage 2.

More importantly, the children in this study recognised and valued the emotional feeling of calm and relaxation that drawing engenders. Throughout the drawing intervention the children were overheard to make comments indicating this:

*"I think it is so relaxing"*

*"I like drawing because it relaxes me and calm's me"*

*"I love drawing because it is RELAXING"*

These comments align with Edwards (1993) claims that, when drawing, “you feel calm, active without anxiety”. What is significant is that children of this age group are able to experience this relaxed sensation when drawing to the degree that they are able to articulate it. On completion of the intervention many, children alluded to the relaxing feeling that they experienced when drawing:

*“I like drawing because it relaxes your brain and you feel really imprest (sic) when you see your drawing when it is finished”*

*“I think it is imaginative and fascinating”*

*“I like drawing because it is really relaxing . I like to draw cars and road and lots more”*

*“I like drawing because it is really relaxing and fun and it’s amazing what you can draw”*

*“I have enjoyed drawing because it is really relaxing, fun and I want to be an artist when I grow up”*

*“I love drawing because it is RELAXING.”*

*“I love droing it makes me fil rlxast (sic)”*

*“I like drawing because it relaxes me and calm’s me”*

This finding reveals children’s recognition that drawing has calm and relaxing effect on them which has important potential benefits in the promotion of children’s emotional and mental well-being in everyday learning in primary education.

The drawing interventions was shown to have a positive emotional or social impact on all five case study children. For example, case study Will, recognised for his poor fine motor and low self-esteem, responded favourably to a tracing task involving tracing a photocopy of a photo of himself. Will was so impressed with the accuracy of his traced portrait as revealed through his eagerness to share the outcomes that he invited his mother into the classroom to view it and had never happened prior to this drawing task. Will’s experience of successful tracing seemed to not only improve his demeanour and self-esteem as a drawer but also his dexterity with pencil control.



The drawing intervention appeared to improve case study Marcus's resilience to making mistakes. Marcus was recognised for his academical ability experienced perfectionism and low self-esteem which manifested in outbursts of frustration e.g., crying, hitting his head or banging the table. This behaviour became particularly apparent during the first perspective drawing lesson when Marcus aborted his drawing in frustration commenting:

*“it doesn't look like it is meant to”.*

This comment suggests that Marcus had a high expectation of the accuracy of his drawing. However, after accepting an explanation that the drawing task was just an exercise Marcus was able to engage fully in subsequent drawing tasks with no negative emotional response. In a subsequent high-speed portrait drawing challenge, Marcus produced a high-speed portrait drawing of his classmate (see figs 28 and 28) that he himself and his classmates deemed to be very successful as revealed by the smile on his face and positive comments from the other children. It is significant that at no other point after the success of his high-speed drawing did Marcus become frustrated with his drawing. I would suggest that this drawing experience and his acceptance that drawing can be viewed as an exercise was beneficial to Marcus in reducing the traits of perfectionism and self-criticism of drawing. That drawing is a *process* and one which may help to ameliorate the negative emotional response to making mistakes. It is difficult to be certain, but it could be argued that this experience helped Marcus with his resilience in other areas of his learning as he was far less prone to frustration outbursts as the drawing intervention progressed.

Case study Millie had a similar response to the process of drawing . Millie, also recognised for her high academic ability and behaviours of perfectionism, became tearful, self-critical and hid her drawing at the end of a non-dominant hand drawing task. It was explained to Millie that the drawing tasks were just exercises and in the following lesson Millie produced an

accurate drawing independently with no negative emotional response. I would argue that the combination of accepting drawing tasks as ‘just an exercise’ reduces the level of expectation in the outcome which builds children’s resilience to attempt and complete other drawing tasks.

Interestingly, the discouragement of using an eraser when drawing appeared to have a positive impact on the way that children viewed the drawing task. The children requested the use of an eraser to erase perceived ‘mistakes’, however, by discouraging the use of an eraser the children were observed to focus or fixate less on any mark making that they themselves deemed to be ‘wrong’ and by the time they had finished the drawing the children often forgot, amended or disguised the original ‘wrong mistake’. I would argue that this approach reduced the children’s criticism of their drawing outcomes which has the potential to promote drawing confidence and reduce children’s disengagement with drawing (Cox, 1989; Davis 1997a&b; Gardner,1980; Jolley 2010; Matthews, 2003; Sully, 2002; Lowenfeld, 1947) in the long term.

The drawing intervention had very little impact on the academic progress of case study Mia, recognised for her global under development and to be working a well below age related expectations. This was particularly evident when, in the final week, she took part in the school fair by offering to draw other children in a street-artist style of drawing.

Case study Mia, who was challenged with low academic ability and global underdevelopment, appeared to benefit from the social aspect of daily drawing. Mia recognised that she could draw independently by herself or with and alongside others especially during wet play sessions which greatly improved her social interactions, her self-esteem and her self-efficacy as a drawer.

Meanwhile case study Dan who, prior to the intervention had displayed frequent behaviours of anxiety and recognised as a severely reluctant writer was more eager to put pencil to paper for drawing. Both he and his classmates recognised that he drew with a distinctive simplistic style of his own (see figs 50 to 52) which had a positive impact on Dan's self-esteem and his willingness to attempt more drawing.

These findings provide evidence to support the view that drawing has benefits in the promotion of children's emotional and social development (Eisner, 2002) especially in the recognition that making mistakes is part of the drawing process, that drawing can be viewed as exercises and thus reduce the pressure of expectation for children with anxiety and those focused on perfectionism (Basak 2009: Stornelli et al., 2009). In addition, regular drawing enables children to recognise that drawing can be undertake independently and with other which is beneficial to children's social development.

### ***Drawing and Children's Drawing Confidence and Drawing Efficacy***

Children's emotional response to different drawing activities is, I would suggest, linked closely to children's drawing self-efficacy, that is, children's belief in themselves as proficient drawers or artists. The findings from this study highlight the ways in which the children demonstrated improved their drawing self- efficacy.

Whilst accuracy, detail and aesthetic quality of the children's graphic representations were not essential to this research, evidence of improvement in these skills are indicative of the children's ability to comprehend drawing instructions (see above). In addition, the children's

natural affinity to pay focused attention and develop hand-eye coordination skills on observational drawing and ‘dynamic engagement’ in more exploratory drawing are indicators that the children are developing increased familiarity, confidence in their drawing practice and skills. As explained above, it was observed that every child produced evidence of progress in drawing in terms of proportion, detail, pencil control, interpretation or accuracy and confidence. More importantly to this research, the children’s improved confidence and drawing efficacy was demonstrated through their behaviours, tacit and verbal expressions, written responses to questionnaires and through their parent’s responses to questionnaires.

One of the factors that impacted the children’s drawing efficacy was the discouragement of using an eraser when drawing as this enabled the children to maintain focus on the drawing activities as exercises and less on their perceived ‘mistakes’ expected outcomes. Recognising that mistakes are part of the drawing process appeared to have a positive impact on building the children’s resilience to making mistakes which then positively impacted the children’s confidence in drawing. This finding could have potential benefits in promoting children’s resilience to making mistakes and may have the potential to ameliorate children’s disengagement with drawing at key stage 2.

Every child was observed to develop an improved confidence to use and apply different drawing utensils to different drawing tasks and to attempt unfamiliar and experimental drawing activities. Throughout the drawing intervention the children produced drawing outcomes that the children deemed successful as expression through their commentaries. For example,

*“It’s better than I thought it would be”*

*“I’m really pleased with mine”*

*“Look at hers, it looks like the real thing”*

These comments are evidence of the children’s awareness of their improved drawing ability which I suggest has a positive impact on the children’s drawing self-efficacy. In addition, the children regularly responded with surprise to their perceived success in drawing as indicated through their verbal commentaries, facial expressions, quiet staring at their drawing outcomes and their eagerness to share drawing outcomes with their peers, friends and family. This was particularly evident following the lesson on upside-down drawing (see above). During this task the children were able to recognize the effectiveness of focusing on the properties of the lines - the length, angle, shape - and the spaces between the lines to create a well-proportioned, representation of a copied image. Every child appeared to be impressed by their drawing skills which had a subsequent positive impact on their confidence as drawers. All of the children were observed to share their outcome of the upside-down drawing with their peer sitting next to them or to invite their friends and peers to look at their drawing and many were overheard to make the following verbal comments:

*“I’m surprised at how good it is’*

*“I’m really surprised that it looks like the man because I wasn’t looking at the man*

*“I did not know I could draw upside down”*

*“It actually looks like the picture of the man”*

Similarly, after a high-speed drawing task the children were overheard to comment:

*“I loved that because it was so fast and I really like what I have drawn”*

*“I love that we do different types of drawing”*

*“I love drawing and I think that drawing can help you with almost anything*

These verbal comments provide evidence of the children's surprise and pride at the success and quality of their drawing outcomes and the children's perception of improved efficacy. This concurs with Edwards' (1993, p.85) description that drawing makes you 'feel self-confident and capable of doing the task at hand. Your thinking is not in words but in images and, particularly while drawing, you're thinking is "locked on" to the object you perceive'. As Eisner (2002) points out, 'surprise is itself a source of satisfaction as it is from surprise that we are most likely to learn something' (p.8) and the children's response to the outcomes of exploratory and experimental drawing was often one of surprise. This was noticeable during a drawing task which focused on using the non-dominant hand. At the start of the task, many children were overheard to suggest that:

*'This is impossible',*

*"I can't even write with my left hand"*

*"This is going to look terrible"*

However, in this lesson every child was observed to employ improved hand-eye coordination and 'pause' when drawing (Brew, 2011) and all thirty children produced a portrait that each drawer deemed successful especially in its likeness to the subject. Figures 69, 70 and 71 below are examples of the children's non-dominant hand portrait drawings of their peers.



Figures 69, 70 & 71 Examples of children's non-dominant handed drawings

The children further demonstrated an increased confidence in drawing ability with their eagerness to share the results of their non-dominant hand portraits with their peers and family. The children were overheard to articulate how they achieved the drawing ‘*with the hand we don’t write with*’ and ‘*how it felt strange*’ and expressed comments at the success of their drawing outcomes:

*“It looks better than I expected with my left hand”*

*“It’s good”*

*“It actually looks like them”*

Burkitt et al. (2010), found that 30% of in a study of 44 teachers 44 of the National Curriculum for Art and Design across the UK viewed children’s pride and satisfaction in the finished drawing as a significant benefit of drawing. The children’s increasing surprise and pride in their drawing outcomes, throughout the drawing intervention, supports this view but from the children’s perspective. The success of this drawing task also suggests that children of this age are able to successfully engage with exploratory tasks of this kind.

During other experimental and exploratory drawing activities, the children’s improved drawing confidence and drawing-efficacy was indicated by the increased speed of their animated body movements, gestures and marking making combined with the children’s facial expressions of smiling and verbal utterances of laughter and lively discussion. It is difficult to be certain, but the undertaking of exploratory and experimental tasks appeared to have a significant impact on the children’s confidence to attempt other drawing tasks. For example, after engaging in bilateral (two-handed) drawing, used to help the children explore their imagination, minimize their expectation of a fixed drawing outcome (see figures 72, 73 & 74), the children were

observed to have more faith in letting the drawing just happen without expectation of a specific outcome.



Figures 72, 73 & 74. Bilateral drawings in pencil, charcoal and coloured pencil

Significantly, after engaging with exploratory and experimental drawing task the children were noticeably less hesitant especially when engaging with unfamiliar drawing activities with indicates improved confidence in drawing. By this I mean the children put pencil to paper (or alternative media) more readily, without hesitation. A possible reason for this is that during tasks like high-speed drawing the children would focus on completing the task within the time given which steered the children's focus away from the drawing outcome. It encouraged or allowed the children to surrender themselves to the task rather than overthink or retain high expectations of the drawing outcome. This appeared to improve the children's engagement in all subsequent mark making and aligns with Eisner's view that 'in the arts, in the West at least, permission is provided to explore, indeed to surrender, to the impulses the work sends to the maker, as well as those sent from the maker to the work' (Eisner, 2002, p.8). As Eisner (2002) argues, 'it promotes the development of a disposition to tolerate ambiguity, to explore what is uncertain, to exercise judgement free from prescriptive rules and procedures' (p.9).



In addition to the children's perceptions of their improved drawing ability, following the high-speed drawing tasks the children were overheard to express the recognition of other's drawing ability:

*"Yours looks amazing"*

*"Look at his"*

*"Look at hers it looks just like the real thing"*

These comments are evidence of the children's perceptions of their own improved drawing efficacy and an awareness of, or appreciation for, other children's drawing efficacy. It is significant that on no occasion was a negative comment on another child's drawing overheard.

Throughout the intervention, the children consistently demonstrated perceived improvements in their drawing ability through their verbal comments when drawing including:

*"This is easy"*

*"I'm amazed I could do that"*

In their written responses to questionnaires the children expressed a recognition of the ways in which their drawing had improved as a result of regular drawing including a recognition of technical improvements in their drawing in:

*"The accuracy in drawing" "The shape"*

*"My detail"*

*"More shading,"*

*"Drawing is more clear (sic)"*

*“Sketchy things”*

*“Different ways of drawing things”,*

*“ Using different techneeks (sic)”*

One child explained:

*“I am get better at drawing because they look like who I’m drawing”*

These comments provide evidence that children are aware of improvements in their drawing skills and technical ability. The children also recognised improved drawing ability in the speed of their drawing:

*“I like to draw faster” “I’m more fast “*

The children also alluded to the shading, likeness and ‘style’ of their drawings as indicators of improvement by recognising:

*“Drawing things that are meant to be shady”,*

*“I am better at drawing people and portraits”*

*“A new style of drawing”*

*“More imaginative”*

*“More details and stiles (styles)”*

In the final questionnaire, administered at the end of the intervention, the children articulated the ways in which their improved drawing efficacy impacted them:

*“I like drawing because it gives me inspiration on Art and it makes me imagine more”*

*“I have enjoyed drawing because it improved my drawing. It also was fun”*

*“I like drawing because we draw imaginative things”*

*“I like drawing because you can draw ennything, and you can choos what every you want, like your favoret animal, drawing is fun and I love it. I draw things I see and like but I really like to draw things on T.V. (sic)”*

*“I think drawing is freedom. I feel free to draw anything”*

These findings provide empirical evidence of the impact of regular and varied drawing on children’s drawing ability and drawing efficacy as perceived by children themselves. This is important especially when considering the promotion of children’s confidence in drawing in which has been widely recognised to decrease as children progress through primary school (Watts, 2010; Jolley 2009; Rose Jolley and Burkitt 2006; Alsop 2002; Hobbs and Rush, 1997; Cox et al., 1995; Viola, 1936; Luquet 1927/2001; Cizek, 1904) and when considering the value of drawing in the wider curriculum beyond art and design.

## **Summary**

To summarise, the findings from this study echo the views on art education put forward Eisner, (2002) and Elfand (2002) and reveal the links between art, drawing and child development in the promotion of children’s cognitive awareness and engagement, children’s emotional and social development and children’s drawing self-efficacy.

Observing and listening to children engaging in different drawing activities across the curriculum insight has provided insight on how children cognate and demonstrate cognitive and metacognitive awareness and development through their drawing behaviours and verbal commentaries. The children demonstrated *tacit knowledge* (va Sommers, 1984) by tacitly

positioning and re-positioning themselves prior to and during drawing activities indicating their cognitive awareness of an optimum position from which to draw. During observational drawing the children were able to cognitively pay attention' (Eisner, 2002), adopt mature or expert eye and hand movements Tchalenko (2009a), pause on the subject or object, engage in intentional mark making, tacit decision making and falling into silent focused concentration which are all indicators of cognitive engagement.

The children were able to cognitively draw at high-speed, with their non-dominant hand, both hands and upscale and downscaled their drawings to large scale and miniature formats independently. During doodling sessions, whilst listening to whole class stories, the children demonstrated clear retention of facts and information and increased concentration (Brown 2015; Chinchachokchai, Duff & Wyer, 2011; Chan, 2012; Andrade 2010). These findings support the view of drawing as a cognitive event' (Eisner, 2003)

A simple analysis of children drawings of familiar subjects over time reveals a cognitive awareness, engagement and development in the children graphic representations in the production of familiar subjects in the questionnaires and in their learning in subjects across the curriculum.

The findings reveal that children in this study have significantly different emotional responses to different drawing activities ranging from quiet, calming and relaxed demeanours during observational drawing to 'dynamic engagement' of animated body movements, gestures, verbal communications and laughter during more experimental and exploratory drawing.

More importantly, the children themselves recognised their emotional responses to different drawing activities as being either *calming*, *relaxing* or *fun* which is worth considering when promoting children's emotional well-being and development.

In addition, findings reveal that a drawing intervention of daily drawing could have a positive impact on children's resilience, the accepting the making of mistakes and the promotion of self-esteem and drawing self-efficacy which are learning behaviours fundamental to children's education.

## **CHAPTER SIX: DATA ANALYSIS AND DISCUSSION – SUBSIDIARY QUESTION 3 relating to Engagement and Disengagement: In what ways does a daily drawing intervention impact children’s engagement or disengagement with drawing.**

This chapter focuses on the sub-research question relating to drawing engagement and disengagement: **In what ways does a daily drawing intervention impact children’s engagement or disengagement with drawing.**

This sub-research question concerns the insights gained into the ways in which children engage and disengage with drawing activities in all subjects across the primary curriculum.

When Prothero (1977) defined drawing engagement as "the extent to which a child is involved in the drawing process" she identified three components of drawing engagement: attention, effort and enjoyment.

As outlined in chapter five, the findings in this study revealed the children in this study demonstrate the ability to ‘pay attention’ (Eisner, 2002; Prothero 1977) ‘to look, to see, to focus, to concentrate, to sustain their concentration (Duff, 2010; Einarsdottir & Dockett, 2009) when copying and observational drawing tasks. To the point of adopting mature or expert eye and hand movements (Tchalenko (2009a), pausing to observe (Brew, 2011), intentional mark making, tacit decision making and falling into silent focused concentration. In contrast, the children demonstrated consistent ‘dynamic engagement’ with animated body movements and gestures, more expressive mark making and heightened discussion, decision making, problem solving and risk taking (Dyson, 1993) during more experimental and exploratory drawing tasks. These behavioural responses denote the children’s willingness to put forth effort in the drawing task (Prothero, 1977) .

However, the most dominant themes to emerge from data (observations and listening to children engaged in daily drawing and the children's written responses to questionnaires) are the children's enjoyment of drawing, children's natural inclination to draw, children's recognition of drawing as relaxing and calming and the children's recognition that it is *not* important to children to be good at drawing. These themes shed light on the children's engagement with the *process* of drawing.

It is significant that no child was overheard to complain about a drawing activity nor did a child refuse to attempt a drawing activity or express boredom with the daily drawing tasks revealed through their body language or verbal communications. On only two occasions were individual children observed to experience a negative response to a drawing task (case study children Marcus and Millie, see chapter five) however on both occasions the negative issue was related to the children's high expectation of themselves and on both occasions was resolved with more drawing.

### ***Children's enjoyment of drawing***

Children's enjoyment of drawing could be observed as an expected response to a drawing intervention of daily drawing given the widely held view that children enjoy drawing and have a positive attitude to drawing (Bromley & Turner, 2019; Burkitt et al., 2010; Dove, Everett & Preece, 2010; Anning & Ring, 2004; Matthews, 2003). From the outset the children demonstrated an eagerness to draw through their drawing behaviours as expressed through their keenness to hand out and receive their drawing sketchbooks and drawing utensils. As outlined in the methodology, the children were given sketchbooks and access to different types of graphite pencils (3B, HB and 3H), plus other drawing media (coloured pencils, pens, charcoal, pastels, etc.) which were distributed at the start of every daily drawing activity. However, as the intervention progressed the children became increasingly eager and willing to

request, or offer, to hand out the drawing sketchbooks. The children waiting for their sketchbooks were regularly observed to sit upright with facial expressions of excited anticipation (wide eyed and smiling) or were observed to sharpen their pencils, look at and talk about previous drawings in their sketchbooks, or carefully prepare their sketchbooks at the right page. Invariably, at the start of the drawing activities, many of the children were regularly overheard to make verbal utterances of excitement, for example, “*Yes*” and “*Oh good*” or “*I love drawing*” and “*Yes, I love drawing*” whilst waiting to receive their sketch books. Moreover, the children appeared as eager to use drawing in P.E. (creating shapes with imaginary pens on their shoulders and learning sport rules and tactics) to drawing cross-section diagrams in Geography and Science, to drawing historical clothing, buildings or weaponry in History.

As explained in chapter five the children expressed different emotional responses to different drawing activities. The children regularly fell into silent focused concentration and expressed the feeling of calm and relaxation during and after doodling, copying and observational drawing which denotes a full willingness to engage with observational type drawing. Meanwhile, the children regularly made comments that denote pleasure derived from experiencing more exploratory or experimental drawing tasks, such as:

*“That was amazing”*

*“I love that we do fast drawing”*

*“Can we do it again?”*

These comments combined with children’s behavioural responses to differ drawing; sitting upright with minimal body movements in observational drawing and increased physical energy and body movements are significant indicators of the children’s enthusiasm and engagement with a variety of drawing. This resonates with the view that the arts, in all their manifestations,



are close in attitude to play (Huzinga, 1955) and that drawing is ‘fun’ (Kirk, 2007) especially when used in an exploratory and experimental way.

Significantly, the children’s eagerness to draw was sustained throughout the six-month intervention and did not wane despite the children engaging in daily drawing activities in all subjects across the curriculum which supports the view that children enjoy drawing (Bromley & Turner, 2019; Dove, Everett & Preece, 2010) or draw for sheer pleasure (Matthews, 2003, 1999). The children often made requests for, and enquiries about, upcoming drawing activities that indicate their eagerness to draw:

*“I can’t wait until doodling”*

*“Are we doing drawing today?”*

*“Have we got drawing today?”*

*“Are we doing drawing today?”*

*“When are we drawing?”*

*“What are we doing in drawing today?”*

When engaged in the act of drawing the children were regularly overheard to express verbal commentaries of enthusiasm including:

*“I love drawing”*

*“It is fun”*

*“Drawing is fun and creative”*

*“I love that we do different types of drawing”*

*“That was amazing”*

*“Can we do it again?”*

The children's enthusiasm for drawing was further expressed through the speed with which they attempted or engaged with both familiar and unfamiliar drawing tasks. When engaging in copying or observational drawing the children did not hesitate to get started on the drawing task, however, when presented with more exploratory or experimental drawing tasks, many of the children were observed to hesitate before commencing drawing. This is unsurprising, given the unfamiliarity of the exploratory or experimental drawing activities. Many children would look around the classroom, to observe and ascertain how their peers were interpreting the instructions or question what they were going to draw, for example, '*What are you doing first?*' and '*Where are you starting?*' After two weeks of daily drawing, all the children appeared to be significantly less hesitant and more independent (relying less on watching how other children were drawing) when engaging in the exploratory or experimental drawing activities. This could be explained with the children improved drawing self-efficacy or the familiarity of the drawing experience increased the children's eagerness to draw. Nevertheless, as the intervention progressed the children appeared more eager and confident to get started on the drawing tasks, often asking "*Can we start?*" immediately after receiving the simple instructions. This finding aligns with Eisner's (2002) view that 'work in the arts enables us to stop looking over our shoulder and to direct our attention inward to what we believe or feel. Such a disposition is at the root of the development of individual autonomy' (p.10). From this it could be suggested that regular drawing has the pedagogical potential to put children's learning autonomy, and therefore agency, more firmly in the hands of the child, literally and metaphorically in addition to being a significant factor in adding to the children's enjoyment of drawing.

Enjoyment of drawing was further indicated through the children's behaviours of increased pride when looking at their drawing outcomes. This was expressed through the children staring

at their drawings and smiling or sharing their drawing outcomes with friends or the person sitting next to them during and at the end of the tasks. As the intervention progressed, the children were observed to share their drawing outcomes more readily with classmates other than those sitting next to them. In addition, the children would invite their friends and family into the classroom to view their drawings at the end of the day. This was particularly evident immediately after displaying a variety of traced portraits and high-speed drawings on a classroom wall and window display. This behaviour had not occurred prior to the drawing intervention or with displays of work in other subjects. These findings indicate an increase in the children's confidence in the success of their drawing outcomes and ability and the pleasure that children derive from successful drawing outcomes.

Over time the children were observed to become more inclined to share their interest in drawing beyond the classroom with the class. For example, following an observational drawing lesson involving the depiction of the bark of a silver birch tree in the school grounds, a child shared with the class: *"I found a Silver Birch on our walk yesterday that had a perfect eye. My dad took a photo of it and I'm going to draw it."* This sharing of drawing outcomes, observations and intentions with others, suggests that children carry the concept of drawing beyond the classroom. It supports the view that drawing helps children to make sense of the world around them (Cooke, Griffin & Cox, 1998; Anning, 1997; Cox 1992) and suggests that the positive and enjoyable experience of drawing at school can impact behaviour outside the school.

After three weeks of daily drawing the children were observed to engage more often in drawing during free time such as wet play sessions, suggesting an increased interest in or enthusiasm for drawing. Possible reasons for this include the children's eagerness to develop skills and approaches to drawing to which they had been introduced, their increased drawing self-efficacy

as a result of regular drawing, or the desire to draw for sheer pleasure (Matthews, 2003, 1999). Nevertheless, the findings demonstrate the children’s continued enthusiasm for drawing.

Findings from the children’s questionnaires provide further evidence from the children’s perspective to support the view that children enjoy drawing. Results show that a majority of the children in this study enjoyed drawing prior to the drawing intervention and that their enjoyment of drawing was sustained or increased as a result of daily drawing. Table 8 shows that a majority of the children (27 or 90%) enjoyed drawing *quite a bit* or *loved it* (see Table 2) at the start of the intervention.

#### **Do you like drawing?**

	Questionnaire 1	Questionnaire 3
	No of children	No of children
	(percentage)	(percentage)
Not at all	0 (0%)	0 (0%)
Not much	0 (0%)	0 (0%)
A bit	3 (10%)	1 (3%)
Quite a bit	9 (30%)	11 (37%)
Yes I love it	18 (60%)	18 (60%)

Table 8 Questionnaires 1&3 response to question: *Do you like drawing?*

Whilst the results show little change over the six months in how many children ‘loved’ (as in ‘Yes I love it’) drawing, what is significant is that the children’s enthusiasm for drawing was sustained with an increase of 2 children (7%) enjoying drawing *quite a bit* at the end of the intervention. Only one child (case study child Dan) indicated that he liked drawing *a bit*, and

he had maintained that level of enjoyment of drawing throughout the intervention. As Kirk (2007) argues not all children enjoy drawing, and some children may have impairments that would make drawing problematic.

The children's engagement with drawing outside of school was tracked in all three questionnaires using the question *How often do you draw?* See Table 9 below.

### How often do you draw?

	Questionnaire 1	Questionnaire 2	Questionnaire 3
	No. of children	No. of children	No. of children
	(percentage)	(percentage)	(percentage)
Never	0 (0%)	2 (0%)	0 (0%)
Rarely	4 (13%)	5 (17%)	0 (13%)
Occasionally	19 (63%)	14 (47%)	12 (40%)
Once a day	3 (10%)	3 (10%)	10 (33%)
Many times a day	4 (13%)	4 (13%)	8 (27%)

Table 9 Questionnaires 1,2 &3 response to question *How often do you draw?*

Results show that there was an increase in the number of children engaging in regular drawing outside of the classroom, which could be attributed to engagement with daily drawing activities. Prior to the drawing intervention four children (17%) rarely engaged in drawing outside the classroom with 86% of the children drawing *occasionally* (19 or 63%) *once a day* (3 or 10%) or *many times a day* (4 or 13%). However, after six months of daily drawing, no children engaged in drawing *rarely* or *never*, and all the children (30 or 100%) indicated that they now draw *occasionally* (12 children or 44%), *once a day* (10 children or 33%) or draw

*many times a day* (8 children or 27%). Interestingly, halfway through the intervention (after 3 months of daily drawing) the number of children that indicated that they *rarely* engage in drawing number had increased from 4 to 5 children ( 17%) with two children (7%) indicating that they *never draw*. Whilst these children were not directly asked for reasons as to why they *never* engaged in drawing outside of the classroom, it could be interpreted in two ways. Firstly, that they lacked interest in drawing or alternatively that they felt that their drawing interest was being met within class drawing activities as part of the intervention.

It could be argued that many children will draw occasionally regardless of the amount of drawing lessons that they undertake in school, however, in this study the total number of children engaging in independent drawing either *once a day* or *many times a day* increased from 7 children (23%) at the start of the intervention to 18 children (67%) after six months. These results suggest that after engaging in daily drawing activities as part of everyday learning children are inclined to draw more.

In order to gauge whether the children had been inspired by the extra drawing lessons to build on their stock of drawing resources, and therefore denote an interest or enjoyment of drawing, in each questionnaire the children were asked about the drawing utensils that they had access to outside the classroom. The children were asked to indicate from a fixed set of options of drawing materials or to write *down 'Anything else?'* that they had access to. Table 10 shows the results.

Drawing	Questionnaire	Questionnaire	Questionnaire
Materials	1	2	3

Drawing	30	30	30
pencils			
Coloured	30	30	30
pencils			
Felt tips	26	28	30
Crayons	21	22	24
Paints	25	26	26
Drawing Books	20	20	23
Drawing Paper	24	26	27
<b>Anything else?</b>			
Chalk	3	1	
Scrap Paper	1		
Computers		3	
ipad		3	
Blackboard		1	
Pastels			1
Sharpies			1
Sketchbooks			4
Drawing Board			1
Biro pens			2
Total	180	190	199

Table 10 Questionnaire 1,2 &3: Children's access to drawing materials outside of school

The results show that after three months of daily drawing, all 30 children continued to have access to drawing pencils and coloured pencils and slightly more children acquired access

to felt tip pens (2) , crayons (1), paints (1), and drawing paper (2). However, one child had acquired a blackboard to use with chalk whilst three children employed the use of computers and iPad's as an aid or tool for their drawing. By the end of the intervention more children indicated that they had more and varied drawing resources in addition to drawing pencils including felt tips (4), crayons (3), paints (1), drawing books (3), and drawing paper (3). Some children had further acquired:

- Pastels (1),
- Sharpie pens (1),
- Sketch books (4)
- Biro pens (2)
- A drawing board (1)

The provision of these extra drawing resources demonstrates not only the children's enthusiasm for drawing but also the parental support for the children's enthusiasm for drawing. In addition, after six months a majority 29 (96%) of the children indicated that they would welcome more drawing in school.

The children's enjoyment of drawing was confirmed in their final written comments on completion of the intervention, in which 12 (40%) children alluded to the fun or enjoyment they gained from drawing in their comments including, for example:

*"I thinkk (sic) its fun because its fun to draw things"*

*"I think is fun and interesting"*

*"I like drawing because it is very fun and you learn great new tecneacks (sic). I think it is great to learn the tecneacks because I find it very useful and it's clever how it works. Also I think it is a great thing to learn"*



*“I like drawing because I find it evry (sic) fun. Drawing is the best part of the day”*

*“I like drawing because it is fun”*

*“I love drawing. It is a good thing to do if you are bored.*

*I think drawing is fun as is a good thing to do. I thinck of every teacher did drawing the shcoole would be a beter place (even the school is already fantastic) (sic)”*

It could be argued that these comments which indicate the pleasure that children derive from drawing are unsurprising, given the widely accepted notion of children’s enjoyment of drawing (Alford 2015; Papandreou 2014; Einarsdottir et al., 2009; Hall, 2010; Cox 2005; Anning, 2003; Hawkins, 2002 Malchiodi, 1998; Matthews, 2003; Cox et al., 1995; Gardner, 1980). However, the children’s comments provide empirical evidence on children’s responses to and views of drawing at key stage 2 which is useful to our understanding of the benefits of drawing in primary education.

### ***Children’s natural inclination to draw***

Observations of the children in this study engaged in daily drawing provide insight into children’s natural inclination to draw which may explain their willingness and eagerness to engage with both observational and exploratory drawing tasks in subjects across the curriculum.

For example, the drawing intervention was introduced with an explanation of different grade pencils (from 9B to HB to 9H) and the provision of 3B, HB and 3H pencils in an exploratory

task using simple shading (scribbling, hatching, cross hatching, stippling, circling, smudging) and mark making techniques (see figure 75).

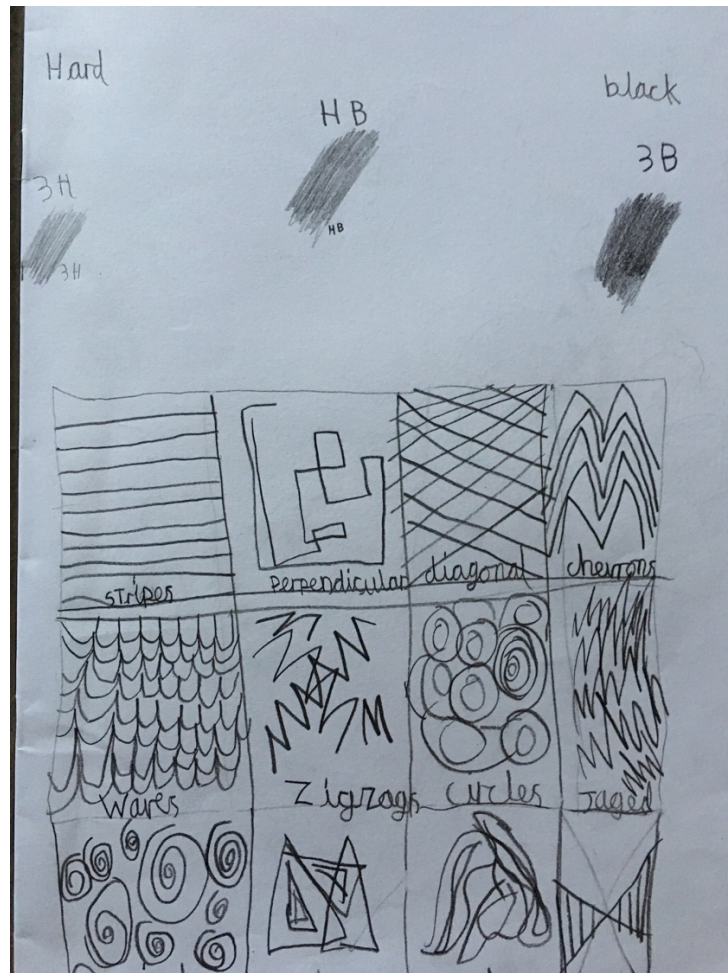


Figure 7. Child's example of mark making in introductory lesson.

Every child was observed to grasp a basic understanding of the different types of mark making and shading. Many of the children quickly explored and discussed the different mark making possibilities and, without prompting, incorporated many of the mark making and shading techniques into their subsequent graphic representations, independently. For example, when asked to draw a bird following the introductory lesson many of the children used the details explored in the mark making exercise (see figures 76, 77 and 78).

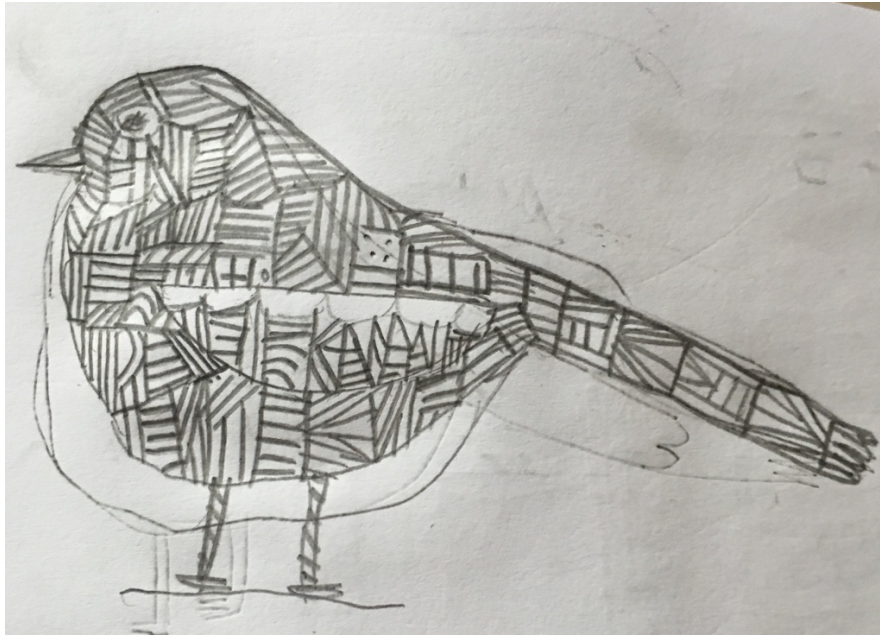
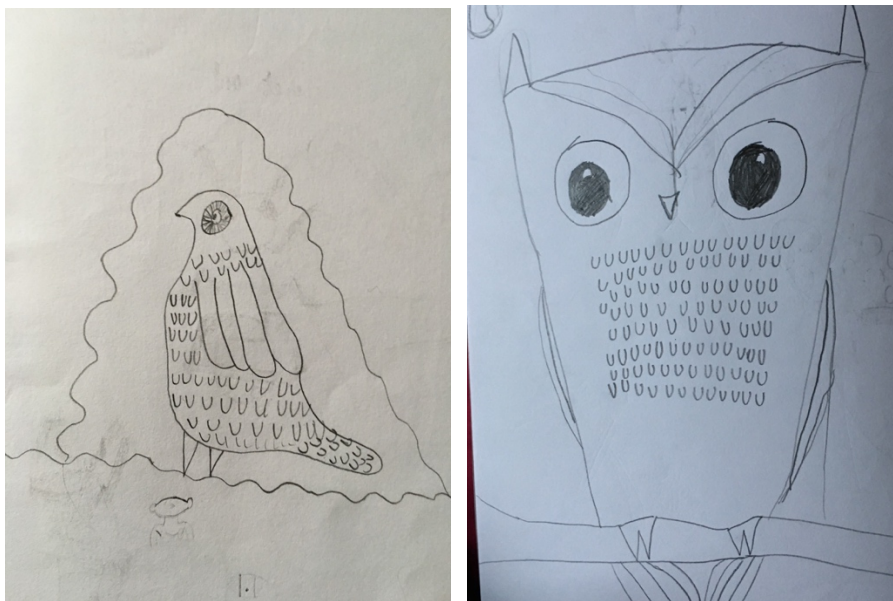


Figure 76. Example of child's mark making technique used in drawing of a bird



Figures 77 and 78 Examples of children's mark making technique used in drawing of a bird

This transference of drawing techniques to mark making in independent graphic expressions, in this case of a bird, demonstrates the children's a natural inclination for drawing (Spencer, 1911; Froebel, 1889; Ruskin 1856-1857) and provides evidence of the way in which teaching children elements of drawing can impact children's independent graphic representation and arguably their creativity. In addition, the children were observed to demonstrate consistent

eagerness to engage and experiment with different drawing utensils and media (pencils, pens, charcoal, pastels).

The children revealed a natural inclination to draw through their drawing behaviours. This was particularly evident when the children were introduced to observational drawing. The children were encouraged to observe their object or subject prior to drawing, however, the children required little, gentle, or no reminding to employ the habit of seeing (Hope, 2011): to notice rather than merely to look (Ruskin's, 1856-1857), to hold their body still and sustain their focus on the object or subject during subsequent observational drawing tasks. After just two weeks every child, including children of low academic ability and children with SEND challenges, was observed to hold their body still, adopt expert eye and hand movements (Tchalenko, 2009a) by maintaining sustained eye-contact and focus with minimal head movements and 'pause' on their graphic representation, which as Brew (2011), which is a crucial element of observational drawing as it 'offers a space, temporal and spatial, to reflect and to prepare your next move' (Brew 2011). These findings provide evidence that children of this age group have the potential ability, natural inclination (Spencer, 1911; Froebel, 1889; Ruskin 1856-1857) or natural affinity for undertaking observational drawing.

During early morning work, the children were encouraged to draw three unrelated familiar things from memory, for example a giraffe (animal), a racing car (machine) and a tall building (see figure 79 for an example).

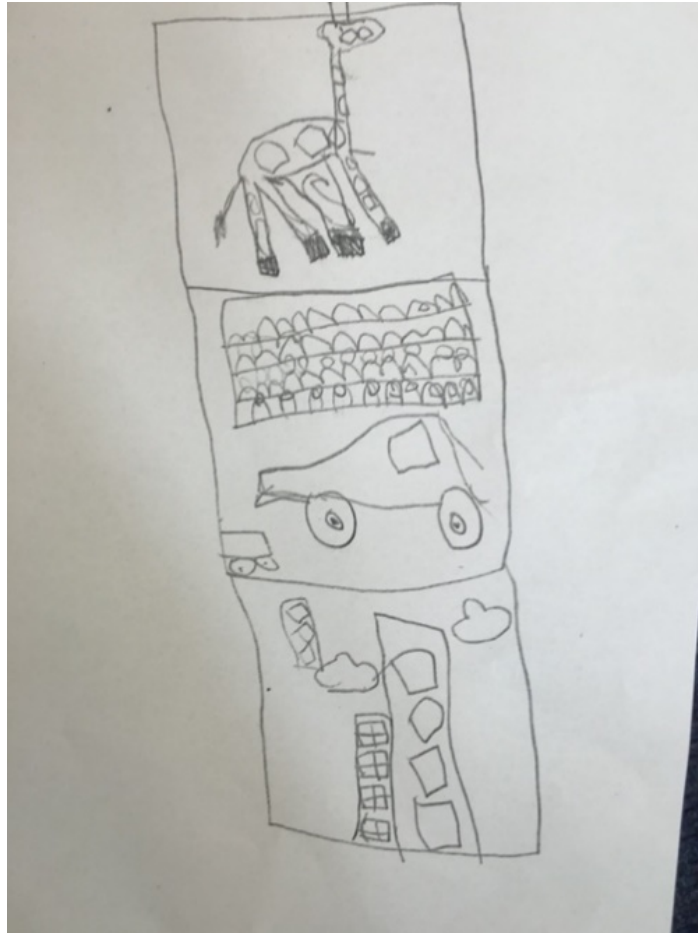
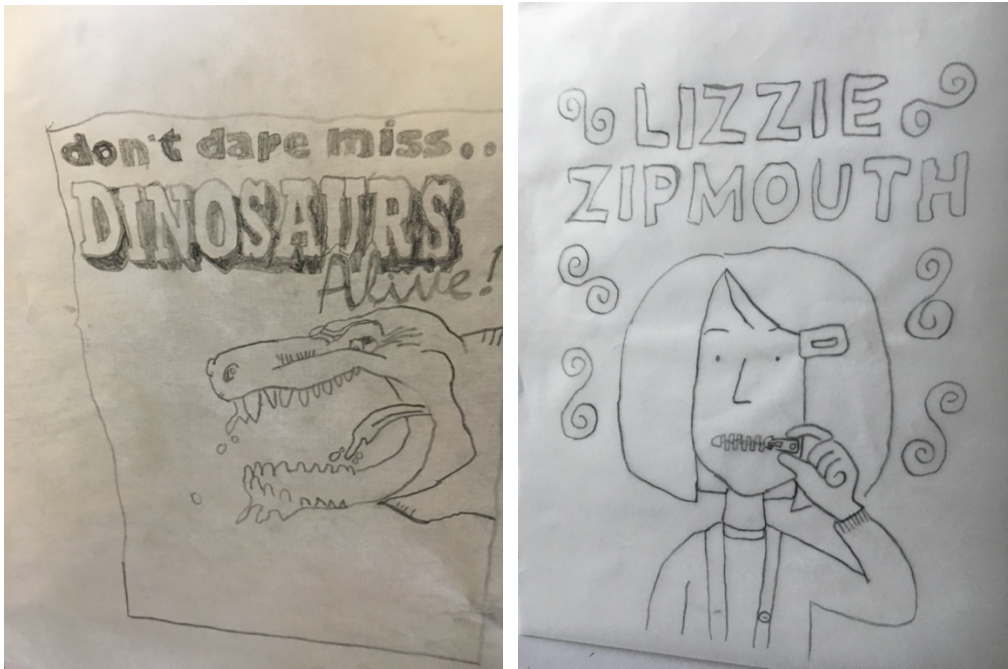


Figure 79. Example of quick memory drawing of a familiar subject task

The children required very little or no guidance to draw from memory. The children were overheard to discuss many concepts and features of the subjects they were asked to draw. For example, when drawing a giraffe, the children were overheard to discuss *“long legs”*, *“long neck”*, *“hexagonal markings”*, *“tufty things above their ears”* of a giraffe, to vocalize their image of *“a racing car at the finish line with the crowd cheering”* and the need to draw a small person or building to show that a ‘tall building’ was tall. These comments provide evidence that drawing from memory provides opportunities for children to discuss and communicate what they are thinking and their memory recall of concepts, features and ideas (explained in greater detail in chapter 5) but also the ease or inclination with which children are able to engage in this type of memory recall drawing task. This aligns with the view that children have a natural inclination to draw (Spencer, 1911; Froebel, 1889; Ruskin 1856-1857).



When tracing, the children displayed not only an eagerness to use tracing paper or ‘magic paper’ as they called it, but the natural inclination to explore its possibilities (see figures 80 and 81).



Figures 80 & 81 Examples of children's traced drawings of book covers

When tracing photocopies of themselves for self-portraits, the children demonstrated facial expressions of total concentration (see figure 82) and demeanours and body language suggesting focused total concentration (see figure 83) and a natural affinity.



Figure 82 Example of child's facial expressions of concentration when tracing self-portraits.



Figure 83 Example of children's focused body language when tracing self-portraits.

When introduced to copying, the children were shown a video called “Austin’s Butterfly” from 2012 - a video which encourages children to ‘look like a scientist.’ The children responded by taking significantly more time to focus on the shapes and details of the pictures they were copying by “seeing what is where” (Kirsh, in Brew et al. 2011 p.124), which, it could be argued, suggests that children of this age group have the inclination, ability and awareness to undertake focussed observation that is required for copying. This type of drawing captures and sustain their interest as in my teaching experience, children of this age group would be unable to hold their concentration and focus on an activity if they were disinterested. They would become unfocused and disengaged with the task.

### ***Children's view on the importance of being good (or not) at drawing***

Whilst the children demonstrated a consistent eagerness to draw throughout the drawing intervention, the children's response to being asked about the importance of being *good* at drawing was surprising.

Whilst the concept of being *good* at drawing was left open for the children to interpret only 3 children (9%) at the end, as opposed to 5 children (17%) at the beginning of the study, indicated that they thought 'yes' it is important to be *good* at drawing. Their reasoning ranged from the financial or career benefits of drawing:

*"It is important to know how to draw so they can sell them and raise a lot of money."*

*"Because you can be really famous."*

To simply...

*"Because I like it in every singel (sic) way we do drawing."*

This explanation, given by case study child Mia, is significant as this child struggled to access many other areas of the academic curriculum but felt that drawing was important because she liked it.

However, on completion of the drawing intervention a majority of the children, 20 (67%) at the end as opposed to 6 (9%), at the being, thought that it was *not* important to be good at drawing with three children explaining that:

*"It is not important to be a good drawer because you have your own style."*

*"Because you need to like it that is the important bit."*

*"Because if someone isn't very good it doesn't matter."*



Whilst the children's responses could be perceived to be in the negative, I would argue that these comments imply a positive perception of the importance of drawing. That individual style, enjoyment and the lack of expectation to be good at drawing is more important which echoes the view that the process is commonly more important than the product to very young child (Hall, 2010). A possible reason for the children's response about the importance of drawing is that throughout the intervention I made a concerted effort not to praise the children's drawing outcomes, instead I would ask them what they themselves thought of their drawing outcomes. Any views about the quality and success of the children's drawing outcomes did not come from me which arguably had an impact on the children's perception of the importance of drawing. From this finding I would suggest that if drawing is implemented across the curriculum in a way that focuses on the children's view of drawing rather than prescribed expectations it has the potential to promote children's individual style, enjoyment of drawing, and potentially reduce children's expectations of being a 'good' drawer. This could in turn reduce the decline in children's drawing engagement (Cox, 1989; Davis 1997a&b; Gardner, 1980; Jolley 2010; Matthews, 2003; Sully, 2002; Lowenfeld, 1947) and ameliorate the 'artistic slump' (Milbraith and Trautner, 2008).

After six months of daily drawing one child wrote:

*"It is not important because it doesn't help you in life."*

This comment was made by case study child Millie and it suggests that she does not recognise drawing as important. Millie is recognised as an academic high achiever and a perfectionist, and despite demonstrating improved resilience to making mistakes through the practice of drawing it could be argued that Millie is more concerned with academic subjects on which she is assessed, and drawing does not fit into that category. Alternatively, it could also be possible

that Millie comes from a family where similar sentiments are expressed, or simply that she does not think that drawing is, in any way, useful in life.

## Summary

The findings demonstrate that the children in this study are able to engage fully a drawing intervention of drawing in all subjects across the primary curriculum and the drawing process (Dyson 1993). The children consistently demonstrated their drawing engagement through their markedly different behavioural and verbal responses to different drawing activities; their attention and ability to focus on the drawing tasks; their eagerness and willingness to put forth effort in the drawing tasks and their expressions of pleasure, satisfaction and enjoyment (Prothero (1977) in different drawing activities.

The findings confirm the view that children have a natural inclination to draw (Spencer, 1911; Froebel, 1889; Ruskin 1856-1857) and children enjoy drawing (Bromley & Turner, 2019) and as expressed through their behavioural and verbal expressions of eagerness and enthusiasm and their positive engagement with drawing.

The most surprising finding in this study was that the majority of the children did not view being *good* at drawing as important as developing individual style and enjoying it. This finding supports the view that children take a positive disposition to drawing activities (Anning & Ring, 2004).

## **CHAPTER SEVEN: DATA ANALYSIS AND DISCUSSION – SUBSIDIARY QUESTION 4: Parental Perspective: What are parents’ perceptions of their child’s experiences of the drawing intervention?**

This chapter focuses on the sub-research question relating to the parental perspective of the drawing intervention: **What are parents’ perceptions of their child’s experiences of the drawing intervention?**

This sub-research question concerns the insights gained into the ways in which children engage and disengage with drawing activities in all subjects across the primary curriculum.

The children’s behavioural and verbal experiences of drawing, and their written responses to questionnaires are supported and echoed by the parents’ responses to the parent questionnaire. A majority of the parents recognised that their child enjoys drawing and communicates their enjoyment of drawing beyond the classroom.

At the end of the drawing intervention a majority of 20 (67%) parents stated that their child *loved* drawing; 10 parents (33%) indicated that their children liked drawing. Not one parent indicated that their children did not like drawing which correlates with how the children themselves express their enjoyment of drawing.

When children enjoy an activity, they are more inclined to talk about it (Brooks, 2002) and a majority of 19 (63%) parents indicated that their child talked about drawing outside of school. When asked ‘*in what way?*’ does your child talk about drawing the parents provided further information about the different ways in which their child talks about drawing in terms of:

*“What they’ve drawn at school and the techniques they have learned”*

*“What colours they’ve used and how they’ve drawn certain bits”*

*“He’ll discuss his drawings with me”*

*“She explains what she has drawn”*

*“He explains what is happening in his drawing”*

*“He likes to show the drawing and explain about it”*

*“He explains the thought he has put into his drawing”*

*“She speaks regularly about what she is drawing and why, and the environment of her drawings.”*

*“What they draw, how they are drawing and the techniques they are going to apply.”*

*“He likes to plan designs”*

These parental observations and comments provide evidence of the children’s enthusiasm for drawing beyond the classroom and the ways in which the children communicate that enthusiasm. For example, what they had been drawing, the colours they had used, how they plan their drawings, or explained their drawing preference and their plans and future drawing intentions. This provides us with insight into how children articulate their ideas and views on drawing and an understanding of the elements of drawing that children are inspired by and those which pique children’s interest beyond what is required of them in school.

This finding provides empirical evidence to suggest that it is not just young children that enjoy drawing (Bromley & Turner, 2019; Alford 2015; Papandreou 2014; Dove, Everett & Preece, 2010; Einarsdottir et al., 2009; Hall, 2008; Anning & Ring, 2004; Matthews, 2003) but that children at lower key stage 2 enjoy drawing.

Many of the parents made comments to suggest that the drawing intervention had impacted favourably on their child’s drawing ability which had become:

*“More ‘mature’ than it was”, “clearer, better, more grown up”, “more precise, more confident, more detailed”*

*“Much improved with more detail and better balance and detail”.*

*“Seems more ‘developed’, mature and observational than it did before”*

More specifically, case study Marcus’s parent recognised the benefits of the drawing intervention on Marcus’s drawing ability, stating that:

*“He is much more attentive to details (shadows); and it has helped with his pencil control and writing.”*

More importantly to this research many parents recognised that regular drawing improved their child’s drawing confidence and self-efficacy as drawers. For example, many parents commented on how the drawing lessons had rejuvenated their child’s interest in drawing because:

*“He has started drawing again. He used to draw a lot when he was little, and it had tailed off since starting school.”*

*“My child is more prepared to attempt a drawing now”*

*“He’s much more confident in his own style”*

*“She seems more confident in her drawing and can explain them more.”*

More specifically case study Dan’s parent described a change in their son’s willingness to draw as a result of the daily drawing by commenting:

*“My child is more prepared to attempt a drawing” and*

*“More willing to draw now”*

*“I think it is important for my child to feel CONFIDENT in drawing”*

It is worth noting that not all the parents' comments matched with their child's interpretation of the drawing intervention experience. For example, one of the parents commented that her son had expressed a lack of drawing self-efficacy by relaying that:

*“Sometimes he says he's no good at it and other times talks me through what he's completed”*

However, a retro analysis of this child's questionnaires showed no mention of a lack of ability or confidence in his drawing which could be interpreted as this child was more honest in his communication to his parent than in the questionnaire.

When asked to comment on their views on drawing many parents offered insightful understanding of the benefits of drawing. Several of the children's parents recognised a link between drawing and cognitive development and critical thinking with one parent commenting:

*“Drawing is a form of questioning and critical thinking. It is vital to societies, industries, corporations and individuals”*

And another commenting that:

*“I like the idea that the drawings were going to be 5-10 minute interventions in class time throughout the day to create breaks and stimulate another part of the brain”*

Whilst this parent's perception of the drawing tasks as being *5-10 minute* interventions is inaccurate they recognise the benefits of drawing to cognition.

One parent suggested that as a result of regular drawing:

*"My son concentrates more."*

Case study Mia's parent commented that it was important for Mia to be good at drawing as:

*"It might help her focus on other areas of work (forge new neural pathways) and it is a good way to develop certain parts of the brain"*

Meanwhile, case study Dan's parent recognised the links between drawing and children's cognitive development, by suggesting that there should be more drawing in:

*"All subjects where appropriate to a topic or specific activity but also quick intervention drawing not 'specifically' related to the curriculum but develops & stimulates different parts of the child's brain"*

These findings give weight to the value of drawing in relation to children's cognitive development (Brooks, 2005; Eisner, 2002; Piaget, 1936) and intellectual development (Hall, 2008; Matthews 2003; Goodenough, 1926).

The children's emotional responses, to drawing were echoed in a majority of the parents' recognition of the positive effect of daily drawing on their child's emotional and mental wellbeing and personal growth when expressing that drawing. One parent recognised drawing as:

*“is relaxing and expressive”,*  
*“good therapy and helps her to understand who she is”*  
*“it is a stress release for some children”*  
*“it is a creative and artistic outlet which is important for mental health”*  
*“it promotes self-worth and achievement”*  
*“children need ways to express their emotions and explore them”*

Several parents suggested that drawing had made their child “calmer.” More specifically some parents commented that drawing:

*“Is a creative and artistic outlet which is important for mental health”*  
*“It promotes self-worth and achievement”*  
*“Children need ways to express their emotions and explore them”*

Many of the parents recommended that schools should do more drawing to promote emotional wellbeing:

*“Draw how they are feeling to express themselves”*  
*“Show how they feel, express any worries and share their hopes and dreams”*

Many parents recognised the positive effect of drawing on the children’s emotional wellbeing and personal growth by expressing that drawing “is relaxing and expressive”, “good therapy and helps her to understand who she is” and “it is a stress release for some children” and because it made their child “calmer.” One parent recommended:

*“Free Drawing – meditate and draw unconsciously – which could be therapeutic for children”*



Mia's parent also recognised the potential benefits of drawing on Mia's and other children's emotional development as,

*"helps her to understand who she is"*

*"Kids need ways to express their emotions and explore them"*

*"It is good therapy"*

In addition, many of the parents recommended that schools should do more drawing to promote emotional wellbeing to:

*"Draw how they are feeling to express themselves"*

*"Show how they feel, express any worries and share their hopes and dreams"*

One parent recommended:

*"Free Drawing – meditate and draw unconsciously – which could be therapeutic for children"*

These parental comments support the claim that parents place an importance on the relaxation drawing offers (Burkitt et al., 2010). Moreover, many parents also recognised that drawing helped with their child's social development in:

*"making relationships"*

And that drawing can:

*"develop friendships and social skills".*

One parent recognised that drawing is a form of communication:

*"It is a communication tool and helps deepen a child's learning and then how they repackaging that understanding into something that is improved."*

One parent also suggested that drawing is

*“very worthwhile for demonstrative children”*

and another thought that drawing lessons

*“are a very good idea, especially for boys”.*

Specifically, case study Mia’s parent recognised the potential long-term emotional benefits of drawing for children.

*“I think it should be a much greater part of the curriculum. Could be used as a medium (a language) to explore all other subjects. Gives children a ‘language’ to express and understand their emotions, along with other arts – it can’t be overstated. It’s therapeutic and develops good brain habits, focus etc. I’m convinced it will help develop resilience and a strong sense of self in kids – possibly particularly in life drawing, but maybe not. This is true of all the arts but drawing possibly the most accessible (and cheapest!) way to get all those neural and emotional benefits”*

It is worth noting that Mia’s parent indicated that they themselves enjoyed drawing and that they undertook drawing as part of their work. This may explain their positive thoughts, which show they advocate for more drawing in school in terms of emotional development and wellbeing. This supports the claim that drawing should be recognized for its therapeutic and psychological benefits for all children including those with emotional difficulties (de Botton & Armstrong 2013). Furthermore, one parent commented that the drawing intervention was:

*“A really good idea and should be made permanently available to children at this age (year 3)”*

These parental remarks provide evidence to support the children’s experiences and views on drawing and provide weight for the case to promote drawing beyond art and design, not only

as part of the curriculum, but to provide therapeutic, emotional and mental health benefits for all children especially those children experiencing SEMH difficulties (de Botton & Armstrong 2013; Malchiodi, 2007; Kramer, 1958; Naumburg, 1941). This aligns with the growing amount of literature on the beneficial use of drawing in art therapy (Drake, Hastedt & James, 2016; Machioldi, 2012, 2005; Slayton, d'Archer & Kaplan, 2010) .

Some parents offered suggestions to use drawing in relation to emotional and social development, including:

*“Draw how they are feeling to express themselves”*

*“Develop friendships and social skills”*

*“Free drawing – meditate and draw unconsciously – could be therapeutic for children”*

*“Use drawing to show how they feel, express any worries and share their hopes and dreams”*

In addition, when asked if there should be more drawing many of the parents offered constructive suggestions for drawing that related to the subject of writing:

*“For some children, expressing their thoughts through drawing before writing helps them to consolidate their ideas. This gives them the confidence in their own writing”*

Finally, a wide range of suggests that relate to the potential uses of drawing in schools:

*“More landscape pictures to give them more detail of what they see around them”*

*“Yes I would like to see more infographics...awareness, creativity, design thinking and product development using a wide variety of techniques.”*

*“Show how drawing is part of the product development process”*

*“Drawing develops imagination in science, engineering, architecture, fashion design”*

*“Life drawing is a tremendous discipline”*

*“Variety is key”*

*“Trips to museums to draw objects”*

*“Trips into nature to draw”*

*“Draw in old folks homes to build citizenship and community mindedness”*

*“A variety of subjects from cartoons to more detailed drawing with a variety of themes”*

*“Just basics to build a good foundation for the future”*

*“Textile design and architectural design”*

## **Summary**

The parental comments on the drawing intervention echo what is revealed in the observations of children drawing, in the children’s comments and written responses to drawing. The parent comments reveal that children talk to parents about drawing outside of school and parents have important views and insights into the benefits of drawing on children’s emotional and educational development.

## **CHAPTER EIGHT: CONCLUSION AND RECOMMENDATIONS**

This final chapter concludes the study by highlighting what insights have been gained from my research and the contribution that it makes towards a deeper understanding of children's experiences and perceptions of, including responses to, regular drawing activities across the primary curriculum. The chapter starts with a summary of the study. It then explains the unique contribution that the study makes to research into children's drawing to primary education research. This is followed by a summary of findings and a discussion on the implications of my study for policy, practice and staff training. I then give an account of my journey as a researcher and describe some of the limitations of the study. My thesis ends with a concluding statement.

### **Study Aims and Research Questions**

This study set out to explore and gain an understanding of children's responses to, experiences and perceptions of, a drawing intervention of daily drawing in all subjects across the primary curriculum. In addition, it aimed to gain insights into the affordances of a variety of daily drawing activities on children's language acquisition and development; children's cognitive and emotional development including their drawing efficacy; and children's engagement and disengagement with drawing.

The main research question was:

**What are children's experiences and perceptions of daily drawing across the curriculum in a UK primary school?**

The subsidiary questions posed to address this question are:

- Q1. Drawing and Language and Communication: What and how do children communicate when engaged in different types of drawing?**
- Q2. Art, Drawing and Child Development: How do children experience and respond to daily drawing activities in subjects across the primary curriculum?**
- Q3. Engagement and Disengagement: In what ways does a daily drawing intervention impact children's engagement or disengagement with drawing.**
- Q4. Parental Perspective: What are parents' perceptions of the children's experiences of drawing across the curriculum?**

## **Review of Methodology**

In order to explore pupil's responses to and experiences of drawing across the curriculum in a primary school setting, my research adopted an interpretivist paradigm. The epistemological and ontological position for my study is that there is no one classroom reality of children's drawing but that meanings are constructed by children and between children as they interact in the social setting of a classroom.

This was relevant to my conceptual framework as I was interested in capturing the reality or meaning of children's experiences within their individual and collective experience. I adopted a conceptual framework based on elements of social constructionist theory; drawing and language acquisition and development; art, drawing and child development; and children's engagement and disengagement with drawing

The methodology employed to provide insights into the experiences of the children was an *Embedded mixed method* case study as it allowed for the flexible exploration and understanding of children's behavioural and verbal responses to, and experiences and perceptions of, drawing across from the perspective of the children, their parents and the researcher. The reason for choosing this method was that the issue being discussed in this study is new to research and

demands a more exploratory and interpretative style of research (McNeil and Chapman, 2005). This approach has been demonstrated to be appropriate in generating data appropriate for providing answers to the specified aim of this study.

Qualitative and quantitative data were collected from observations of children's behaviours and listening to children's verbal commentaries when drawing during a six-month drawing intervention plus children's questionnaires including examples of children's drawings, and parent questionnaires. A qualitative and quantitative analysis was made of the children's drawings over time.

The approach that was adopted for data analysis was based on a recursive process (Charmaz 2014) of the thematic analysis (Braun & Clarke, 2006) and comparative analysis (Cohen et al., 2011) of primarily qualitative data gathered from observations (Merriam, 2014) of children's behaviours and verbal commentaries when drawing, plus quantitative and qualitative data from children's questionnaires including the interpretation of children's drawings and qualitative data from parent questionnaires.

Observations were made during a six-month drawing intervention of a variety of daily drawing activities in all subjects across the curriculum in a year 3 class in a UK primary school. The drawing intervention took place between February and July 2015. Observations were made and recorded in field notes. Three child questionnaires were used to gather primarily qualitative data with supporting quantitative data on children's responses to, and views and perceptions of drawing. Children's drawings of familiar subjects were analysed over time against a basic set of primary art criteria (detail, proportion and size, elements of three- dimensions, occlusion and subject matter). A parent questionnaire was used to gather qualitative data on parents' perspectives of the drawing intervention. All qualitative observations and questionnaire responses were transcribed, coded and thematically analysed (Braun & Clarke, 2006), which allowed for the identification of themes relating to the research questions and emergent themes

important to the links between drawing and pedagogical understanding and child development. A qualitative thematic analysis method was applied to understand the qualitative data. All quantitative responses to questionnaires (including the analysis of the children's drawings of familiar subjects) were manually tallied and analysed.

Further analysis within themes revealed deeper insights into ways in which meanings are constructed by children in the course of interactions in the classroom setting. The new understandings that have emerged have given rise to a number of suggestions for developing practice in the utilisation of drawing as a tool for learning and development, and to promote social and emotional well-being in primary education. My findings will be summarised later in this chapter.

The sample comprised thirty participants from the school selected for this study. The group of children were chosen for convenience - they were my class of 30, (7 to 8 years) lower key stage 2 children - which allowed for a six-month drawing intervention of daily drawing tasks in all subjects across the curriculum to be undertaken with minimal disruption to the children's learning. Drawing was undertaken as elements of pre-planned lessons (78), whole class story time reading sessions (24) , morning work sessions (31) , or during spare time sessions (10). A variety of drawing tasks were integrated into all lessons across the pre-existing Year 3 curriculum including: Art (19) Science, including the topic of Space (19), Maths (8), English (6), History (5), Religious Education (4), Computing/IT (4), P.S.H.E (3) P.E. Games (3), Dance (2). Drawing was utilised for the exploration or practice of a variety of drawing techniques and approaches including observational, copying, freehand, tracing, step-by-step guided and more experimental and exploratory drawing (see drawing task list in Appendix X).

Finally, with the aim of gaining a deeper insight into children's responses to and perspectives of drawing across the curriculum at key stage 2, a case study method was used. As this type of research - a drawing intervention of daily drawing in all subjects across the UK primary



curriculum at key stage 2 - is new to the field of children's drawing in education it was necessary to investigate a small-scale research but explore the generalisability of the results which has been acknowledged recently as playing a significant part in the field of education (Punch, 2009).

## **Summary of the Findings**

The summary of the findings will be presented under each supporting research question.

### **Subsidiary Question 1**

#### **Q1. Drawing and Language and Communication: What and how do children communicate when engaged in different types of drawing?**

The findings from this study shed light on the dialectical nature of drawing (Vygotsky, 1978, 2011) and the different ways in which children communicate with themselves and each other in response to different drawing activities. When undertaking familiar drawing tasks, the children engaged in general chatter about everyday subjects. During observational drawing the children were observed to communicate with themselves (Brooks, 2009; Hope, 2008; Edwards, 1993) in self talk or 'private speech' (Vygotsky, 1978, 2011) at low volume levels often in a 'running commentary' style of expression. When engaged in experimental and exploratory drawing the children engaged in self-talk or 'private speech' and communicated with others (Brooks, 2009; Hope, 2008; Edwards, 1993) through the articulation of their observations, questioning, sharing ideas and problem solving (Jolley et al., 2005; Eisner 2003) at heightened levels of volume.

The most interesting finding sheds light on the ways in which step-by-step guided drawing tasks promotes and develops children’s vocabulary and language acquisition, communication in a four-fold multisensory process, which recognises the different sensory elements (sight, touch, haptic or kinaesthetic and auditory) engaged in drawing. This finding builds on Vygotsky’s concept of *Verbal Thought* (1962) and Brook’s concept of *Visual Thought* (2002) to conceptualise *a multisensory framework of drawing* (see figure 84 below).

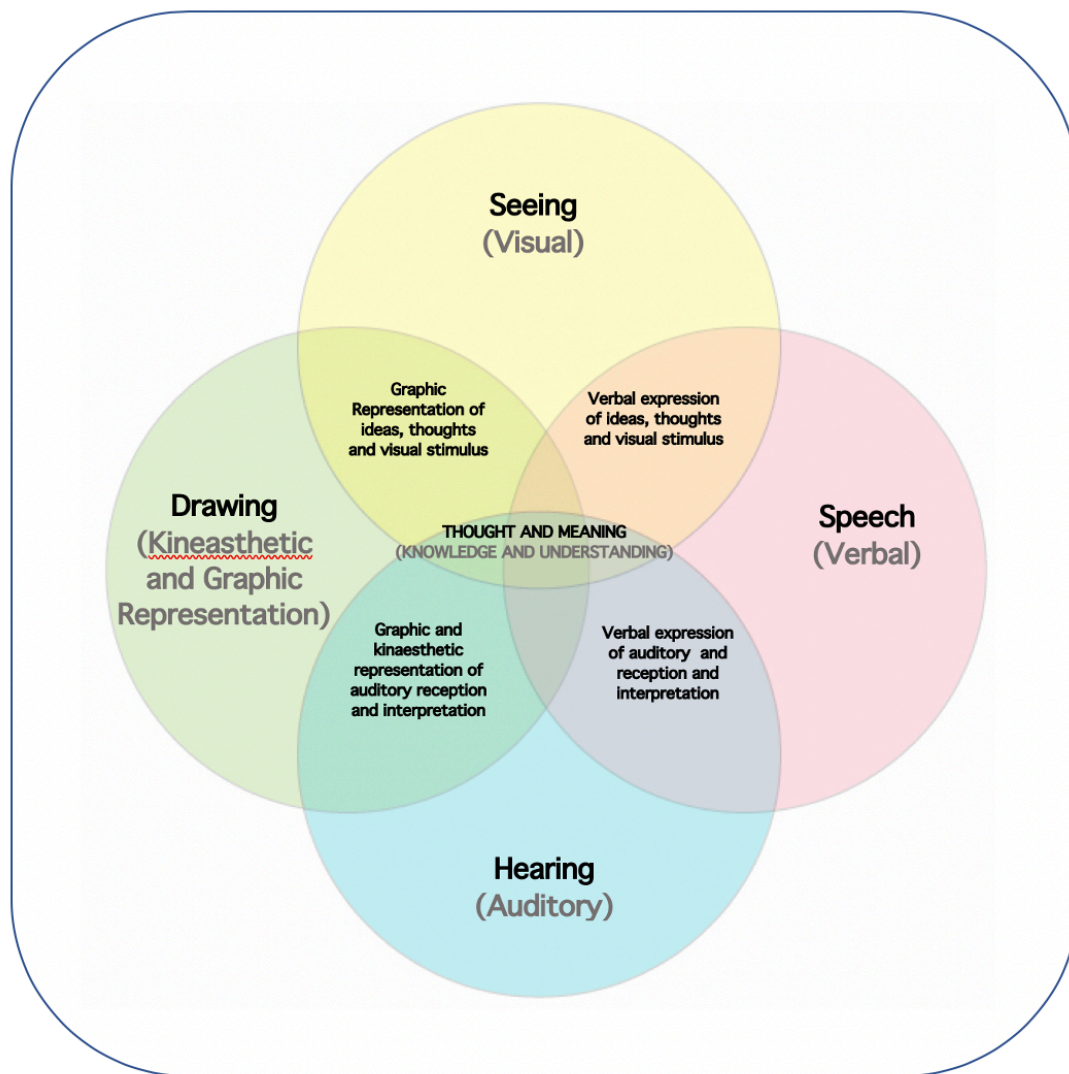


Figure 84. Multisensory Drawing Framework (Visual, Verbal, Auditory, Kinaesthetic)

This gives weight to the importance of drawing in the social constructionist theory of learning (Vygotsky, 1962, 1978; Bruner, 1986; Brooks, 2003) and highlights the pedagogical benefits of drawing as part of children’s learning across the curriculum.

## Subsidiary Question 2

### **Q2. Art, Drawing and Child Development: How do children experience and respond to daily drawing activities in subjects across the primary curriculum?**

The findings from this study echo the views on art education put forward Eisner, (2002) and Efland (2002) and reveal the links between art, drawing and child development in the promotion of children's cognitive awareness and engagement, children's emotional and social development and children's drawing self-efficacy.

Observing and listening to children engaging in different drawing activities across the curriculum insight provided insight on how children cognate and demonstrate cognitive and metacognitive awareness and development through their drawing behaviours and verbal commentaries. Children demonstrate *tacit knowledge* (van Sommers, 1984) by tacitly positioning and re-positioning themselves prior to and during drawing activities indicating their cognitive awareness of an optimum position from which to draw. During observational during the children are able to cognitively pay attention' (Eisner, 2002), adopt mature or expert eye and hand movements Tchalenko (2009a), pause on the subject or object, engage in intentional mark making and tacit decision making and fall into silent focused concentration which are all indicators of cognitive engagement.

Children in this study were able to cognitively draw at high-speed, with their non-dominant hand, both hands and upscale and downscaled their drawings to large scale and miniature formats independently. During doodling sessions, whilst listening to whole class stories, the children demonstrated clear retention of facts and information and increased concentration (Brown 2015; Chinchachokchai, Duff & Wyer, 2011; B; Chan, 2012; Andrade 2010). These findings support the view of drawing as a cognitive event' (Eisner, 2003)

A simple analysis of children drawings of familiar subjects over time revealed the children's cognitive awareness, engagement and development in their graphic representations of familiar subjects and in their everyday learning in subjects across the curriculum.

The findings revealed that children have significantly different emotional responses to different drawing activities ranging from quiet, calming and relaxed demeanours during observational drawing to 'dynamic engagement' of animated body movements, gestures, heightened chatter and verbal communications and laughter during more experimental and exploratory drawing. More importantly, the children themselves recognise their emotional responses to different drawing activities as being either *calming*, *relaxing* or *fun* which is worth considering when promoting children's emotional well-being and development.

In addition, findings reveal that a drawing intervention of daily drawing could have a positive impact on children's resilience, the accepting the making of mistakes and the promotion of self-esteem and drawing self-efficacy which are learning behaviours fundamental to children's education.

Subsidiary question 3

**Q3. Engagement and Disengagement: In what ways does a daily drawing intervention impact children's engagement or disengagement with drawing.**

Researchers have long recognised the decline in children's drawing engagement (Jolley 2010; Matthews, 2003; Sully, 2002; Davis 1997a&b; Gardner, 1980; Cox, 1989; Lowenfeld, 1947) however findings from this research demonstrate that the children in this study are able to engage fully with the drawing process (Dyson 1993) in a drawing intervention of daily drawing

in all subjects across the primary curriculum. The children consistently demonstrated their drawing engagement through their attention and ability to focus on the drawing tasks; their eagerness and willingness to put forth effort in the drawing tasks and their expressions of pleasure, satisfaction and enjoyment (Prothero (1977) in different drawing activities. The children demonstrated their engagement through their markedly different behavioural and verbal responses to different drawing activities: paying attention (Eisner, 2002; Prothero 1977), to the point of falling into silent concentration (Einarsdottir & Dockett, 2009) and adopting mature or expert eye and hand movements Tchalenko (2009a) pausing to observe (Brew, 2011) and engaging in intentional mark making and tacit decision making when observational drawing. And displaying 'dynamic engagement' with animated body movements and gestures, increased speed of drawing, making choices, to experiment, and taking risks (Dyson, 1993). more expressive mark making and heightened discussion, decision making, problem solving during more experimental and exploratory drawing tasks. These behavioural responses denote engagement: the children's willingness to put forth effort in the drawing task (Prothero, 1977)

It is significant that despite drawing every day for six-months, no child was overheard to complain about a drawing activity nor did a child refuse to attempt a drawing activity or express boredom with the daily drawing tasks revealed through their body language or verbal communications. On only two occasions were individual children observed to experience a negative response to a drawing task however on both occasions the negative issue was related to the children's high expectation of themselves and on both occasions was resolved with more drawing.

The findings confirm the view that children have a natural inclination to draw (Spencer, 1911; Froebel, 1889; Ruskin 1856-1857) and children enjoy drawing (Bromley & Turner, 2019) and as expressed through their behavioural and verbal expressions of eagerness and enthusiasm and their positive engagement with drawing.

The most surprising finding in this study was the children's view on the importance of being good at drawing. Whilst the concept of being *good* at drawing was left open for the children to interpret, the majority of the children did not view being *good* at drawing as important as developing individual style and enjoying it. This finding supports the view that children take a positive disposition to drawing activities (Anning & Ring, 2004) and the children's positive engagement with the drawing intervention is worth consider in an attempt to ameliorate the 'artistic slump' (Milbraith and Trautner, 2008) or children's disengagement with drawing at primary age.

#### Subsidiary question 4

#### **Q4. Parental Perspective: What are parents' perceptions of the children's experiences of drawing across the curriculum?**

The parents' views on drawing were sought through a parent questionnaire to gain a full picture of the children's and experiences of drawing and if and how they communication about drawing beyond the classroom. The parental views echoed the findings from observations of the children's engagement with the drawing intervention and the children's comments and written responses to drawing. Findings reveal that children talk to parents about drawing outside of school and parents have important views and insights into the benefits of drawing on children's emotional and educational development. The findings suggest that parents recognise the benefits of drawing to children's emotional well-being, artistic endeavours,

creativity, motor co-ordination and learning in general which gives weight to the importance of seeking the parental view in education (Driessen, Smit and Slegers, 2005).

### **Contribution to, and Impact on, Theory and Practice**

This study claims to make an original contribution to theory and practice in the fields of children's drawing and primary education in eight main ways: (i) developing our understanding of children's enjoyment of drawing; (ii) deepening the understanding of children's behavioural and verbal responses to different drawing activities (iii) furthering the understanding of drawing in the promotion of children's vocabulary and language acquisition, communication and development (iv) recognising the multisensory nature of drawing (v) developing our understanding of the affordances of drawing on children's cognitive awareness and development (vi) furthering the understanding of the affordances of drawing on children's social, emotional and mental health and well-being and (vii) recognising the impact of regular drawing on children's drawing engagement, ability and drawing self-efficacy and (viii) the importance of seeking the parental view.

The eight subsections which follow will discuss the contribution to, and impact on, theory and practice in each of the core concepts underpinning this study.

#### *(i) Children's Enjoyment of Drawing*

The findings in this study reveal that children at key stage 2 enjoy drawing and children's enjoyment of drawing is sustained over six months of a variety of daily drawing activities in subjects across the primary curriculum. With this understanding, it is suggested that teachers

and educational practitioners consider utilising a variety of drawing activities as a teaching and learning tool in subjects across the curriculum, beyond art and design, to promote children's enjoyment of drawing and engagement in their learning. It is suggested that by focussing on the provision of drawing activities as exercises rather than expected outcomes will be beneficial to teachers delivering drawing activities and reduce children's unnecessary expectations of drawing outcomes.

Teacher training programmes have been recognised to provide little training on art, particularly drawing (Watts, 2010; Downing and Watson 2004) and recent research on the place of foundation subjects in initial teacher education may suggest that this situation has not changed significantly (OFSTED, 2023, 2020). It is hoped that primary schools raise the profile of drawing during INSET training and teachers explore ways to promote the enjoyment of learning with the help of drawing.

(ii) *Deepening the understanding of children's behavioural and verbal responses to different drawing activities*

There is little or no previous research on children's behavioural and verbal responses to different types of drawing across the curriculum at key stage 2. However, the findings have demonstrated that children have markedly different responses to different types of drawing. There are potential benefits for teachers and pedagogical practitioners to use observational drawing to promote children to engage in focused attention and concentration. Similarly, exploratory and experimental drawing could be explored within primary education to promote children's dynamic engagement in teaching and learning in addition to discussions of ideas, decision-making, problem-solving, social interactions which have potential benefits for the promotion of language and communication in addition to social development in children at the primary level.



(iii) *Furthering the understanding of drawing in the promotion of children's vocabulary and language acquisition, communication and development*

The findings from this study shed light on the dialectical nature of drawing (Vygotsky, 1978, 2011) and the different ways in which children communicate with themselves (Brooks, 2009; Hope, 2008) in self talk or 'private speech' (Vygotsky, 1978, 2011) and each other in response to different drawing activities. In a 'running commentary' style of expression in low volume levels during observational drawing and the articulation of their observations, questioning, sharing ideas and problem solving (Jolley & Kali, 2013; Shach & Fried, 2005; Eisner 2003) at heightened levels of volume during more experimental or exploratory drawing. It is hoped that this gives weight to the wider recognition of the importance of drawing in the social constructionist theory of learning (Vygotsky, 1962, 1978; Bruner, 1986; Brooks, 2003) and highlights the pedagogical benefits of drawing as part of children's learning across the curriculum.

(iv) *Recognising the multisensory nature of drawing*

The findings in this study builds on Vygotsky's concept of *Verbal Thought* (1962) and Brook's concept of *Visual Thought* (2002) to conceptualise a *multisensory framework of drawing* which recognises the visual, speech, haptic and auditory elements of drawing. It is hoped that teaching practitioners recognise the multisensory nature of drawing and utilise all types of drawing the benefits of drawing in the promotion of children's vocabulary, language and communication development.

(v) *Developing our understanding of the affordances of drawing on children's cognitive awareness and development*

The findings from this study provide an insight into the ways in which drawing promotes cognitive and metacognitive awareness, engagement and development to support the view of drawing as a thinking tool (Hope, 2017) that plays part in the promotion of cognition and meta-cognition (Eisner, 2002; Efland, 2002; van Sommers, 1984) and a way to develop cognitive skills and processes (Farthing and Betts, 2005). It is suggested that teaching practitioners are encouraged to watch and listen to children engaging in drawing to recognise and understand the cognitive processes that take place during the act and process of drawing and the insights it may afford to promote children's agency, self-efficacy and autonomy in their learning and education as a whole (Brew, 2015).

(vi) *Furthering the understanding of the affordances of drawing on children's social, emotional and mental health and well-being*

The findings in this study provide clear evidence that children experience a '*calming*' and '*relaxing*' response to drawing, that drawing can promote focused individual attention and thus agency and autonomy through observational drawing and discussion and laughter through more experimental and exploratory drawing in the social context of the classroom. As a parent in this study recognised, drawing "*is a creative and artistic outlet which is important for mental health.*" For this reason, it is worth utilising drawing not only as a tool for teaching and learning but one that promotes emotional and mental well-being as part of the wider curriculum. It is suggested that trainee teachers are made aware of the potential emotional and mental health benefits of drawing and encouraged to make integrate more drawing into their planning for future generations of primary school children.

(vii) *Recognising the impact of regular drawing on children's drawing engagement, ability and drawing self-efficacy*

The findings of this study demonstrate that children enjoy and have the inclination to engage with a variety of drawing activities across the curriculum. A simple analysis of children's drawing as part of their everyday learning and their drawing of familiar subjects over time provide evidence that daily drawing has a positive impact on children's drawing ability, drawing confidence and drawing self-efficacy as expressed by the children themselves.

It is hoped that teaching practitioners and policy makers allow for the exploration of drawing across the curriculum to promote drawing enjoyment, confidence and self-efficacy which could potentially strengthen cross-curricular links, promote high-quality of children's drawing skills and reduce or ameliorate the recognised decline in children's drawing engagement in primary schools. This may require drawing to gain more status in teacher training programs.

(viii) *The importance of seeking the parental view.*

The parental views in this study were sought to explore the impact of a drawing intervention of drawing across the curriculum on children's interest and engagement in drawing. However, the parent responses to the questionnaires proved to be not only fruitful and insightful on the children's engagement with drawing but many of them had constructive and creative ideas about the ways in which drawing could be utilised across the primary curriculum. It is therefore worth exploring as an element of teaching in primary education.

## **Limitations of the Study**

The research was limited to one class in one, year group. It would have been useful to have had a control group whereby another teacher in the same year group undertook a similar intervention, or a teacher in a different year group, to compare the results. The timescale of six months, however, proved to be sufficient time to implement a variety of daily drawing activities across the curriculum and observe children's responses to and engagement over time.

As an art coordinator and a teacher with an art specialism my passion and enthusiasm for the drawing will have influenced the way in which the drawing activities were delivered, particularly the step-by-step guided activities. It is possible that my enthusiasm had a positive impact on the children's positive engagement with this research. As outlined in the recent *Art Research Review* (Ofsted, 2023) many primary school teachers lack confidence in teaching drawing (OFSTED, 2023) therefore similar success with a similar 'drawing intervention' with a similar cohort cannot be guaranteed. However, the six-month drawing intervention demonstrated that it is feasible to utilise drawing as a tool for teaching and learning in subjects across the primary curriculum within and beyond art and design. The key is to make provision of a variety of observational, exploratory and experimental drawing tasks and maintain a focus on guiding the children to engage in drawing exercises to observe, explore and experiment. In this way the drawing tasks are also easily transferable to all age groups and primary educational settings.

## **Recommendations for Further Research**

It would be useful to replicate this research using a greater sample with the purpose of generalising the findings and using a control group to validate the findings.

Further studies could be to investigate what children are thinking when engaged in ‘inner speech’ in observational drawing. It would also be beneficial to undertake a longitudinal study on the impact of a similar drawing intervention on children’s academic learning, emotional well-being or drawing self-efficacy. It would be useful to explore the long-term potential benefits of drawing to children’s learning, drawing confidence and efficacy, and emotional and mental health over the course of children’s primary school career.

It would also be interesting to ask those teachers that lack confidence in their own drawing to explore drawing as part of their teaching to guide children to be more observant, to explore and experiment with drawing and to take ownership of their learning by integrating drawing lessons into an existing planned curriculum.

### **Dissemination of the research**

It is hoped that this study on children’s responses to, experiences and perceptions of drawing across the curriculum may have a beneficial impact on theory and practice and several aspects of the work have already been disseminated. A 30-minute presentation of the findings was delivered by the researcher to staff at the participating school followed by two hour long practical demonstrations to staff on drawing and how different drawing activities can be implemented into subjects across the curriculum. These were followed by question-and-answer sessions with a very active level of engagement. The researcher has since moved to another primary school and is discussing the possible implementation of the recommendations stated in this study in their school policy.

Additionally, the children’s perceptions and experience of drawing as calming and relaxing that emerged from this study is of relevance to the promotion of children’s mental and

emotional well-being. It further offers an original approach that the school perhaps can utilise to provide support to everyone, including those children with anxieties and emotional, mental and behavioural issues. This is particularly important given the rising levels of anxiety and mental health issues that are being addressed as a result of the lasting effects of recent COVID-19 lockdowns and restrictions in addition to the ever-growing demand for SEND and SEMH provision in primary schools. For this reason, it is worth considering the emotional, social and multisensory benefits of drawing for all children in subjects across the primary curriculum beyond art and design.

## **Reflection**

Engaging in this particular research journey has led to a number of positive insights into children's experiences of and responses to drawing and into educational research.

The research carried as part of an EdD journey has afforded me greater understanding of the role and status of drawing in primary education and allowed me to make beneficial changes to my ongoing practice within education. In addition, this research has been highly beneficial to me as an insider researcher, educational professional and critical thinker. The findings have given me confidence to undertake CPD sessions with my colleagues in order to explore the principles further.

Finally, from my observations of children drawing, I now view the definition of drawing to be as broad, vague and as multidisciplinary as speech, dance, thought, music and writing. This allows me to have the confidence to share and promote drawing to a more elevated status in teaching and learning and in the promotion of children's emotional wellbeing across the primary curriculum and education.

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## **Appendix I**

### **GLOSSARY OF TERMS USED IN DRAWING AND TYPES OF DRAWING**























THE UNIVERSITY OF CHICAGO











## Appendix II - Copies of Child Participant Questionnaires 1,2 & 3

### Children's Drawing Questionnaire 1

In this questionnaire you are going to be asked some questions about drawing and then asked to draw some things you are familiar with.

If for any reason you cannot answer a question or you do not want to answer a question then just leave it blank.

Q1. Do you like drawing?	<b>No, not at all</b>	<b>Not much</b>	<b>A bit</b>	<b>Quite a bit</b>	<b>Yes, I love it</b>
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Q2. How often do you draw?	<b>Never</b>	<b>Rarely</b>	<b>Occasionall y</b>	<b>Once a day</b>	<b>Many times a day</b>
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Q3. Do you draw at home or somewhere out of school?  If yes, where?	<div style="text-align: center;"> No                      Yes   ..... </div>				
Q4. If you draw outside of school what sort of things do you have to draw with?  Please tick ✓	..... Drawing pencils ..... Coloured pencils ..... Felt tips ..... Crayons ..... Paints ..... Drawing books ..... Drawing paper  Anything else? .....				
Q5. Is there someone in your family that draws with you?  If you answered yes, who do you draw with?	<div style="text-align: center;"> No                      Yes </div>				



<p>Do they <i>teach</i> you to draw?</p>	<p>.....</p> <p>No      Yes</p>
<p>Q6. Do you know anyone in your family that does a lot of drawing for school or for work?</p> <p><b>If yes, who</b></p>	<p>No      Yes</p> <p>.....</p>
<p>Q7. Do you have a favourite subject you like to draw?</p> <p>If yes what do you like to draw?</p>	<p>Yes      No</p> <p>.....</p>
<p>Q8. Please draw something that you like to draw.</p>	
<p>Q9. Do you think it is important to be good at drawing?</p> <p>Yes      No      Not sure</p>	
<p>Q10. Why do you think it is important or not important?</p>	
<p>Q11. Do you think that anyone can be good</p>	

at drawing? .....
<p>Q12. Do you think we should do <u>more</u> drawing in school or <u>less</u> drawing in school?</p> <p style="text-align: right;">More drawing      Less drawing</p>
<p>Q13. Why do you think that?</p> <p>Q14. If you circled more drawing in school, what type of drawing would you like to do?</p>
<p>Q15. Which subjects do you think drawing can help you when learning them?</p> <p>Art    DT    Literacy    Maths    Science</p> <p>Geography      History</p> <p>Other .....</p> <p>Q16. If you put a circle around any of the subjects above can you say how do you think drawing can help you to learn them?</p>
<p>Q17. Can you draw a picture of yourself or a person?</p>
<p>Q18. Can you draw a tree?</p>

Q19. Can you draw a building?	
Q20. Can you draw a chair?	Q21. Can you draw a flower?
Q23. Do you like to draw quickly or slowly?	
Slowly      In between      Quickly	
Q24. Do you have any thoughts about drawing that you would like to share?	

### Appendix III Parent Questionnaire

#### Parent Questionnaire

In this questionnaire you are going to be asked some questions about your child's drawing activities and attitudes to drawing.

If for any reason you cannot answer a question, or you do not want to answer a question, then just leave it blank.

1. Have you noticed any changes in your child's attitude to drawing since the start of the drawing lessons?
2. Have you noticed any changes in how they observe things?
3. Have you noticed any changes in how they articulate themselves when drawing?
4. Do you think your child's drawing has changed in any way?
5. Do you think it is important for your child to be good at drawing?

6. Do you think we should do <u>more</u> drawing in school or <u>less</u> drawing in school? If so why or why not?
7. If you circled <b>more</b> drawing in school, is there any specific subject or type of drawing you would like to see in school?
8. Have you noticed any changes in your child's handwriting since they started drawing more at school?
9. Do you have any thoughts about the drawing lessons that you would like to share?

## Appendix IV - Ethical Approval Forms

University of Reading  
Institute of Education  
**Ethical Approval Form**

Tick one:

Staff project: \_\_\_\_

Postgraduate project: PGCE \_\_\_\_ GTP \_\_\_\_ MA \_\_\_\_ PhD ✓

Undergraduate project: \_\_\_\_

Name of applicant (s): Michelle Rogers

Title of project: Drawing: Children's Perceptions of the Impact of Drawing on Learning and Emotional Development in Primary School Education.

Name of supervisor (for student projects): Dr Gill Hopper

**Please complete the form below including relevant sections overleaf.**

	YES	NO
<b>Have you prepared an Information Sheet for participants and/or their parents/carers that:</b>	✓	
a) explains the purpose(s) of the project	✓	
b) explains how they have been selected as potential participants	✓	
c) gives a full, fair and clear account of what will be asked of them and how the information that they provide will be used	✓	
d) makes clear that participation in the project is voluntary	✓	
e) explains the arrangements to allow participants to withdraw at any stage if they wish	✓	
f) explains the arrangements to ensure the confidentiality of any material collected during the project, including secure arrangements for its storage, retention and disposal		
g) explains the arrangements for publishing the research results and, if confidentiality might be affected, for obtaining written consent for this	✓	
h) explains the arrangements for providing participants with the research results if they wish to have them	✓	
i) gives the name and designation of the member of staff with responsibility for the project together with contact details, including email . If any of the project investigators are students at the IoE, then this information must be included and their name provided	✓	
k) explains, where applicable, the arrangements for expenses and other payments to be made to the participants	✓	
j) includes a standard statement indicating the process of ethical review at the University undergone by the project, as follows:	✓	

'This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct'.			
k) includes a standard statement regarding insurance "The University has the appropriate insurances in place. Full details are available on request".	✓		
<b>Please answer the following questions</b>			
1) Have you sought written or other formal consent from all participants, if they are able to provide it, in addition to (2)?	✓		
2) Have you provided participants involved in your research with all the information necessary to ensure that they are fully informed and not in any way deceived or misled as to the purpose(s) and nature of the research?	✓		
3) Is there any risk that participants may experience physical or psychological distress in taking part in your research?		✓	
4) Have you taken the online training modules in data protection and information security?	✓		
5) Does your research comply with the University's Code of Good Practice in Research?	✓		
	YES	NO	N.A.
6) If your research is taking place in a school, have you obtained the permission in writing of the head teacher or other relevant supervisory professional?	✓		
7) Has the data collector obtained satisfactory CRB clearance?	✓		
8) If your research involves working with children under the age of 16 (or those whose special educational needs mean they are unable to give informed consent), have you sought parental consent or given parents/carers the opportunity to decline consent?	✓		
9) If your research involves processing sensitive personal data <sup>1</sup> , have you obtained the explicit consent of participants?			✓
10) If you are using a data processor to subcontract any part of your research, have you got a written contract with that contractor which (a) specifies that the contractor is required to act only on your instructions, and (b) provides for appropriate technical and organisational security measures to protect the data?			✓
11a) Does your research involve data collection outside the UK?		✓	
11b) If the answer to question 11a is "yes", does your research comply with the legal and ethical requirements for doing research in that country?			✓
12a. Does the proposed research involve children under the age of 5?		✓	
12b. If the answer to question 12a is "yes": My Head of School (or authorised Head of Department) has given details of the proposed research to the University's			✓

<sup>1</sup> Sensitive personal data consists of information relating to the racial or ethnic origin of a data subject, their political opinions, religious beliefs, trade union membership, sexual life, physical or mental health or condition, or criminal offences or record.

insurance officer, and the research will not proceed until I have confirmation that insurance cover is in place.			
<b>If you have answered YES to Questions 2 and/or 3, please complete Section B below</b>			

PLEASE COMPLETE **EITHER SECTION A OR B** AND PROVIDE THE DETAILS REQUIRED IN SUPPORT OF YOUR APPLICATION, THEN SIGN THE FORM (SECTION C)

<b>A:</b> My research goes beyond the ‘accepted custom and practice of teaching’ but I consider that this project has <b>no</b> significant ethical implications.	
<p>Give a brief description of the aims and the methods (participants, instruments and procedures) of the project in up to 200 words. Attach any consent form, information sheet and research instruments to be used in the project (e.g. tests, questionnaires, interview schedules).</p> <p>The teaching of Drawing is now a key element of teaching Art and Design in primary education. The aim of this research is to gain a deeper understanding of how children perceive their participation in and understanding of the skills of Drawing. It aims to understand, from the child’s perspective, how learning to draw impacts on other areas of their learning and the ability to observe the world around them.</p> <p>Over a period of 6 months, 30 year 3 children in a community school in Reading are invited to answer two questionnaires and undertake focused drawing lessons on sketching, shading, contrast, shape, form, structure, bilateral drawing (two-handed), upside-down drawing, composition, perspective, urban sketching, botanical and other observational drawing. Parents and carers will also be invited to answer a short questionnaire at the end of the research period.</p> <p>Data collection will be both quantitative: analysis of questionnaires and engagement in the specific drawing tasks; and qualitative: interpretation of both children’s written responses to open ended questions and semi-structured interviews.</p> <p>Ultimately, the research aims to encourage children to observe the world around them in more detail and to develop the ability to articulate their observations orally, in written form, or expressed more kinaesthetically through the creative arts – art, architecture, music, drama, dance poetry etc. It also aims get more teachers engaged in teaching a variety of drawing skills through cross curricular links to a variety subjects.</p> <p>Please state how many participants will be involved in the project: 30, Year 3 children</p>	



*This form and any attachments should now be submitted to the Institute's Ethics Committee for consideration. Any missing information will result in the form being returned to you.*

**B:** I consider that this project **may** have ethical implications that should be brought before the Institute's Ethics Committee.

**Please provide all the further information listed below in a separate attachment.**

1. title of project
2. purpose of project and its academic rationale
3. brief description of methods and measurements
4. participants: recruitment methods, number, age, gender, exclusion/inclusion criteria
5. consent and participant information arrangements, debriefing (attach forms where necessary)
6. a clear and concise statement of the ethical considerations raised by the project and how you intend to deal with them.
7. estimated start date and duration of project

*This form and any attachments should now be submitted to the Institute's Ethics Committee for consideration. Any missing information will result in the form being returned to you.*

### **C: SIGNATURE OF APPLICANT:**

I have declared all relevant information regarding my proposed project and confirm that ethical good practice will be followed within the project.

Signed: ..... Print Name.....  
Date.....

STATEMENT OF ETHICAL APPROVAL FOR PROPOSALS SUBMITTED TO THE  
INSTITUTE ETHICS COMMITTEE

This project has been considered using agreed Institute procedures and is now approved.

Signed: ..... Print Name.....

Date.....










(IoE Research Ethics Committee representative)\*

\* A decision to allow a project to proceed is not an expert assessment of its content or of the possible risks involved in the investigation, nor does it detract in any way from the ultimate responsibility which students/investigators must themselves have for these matters. Approval is granted on the basis of the information declared by the applicant.

## Appendix V – Children’s Consent Form

Note: this form is for young children. The statements are read and the child colours the face to indicate consent or not.

### My Consent Form

	<u>Yes</u>	<u>No</u>
Miss Rogers has told my about the drawing research she will be doing.		
Miss Rogers has shown me the leaflet that explains the type of drawing lessons that I will be doing.		
Miss Rogers has answered the questions I have had about my questionnaires and drawing lessons.	 	 
I know that I will be learning about drawing and will tell Miss Rogers how I feel about drawing.		
I know that I may be asked to answer questions in an interview, expressing my opinion about the drawing lessons.		
I know that the interviews will be recorded and will be typed up but my name will not be used.		

My Name: .....

Date: .....



**Appendix VI –**

**RE: Permission to Conduct Research Study**

As Head of Creativity I am eager ensure that, wherever possible, the implementation of the new curriculum enables all children to reach both their academic and creative potential. In addition, as a full time classroom teacher, I have seen how the teaching of observational drawing can develop many skills beyond just learning to draw. I am interested, from an academic point of view, to understand what are children's perception of drawing in relation to learning and emotional development particularly at the age when children are becoming acutely aware of their own and other's drawing abilities. With this in mind, I am writing to request permission to conduct a research study at \_\_\_\_\_ Primary School. The study is entitled ***Research into Children's Perceptions and Experiences of Drawing in Primary School for a Doctorate of Education, University of Reading***

The aim is to gain a deeper understanding of how children perceive and experience the participation in a variety of the skills of observational drawing: sketching, shading, contrast, shape, form, structure, bilateral drawing (two-handed), upside-down drawing, composition, perspective, urban sketching, botanical and other observational drawing.

I hope that you will allow me to give each child in 3MR at \_\_\_\_\_ Primary the opportunity take part in the research which will require them (with parental consent) to firstly complete an initial anonymous questionnaire to assess their perceptions and experiences. Then, over several months, to undertake a series of focussed lessons in the skills of observational drawing that fit into the normal timetable and curriculum for Year 3 and to have their engagement and responses recorded on paper and video (which will be pixelated for anonymity. Then at the end of the research period, the children are to complete a final questionnaire to assess each child's perceptions and experiences of drawing, having undertaken the six-month programme of focussed drawing lessons.

If approval is granted, participants will complete the questionnaires and drawing lessons in school time and neither your school nor the individual participants will incur any costs. All information collected will be kept strictly confidential (subject to legal limitations). In order to protect the anonymity of each participant, pseudonyms will be used to ensure participants cannot be identified and individual school names will not be used. All electronic data will be held securely in password protected files on a non-shared PC and all paper documentation will be held in locked cabinets in a locked office. In line with University policy, data generated by the study will be kept securely in paper or electronic form for a period of five years after the completion of the research project. This data may be used in future publications in appropriate academic journals and/or books. All participants will be able to have access to a copy of the published research on request.

Your approval to conduct this study will be greatly appreciated. If you agree, kindly reply to this email acknowledging your consent and permission for me to conduct this survey/study at your institution.

Yours sincerely,

## Appendix VII – Head Teacher Permission Form

Michelle Rogers

**Researcher:** Michelle Rogers

*Phone:*

*Email:* [M.C.Rogers@pgr.reading.ac.uk](mailto:M.C.Rogers@pgr.reading.ac.uk)

### Head Teacher Consent Form

**Research Project:** Drawing: Children's Perceptions of the Impact of Drawing on Learning in Primary School Education.

**Researcher:** Michelle Rogers

Dear Tonia,

I would like to invite the children in my class (3MR) at \_\_\_\_\_ Primary, to take part in a research study that I am undertaking in the classroom, to identify children's perceptions of drawing and the impact of drawing activities on their educational development. In order to do this I need your consent.

#### **What is the study?**

The study is a research project for Part 2 of the Doctorate of Education (EdD) at the Institute of Education, University of Reading. It aims to investigate primary children's perceptions of drawing and the impact it might have on their cognitive learning and emotional development. It hopes to make recommendations regarding how we can best help children to develop the skills of drawing; to problem solve through drawing; to think more three-dimensionally; to articulate their observations orally and, in turn, to write about their observations more coherently. The study will include drawing activities and anonymous questionnaires at the beginning and end of the research.

A selection of children will also be invited to talk about their experience of the drawing activities. The selection will be made both randomly and based on obvious engagement or disengagement with the drawing task. These interviews will be audio recorded and the recordings will be transcribed and made anonymous before being analysed.

#### **Why have the children in Year 3 at my school been chosen to take part?**

The children in Year 3 at \_\_\_\_\_ - have been invited to take part in the project because they are at an age in the development of their drawing when they are becoming increasingly aware of their ability to draw which is crucial to the research. In addition, I (the researcher) am head of creativity and the children's teacher therefore I am able to set the children's learning of drawing within the context of the new curriculum. All learners in 3MR at \_\_\_\_\_ Primary School are being invited to take part.

**Does my school have to take part?**

It is entirely up to you whether your school participates. You may also withdraw your consent to participation at any time during the project, without any repercussions to you or your school, by contacting one of my supervisors: Dr Gill Hopper; Tel: 0118 9378 2644, email: [g.w.hopper@reading.ac.uk](mailto:g.w.hopper@reading.ac.uk) or Mrs Melanie Jay; Tel: 0118 378 2670, email: [m.b.jay@reading.ac.uk](mailto:m.b.jay@reading.ac.uk) or myself, the Principal Researcher, on Tel: or email: [M.C.Rogers@pgr.reading.ac.uk](mailto:M.C.Rogers@pgr.reading.ac.uk).

**What will happen if my school takes part?**

Children that participate will complete a brief questionnaire in January in order to assess their initial thoughts on drawing. Then over a time period of 6 months they will take part in drawing lessons that focus on specific aspects of drawing e.g., shape, form, shadows, contrast and perspective etc. At the end of the six months they will be asked to complete another short questionnaire about their attitudes to learning the observational drawing and how it may have impacted on their learning. I would also like parents/carers to complete a short questionnaire about how much contact their child has with Drawing outside of school.

The tasks will take place during school time and the children will not be taken out of any lessons or have their normal curriculum interrupted. The questionnaire for the children will also be completed in school time and should take about 10-15 minutes to complete. The parent/carer questionnaire should take the same amount of time and will be passed on via the children.

**What are the risks and benefits of taking part?**

The information that your children give will remain confidential and will only be seen by the researcher. Neither the children nor the school will be identifiable in any published report resulting from the study.

Participants in similar studies have found it interesting to complete the tests and questionnaires. I anticipate that the findings of the study will be of interest to both parents and teachers. In particular, it will inform teachers of the benefits of drawing as perceived by the children. An electronic copy of the published findings of the study can be made available to you by contacting me, the Principal Researcher: Tel: 07896795893 or email: [M.C.Rogers@pgr.reading.ac.uk](mailto:M.C.Rogers@pgr.reading.ac.uk).

**What will happen to the data?**

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. The records of this study will be kept private. No identifiers linking you, the children or the school to the study will be included in any sort of report that might be published. We will transcribe the recordings from the tests and anonymise them before analysing the results. Children will be assigned a number and will be referred to by that number on all audio recordings and on all questionnaires. Research records will be stored securely in a locked filing cabinet and on a password-protected computer and only the research team will have access to the records. The data will be destroyed securely once the findings of the study are written up after five years. The results of the study will be presented at national and international conferences and in written reports and articles.

**Who has reviewed the study?**

This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

**What happens if I change our mind?**

You can change your mind at any time without any repercussions. During the research, the children in your school can stop completing the activities at any time. If you change your mind after data collection has ended, we will discard your children's data.

**What happens if something goes wrong?**

In the unlikely case of concern or complaint, you can contact Dr Gill Hopper at University of Reading; Tel: 0118 9378 2664, email: [g.w.hopper@reading.ac.uk](mailto:g.w.hopper@reading.ac.uk).

**Where can I get more information?**

If you would like more information, please contact Dr Gill Hopper at University of Reading on Tel: 0118 9378 2664, email: [g.w.hopper@reading.ac.uk](mailto:g.w.hopper@reading.ac.uk).

I do hope that you will agree to your school's participation in the study and to your involvement in it. If you do, please complete the attached consent form and return it, sealed, in the envelope provided, directly to me or to the school office.

Thank you for your time.



**Research Project:** Drawing: Children's Perceptions of the Impact of Drawing on Learning in Primary School Education.

Head Teacher Consent Form

I have read the Information Sheet about the project and received a copy of it.

I understand what the purpose of the project is and what is required of my school and the children taking part. All my questions have been answered.

Name of Head Teacher: \_\_\_\_\_

Name of Primary School: \_\_\_\_\_

Please tick as appropriate:

I consent to \_\_\_\_\_ Primary School taking part in the research. ☐

I consent to Year 3 children completing the drawing lessons and questionnaires in January 2015 ☐

I consent to Year 3 children completing the questionnaire in June 2016 ☐

I consent to selected children answering questions in short interviews following the drawing activities ☐

I consent to parents completing a parent/carer questionnaire ☐

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

## Appendix VII - Children's Introductory Leaflet



**What everyday things will you draw?**

Do you have a toy or a pet that will make a good subject to draw?



**We will be learning about:**

- Shape
- Form
- Shading
- Contrast
- Perspective
- Two-handed drawing
- Upside down drawing
- Contour drawing
- High Speed Drawing
- Slow speed drawing
- Outside drawing
- Inside drawing
- Drawing people
- Drawing animals
- Drawing buildings
- Drawing nature
- Drawing anything!

**Will you use a pencil and paper or something else?**

**What is Drawing?**

3MR has been chosen to do some research into Drawing. You are going to be learning lots of drawing skills and trying different ways of drawing. Some of you then may be selected to answer some questions about what you think about the drawing you have been doing.



**What do you think about Drawing?**

**You will be doing BIG drawings, small drawings, quick drawings and sl-o-w detailed drawings of things like leaves, plants, trees, toys, buildings, people and subjects that only you are interested in.**



**What would you like to draw?**







**We will take a closer look at the detail of the world around us – the shapes and sizes and look at things from from different angles.**



## Appendix VIII- Letter to Parents and Parent Consent Form



### Parent/carer information sheet

**Research Project:** Drawing: Children's Perceptions of the Impact of Drawing on Learning and Emotional Development in Primary School Education.

**Researcher:** Michelle Rogers

As Head of Creativity at \_\_\_\_\_ Primary School I am eager ensure that, wherever possible, the implementation of the new curriculum enables all children to reach both their academic and creative potential. In addition, as a full-time classroom teacher, I have seen how the teaching of observational drawing can develop many skills beyond just learning to draw. I am also very interested, from an academic point of view, to understand children's perception of drawing across the curriculum, particularly in relation to cognitive learning and emotional development at the age when children are becoming acutely aware of their own and other's drawing abilities. With this in mind, I would like to invite your child to take part in a research study that I am undertaking in the classroom to establish Year 3 children's perceptions of observational drawing and for this I would need your consent.

### **What is the study?**

The study is a research project for Part 2 of Doctorate of Education (Ed.D) at the Institute of Education, University of Reading. It aims to investigate children's perceptions of observational drawing in primary schools and the impact it might have on learning outcomes. It hopes to make recommendations regarding how we can best help children to develop the skills of observational drawing; to problem solve through drawing; to think more three-dimensionally; to articulate their observations orally and, in turn, to write about their observations more coherently.

### **Why has my child been chosen to take part?**

Your child has been invited to take part in the project because they are at an age in the development of drawing when children become more aware of their ability to draw, which is crucial to the research. In addition, I (the researcher) am your child's teacher and therefore I will have constant access to their educational development and consequently be able to set your child's learning of observational drawing into context with the new curriculum. All learners in 3MR at \_\_\_\_\_ Primary School are being invited to take part.

The study will include anonymous questionnaires at the beginning and end of the research plus semi-structured interviews during and after the drawing lessons. The interviews will be audio recorded and the recordings will be transcribed and made anonymous before being analysed. Videos will also be taken to understand how engaged your child is with the observational drawing lesson though these will be anonymised using pixilation.

**Does my child have to take part?**

It is entirely up to you whether your child participates. You may also withdraw your consent to participation at any time during the project, without any repercussions to you or your child, by contacting one of my supervisors: Dr Gill Hopper, 0118 9378 2644 or Melanie Jay, or myself the researcher on Tel: 07896795893 or email: [M.C.Rogers@pgr.reading.ac.uk](mailto:M.C.Rogers@pgr.reading.ac.uk)

**What will happen if my child takes part?**

Your child will complete a brief questionnaire in January to assess their initial thoughts on drawing. Then over a time period of 6 months they will take part in weekly observational drawing lessons that focus on specific aspects of observation e.g., shape, form, shadows, contrast, perspective etc. Parts of these will be video recorded, with your consent, in order to analyse engagement in the activities. At the end of the six months they will be asked to complete another short questionnaire about their attitudes to learning the observational drawing and how it may have impacted on their learning. We would also like parents/carers to complete a short questionnaire about how much contact their child has with Drawing outside of school.

The tasks will take place during school time and your child will not be taken out of lessons any lessons or have their normal curriculum interrupted. The questionnaire for the children will also be completed in school time and should take about 10-15 minutes to complete. The parent/carer questionnaire should take the same amount of time and will be passed on to you via your child.

**What are the risks and benefits of taking part?**

The information you and your child give will remain confidential and will only be seen by the research team listed at the start of this letter. Neither you, your child or the school will be identifiable in any published report resulting from the study. Taking part will in no way influence the grades your child receives at school. Information about individuals will not be shared with the school.

Participants in similar studies have found it interesting to complete the tests and questionnaire that we will administer. I anticipate that the findings of the study will be useful for teachers in planning how they teach drawing. An electronic copy of the published findings of the study can be made available to you by contacting me, the Principal Researcher.

**What will happen to the data?**

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. The records of this study will be kept private. No identifiers linking you, your child or the school to the study will be included in any sort of report that might be published. We will transcribe the recordings from the tests and anonymise them before analysing the results. Children will be assigned a number and will be referred to by that number on all audio recordings and on all questionnaires. Research records will be stored securely in a locked filing cabinet and on a password-protected computer and only the research team will have access to the records. The data will be destroyed securely once the findings of the study are written up, after five years. The results of the study will be presented at national and international conferences, and in written reports and articles.

**Who has reviewed the study?**

This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

**What happens if I/ my child change our mind?**

You/your child can change your mind at any time without any repercussions. During the research, your child can stop completing the activities at any time. If you change your mind after data collection has ended, we will discard your/your child's data.

**What happens if something goes wrong?**

In the unlikely case of concern or complaint, you can contact Dr Carol Fuller at University of Reading; Tel: 0118 378 2662, email: [c.l.fuller@reading.ac.uk](mailto:c.l.fuller@reading.ac.uk)

**Where can I get more information?**

If you would like more information, please contact Dr Gill Hopper at University of Reading on  
Tel: 0118 9378 2664, email: [g.w.hopper@reading.ac.uk](mailto:g.w.hopper@reading.ac.uk)

I do hope that you will agree to your child's participation in the study and to your involvement in it. If you do, please complete the attached consent form and return it, sealed, in the envelope provided, directly to me or to the school office.

Thank you for your time.

**Research Project:** Drawing: Children's Perceptions of the Impact of Drawing on Learning in Primary School Education.

Parent/Carer Consent Form

I have read the Information Sheet about the project and received a copy of it.

I understand what the purpose of the project is and what is required of my child and me.  
All my questions have been answered.

Name of child: \_\_\_\_\_

Name of primary school: \_\_\_\_\_

Please tick as appropriate:

I consent to my child completing the observational drawing lessons and questionnaires in January 2015 ☐

I consent to my child completing the questionnaire June 2016 ☐

I consent to the video-recording of my child undertaking the drawing tasks ☐

I consent to completing a parent/carers questionnaire ☐

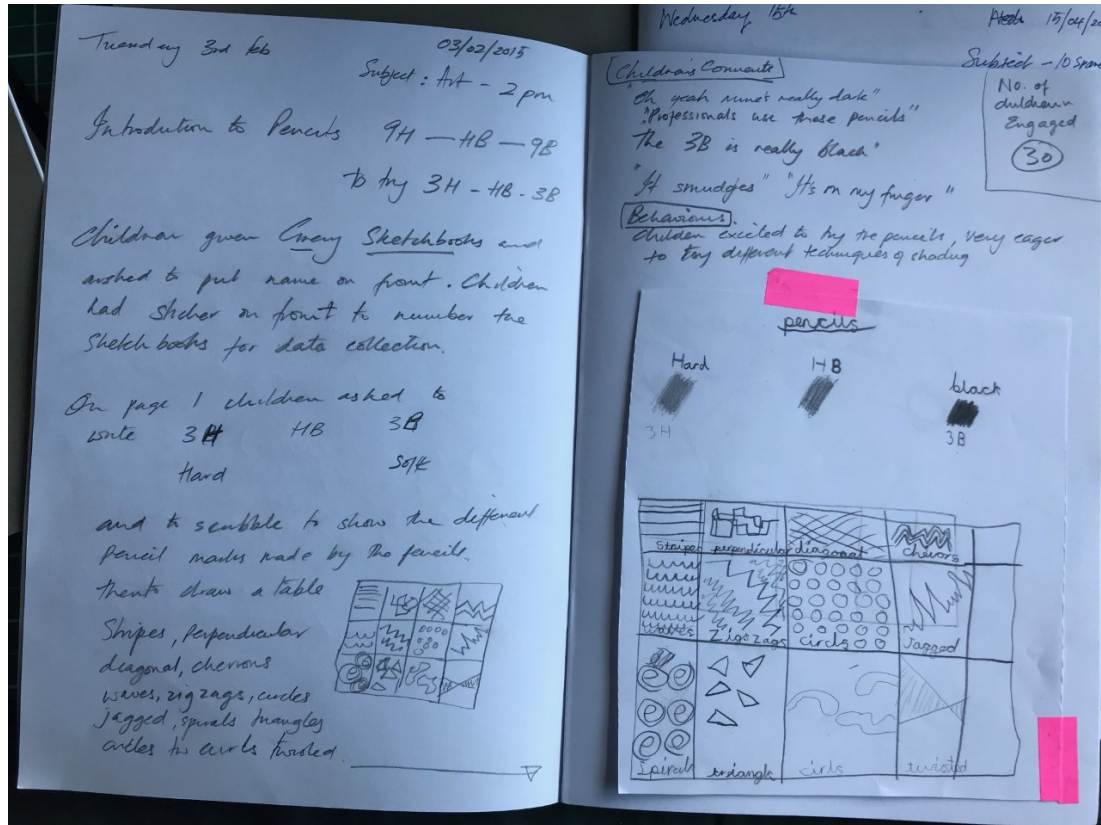
Signed: \_\_\_\_\_

Date: \_\_\_\_\_

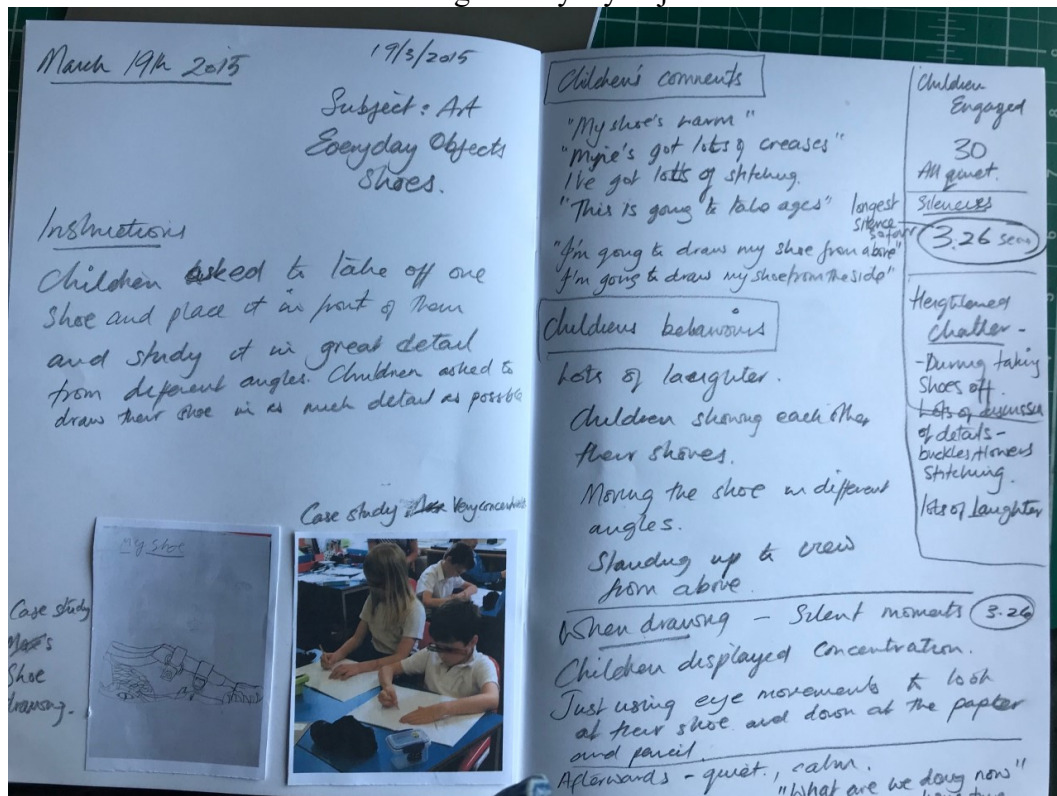


## Appendix IX - Examples of Field Notes of Observations and Recording of Verbal Communications

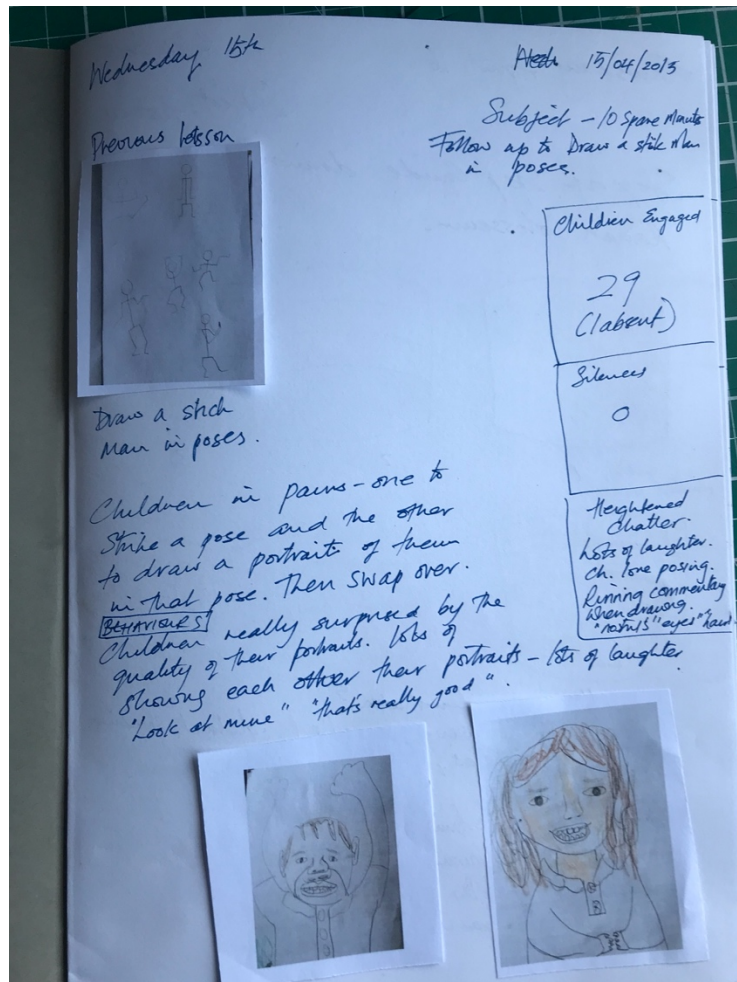
Introductory lesson on the meaning and used of different grades of pencil from 9H to HH to 9B



Art lesson – Observational Drawing – everyday objects - Shoes



Spare 10 minutes lesson on drawing portraits of poses – as a follow up to ‘improving the stick man’ and high speed portrait lessons.



History lesson on Roman Buildings – step-by-step guide to drawing the Roman Colosseum

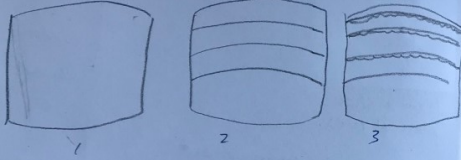


Thursday April 16

16/04/2015

Subject: History

Step-by-Step Guide drawing of  
Roman Colosseum.



Language used as demonstrated:  
Vertical, conserve, parallel, detail, shading  
arches, alcoves, statues.

JB's final  
drawing  
of the  
Roman Colosseum



children copied my vocabulary  
after I drew and demonstrated.  
they would do the same  
repeating what I had said saying  
same language "alcoves"  
"arches", "statues".

Childrens Comments

"I'm drawing my last row of  
arches"

"I'm drawing my statues in my  
arches"

"I'm going to use orange"

"I need a sandy colour"

"I'm going to put Julius ceasar in  
the main alcove"

No of children  
Engaged  
28  
(2 Absent)

Stimulus  
Very quiet  
when conversation  
on details of  
Colosseum

Heightened  
 chatter  
less of  
talking  
when colouring  
in

## Appendix X

Drawing intervention - Drawing Tasks Data				
Day 1	02.02.2015 Administration of Questionnaire 1 – 10:00am			
Day 1	Date: 02.02.15	Time of Day: 2:30pm.		
Task 1	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Introductory Leaflet	Art		Talked through the leaflet and answered questions on the vocabulary on the leaflet
	Length of task  30 mins		Silences or heightened chatter Lots of excited chatter  Case study Dan was quiet.	
Engagement  All children present and engaged	<b>Children’s behaviours:</b> All children showed interest. Smiling, lots of chatter and showing each No. of children on task the leaflet No child demonstrated any signs of discomfort, confusion or an unwillingness to take part.  All 30 children given the introductory leaflet to take home to show/discuss with their parents.			
	<b>Children’s comments:</b>  <i>“I do lots of drawing”... ‘me too” (interest)</i> <i>“I love drawing” (many times) (interest)</i> <i>“I’m going to enjoy these tasks”(enjoyment)</i> <i>“I can draw these” (decision making)</i> <i>“I’m good at drawing” (drawing efficacy)</i>  <i>What if we don’t know how to draw these? (Questioning) (Every drawing task will be explained and sometimes it is about exploring what the pencil can do)</i>  Case study Dan was quiet so I asked if he had any questions, he said ‘no. <i>I like drawing but when will we be doing the drawing?”</i> I said every day as part of normal everyday lessons and learning.  <i>Any further questions:</i> <i>‘What type of drawing we would be doing? I talked through the leaflet.</i> <i>“What does perspective drawing mean?”</i> I explained that it is drawing so that close things look big and things far away look small.			
Day 2	Date: 03.02.15	Time of Day: 08:40am		
Task 2	Drawing task	Subject	Drawing techniques	Vocabulary Square, boxes, vertical, giraffe, long neck, patterns, shapes, details, oblong
No. of children on task  30	Memory (Brain Training) Giraffe, Racing Car, Tall Building	Morning Work	A quick demonstration of drawing three squares in a vertical column and to draw the subjects.	
	Length of task  15 mins		Silences or heightened chatter  Lots of heightened chatter	
	<b>Children’s Behaviours:</b> Children waited for discussion and looked at others to see what they were doing Lots of focussed drawing and showing of each other’s drawings Heads down, eyes paper, focused attention Lots of looking over each other’s shoulders.			

	Interesting to see how the children created the impression of a ‘tall building’ by putting a small building, car or person next to the building (problem solving and Cognition)			
	<b>Children’s comments:</b> Lots of running commentary of what they were drawing.  <i>“Let me think what a giraffe looks like” (Cognition)</i> <i>“It has long legs” (memory, cognition)</i> <i>“It has funny tufty things on it head. Not horns though”, (prior knowledge, cognition)</i> <i>“I’m doing hexagon markings. They are sort of hexagons” (decision making)</i> <i>“They have long necks”(memory recall)</i> <i>I’m going to draw a crowd at the finish line” (decision making)</i> <i>“I’m giving my driver a helmet” (decision making)</i> <i>“I’m doing the Empire State Building (decision making)</i> <i>“I need to do a little person next to it to make it look tall” (problem solving and decision making)</i>  <i>“That was really good fun” (enjoyment and interest)</i> <i>“That was fun” (enjoyment and interest)</i>			
<b>Day 2</b>	<b>Date: 03.02.15</b>		Time of Day: 1:00pm	
Task 3	<b>Drawing task</b>	<b>Subject</b>	<b>Drawing techniques</b>	<b>Vocabulary</b>
No. of children on task  30	<b>Introduction to drawing pencils</b>  Talked about the meaning of H and B on pencils and that they range from 9B to 9H	ART	Exploring shading techniques and mark making techniques with 3B HB and 3H pencils	Shading, dark, light, smudging, Stripes, perpendicular, diagonal, chevrons, waves, zigzags, circles, jagged, spirals, triangles, curls, whirls, twisted
	<b>Length of task</b>  <b>30 mins</b>	<b>Silences or heightened chatter</b>  Lots of heightened chatter		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b> Children were excited to have a ‘proper’ sketchbook Lots of sharing of their own shapes, markings Lots of children smudging with their finger and showing each other their fingers with graphite on Lots of wiping of fingers on the paper  The children demonstrated the sharing of each other’s results of newly learned skills in mark making.			
	Children’s comments:  <i>“oh yeah”, “it’s pitch black”(3B pencil) (Sharing, observations)</i> <i>“I’m pressing really hard and there is nothing there” (3H pencil). (observational skills relating to drawing tasks)</i> <i>“I can hardly see it” (observational skills relating to drawing tasks)</i> <i>“This is darker than that” (observational skills relating to drawing tasks)</i> <i>“Look at my finger”(sharing experience, observation)</i> <i>“Watch you can shade with your finger”(sharing experience, observation)</i> <i>“Look, I can make finger prints” (shairing experience, observation)</i>  <i>“I love this” (enjoyment and interest)</i>			
<b>Day 3</b>	<b>Date: 04.02.15</b>		Time of Day: 10:40am.	
Task 4	<b>Drawing task</b>  Drawing the character Matilda	<b>Subject</b>	<b>Drawing techniques</b>  Step-by-step guided drawing	<b>Vocabulary</b> Head, brown straight hair Eyes, just dots. Big smile like a U Nose straight line down and a u at the bottom Dress

				Spiky fingers... Straight parallel legs Flat blue shoes and white ankle socks
No. of children on task  30	<b>Drawing a familiar character</b> A short demonstration – step-by-step guide drawing of Roald Dahl’s Matilda by Quentin Blake	English  Pre-planned	Drawing a familiar character	I talked through the drawing and labelling of features of a familiar character – hair, eyes, glasses, clothes, name, hobbies and interests and personality traits.
	<b>Length of task</b>  40 mins	<b>Silences or heightened chatter</b> Quiet when following instructions in step-by-step guide  Lots of heightened chatter when labelling and colouring in		
<b>Engagement</b>  All children engaged	<b>Children’s behaviours:</b>  Children followed step-by-step guide demonstrated to them. Then they drew each step. The children mimicked the vocabulary in my instructions. When colouring in the children were independent in how and in what order they coloured in. Focused, paying attention, concentrating on accuracy Independent			
	<b>Children’s comments:</b>  The children mimicked what I said as I was drawing and as they drew.  <i>Head...head...brown straight hair</i> <i>Eyes, just dots...dot dot</i> <i>Big smile like a U...big smile like a U</i> <i>Nose straight line down and a u at the bottom... nose straight line down and a u at the bottom</i> <i>Dress...dress</i> <i>Spiky fingers...spikey fingers</i> <i>Straight parallel legs... Straight parallel legs</i> <i>Flat blue shoes and white ankle socks...flat blue shoes</i>  <i>Matilda is clever and a good reader (metacognition)</i> <i>Matilda is intelligent (metacognition)</i> <i>Matilda is wiser than her parents (metacognition)</i> <i>She is sensible (metacognition)</i>  <i>I’m drawing some books next to her (decision making)</i> <i>She reads a lot (metacognition)</i> <i>She likes reading (metacognition)</i>			
<b>Day 3</b>	<b>Date: 04.02.15</b>		Time of Day: 2:30pm	
Task 5	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling with class book by D The Hodgeheg	Storytime	Drawing squares on the page and lines at different angles around them.  Children to shade or colour in sections of their choice	Squares, angles, lines, shade, sections
	<b>Length of task</b>  20 mins	<b>Silences or heightened chatter</b>  Mainly silent with the odd low whisper.		
<b>Engagement</b>	<b>Children’s Behaviours:</b> All children focused, heads down eyes on pencil and paper.			

All children engaged	Several children displayed facial expressions of disappointment when the story ended and some children continued to doodle.			
	Children’s comments:  Several children expressed disappointment at the doodling ending with utterances of “Oh” and “aah”  “Is that the time?” (speeding up of time) “It’s home time already.” (speeding up of time) “That was really relaxing.” (emotional)			
Day 4	Date: 05.02.15		Time of Day: 8:40am	
Task 6	Drawing task	Subject	Drawing techniques	Vocabulary Beetle head abdomen legs antennae Roller-skates wheels, boot, laces bridge arch bricks, steel
No. of children on task  30	Memory (Brain Training)  A beetle A pair of roller skates A bridge	Morning Work	Drawing from memory	
	Length of task	Silences or heightened chatter  Lots of heightened chatter about beetles, roller-skates and bridges		
	Children’s Behaviours: Children were quicker to get on task. Less discussion. More independent Sharing of drawings on completion  Lots of looking over each other’s shoulders. Lots of sharing of ideas and sharing of outcomes			
	Children’s comments: “What does a beetle look like” (Prior knowledge, memory recall) “I’m drawing a bridge over a river” (Decision making, prior knowledge) “These morning drawings are ‘fun’ (enjoyment and interest) “Oh good beetles are my favourite” (enjoyment and interest)			

Drawing intervention Drawing Tasks Data				
Day 4	Date: 05.02.15	Time of Day: 2:00pm.		
Task 7	<b>Drawing task</b> Drawing of Roman Colosseum	<b>Subject</b> History  Pre-planned	<b>Drawing techniques</b> Step-by step line drawing following explicit instructions	<b>Vocabulary</b>  Horizontal, vertical, curved Arches, columns, colosseum Centurion, emperor, goddess
No. of children on task  30	Step-by-Step guide of Roman Buildings	Topic- History Romans Roman Buildings		
	<b>Length of task</b>  40 mins		<b>Silences or heightened chatter</b>  2' 03" silence when drawing the features of the arches	
<b>Engagement</b>  All children engaged	<b>Children's behaviours:</b> All children were really quiet following instructions.  The children watched the instruction then mimicked my language as they drew their version. Lots of sharing of drawings on completion.			

	<b>Children's comments:</b> <i>Vertical one, vertical two (Observation and cognitive processes and connections)</i> <i>Curved over the top....curved across the bottom. Observation and cognitive processes and connections)</i> <i>I am going to drawing goddesses (decision making)</i> <i>I am drawing some centurions (decision making)</i>  <i>"That was really good fun"(enjoyment and interest)</i>  <i>"I'm really pleased with mine" (drawing efficacy) (sharing of drawings)</i> <i>"I didn't think I could draw that" (drawing efficacy) (sharing of drawings)</i>  <i>"Look at mine" (sharing of drawings)</i>			
<b>Day 5</b>	<b>Date: 06.02.15</b>		Time of Day: 10:40pm	
Task 8	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  29	Following demonstration of 2D subjects with guided commentary	Maths  2D Subjects  Pre-Planned		Square, oblong, triangle (equilateral, right-angled, isosceles and scalene) quadrilateral, rhombus, parallelogram, trapezium, pentagon and hexagon.
	<b>Length of task</b>  20 mins	<b>Silences or heightened chatter</b>  Lots of chatter  0 silences		
<b>Engagement</b>  All children engaged	Children's Behaviours The children watched the demonstration then drew each line using a ruler.  The children really enjoyed drawing the 2D shapes and were glad they did not have to just label them.			
	Children's comments:  Children mimicked all the language I used. The words vertical, horizontal, angle, right angle, square, oblong, triangle (equilateral, right-angled, isosceles and scalene) quadrilateral, rhombus, parallelogram, trapezium, pentagon and hexagon were all repeated.  <i>"I like drawing shapes" (enjoyment)</i> <i>"Drawing shapes is fun and it helps you draw properly" (enjoyment and drawing efficacy)</i>			
<b>Day 5</b>	<b>Date: 06.02.15</b>		Time of Day: 2:30pm	
Task 9	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Using drawing to demonstrate diagram of Hockey pitch and rules of Hockey	PE – Hockey  Pre-Planned	Watching a demonstration of a drawing	Pitch, invasion game, goal, shooting circle, penalty spot, central line.
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  Quiet while listening to instructions until children offered information about the diagram		
<b>Engagement</b>  All children engaged	Children's Behaviours: Children watched and called out the features of a football pitch and several children (especially those that play football) offered information about the diagram of the hockey pitch.			
	Children's comments:  <i>"The pitch is a bit like a football pitch" (cognition, making relationship with another sport)</i>			

Drawing intervention Drawing Tasks Data		
<b>Day 6</b>	<b>Date: 09.02.15</b>	Time of Day: 08:50am.

Task 10	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Morning Brain training - Memory</b>  A dragonfly A tank A garden shed	Morning work	Drawing from memory	Dragonfly body, abdomen, legs Tank, gun, caterpillar tracks Garden shed
	<b>Length of task</b>  10 mins		<b>Silences or heightened chatter</b>  Lots of chatter about dragonflies, tanks and garden sheds	
<b>Engagement</b>  All children engaged	<b>Children’s behaviours:</b> Lots of discussion and enthusiasm to draw Lots of looking over each other’s shoulders. Lots of sharing of ideas and sharing of outcomes			
	<b>Children’s comments:</b>  “Yes a tank. Can we make it fire?” (enjoyment, eagerness and interest) “A dragonfly has 4 wings and they look like this” (observation) I’m going to draw a dragonfly by a pond” (decision making) “They don’t have wheels they have caterpillar tracks to get over the hills” (cognitive recall) “Here’s the driver peeping out the top” (decision making) “My grandad is always in his shed he grows lots of vegetables” (relationship between things) Do you like my dragonfly? (sharing of drawings)			
<b>Day 6</b>	<b>Date: 09.02.15</b>		Time of Day: 9:30m	
Task 11	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Creating a labelled diagram of an invented character for a narrative story.  Labelled with descriptive features, personality traits, hobbies and interests	English  Pre-Planned	Freehand	Head, hair, eyes, nose, mouth Neck, shoulders, body, arms, legs.  Clothing
	<b>Length of task</b>  30 mins		<b>Silences or heightened chatter</b>  2’ 01” silence when drawing the features of the invented characters	
	Children’s Behaviours:  The children seemed to take great ownership of their character’s descriptions and actions. Lots of sharing and describing of characters with the person next to them and friends.			
	Children’s comments: “Mine’s going to have long curly hair freckles and blue glasses” (decision making) “He’s going to be really tall and his friend really small” (decision making) “How do I make her look shy?”(metacognition and problem solving) “Mine’s happy so I need to give her a big smiley grin” (problem solving/decision making)  Do you like mine? (sharing of drawings, seeing validation) Look at mine? (sharing of drawings, seeing validation) heard many times			
<b>Day 6</b>	<b>Date: 09.02.15</b>		Time of Day: 10:40am	
Task 12	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Labelling properties of 2D shapes</b>	Maths – properties of 2D shapes  Pre-Planned	Step-by-step guides to drawing 2D shapes	Corners, Parallel lines, perpendicular sides, angles, right-angle, 90 degrees, equal sides convergent lines.

	<b>Length of task</b> <b>30 mins</b>	<b>Silences or heightened chatter</b> Lots of chatter and discussing of properties of shapes.
<b>Engagement</b>  All children engaged	<b>Children's Behaviours:</b>  Many of the children mimicked my language during the step-by-step guide. "vertical", "horizontal", "right angle" perpendicular sides, equal sides,  Children referred to the classroom display on properties of shapes.	
	Children's comments:  <i>"I know how to draw a right-angled triangle" (metacognition)</i> <i>"I think a pentagon has 5 sides" (metacognition)</i> <i>"I am going to draw parallel lines then join them (metacognition)"</i> <i>"Right angles are the same as perpendicular lines" (cognition)</i> <i>"My pentagon does not look right but it has 5 sides" (Observation and cognition)</i>	

Day 6	Date: 09.02.15	Time of Day: 2:30pm.		
Task 13	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book at the end of the day	Class story time	Cont.d Drawing squares on the page and lines at different angles around them.  Children to shade or colour in sections of their choice	Squares, angles, lines, shade, sections
	Length of task  20 mins		Silences or heightened chatter Many silences of 30 seconds or more with the odd low whisper.	
Engagement	Children’s behaviours:			
All children engaged	When recapping the story, at the beginning of the doodling session, the children demonstrated improved memory recall of previous narrative events in the story (The Hodgeheg by Dick King Smith) being read.  All children focused, heads down eyes on pencil and paper. Very minimal movement when doodling Several children displayed facial expressions of disappointment when the story ended and some children continued to doodle.			
	Children’s comments: Two children expressed disappointment at the doodling ending with utterances of “Oh” and “aah” “What are we doing now?” (Suspension of time)			
Day 7	Date: 10.02.15	Time of Day: 10:40 am		
Task 14	Drawing task  Creating story map of narrative story (Theseus ad the minotaur)– guided demonstration	Subject  English  Pre-Planned	Drawing techniques Creating a sequenced set of drawings to create an outline of main events in a narrative story	Vocabulary Theseus, minotaur, maze. Labyrinth. String, door, cave, tunnels, ceiling chamber



No. of children on task 30		English		
	<b>Length of task</b> 40 mins	<b>Silences or heightened chatter</b>  <b>Lots of chatter</b>		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b>  Lots of sharing of ideas about what details of the narrative story that they will include. Lots of discussion out aloud often with children talking to the table rather as a conversation with another child. The vocalisation of ideas and decisions.			
	<b>Children’s comments:</b>  “Oh good” (Enjoyment) “Great” (Enjoyment) “yes!” (Enjoyment) “Do we have to colour it in?” (Questioning) “I’m starting with a door to the maze”(decision making, autonomy) “I’m putting a ball of string at the door” (decision making, autonomy) “Here’s my minotaur do you like it? (Sharing of ideas) “Look at mine” (Sharing of ideas) “Can I see yours?” (Sharing of ideas)			
<b>Day 7</b>	<b>Date: 10.02.15</b>		Time of Day: 2:30pm	
Task 15	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	<b>Drawing 3D shapes and objects with shadows – Apples step-by-step guide</b>	ART  Pre-Planned	Using knowledge of circles and shading ad blending techniques  Then observational draw an apple	Circle, crescent, shading, blending, contrast, light source, shadow
	<b>Length of task</b> 30 mins	<b>Silences or heightened chatter</b>  2’ 01” silence when observational drawing of an apple		
	<b>Children’s Behaviours:</b> Children watched a demonstration of what to look for when drawing a shaded apple of basic shape, light source, blending and shading.  Children spent time observing an actual apple before drawing it.  Children observed to use observational drawing behaviour naturally without prompting – Keeping eyes on the subject, little head movement to the pencil and paper, only eye movement.  Children used short strokes of the pencil			
	<b>Children’s comments:</b>  Children were overheard to use the words <i>shading</i> and <i>blending</i> .  “Start with a circle and create shape of apple” (mimic language) “Shade dark shadows in a crescent shape” (mimic language)  “it goes up like that, in a bit and over and then down and round, there”(Observation) “Round and down” (Observaton) “Over and down like that”.(Observation)  <b>Running commentary style of talking</b>  <b>These comments were spoken at their peers rather than to them.</b>  “It’s smudgy” (Observation) “It’s gone all over my finger, look” Observation and sharing of ideas). “I need to make this bit darker” (observation and decision making) “It actually looks like an apple” (Observation, self-efficacy)			

Day 8	Date: 11.02.15		Time of Day: 10:40am	
Task 16	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing 3D shapes	Maths  Pre-Planned	Step-by-step guides to drawing 3D shapes	vertical, horizontal, square, cube, cuboid, triangle, triangular, pentagon, pentagonal hexagon, hexagonal, diagonal, parallel, perpendicular
	Length of task  30 mins	Silences or heightened chatter  Lots of chatter		
Engagement  All children engaged	Children's Behaviours:  The children mimicked me when I used the language: "square", "cube", "cuboid", "triangle", "triangular", "pentagon", "pentagonal" "hexagon", "hexagonal" vertical, "horizontal", "diagonal", "parallel" "perpendicular"			
	Children's comments: "The cube has a square and rhombus, rhombus" (observation and cognition) "the prisms have a 2D shape at each end" (observation)			

Drawing intervention Drawing Tasks Data				
Day 8	Date: 11.02.15	Time of Day: 1:00pm.		
Task 17	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing and labelling a cross-section of a plant	Science Plant world  Pre-Planned		Step-by-step guide to drawing the cross section of a plant.  I would draw each part and the children would follow on draw that part.
	Length of task  30 mins	Silences or heightened chatter Lots of excited chatter		
Engagement  All children engaged	Children’s behaviours:  The children would mimic the language I was using at each stage of the drawing using the words: ‘stem”, “sepal”, “stigma”, “petal”, “filament”, “anther, “stamen”, “ovary’ seed”, “pollen”			
	Children’s comments:  <i>“I know this is the petal and this is the stem” (cognition)</i> <i>“I think that is the stamen” (metacognition)</i> <i>“I’m going to draw a bee on the anther where the pollen is” (decision making)</i>			
Day 8	Date: 11.02.15	Time of Day: 2:30pm		
Task 18	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling when listening to class book	Story time	Cont.d Drawing squares on the page and lines at different angles around them.  Children to shade or colour in sections of their choice	Squares, angles, lines, shade, sections
	Length of task 15 mins	Silences or heightened chatter  Quiet with the odd low whisper.		
Engagement	Children’s Behaviours:			

All children engaged	All children focused, heads down eyes on pencil and paper. Very minimal movement Children quiet and calm when finished and tidying up.			
	<b>Children's comments:</b> Afterwards <i>"I love doodling" (enjoyment)</i> <i>"Yes, I love doodling" (enjoyment)</i>			
<b>Day 9</b>	<b>Date: 12.02.15</b>		Time of Day: 10:40pm	
Task 19	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Labelling the properties on the drawings of 3D shapes</b>	Maths  Pre-Planned	Step-by-step guide to drawing of 3D shapes with properties labelled	<i>"square", "right angle", "parallel", "perpendicular" "cube", "cuboid", "diagonal" "triangle", "triangular", "pentagon", "pentagonal" "hexagon", "hexagonal" vertical", "horizontal"</i>
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  Lots of chatter		
<b>Engagement</b>	<b>Children's Behaviours:</b>			
All children engaged	The children mimicked me when I used the language: <i>"square", "right angle", "parallel", "perpendicular" "cube", "cuboid", "diagonal" "triangle", "triangular", "pentagon", "pentagonal" "hexagon", "hexagonal" vertical", "horizontal"</i>			
	Children's comments:  <i>I know how to draw a cube. Square, diagonal, diagonal horizontal vertical" (cognition and practical demonstration)</i> <i>"Those are not parallel...these are parallel" (knowledge and sharing of ideas)</i>  <i>"This is hard but really good fun" (enjoyment)</i>			

Drawing intervention Drawing Tasks Data				
Day 9	Date: 12.02.15	Time of Day: 1:00pm.		
Task 20	Drawing task  Copying pictures from a non-fiction book or a photocopy of an image of a roman soldier.	Subject History  Pre-Planned	Drawing techniques  Copying, observing, holding image in mind replicating image	Vocabulary Centurion, soldier, Legionary, Auxillary, Helmet, tunic, javelin, shoulder plates, armour cuirass, dagger, groin protection, shield, sandals, sword
No. of children on task  28 (2 absent)	Copying the clothing of Roman people and soldiers to create labelled diagrams	History  Roman Clothing	Children copied pictures from non-fiction books	
	Length of task  30 mins		Silences or heightened chatter  2' 10" silence when copying the clothing	
Engagement  All children engaged	Children's behaviours: The children chose the picture they wanted to copy. The children needed no instructions for copying independently.			
	Children's comments: "Cool, I love drawing armour" (enjoyment) "I like drawing the jewellery" (enjoyment) "I'm going to draw a centurion" (decision making)			

	<i>"I'm going to draw him with a shield and sword"</i> (decision making) <i>"There are lots of medals on his shoulder plates"</i> (observation) <i>"That's his groin protector"</i> (observation) <i>"Armour cuirass, never heard of that"</i> (prior knowledge) <i>"This is going to take a long to do"</i> (observational skills relating to drawing task)			
<b>Day 10</b>	<b>Date: 13.02.15</b>		Time of Day: 1:00pm	
Task 21	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing a lotus flower in Buddhism  Step-by-step guide	R.E. Buddhism  Pre-Planned	Line drawing with shading  Step-by-step guided drawing	Petals, leaves, triangular top, layers, pink, yellow, orange and green
	<b>Length of task</b>  15 mins	<b>Silences or heightened chatter</b>  2' 01" silence when colouring in the lotus flower Colouring is usually accompanied by heightened chatter		
<b>Engagement</b>  All children engaged	<b>Children's Behaviours:</b>  Children watched instruction and repeated the language used in the demonstration e.g., petals, leaves, triangular top, layers, pink, yellow, orange and green  Children fell to a long silence when colouring in – unusual as colouring is usual combined with chatter.  Children's comments:  The mimicking of words used in the demonstration: petals, leaves, triangular top, layers, pink, yellow, orange and green  <i>"I need pink, yellow, orange and green"</i> (decision making) <i>"It looks like lots of rows of triangles"</i> (observation)			
<b>Day 10</b>	<b>Date: 13.02.15</b>		Time of Day: 2:30pm	
Task 22	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Doodling- listening to class book</b>	Story time  Class book	Drawing wobbly shapes and horizontal lines across around the shapes	Wobbly, shapes, horizontal lines, around, avoiding
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  Many silences of 30 seconds or more with the odd low whisper.		
<b>Engagement</b>  All children engaged	<b>Children's Behaviours:</b>  All children focused, heads down eyes on pencil and paper. Very minimal movement Several children displayed facial expressions of disappointment when the story ended and some children continued to doodle.  Children's Comments:  <i>"Wow it looks really good"</i> (Observation and self-efficacy) <i>"Can we do it again in colour?"</i> (Questioning, decision making, autonomy)			

**February Half Term 16<sup>th</sup> – 20<sup>th</sup>**

	<b>Drawing intervention Drawing Tasks Data</b>	
<b>Day 11</b>	<b>Date: 23.02.15</b>	<b>Time of Day: 08:50 am.</b>

Task 23	Drawing task	Subject	Drawing Techniques	Vocabulary
No. of children on task  30	<b>Memory brain Training</b>  A stag beetle A cricket A caterpillar	Morning work	Drawing from memory	
	<b>Length of task</b>  30 mins		<b>Silences or heightened chatter</b>  <b>Lots of general chatter</b>	
<b>Engagement</b>  All children engaged	<b>Children’s behaviours:</b>  Children talked less about the drawing and chatted about other subjects. Lots of looking over each other’s shoulders. Lots of sharing of ideas and sharing of outcomes.			
	<b>Children’s comments:</b>  The children talked about football, the school disco and Minecraft. (Comfortable and relaxed?)			
<b>Day 11</b>	<b>Date: 23.02.15</b>		Time of Day: 2:30pm	
Task 24	Drawing task	Subject English Pre-Planned	Drawing techniques	Vocabulary Centurion, phalanxes, shield, armour, weapons,
No. of children on task  30	Labelled diagrams and drawings for a Roman Army leaflet	English Non-Fiction Leaflet Labelled diagrams with captions		
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  2’ 11” silence when children focused on drawing of leaflet		
	Children’s Behaviours: The children were really excited to create a leaflet about a roman army. No two were the same and they approached the task with great enthusiasm.  The children were more independent and confident in illustrating their covers with drawings in comparison to previous classes.			
	Children’s comments: <i>“I really like drawing the weapons” (Interest)</i>  <i>“My leaflet is going to be about the Roman Army. I’m going to do the armour and weapons”</i> (decision making, <i>language</i> ) <i>“I’m doing Roman mosaics”</i> (decision making, <i>language</i> ) <i>“I’m going to do a soldier either side on the front”</i> (decision making) <i>“I’m putting all the armour on the front of my leaflet and then do the formations inside”</i> (decision making, <i>language</i> ) <i>“I’m going to draw a phalanx across the front”</i> (specific or technical language)  <i>“Can I do another leaflet?”</i> (Interest and enjoyment)			
<b>Day 11</b>	<b>Date: 23.02.15</b>		Time of Day: 2:30pm	
Task 25	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Doodling listening to class book</b>	Story time	Wobbly shapes randomly on page and horizontal lines – in colour as requested by a child in	Wobbly, shapes, horizontal lines, around, avoiding

			previous lesson	
	<b>Length of task</b> 15 mins	<b>Silences or heightened chatter</b>  Quiet with the odd low whisper.		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b> All children focused, heads down eyes on pencil and paper. Very minimal movement Several children displayed facial expressions of disappointment when the story ended and some children continued to doodle.			
	Children’s comments:			

Day 12	Date: 24.02.15	Time of Day: 1:00pm.		
Task 26	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Clothing the stick man</b>  Drawing a basic stick man – then with more structure and with clothing	Art  Pre-Planned	Basic stick man.  Structured stick man  Choice of clothing	Head, body, arms, hands, legs, feet Head, neck, shoulders, body, arms in two sections, elbow, hands, hips, legs in two sections, knees, feet t-shirt, trousers, create arms and legs Hair, facial features, add details
	<b>Length of task</b>  60 mins	<b>Silences or heightened chatter</b> Lots of excited chatter  Case study Dan was quiet.		
<b>Engagement</b>	<b>Children’s behaviours:</b>			
All children engaged	The children seemed aware of the basic stick man and were eager to follow the step-by-step instructions			
	<b>Children’s comments:</b>  “Oh yeah” when I drew the shoulders, arms, hips and legs. Mine’s got short legs” (Observation) My arms are too long (Observation) “Mine is a footballer” (decision making) “Does it have to have boy’s clothes?” (questioning and decision making) Can we draw any clothes we like? (questioning) “I’m drawing a magnifying glass in his hand to look at insects”(decision making) “That was so much fun” (enjoyment) “Can I be the model next time?” (enjoyment)			
Day 13	Date: 25.02.15	Time of Day: 1:00pm		
Task 27	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  28	<b>Botanical drawing of flowers – copying pictures.</b>	Science  Pre-Planned		Details, petals, stem, filaments, pollen, stigma, stamen, leaves
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  2’ 13” silence when copying individual flowers		
Engagement	<b>Children’s Behaviours:</b>			
All children engaged	The children needed no teacher guidance or direction to copy the pictures. The children naturally fell silent They selected the picture of the flower that they liked and started copying it. The standard of copying was higher than I expected or had noticed in previous classes or year groups. A child’s drawing of a vase of a ranunculus as prior to this drawing exercise, I had not recognised his drawing skills. A significant increase in the children sharing the drawing outcomes with more children than their friends.			
	Children’s comments:			

	<i>“Let me just check the picture for the shading” (Cognition)</i> <i>“What time is it?” (suspension of time)</i> <i>“That was really relaxing” (emotional)</i>			
<b>Day 14</b>	<b>Date: 26.02.15</b>		Time of Day: 2:30pm	
Task 28	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Step-by-step guide drawing roman army formations e.g. Roman phalanxes and The Tortoise formation	History – Roman Army formations – Tortoise  Pre-Planned		Centurions, shield, phalanx, tortoise formation
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  <b>Lots of heightened chatter and marching noises.</b>		
<b>Engagement</b>	Children’s Behaviours:			
All children engaged	The children loved drawing this tortoise formation. Lots if the boys made marching noises.			
	Children’s comments:  <i>“We have to draw them in phalanxes” (specific or technical language)</i> <i>“I need to count the shields”(cognition)</i> <i>“Four across and four along” (observation)</i> <i>“I need to check I have the right amount of shields”(problem solving)</i>			

Day 15	Date: 27.02.15	Time of Day: 08:50am		
Task 29	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Memory Brain training A snake A sea horse A crab	Morning Work	Drawing from memory	
	Length of task  10 mins		Silences or heightened chatter  Lots of general chatter	
Engagement  All children engaged	Children's behaviours: Lots of looking over each other's shoulders. Lots of sharing of ideas and sharing of outcomes			
	Children's comments:			
Day 15	Date: 27.02.15		Time of Day: 2:30pm	
Task 30	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Drawing a cartoon storyboard of The Legend of the Buddha (Siddhartha Gautama)	R.E. Buddhism  Pre-Planned		Buddha, Siddhartha Gautama, Nepal, teacher, meditation, enlightenment, kindness
	Length of task	Silences or heightened chatter  2' 00" silence when drawing the story		
Engagement	Children's behaviours:			

All children engaged				
	<b>Children's comments:</b>  <i>"This is going to take a long time" (cognitive recognition of time required for task)</i> <i>"I love colouring" (enjoyment)</i> <i>"So do I, I love colouring" (enjoyment)</i> <i>Can we finish these today? (interest and enjoyment)</i> <i>"He is wearing a thing like a toga" (observational)</i>			
<b>Day 16</b>	<b>Date: 02.03.15</b>		Time of Day: 2:30pm	
Task 31	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  27	Doodling listening to class book  Drawing round hand and then lots of lines going across the page but 'over' the hand.	Story time	Directed Drawing	Wobbly, shapes, horizontal lines, around, avoiding
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  Silent with the odd low whisper.		
<b>Engagement</b>  All children engaged	<b>Children's Behaviours:</b> All children focused, heads down eyes on pencil and paper. Very minimal movement Several children displayed facial expressions of disappointment when the story ended and some children continued to doodle.  Children really concentrated			
	<b>Children's comments:</b> <i>It really looks 3D...like a hand" (observation)</i> <i>"It looks better when the lines are closer together" (observational skills relating to drawing tasks)</i> <i>"This is cool" (enjoyment)</i> <i>"Yes this is cool" (enjoyment)</i>			

Day 17	Date: 03.03.15	Time of Day: 08:50am.		
Task 32	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Memory Brain Training  Crocodile Bicycle Row of terraced houses	Morning Work	Drawing from memory	Crocodiles, bicycles, terraced houses
	Length of task  10 mins		Silences or heightened chatter  Lots of general chatter	
Engagement  All children engaged	Children's behaviours: Children showed enthusiasm and followed the instructions easily Not much discussion about how to draw a crocodile, bicycle and a row of terraced houses Lots of looking over each other's shoulders. Lots of sharing of ideas and sharing of outcomes			
	Children's comments: <i>"What does terraced mean?"</i> (Questioning and cognition) <i>"Oh good I like drawing crocodiles"</i> (enjoyment and interest) <i>"I'm going to draw my bike"</i> (Prior knowledge and decision making)			
Day 17	Date: 03.03.15	Time of Day: 10:40 am		
Task 33	Drawing task	Subject	Drawing techniques	Vocabulary



No. of children on task  30	Drawing simple graphs with shapes (triangles and squares) using coordinates	Maths Co-ordinates – graphs  Pre-Planned	Children given a demonstration then asked to draw a graph and shapes using coordinates.	Axis, vertical, horizontal, along, across, up
	<b>Length of task</b>  20 mins	<b>Silences or heightened chatter</b> <b>Lots of general chatter</b>		
All children engaged.	Children’s Behaviours:  Children were really eager to use rulers to create the graphs. Children remembered how to create the graphs and helped each other when unsure.  All 30 children created a graph with labelled x and y axis and correct triangle and square. Only 2 children needed practice to stay on the lines of the paper.			
	Children’s comments:  Children quiet when drawing their graphs and shapes  <i>This is like Battleships” (cognitive connections)</i> <i>“This is like proper maths” (efficacy)</i>			
<b>Day 17</b>	<b>Date: 03.03.15</b>		Time of Day: 11:30pm	
Task 34	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	To observe like a scientist – Austin’s Butterfly video	Spare time  linked to Science/ Life Cycles	Observation of a picture  Copying	Wings, abdomen, head, antennae, legs,
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>  2’ 00” silence when drawing the features of butterflies, beetles, dragonflies and birds		
	<b>Children’s Behaviours:</b> When watching the video ‘Austin’s Butterfly’ the children were really focussed throughout and impressed by the progress that Austin had made as they kept saying ‘whoa’ and ‘wow’ with every improved version of his butterfly drawings.  The children spent longer looking closely at the pictures they were drawing without being prompted to do so.  The children were naturally more quiet and whispered to each other the details that they noticed.			
	<b>Children’s comments:</b>  <i>“Look at the lines on the wings, I have to do all that” (observation and recognition of detail needed)</i> <i>“One, two, three, four, five, six” (counting legs) (observation and sharing of information). Friend replies “A bee has six legs that is why it’s an insect” (prior knowledge)</i>  This butterfly lesson prompted a discussion on the importance of accuracy in drawing.  <i>“If you are an explorer and you find a new species you have to draw it correctly to show other explorers what it looks like” (cognition)</i>  <i>“It needs to be accurate if you are scientist because you are looking that the details” (cognition)</i>  <i>“Drawings have to be accurate so that we know what it is” (cognition)</i> <i>“It looks better when it is accurate”(observation)</i> In response to this last statement I repeated what Child 15 had said, “it looks better when it is accurate because that is the task” and discussed with the whole class if they think it is important for all drawings to accurate. There was an overwhelming response that “yes” drawings should be accurate.			

	<p>This prompted a whole class discussion about ‘good’ drawing and I asked the question: ‘Which of Austin’s drawings do you think are good drawings?’ There was lots of animated discussion and most of the children agreed that the final drawing was the best drawing because it “<i>looked like the real butterfly</i>” (observation) and “<i>it had the most correct detail</i>” (observation and decision making)</p> <p>Case study child Marcus commented that all the drawings were good because they “<i>are how well Austin could draw at that time</i>” (cognition)</p>
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Day 17	Date: 03.03.15	Time of Day: 2:30pm.		
Task 35	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task	Guided portrait	Art Portrait drawing		
30		Pre-Planned		
	Length of task  20 mins		Silences or heightened chatter 2' 36" silence	
Engagement  All children engaged	Children's behaviours: All children showed interest. Smiling, lots of chatter and showing each other.  After explaining the importance of spending time (at least 1 min) <i>looking</i> very carefully at the subject to <i>see</i> the features of the face, the children imitated these prolonged 'looking' behaviours and made similar verbal commentaries as they drew the features: the eyes, eyebrows, nostrils, lips, teeth, hair, neck and clothes.  During this first portrait drawing task, I noted a prolonged silence of 2 minutes 36 seconds where all 30 children were fully absorbed in the drawing. Every child was employing, the behaviours of a 'drawer', looking (up) at their subjects, then down at their drawing, with increased focussed concentration and very little head movement, more just eye movement while they drew.			
	Children's comments: <i>"Oh great" (eagerness,enjoyment)</i> <i>"I love drawing people"(enjoyment)</i>  How am I going to draw your glasses? (problem solving) <i>You have a lot of freckles I will do about ten"</i> (observation and decision making) <i>"oh no, I've got to do her glasses", (problem solving)</i> <i>"how am I going to draw all those criss-crosses on your dress?" (metacognition)</i> <i>"What shape are my eyes?"</i> , (questioning) <i>"Do I have freckles?"</i> (questioning) <i>"let me see your nostrils"(observation and problem solving)</i> <i>"her hair goes like this down her face (gesturing with his fingers) (observation)</i> <i>"he's got freckles on his nose and cheeks", (observation)</i> <i>"you've got two teeth missing" (observation)</i>			
Day 18	Date: 04.03.15	Time of Day: 1:00 pm		
Task 36	Drawing task  Perspective Drawing Road with buildings, trees and hills the background	Subject  Consolidation of properties of line in maths  Pre-Planned	Drawing techniques	Vocabulary Horizon, horizontal, vanishing point, vertical, diagonal, notch, converging, convergent, parallel, perpendicular  Trees, buildings, clouds,
No. of children on task  30	I used maths terminology when guiding the children to draw with phrases and questions including: <i>"look at the angles of the lines"</i> , <i>"look at the different shapes"</i> , <i>"what shapes can you see?"</i> and <i>"can you describe the shapes?"</i>	Spare time		Step-by-step drawing of

	<b>Length of task</b> 20 mins	<b>Silences or heightened chatter</b>  <b>Lots of heightened chatter</b>		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b> The children watched and followed the step-by-step instructions one step at a time and mimicked the language that I used in the demonstrations. The children were more engaged with using the classroom wall display with 2D an 3D shapes and they used the correct names of shapes in their conversations particularly the terms perpendicular, parallel and triangular. A child demonstrated eagerness to repeat the drawing task at home and brought in their drawing to show me and the class the next day.			
* Negative response	Children’s comments:  I overheard comments related drawing to maths vocabulary and a previous lesson in maths:  <i>“We learnt about parallel and perpendicular this morning”</i> (previous knowledge) <i>“The eyes need to go half way down the face”</i> (cognition) <i>“I’m going to draw my horizon a third of the way down”</i> (decision making)  One child had a negative reaction to this perspective lesson (case study child B - Marcus) and became disengaged and tearful. This child is prone to self-criticism and perfectionism. He said: <i>‘I hate getting it wrong’</i> (negative self-efficacy). When I asked “ <i>why?</i> ” he replied: <i>“because “it doesn’t look like it is meant to I can see where the trees are meant to go and mine looks wrong.”</i> (cognition, self-aware of limitations) I praised his effort said not to worry as drawing is a process about perspective and it was an exercise in learning.			
	* Disengagement  <i>“This is so cool”</i> (enjoyment) <i>“I am going to do this when I get home”</i> (interest) <i>“Can we do perspective drawing again?”</i> (eagerness)  <i>“I think I know how to do this now”</i> (self efficacy) <i>“My tree is wrong. It is leaning over”</i> (Observation, Cognition) <i>“I am going to draw birds in the sky”</i> (decision making) <i>“I can see a rhombus on the side of the building”</i> (Observation, Cognition, prior knowledge)  <i>Next day</i>  <i>‘I’ve done a drawing at home using the vanishing point”</i> (eagerness, Self-efficacy)			
<b>Day 18</b>	<b>Date: 04.03.15</b>		<b>Time of Day: 1:00pm</b>	
Task 37	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  29 (1 absent)	Drawing the cross section of a plant stem	Science  Life Cycles Pre-planned	Copy an image of a cross-section of a stem of plant	
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>  2’ 02” silence when draw colouring in		
<b>Engagement</b>  All children engaged	Children’s Behaviours:  Children fell to a silence in a short space of time.  During the science topic on plants, the children looked at microscopic pictures of cross-sections of the stems of plants and copied them. The children verbalised the challenge of drawing all the tiny circles to show the tubes in the stem. As the children were silently drawing the cirles or ‘tubes’ the children fell silent.  At the end of the lesson the children could clearly articulate the concept of plants drawing water and nutrients up through the stem from the roots to the leaves. Drawing seemed to consolidate their understanding of the workings of a plant.			

	<p>Children's comments:</p> <p>There are millions and millions of circles, it's going to take forever" (observation and recognition of requirement of task)</p> <p>"I'm going to need a few days to do this" (recognition of requirement of task)</p> <p>"This is how the flower drinks" (Cognition)</p> <p>"This is how the plant gets nutrients from the roots" (Cognition)</p> <p>"It looks really cool" (Observation)</p> <p>"It looks more like art" (Observation)</p>
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Drawing intervention Drawing Tasks Data				
Day 19	Date: 05.03.15	Time of Day: 1:00pm.		
Task 38	Drawing task	Subject	Drawing techniques	Vocabulary
Length of task  30 mins	Step-by-step guide drawing portrait or bust of Julius Caesar	History Roman Emperors  Pre-planned	Line drawing – step-by-step guided drawing	Bust, shading, Creases, upright eagle, adornments
No. of children on task  30	Length of task  30 mins		Silences or heightened chatter  A combination of quiet and short silences	
Engagement	Children’s behaviours:			
All children engaged	Throughout the step-by-step guide I would demonstrate a talk through the feature and the children were overheard to repeat the language at each step and feature  <i>Eyes, nostrils, outside of nostrils, bottom of nose, line where lips meet, seagull shape for the top lip, wide u for the bottom lip, ear, ear, curly fringe, rest of hair, neck, shoulders, chest plate, toga sleeves, rose shape, then drapes and folds.</i>			
	Children’s comments:  <i>“I know where the shading goes on the nose and on his cheeks”</i> (observation) <i>“His uniform is complicated. I’ll do some of it “</i> (decision making) <i>“He has lines on his forehead because he is old”</i> (observation and reasoning) <i>“He looks a bit grumpy”</i> (observation)			
Day 20	Date: 06.03.15	Time of Day: 2:30pm		
Task 39	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Memory (Brain Training)  Monkey Sailing boat Mansion	Morning Work	Drawing from memory	
	Length of task  10 mins	Silences or heightened chatter  Lots of chatter		
Engagement	Children’s Behaviours:			
All children engaged	Children talked about both the drawing subjects of (monkey, sailing boat and mansion) and subjects in their lives Lots of looking over each other’s shoulders. Lots of sharing of ideas and sharing of outcomes.			

	<b>Children's comments:</b> <i>"I love drawing monkey's "(enjoyment)</i> <i>"What does a monkey's face look like?" (Questioning)</i> <i>What is the difference between a house and a mansion?(Questioning, Cognition)</i>			
<b>Day 20</b>	<b>Date: 06.03.15</b>		Time of Day: 2:30pm	
Task 40	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Doodling listening to class book</b>	Story time	Different sized triangles randomly placed and horizontal lines	triangles, different sizes, randomly placed, shapes, horizontal lines, around, avoiding
	<b>Length of task</b> 15 mins	<b>Silences or heightened chatter</b>  Many silences of 30 seconds or more with the odd low whisper.		
<b>Engagement</b>  All children engaged	Children's Behaviours: All children focused, heads down eyes on pencil and paper. Very minimal movement Several children displayed facial expressions of disappointment when the story ended and some children continued to doodle.			
	Children's comments: -			

Day 21	Date: 09.03.15	Time of Day: 08:50am		
Task 41	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Memory (Brain Training)  Elephant Hot air balloon Tree house	Morning Work	Drawing from memory	
	Length of task  10 mins		Silences or heightened chatter	
	Children’s behaviours: Children talked about both the drawing subjects of (elephant, hot air balloon, tree house) and general chatter  Lots of looking head down and drawing Lots of looking over each other’s shoulders. Lots of sharing of ideas and sharing of outcomes			
	Children’s comments:  Vocabulary overheard:  <i>“I need to drawing a basket under the balloon” (Prior knowledge, decision making)</i> <i>“Drawing hot air balloons is really good fun”(enjoyment)</i>			
Day 21	Date: 09.03.15	Time of Day: 2:30pm		
Task 42	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book	Story time	Mandala (circle patterns)	Circles, lines, arches, triangles
	Length of task	Silences or heightened chatter		

	15 mins	Many silences of 30 seconds or more with the odd low whisper.		
<b>Engagement</b>  All children engaged	Children’s Behaviours: All children focused, heads down eyes on pencil and paper. Very minimal movement Several children displayed facial expressions of disappointment when the story ended and some children continued to doodle.			
	Children’s comments: -			
<b>Day 22</b>	<b>Date: 10.03.15</b>		Time of Day: 2:30pm	
Task 43	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Symmetrical patterns on squared paper</b>	Maths  Symmetry Pre-planned	Using a mirror to draw a symmetrical pattern/image	Symmetry, symmetrical, same both sides, mirror image
	<b>Length of task</b>  40 mins	<b>Silences or heightened chatter</b>  <b>Quiet when watching the demonstration</b>  Lots of chatter when creating their symmetrical patterns/images		
<b>Engagement</b>  All children engaged	Children’s Behaviours  The children demonstrated great enthusiasm to be using squared paper and a mirror. The children were quiet during the demonstration of what to do then engaged in general chatter when creating patterns/images in squares.  Lots of sharing of outcomes.			
	Children’s comments: “ <i>I’m really enjoying this maths</i> ” (enjoyment - LA child) “Look at mine” (Sharing experience) “Do you like mine? ( <i>sharing experience</i> )			

Day 22	Date: 10.03.15	Time of Day: 2:30pm.		
Task 44	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Non-Dominant Hand Drawing a portrait with non-dominant hand	Art Portrait Drawing  Pre-planned	Exploratory	Using non-dominant hand, not writing hand
	Length of task  30 mins	Silences or heightened chatter  1' 32" silence when drawing the portrait		
Engagement  All children engaged	Children's behaviours: The children reacted to this activity with confused looks, laughter and mutterings of disbelief.  I asked the children how they felt about using their 'other' hand and they used terms like "funny", "nerve racking", "weird" and "awkward".  On completion of their non-dominant hand portraits, the outcomes, according to the children, were successful because they were recognisable in terms of likeness.  Many of the children expressed comments of surprise and pride. In the post-drawing discussion, I noted that many of the children commented on how positive they felt emotionally about trying non-dominant handed drawing saying:  Three children alluded to the use of cognitive thought processes. Recognising the relationship between the mental and physical mechanics of learning to draw/drawing?			

Negative reaction	Case study child c (Millie) became tearful at the end of the session and did not want to show anyone her drawing outcome. She expressed self-criticism about her drawing. I explained that the drawing tasks were just exercises to try to alleviate her criticism.			
	Lots of heightened chatter after the lesson.			
	<b>Children’s comments:</b> “what?” (drawing self-efficacy) “our left hand?” (drawing self-efficacy) “this is going to be impossible” (Cognition, drawing self-efficacy) “I’m nervous” (emotional) “this is going to be a disaster” (cognition, self-efficacy) “mine’s going to look rubbish” (Cognition, self-efficacy)  “That was scary but exciting” (emotional) My brain wants to use my right hand” (cognition) “You have a lot of hair”(observation)  During post-drawing discussion: How did you find drawing with your non-dominant hand? ”It felt really awkward and strange” (Observation, self-efficacy, emotional) “It was weird” (self-efficacy, emotional) “I didn’t think I could draw with my left hand” (Cognition, self-efficacy) “I was worried and thought it was going to be a mess at the end” (Observation, self-efficacy, emotional) “I was concentrating more on the shapes in his face”, (cognition) “It is like I am getting my brain to tell my hand what to do” (cognition) “I would look at the shape of the nostrils until it was in my head” (cognition)			
Day 23	Date: 11.03.15		Time of Day: 1:00pm	
Task 45	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing the life cycle of a plant (a runner bean)	Science  Pre-planned	Children tasked to observe the drawing of a life cycle of a runner bean (also grown in classroom) Then draw their life cycle	Seed, bean, roots, leaves, seedling, plant, flowers, bean pod
	Length of task  30 minutes	Silences or heightened chatter  54” silence when drawing leaves		
Engagement	Children’s Behaviours:			
All children engaged	Children were engaged with the demonstration but offered lots of comments and suggestions based on their knowledge of growing beans in the classroom.  When the children were tasked to draw their own life cycle the classroom was quiet with a prolonged silence.			
	Children’s comments:  “This is fun”. “Yes this is really fun” “I’m going to draw three leaves” (decision making) “The bean looks like a kidney bean in chilli” (Observation and relating to other things) “The flower is where the bean comes out of”(knowledge) “The roots are like branches going the other way” (observation) “I need to draw the lines in the leaves” (observational skills relating to drawing tasks)			
Day 24	Date: 12.03.15		Time of Day: 2:30pm	
Task 46	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book	Storytime	Mandala (circle) patterns	Circles, lines, arches, curves.
	Length of task	Silences or heightened chatter		

	15 mins	Many silences of 30 seconds or more with the odd low whisper.
	<b>Children's Behaviours:</b> All children focused, heads down eyes on pencil and paper. Very minimal movement Several children displayed facial expressions of disappointment when the story ended and some children continued to doodle.	
	Children's comments: -	

Drawing intervention Drawing Tasks Data				
Day 25	Date: 13.03.15	Time of Day: 08:50am		
Task 47	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Memory (Brain Training)  Ladybird Skateboard Block of flats	Morning Work	Drawing from memory	
	Length of task 10 mins	Silences or heightened chatter Lots of chatter		
Engagement  All children engaged	Children's behaviours: Lots of looking over each other's shoulders. Lots of sharing of ideas and sharing of outcomes			
	Children's comments: "How many legs does a ladybird had?" (memory recall, questioning)			
Day 25	Date: 13.03.15	Time of Day: 1:00pm		
Task 48	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Tracing and colouring faces of people from other cultures	P.S.H.E Global Citizenship Pre-planned		
	Length of task	Silences or heightened chatter  Lots of chatter at first.  Children very quiet when drawing at the windows.		
Engagement  All children engaged	Children's Behaviours:  Many of the children had never used tracing paper. I was required to give a demonstration of how to trace an image. They called it 'magic paper'  I demonstrated using the window as a 'lightbox". The children used windows around the school. Drawing faces of different cultures as part of an "Around the World" topic enabled the children to recognise similarities and differences of different nationalities of the world This lesson naturally opened up opportunities for discussion, understanding and appreciation of diversity. This drawing provided a link between Art, Geography, PSHE and Global Citizenship. Lots of surprised looks and staring at their outcomes. When they were displayed on the classroom wall the children took full ownership of the drawing quality.			
	Children's comments: "Wow! this is amazing" (observation) "I can draw the actual face now" (Observation and drawing self-efficacy)  Discussion at the end of the task: Did you enjoy tracing? "It was fun" (enjoyment) "It's brilliant" (enjoyment) "Tracing makes it look like the real thing" (observation)			



<b>Day 25</b>	<b>Date: 13.03.15</b>		Time of Day: 2:30pm	
Task 49	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Creating clothed stick men and colouring whilst listening to class book</b>	Replacing story time		
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>  <b>Lots of heightened chatter</b>		
<b>Engagement</b>  All children engaged	Children's behaviours:  Without prompting, many of the children naturally added extra features to their stick figures, like pets, bikes and footballs to add character and personality  This task brought up certain questions about gender stereo-typing, for example, a girl (child 15) asked if she had to dress her figure as a girl to which I replied that she could dress it however she chose to. That child then clothed her figure as a boy (according to her) and two other girls also clothed their figures as boys with spiky hair, long trousers, t-shirts and trainers. I noted that not one boy chose to clothe their new stick figure as a 'girl'.  NB: possible gender issues that may need to be addressed when or if referring to the figures as specifically boys and girls. Highlights the benefits of this exercise being a starting point for the discussion on gender stereotyping as part of PSHE learning.			
	Children's comments: <i>"I never do stick men now"</i> (comments on observational skills relating to drawing task) <i>"This is so cool"</i> (enjoyment, recognition of effectiveness?)			

Day 26	Date: 16.03.15	Time of Day: 08:50am		
Task 50	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Memory (Brain Training)  Whale Plane Football stadium	Morning work		
	Length of task  10 mins		Silences or heightened chatter  Lots of general chatter	
	Children's behaviours:  On task immediately with general chatter			
	Children's comments: <i>"Oh good, I know what the Madejski stadium looks like 'cause I've been there" (using experience as knowledge)</i>			
Day 26	Date: 16.03.15	Time of Day: 2:30pm		
Task 51	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Drawing an illustration of a fable that the children had studied in English	English  Pre-planned	Free drawing of a familiar story  Front cover of a book	
	Length of task	Silences or heightened chatter		

		Heightened chatter		
Engagement	Children’s Behaviours:			
All children engaged	Children announced which story they had chosen and engaged in general chatter.			
	Children’s comments: “I’m doing the hare and the tortoise” (decision making) “I’m doing the ant and the dove” (decision making) “I need to make my lion bigger than my mouse” (problem solving/decision making) “This lesson is fun” (enjoyment)			
Day 27	Date: 17.03.15		Time of Day: 1:00pm	
Task 52	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Dominant-hand Drawing of the same member of the class as the non-dominant hand drawing	ART  Pre-planned (portrait)	Using the dominant hand after using the non-dominant hand in a previous portrait drawing.	
	Length of task	Silences or heightened chatter  2’ 00” silence when drawing the portrait		
	Children’s Behaviours:  Children expressed utterances and noises of relief to be using dominant hand (as opposed to non-dominant hand in previous session)  Children quieter than in non-dominant hand drawing and seemed more comfortable. Children adopted observational drawing behaviour: sitting still, only using eyes to look to their subject and down to their pencil and paper. Minimal head, body and hand movement. Keeping eyes on the subject  Several children used shorter strokes of the pencils in their portraits (more sketchy) Children expressed facial expression suggesting successful outcomes of their drawings and shared them with each other. Children viewed their drawings with dominant hand more highly than with non-dominant hand.			
	Children’s comments:  Utterances of phew noises (relief?) “Phew!” (Emotional) “Thank goodness” (emotional relief?) “Oh good” (enjoyment) “This is going to be good fun” (enjoyment) “This is so much easier with my normal hand” (skills relating to drawing tasks, self-efficacy)  Children compared their dominant hand drawing with their non-dominant hand drawing of the same classmate. Children expressed a preference fore their dominant hand drawing. One child said because it “looked filled in” (Observation) another said it looked like he had “taken more care” (Observation)			

<b>Day 28</b>	<b>Date: 18.03.15</b>		<b>Day 28</b>	
Task 53	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing different types of seed dispersal.	<b>Science</b>  Pre-planned	Children watched a film and were shown drawings of different types of seed dispersal	Dispersal, wind, floats, dandelion, flies, sycamore, bouncing and rolling, eaten, animals, stored, thrown, explosive, carried, water, coconut

	<b>Length of task</b>  40 mins	<b>Silences or heightened chatter</b>  Lots of chatter about seed dispersal		
<b>Engagement</b>  All children engaged	<b>Children's behaviours:</b>  Children chose in which order to draw their seed dispersal drawings Lots of chatter about what types of seed dispersal they had seen (dandelions and sycamore)			
	<b>Children's comments:</b> <i>I love blowing dandelions" (Emotional, personal experience)</i> <i>"Do you remember in reception throwing the helicopters at Cl ____field Copse" (Personal experience, prior knowledge, questioning)</i>			
<b>Day 29</b>	<b>Date: 19.03.15</b>	Time of Day: 01:00pm		
Task 66	Drawing task	Subject	Task 66	Drawing task
No. of children on task  30	<b>Observational Drawing- shoes from different angles (2)</b>	PSHE - identity  Pre-planned	No. of children on task  30	<b>Observational Drawing- shoes from different angles (2)</b>
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>  Laughter and lots of chatter but then fell silent  <b>3' 23" silence</b> when drawing the features of the shoes		
	<b>Children's behaviours:</b>  Children laughed when asked to take off their shoe. Children were observed to place their shoes in front of them and some played around with the angle of the shoe and their viewpoints.  When drawing shoes – random words that the children were drawing <i>"Stitching", "buckle" "creases" "laces" 'label'</i>  <i>Children adopted observational drawing behaviour: sitting still, only using eyes to look to their shoe and down to their pencil and paper. Minimal head, body and hand movement. Keeping eyes on the subject.</i>  Children observed to used shorter strokes in their mark making			
	<b>Children's comments:</b> <i>"I really like drawing my shoes from the side" (enjoyment)</i> <i>I think I'll draw mine from above this time" (decision making)</i> <i>"My shoes have lots of creases" (Observation)</i> <i>"I'm going to draw it from the side" (decision making)</i> <i>"Mine has straps and buckles" (specific or technical language)</i>  <i>"It looks easier to draw from the side" (observation)</i> <i>"it looks a bit like a fortune cookie" (Observation and cognitive processes and connections)</i> <i>Look at all stitching I have to do (observation and sharing of observation)</i> <i>"How do I draw the creases? .. a bit of shading?...good idea" (Problem solving).</i>  <b>These comments were spoken at their peers rather than to them.</b>  Discussion at the end of the task: <i>What did you think of that drawing activity?</i> <i>"I really like drawing my shoes from the side" (enjoyment)</i> <i>"Can we do it again?" (enjoyment)</i> <i>"Can we take them home?" (efficacy, pride)</i>			
<b>Day 29</b>	<b>Date: 19.03.15</b>	Time of Day: 2:00pm		
Task 55	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Designing Roman Shield	History  Pre-planned	Children shown examples of Roman shields	

			and asked to design their own.	
	<b>Length of task</b> 30mins	<b>Silences or heightened chatter</b>  <b>Lots of excited chatter.</b>		
	Children’s Behaviours: Children had drawn a Roman Army formation in a previous lesson and they seemed eager to just get on with the task without any discussion or demonstration.			
	Children’s comments:  Where would you like to be in the tortoise formation? (Questioning around the context of the subject) “Front” (decision making) “In the middle” (decision making)			
<b>Day 30</b>	<b>Date: 20.03.15</b>		Time of Day: 08:50am	
Task 56	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Perspective Drawing Gallery</b>	Replacing Morning Work task	Drawing from memory	
	<b>Length of task</b>  15 mins	<b>Silences or heightened chatter</b>  35” silence when drawing the features of the gallery		
	Children’s Behaviours:  I noticed that without prompting the children were ready with a pencil ruler and their paper in landscape format like the previous perspective drawing.  Close attention was paid to case study child B – Marcus - as they had a negative reaction to the previous perspective drawing task. Child B completed this task successfully with no negative reaction.			
	Children’s comments: <i>“I love doing perspective drawing”. “So do I”(enjoyment)</i> <i>“Oh good, this is fun” (enjoyment)</i>  <i>“We’ve done this in maths remember?” (cognition of cross-curricular links)</i> <i>“Oh I get it, that’s now the ceiling” (relationships between things and specific or technical language)</i> <i>“I’m going to do a picture of a Roman goddess” (decision making and cross-curricular links, using prior knowledge)</i> <i>“I know how to do perspective now” (drawing self- efficacy)</i>			

Day 30	Date: 20.03.15	Time of Day: 2:30pm.		
Task 57	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Tracing and watercolour painting peoples of other cultures	P.S.H.E. Global Citizenship  Pre-planned	Tracing the features of a photocopy of a person from a different culture	
	Length of task  40 mins		Silences or heightened chatter  Low level chatter, generally quiet	
	Children's behaviours:  The children required no instruction to trace the portraits of people from other cultures. The children discussed similarities and differences of faces they knew. Again, this lesson naturally opened up opportunities for discussion, understanding and appreciation of diversity. This drawing provided a link between Art, Geography, PSHE and Global Citizenship.			
	Children's comments: <i>Oh it's the magic paper" (Observation, prior knowledge)</i>			

	<i>"I love doing this" (enjoyment)</i> <i>"This is really interesting" (enjoyment)</i> <i>"Yours has the same flowers in her hair" (observation and sharing of observations)</i>			
<b>Day 31</b>	<b>Date: 23.03.15</b>		Time of Day: 08:50am	
Task 58	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Memory (Brain Training)</b>  Panda bear Kite Our school	Morning Work	Drawing from memory	
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  Lots of general chatter		
	Children's Behaviours: Children needed no instruction. Quick to get on task independently Lots of looking over each other's shoulders. Lots of sharing of ideas and sharing of outcomes			
	Children's comments: <i>"I love drawing pandas" (enjoyment)</i> <i>"I love drawing kites" (enjoyment)</i>			
<b>Day 31</b>	<b>Date: 23.03.15</b>		Time of Day: 2:30pm	
Task 59	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Create your own mythical creature – labelled diagram of descriptive features	English - Mythical story  Pre-planned	Children to use knowledge and imagination to create their own mythical creature	Size, shape, skin, arms, legs, features of other animals, wings, scales, claws, hooves
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>		
	<b>Children's behaviours:</b> The children discussed the combinations of animals they could make as they invented their own imaginary mythical creatures. The children labelled with descriptive distinguishing features, habits and diets. These drawings were the source on which they could expand their explanations. The drawing task also provided the children with a labelled image or diagram to work from when creating their own information text.			
	Children's comments: <i>"This is awesome fun" (enjoyment)</i> <i>"I think I'll do half dragon half owl" (decision making)</i> <i>"Mine is a lion's head and a bear's legs" (decision making)</i> <i>"I'm doing half monkey half phoenix" (decision making and specific or technical language)</i> <i>"Mine's got scales and talons" (specific or technical language)</i> <i>"Mine can run and fly" (relationships between things)</i>			

<b>Day 31</b>	<b>Date: 23.03.15</b>	Time of Day: 2:30pm.		
Task 60	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	<b>Create 'ish' drawings inspired by the book Ish by Peter Reynolds</b>	Spare time	Create 'ish' drawings of their own.	
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>		

	<b>Children’s behaviours:</b> The children joined in saying the word ‘ish’ when the reading of the book ‘ish’ by Peter Reynolds.  The children recognised that it was not importance to attain accuracy in their drawings as they were ish drawings. One child verbalised their recognition.			
	<b>Children’s comments:</b>  <i>“It doesn’t matter if you can’t draw it because it is ish” (Cognitive reasoning)</i> <i>“I’m doing a fish ish” (decision making)</i> <i>“I’m doing a dragon ish” (decision making)</i>			
<b>Day 32</b>	<b>Date: 24.03.15</b>		<b>Time of Day: 2:30pm</b>	
Task 61	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Observational drawing of a tree (silver birch on school grounds)</b>	ART Linked to science study of plants  Pre-planned		
	<b>Length of task</b> 30 minutes	<b>Silences or heightened chatter</b>		
	Children’s Behaviours:  Children placed themselves in positions and used drawing behaviours of minimal head movement using the eyes – lifting and lowering of the eyes from paper to tree and back again.  Children used shorter (sketchy) pencil strokes.			
	Children’s comments:  <i>“I’m going to sit here and draw from here” (decision making)</i> <i>“The bark is like paper” (specific or technical language)</i> <i>“There’s a Silver Birch in my road” (observation and cognitive connections)</i> <i>“I found a Silver Birch on our walk yesterday that had a perfect eye. My dad took a photo of it and I’m going to draw it” (observation, using drawing skills beyond the classroom)</i>			
<b>Day 33</b>	<b>Date: 25.03.15</b>		<b>Time of Day: 1:00pm</b>	
Task 62	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Drawing of leaves of different trees – evergreen and deciduous</b>	Science  Pre-planned	Observational drawing of real life examples of evergreen leaves and images of deciduous leaves	Leaf, vein, pines, shapes
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>		
<b>Engagement</b>  All children engaged	<b>Children’s behaviours:</b>  Children picked up the examples of evergreen leaves and studied closely the images of deciduous leaves. The children smelled the real life examples. When drawing the images the children tended to place image next to their paper and look repeatedly from one to the other. When observational drawing the real-life examples of evergreen trees the children adopted the use of looking with the eyes and minimal head movement.  Many children adopted the use of shorter more sketchy pencil strokes.			

	<b>Children's comments:</b> <i>"It smells like Christmas"</i> (Making connections) <i>"these pines are going to take ages to draw"</i> (cognitive recognition of time necessary to complete task)
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Day 34	Date: 26.03.15	Time of Day: 08:50am		
Task 63	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Morning (Brain Training) A banana A pair of football boots A windmill	Morning work	Drawing from memory	
	Length of task  10 mins	Silences or heightened chatter  Lots of general chatter (especially about football)		
Engagement  All children engaged	Children's behaviours: Instant chatter about football Children needed no instruction. Quick to get on task independently Lots of looking over each other's shoulders. Lots of sharing of ideas and sharing of outcomes			
	Children's comments:  Lots of chatter about football and teams outside of school "What does a windmill look like?" (memory recall, questioning)			
Day 35	Date: 27.03.2015	Time of Day: 2:30pm		
Task 64	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing aboriginal paintings	P.S.H.E Global Citizenship – aboriginal people. Pre-planned	Drawing a simple plan of the layout of an aboriginal-inspired painting	
	Length of task	Silences or heightened chatter		
Engagement  All children engaged	Children's Behaviours:  Children had created aboriginal paintings in Reception class using finger painting. Children now drawing out the plan of their painting inspired by contemporary aboriginal artists.			
	Children's comments:  "A lot of the dots go in circles" (observation) "I'm going to keep it simple like that one" (decision making) "This looks like a river" (observation, making connections) "It is better to do lighter dots on a dark colour" (Problem solving and decision making)			
	EASTER HOLIDAYS			
Day 36	Date: 13.04.15	Time of Day: 08:40 am		
Task 65	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Memory (Brain Training) A bunch of grapes A parrot A crowd of people	Morning Work	Drawing from memory	

	<b>Length of task</b>	<b>Silences or heightened chatter</b> Lots of general chatter		
<b>Engagement</b>	<b>Children’s Behaviours:</b>			
All children engaged	Children quick to get on task independently Lots of looking over each other’s shoulders. Lots of laughter when sharing of outcomes of the crowd			
	Children’s comments: Lots of laughter “I’m going to have different types of people in my crowd, tall, small and with different hair” (decision making) “Look at mine” (sharing of outcomes)			
<b>Day 37</b>	<b>Date: 19.03.15</b>	Time of Day: 10:40pm.		
Task 54	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Madhubani Art from India	Art  Pre-planned	Replicating an example of Madhubani art  With borders, simple shapes, doodles and bright, block colours	borders, lines, triangles, shapes, simple shapes, doodles, bright, block colours
	<b>Length of task</b>  40 mins		<b>Silences or heightened chatter</b>  Lots of chatter when the children were creating the border  2’ 03” silence when creating the doodling features of the patterns	
<b>Engagement</b>	<b>Children’s behaviours:</b>			
All children engaged	The children spent a several minutes observing and discussing examples of Mathubani art and were given a demonstration. Many of the children required little further instruction and were on task.  Three children were observed to hesitate and look around at others to see what they were doing. These children were given guidance on starting with the border giving them time to decide which happened. These children made their decision when creating the border.  A few children related the fine detail of the Indian Madhubani artworks to their doodling exercises (mandala patterns), which demonstrates the cognitive linking of relationships between similar and different approaches to drawing, across cultural divides.			
	<b>Children’s comments:</b>  “The doodly bits are just like the Mandala patterns” (Observation and making cognitive connections) “I’m doing a turtle” (decision making) “I think I’ll do a peacock” (decision making) “I’m doing a peacock” (decision making) “I’m doing two fish like this one” (decision making)			
<b>Day 38</b>	<b>Date: 15.04.15</b>		Time of Day: 2:30pm	
Task 67	Drawing task  Clothing the Stick person  Follow on from drawing the stickman in a previous lesson	Subject  Spare few Minutes	Drawing techniques  Draw skeleton shape (stick person) and freehand the clothing	Vocabulary Strike a pose, draw features, body shape, gestures, figure
No of children on task	Children in pairs strike a pose and draw each other in that pose then	Spare Moment		



28 (2 absent)	swap over. 5 minutes each.			
	<b>Length of task</b>			
<b>Engagement</b>  All children engaged	Children's Behaviours: Children were eager to the one to pose. The children drew independently. No child asked for help to create figures or clothing.  Children demonstrated surprise (facial expressions and staring at drawing) with the q			
	Children's comments: "That was so much fun" (enjoyment) Can we do that again?" (eagerness) I'm really pleased with my drawing (drawing efficacy)			
<b>Day 39</b>	<b>Date: 16.04.15</b>	Time of Day: 08:40 am		
Task 68	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  28	Step-by-Step drawing of the Roman Colosseum as a thank you gift to a visitor for a 3D Roman talk.	ART  Pre-planned	Following a step-by-step guided drawing  Repeated task for a purpose	Vertical, parallel, curved, arches, archway, shading, columns, three-dimensional
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>  Several short silences 2' 01" silence when drawing the features in the arches		
<b>Engagement</b>  All children engaged	Children's Behaviours:  It was explained that this was a repeated lesson for the purpose of creating a gift for a visting professor on Roman History. Again the children mimicked the vocabulary in my instructions (short vertical line parallel to the side of the page, curved line across the top, curved line across the bottom, arches, archway, column...column...column, shading to make it three-dimensional) as they drew.  When colouring in the children were independent in how and in what order they coloured in. The level of concentration increased significantly when the children were drawing emperors, gods and goddesses in arches.  The children were more confident the second time round.			
	Children's comments: "I know what the colosseum looks like" (Cognition, memory recall, prior knowledge) How am I going to fit in all the archways? (problem solving) "I'm going to draw Julius Cesaer in my archway" (decision making) "Column...column...column" (specific or technical language) "Archway, archway, archway" (specific or technical language) "I'm definitely getting better because I it looks better" (drawing self-efficacy) "I really like my drawing" (drawing self-efficacy) "That was fun" (enjoyment) "I loved drawing the Roman Colosseum"(enjoyment)			
<b>Day 40</b>	<b>Date: 17.04.15</b>	Time of Day: 08:50am		
Task 69	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Morning (Brain Training)</b>  A pencil A pair of scissors A ruler	Morning work	Drawing from memory	
	<b>Length of task</b>  10 mins	<b>Silences or heightened chatter</b>  Lots of chatter		
<b>Engagement</b>	<b>Children's behaviours:</b> Children independently sourced pencils, scissors and rulers and placed them in front of them. Lots of holding their gaze on the pencil then drawing it			

All children engaged	Lots of picking up the scissors and rulers to look at them closer.			
	<b>Children's comments:</b> When drawing the ruler the children were overheard to count the lines they made: <i>One, two three four five line six seven eight nine ten line</i>			
<b>Day 41</b>	<b>Date: 20.04.15</b>		Time of Day: 1:00pm	
Task 70	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Understanding the drawing tools in Paint and 2Simple programmes	IT  Pre-planned	Explore the drawing and painting tools on 2 Simple	Click, draw, brush strokes,
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  Lots of heightened chatter		
	Children's Behaviours: The children engaged in lots of heightened chatter about which tools, colours, brush sizes and what they were drawing.  Without a specific subject or drawing purpose some children loved the freedom to explore but many of the children were unsure as to what to draw.  Many drew animals they have as pets : rabbit, dog cat or favourite animal - tiger.  Lots of heightened chatter after the lesson.			
	Children's comments:  <i>"I don't know what to draw"</i> (indecision) <i>"I'm drawing my rabbit"</i> (prior knowledge, decision making) <i>"I'm going to do my dog"</i> (prior knowledge, decision making)			
<b>Day 41</b>	<b>Date: 20.04.15</b>		Time of Day: 01:00pm	
Task 71	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	<b>Drawing with imaginary pens on parts of the body to different tempos of music</b>	P.E – Dance  Pre-planned	Drawing using the body	
	<b>Length of task</b>	<b>Silences or heightened chatter</b>		
<b>Engagement</b>  All children engaged	Children's Behaviours: This was helpful specially for those children with no prior dance knowledge. All the children pretended to have an imaginary marker pen sticking out of each shoulder (then arms, then knees etc.) and danced in time to different genres of music by drawing shapes or spelling words on imaginary canvases (i.e. the walls) Every child created individual dance moves. It helped them to recognise that some dance is effectively drawing shapes with the body. In addition, using this element of 'drawing' with a part of the body gave the children a focus to return to whenever they were asked to perform in a freestyle manner independently.			
	Children's comments:  Lots of laughter  <i>"This feels weird and funny"</i> (Cognition and enjoyment) <i>"It's like dancing with shapes"</i> (observation and cognition)			
<b>Day 42</b>	<b>Date: 21.04.15</b>		Time of Day: 08:50am	

Task 72	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Upside-down Drawing</b>	ART  Pre-planned (portrait drawing)		Properties of lines, straight, vertical, horizontal, diagonal, converging, angles, acute, obtuse, scalene, isosceles, equilateral or right angles
	<b>Length of task</b>  30 mins		<b>Silences or heightened chatter</b> Quiet from the start and long silences 2' 13" silence	
<b>Engagement</b>  All children engaged	<b>Children's behaviours:</b> The children accepted the explanation of upside-down drawing - that by turning the picture that they wanted to copy, upside down and then drawing it, it is training the brain to look at different type of lines, (vertical, horizontal, diagonals) and different angles, spaces, shapes rather than looking at the whole image as one. All 30 children made a drawing of the seated man with good accuracy and proportion, including those children with SEND. Children overheard to notice angles, acute, obtuse, scalene, isosceles, equilateral or right angles and use this knowledge in their drawings The children voiced their surprise at the accuracy of the outcomes. Many of the children sat and stared at their drawing smiling. Lots of sharing of outcomes with peers.			
	<b>Children's comments:</b> <i>"This is really funny" (emotional)</i> <i>"I keep wanting to turn the paper round (problem solving)</i> <i>"I'm just looking at the lines" (decision making)</i> <i>"That goes diagonally from there"(mathematical language)</i> <i>"That line goes down there to there" (relationships between things)</i>  <i>Discussion at end of task" What was it like to do upside down drawing?</i> <i>"It's weird" (Emotional, cognitive)</i> <i>"I am really pleased with mine" (self-efficacy)</i>  <b>Running commentary</b>			
<b>Day 43</b>	<b>Date: 22.04.15</b>		Time of Day: 2:30pm	
Task 73	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing Light sources	Science  Pre-planned	Drawing in response to discussion of light sources and drawing suggestions	Light, torch, fire, moon, candle, shine, direction,
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  Lively chatter about light sources		
<b>Engagement</b>  All children engaged	<b>Children's Behaviours:</b>  Children drew their own ideas or copied the demonstrated suggestion (torch, fire, moon, candle). Children seemed more confident to get on task without hesitation.			
	Children's comments:  <i>"I know the sun is a primary light source because it gives us light" (prior knowledge, cognition)</i> <i>"I'm drawing a candle with yellow, orange and red flame" (decision making, prior knowledge)</i>			
<b>Day 43</b>	<b>Date: 22.04.15</b>		Time of Day: 08:40 am	
Task 74	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Doodling whilst listening to class book</b>	Storytime	Directed doodle  Ruler and pencil drawing lines	Lines, triangles (right angles, equilateral, isosceles and scalene), quadrilateral, angles (obtuse and acute)

			across page to create triangles and quadrilaterals	
			Colour in shapes	
	<b>Length of task</b>  20 mins	<b>Silences or heightened chatter</b>  Many silences of 30 seconds or more with the odd low whisper		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b> All children focused, heads down eyes on pencil and paper. Very minimal movement Several children displayed facial expressions of disappointment when the story ended and some children continued to doodle. The children seemed very calm and quiet even when tidying up and getting ready to go home.			
	<b>Children’s comments:</b>  “I love this” (enjoyment) “I could do this all day” (enjoyment)			
<b>Day 44</b>	<b>Date: 23.04.15</b>	Time of Day: 001:00pm		
Task 75	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Tracing the map of the British Isles</b>	Topic Geography - Around the World  Pre-planned		
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>  Quiet with lots of short silences of a few seconds		
<b>Engagement</b>  All children engaged	<b>Children’s behaviours:</b>  Children pleased to see the use of tracing or ‘magic’ paper. Children were given paper clips to hold the paper in place. All children created an accurate outline of The British Isles.			
	<b>Children’s comments:</b>  “I really like tracing”(enjoyment) “It makes it look perfect” (observation, self-efficacy) “Wow this is so good” (Observation and self-efficacy)			
<b>Day 44</b>	<b>Date: 23.04.15</b>	Time of Day: 2:30pm		
Task 76	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book	Story time – Charlie and the Chocolate Factory – Road Dahl	Directed doodle cont.d from previous lesson  Ruler and pencil drawing lines across page to create triangles and quadrilaterals  Colour in shapes	Lines, triangles (right angles, equilateral, isosceles and scalene), quadrilateral, angles (obtuse and acute)
	<b>Length of task</b>	<b>Silences or heightened chatter</b>		

		Mainly silence			
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b> All children focused, heads down eyes on pencil and paper. Very minimal movement One child displayed facial expression of disappointment when the story ended and some children continued to doodle. At the end children very calm and quiet even when tidying up and getting ready to go home.				
	Children’s comments: -				
<b>Day 45</b>	<b>Date: 24.04.15</b>		Time of Day: 08:40 am		
Task 77	Drawing task	Subject	Drawing techniques	Vocabulary	
No. of children on task  30	<b>Memory (Brain Training)</b>  A sandwich A t-shirt A forest of trees	Morning Work	Drawing from memory		
	<b>Length of task</b>	<b>Silences or heightened chatter</b> Lots of general chatter			
	<b>Children’s Behaviours:</b> Children immediately on task independently Lots of sharing of ideas – types of sandwiches what to put on the t-shirt a Lots of sharing of drawing outcomes				
	<b>Children’s comments:</b>  “Ham! I’m doing ham sandwich. I only eat ham sandwiches” (prior knowledge, decision making) “I’m doing cheese and tomato” (decision making) “What are you putting on your t-shirt?” (Questioning) “Do you like my logo” (Sharing of outcomes, seeking validation?)				
<b>Day 45</b>	<b>Date: 24.04.15</b>		Time of Day: 08:50am		
Task 78	Drawing task Drawing the star of David and the Torah	Subject	Drawing techniques	Vocabulary	
No. of children on task  30		R.E. Judaism  Pre-planned	Children draw after a demonstration of how to draw the star of David and Torah	Star, triangles, Torah, parallel lines	
	<b>Length of task</b>  20 mins		<b>Silences or heightened chatter</b>  Low level chatting		
<b>Engagement</b>  All children engaged	<b>Children’s behaviours:</b> Children independently drew a star of David using a ruler. Children freehand drew the Torah				
	<b>Children’s comments:</b> Low level chatting about other ways to draw stars				
<b>Day 46</b>	<b>Date: 27.04.15</b>		Time of Day: 2:30pm		
Task 79	Drawing task	Subject	Drawing techniques	Vocabulary	
No. of children on task	<b>Memory (Brain Training)</b>	Morning Work	Drawing from memory		

30	A pizza A pair of glasses A bus stop			
	<b>Length of task</b>  10 mins	<b>Silences or heightened chatter</b>		
	<b>Children’s Behaviours:</b> Lots of sharing of ideas about pizza toppings, shapes of glasses. Lots of sharing of outcomes			
	<b>Children’s comments:</b>  <i>“I’m just doing a plain pizza, no toppings” (decision making)</i> <i>“I’m doing cheese and tomato” (decision making)</i> <i>“What type of glasses are you doing, round or square?” ( (Questioning, memory recall)</i> <i>“Do glasses like _____(case study child D)” (Observation, sharing of ideas)</i> <i>Are you drawing a bus next to the bus stop? (Questioning, sharing of ideas)</i>			
<b>Day 46</b>	<b>Date: 27.04.15</b>		Time of Day: 08:40 am	
Task 80	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Creating a simple animation in 2Simple using drawing tools. Greek Myth</b>	IT  Animation – 2 Simple  Pre-planned	Using the drawing tools on 2 Simple	
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>		
<b>Engagement</b>  All children engaged	<b>Children’s behaviours:</b>  After a simple demonstration if the animation program on 2Simple, the children were independent in using the 2 Simple drawing programs to create their own mythical creature ( for an English task). All the children were focused, (helped by having a purpose?) and were successful in outcome of simple animation. The children seemed to show natural dexterity when working with the computer mouse pad and the manipulation of the computer drawing tools.  Lots of heightened chatter after the lesson.			
	<b>Children’s comments:</b>  Children engaged it lots of heightened chatter and sharing of ideas with running commentary about what they were drawing.			

Day 46	Date: 27.04.15	Time of Day: 1:00pm		
Task 81	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Dance – drawing shapes with the body to different tempos of music	P.E.  Pre-planned (Dance)		
	Length of task  30 mins		Silences or heightened chatter Lots of laughter Lots of chatter during group work	
Engagement	Children’s Behaviours: Children more confident and expressive than previous ‘dance using body to draw’ session.			

All children engaged	Children were more expressive as they danced in time to different genres of music by drawing shapes or spelling words on imaginary canvases (i.e. the walls). Lots of sharing of ideas with body demonstrations Children seemed confident to collaborate with others in small groups. Those reticent in previous lesson effectively drew shapes with their body.			
	<b>Children’s comments:</b> <i>“It’s like dancing and drawing at the same time” (Cognition )</i> <i>‘I like using my shoulders’” (enjoyment)</i>  In feedback discussion about each group at the end of the lesson: <i>“Their bodies moved well together” (observation)</i> <i>“I liked the way they all did different moves but together at the same time””(observation)</i>			
Day 46	<b>27.03.2015</b> <b>Administration of Questionnaire 2 – 2:00pm</b>			
<b>Day 47</b>	<b>Date: 28.04.15</b>		Time of Day: 1:00pm	
Task 82	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	High speed drawing portraits of each other.	ART  Pre-planned Portrait drawing	5 min and 3 min timers used and children to draw at high speed  <b>Exploratory</b>	
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  Lots of laughter and squeals of excitement.  Lots of heightened chatter.		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b>  Observed Child 15 (and Child C in the case studies) closely as she had become tearful during the non-dominant-hand drawing activity due to her being overly self-critical of the accuracy of her drawing.  This task was met with several looks of both tense excitement and slight nervousness. When the timer was set to go all 30 children attempted to draw faster with some of the children drawing with great vigour and verve. I noted much laughter and excited chatter during this high-speed drawing task.  The more the children drew at high speed the more comfortable they became with drawing at high speed.  Children used more gestures when drawing and made more vigorous pencil strokes that denoted movement and vigour.  Lots of heightened chatter after the lesson.			
	Children’s comments:  Discussion at the end of the lesson: <i>What was it like drawing at high speed?</i> <i>“I loved that”</i> <i>“That was really good fun”</i>  <i>“I loved that because it was so fast and I really like what I have drawn”,</i> <i>“I love that we do different types of drawing”,</i> <i>“I’m really pleased with it” (self-efficacy) (Case Study Dan)</i>  Many of the children recognised that the high-speed drawing outcomes were different to their ‘normal’ drawings describing them as ‘ <i>more scribbly</i> ’, “ <i>more busy</i> ” and “ <i>more sketchy</i> ” and child 4 described his fast pace drawing as “ <i>frantic</i> ”.  <i>Children more articulate about the detail in each other’s drawings using phrases like: “I like the way he has drawn all the details on her dress”, “she’s drawn my hair properly” and “I like her’s because she has drawn his eyes and freckles just right”.</i>			

	A distinctively positive response from the class to Child 12's (case study Child B) drawing. Significant because this child had been very self-critical during the first freehand unguided portrait lesson. The children described Child 12's high speed drawing by commenting: <i>"I like the way he has filled the whole page"</i> , <i>"I like the way it looks really windy behind him"</i> and <i>"it really looks just like"</i> .			
Day 47	Date: 28.04.15		Time of Day: 01:00pm	
Task 83	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book	Story time	Directed doodle cont.d from previous lesson	Lines, triangles (right angles, equilateral, isosceles and scalene), quadrilateral, angles (obtuse and acute)
			Ruler and pencil drawing lines across page to create triangles and quadrilaterals	
			Colour in shapes	
	Length of task  20 mins	Silences or heightened chatter  Silence with the odd whisper		
Engagement  All children engaged	Children's Behaviours: The children required no instruction as it was a continuation of a previous lesson  All children focused, heads down eyes on pencil and paper. Very minimal movement. At the end children very calm and quiet even when tidying up and getting ready to go home.			
	Children's comments:  Earlier in the day: <i>"I can't wait until doodling"</i> (enjoyment)			
Day 48	Date: 29.04.15	Time of Day: 01:00pm		
Task 84	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing: How the sun rises in the east and sets in the west	Science  Pre-planned	Children taught about the movement of the sun and then asked to draw it.	East, Midday, West, long shadows and short shadows
	Length of task  20 mins	Silences or heightened chatter  Lots of low level chatter		
Engagement  All children engaged	Children's behaviours:  Children discussed what they were going to draw and how.  Lots of running commentary of what they were drawing.			
	Children's comments:  Case study Dan <i>"Are we doing drawing today?"</i>  <i>"The sun is in our garden in the afternoon but not the morning"</i> (relationships between things)			
Day 49	Date: 30.04.15	Time of Day: 2:30pm		
Task 85	Drawing task	Subject	Drawing techniques	Vocabulary



No. of children on task  30	Drawing the flags of European countries on a map	Geography  Pre-planned	Children given simple instructions to draw flags on a map with atlases to help	
	<b>Length of task</b>  15 minns	<b>Silences or heightened chatter</b>  Lots of low level chatter		
<b>Engagement</b>  All children engaged	<b>Children's Behaviours:</b>  Children verbalised their favourite flags and those they recognised and chose to draw them first.			
	Children's comments:  <i>"I know the French flag because I'm half French" (prior knowledge)</i>  <i>"The flag is split into thirds" (Recognition of mathematical concepts fractions)</i>			
<b>Day 49</b>	<b>Date: 30.04.15</b>		Time of Day: 2:30pm	
Task 86	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Doodling whilst listening to class book</b>	Storytime	Taking a line, turning at corners and crossing other lines	Corners, angles, crossing lines
	<b>Length of task</b>  15 mins	<b>Silences or heightened chatter</b>  Many silences of 30 seconds or more with the odd low whisper.		
<b>Engagement</b>  All children engaged	<b>Children's Behaviours:</b>  The children required very minimal instruction, just a quick demonstration and they quickly were on task. All children focused, heads down eyes on pencil and paper. Very minimal movement.  At the end children very calm and quiet even when tidying up and getting ready to go home.			
	Children's comments:  Case study Dan <i>"Are we doing drawing today?" (eagerness to draw)</i>			
<b>Day 50</b>	<b>Date: 01.05.15</b>		Time of Day: 001:00pm	
Task 87	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Drawing demonstration of the tennis court and the rules of Tennis</b>	P.E.  Pre-planned	Children copied a diagram of a tennis court on the board.	Oblong, parallel, section, net.
	<b>Length of task</b>  10 mins		<b>Silences or heightened chatter</b>  Low level chatter	
	<b>Children's Behaviours:</b>  Children watched and called out what features they know of the layout of a tennis court. Two children had family members who played tennis but they we unsure of the layout.			
	Children's comments: <i>"My dad plays tennis" (Prior experience)</i>  After the demonstration <i>"This area is for singles and this area for doubles" (sharing knowledge)</i>			

Day 50	Date: 01.05.15		Time of Day: 2:30pm	
Task 88	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book	Story time – Charlie and the Chocolate Factory – Road Dahl	Taking a line in wavy lines and crossing other lines  Colouring in sections	Wavy lines, curves, crossing lines
	Length of task  20 minutes	Silences or heightened chatter  Low level chatter		
Engagement  All children engaged	Children’s Behaviours:  All children focused, heads down eyes on pencil. Very minimal movement  At the end children very calm and quiet even when tidying up and getting ready to go home.			
	Children’s comments:  At the end of the task: “What are we doing now? (suspension of time)”			
Day 51	Date: 04.05.15		Time of Day: 08:40 am	
Task 89	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Memory (Brain Training) An owl A beach Some plants	Morning Work	Drawing from memory	
	Length of task	Silences or heightened chatter  Low level general chatter		
Engagement  All children engaged	Children’s Behaviours:  Children quick to draw independently. Lots of sharing of outcomes.			
	Children’s comments:  “I love owls”(enjoyment) “Me too” enjoyment) “I’m drawing my owl on a branch” (decision making) I’ve put someone swimming in the sea (decision making) I’ve done a surfer” (decision making) I’ve drawn shells and a starfish” (memory recall and decision making)			
Day 51	Date: 04.05.15		Time of Day: 08:50am	
Task 90	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Perspective Drawing Drawing buildings from ground level	Spare time	Step-by-step guide	Convergent lines, parallel lines perpendicular
	Length of task  15 mins		Silences or heightened chatter	
Engagement	Children’s behaviours: The children watched and followed the step-by-step instructions one step at a time. Children mimicked the language that I used in the demonstration.			

All children engaged	Several children demonstrated eagerness at learning perspective drawing.			
	<b>Children's comments:</b> <i>"This is so cool"</i> (enjoyment) <i>"I love doing this"</i> (interest) <i>"Will we do perspective drawing again?"</i> (eagerness)  <i>"I think I know how to do this now"</i> (self-efficacy) <i>"I am drawing all the lines from the centre first"</i> (problem solving and decision making)  <i>The lines converge at the centre, the others go across"</i> (Mathematical language)			
<b>Day 51</b>	<b>Date: 04.05.15</b>		Time of Day: 2:30pm	
Task 91	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Doodling listening to class book	Story time	Zentangles	Zig zags, swirls, spirals, lines repeated patters
	<b>Length of task</b>  10 mins	<b>Silences or heightened chatter</b>  Many silences of 30 seconds or more with the odd low whisper.		
<b>Engagement</b>  All children engaged	<b>Children's Behaviours:</b>  Children more animated about this type of doodling Lots of low-level discussion and whispering about which zentangle to do			
	Children's comments:  <i>"Drawing is really relaxing"</i> (emotional)			
<b>Day 52</b>	<b>Date: 05.05.15</b>		Time of Day: 08:40 am	
Task 92	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	<b>Bi-lateral drawing – (two hands)</b>	ART  Bi-lateral drawing  Pre-planned (portrait)	Drawing with both hands at the same time – a pencil or pen in each hand  <b>Exploratory</b>	
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>		
	<b>Children's behaviours:</b> Children showed eagerness to try this two-handed drawing. Simple instructions to use two pencils, one in each hand and a demonstrations were given.  When drawing the children mimicked the words used in the demonstration "hair, ears, chin, neck and shoulders and then the eyes nose mouth and so on" as they drew them. They said 'hair' when they drew the hair, and said 'ears' when they drew the ears and so on.  Children appeared to find this easy despite having never attempted it before.  The following day, three children brought in to school their two-handed pictures that they had produced outside the classroom with no adult help and of their own accord.			

	<p>Children's comments:</p> <p><b>Case study Dan</b> "Are we doing drawing today?"</p> <p>"hair, ears, chin, neck and shoulders eyes nose mouth". – <b>Running commentary</b></p> <p>End of task discussion: <i>What was is like drawing with both hands?</i></p> <p>"My hands are doing the work" decision making</p> <p>"That was amazing" (enjoyment)</p> <p>"Can we do it again?" (eagerness)</p> <p>On completion of the drawings, a few of the children remarked on how 'imaginative' their drawings were. They also commented that they "felt like they were inventing new people" and "it's like creating new characters".</p>
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Day 53	Date: 06.05.15	Time of Day: 08:50am		
Task 93	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing each other's shadows – collaborative drawing on large paper in pairs or groups of three.	Science Light and Shadows  Pre-planned	Go outside and in pairs draw each other's shadows	
	Length of task  30 mins		Silences or heightened chatter  Lots of upbeat chatter	
Engagement  All children engaged	Children's behaviours:  'Drawing of shadows' activity promoted teamwork.  Children needed to be patient waiting for the sun to appear from the clouds.  Childfren needed to stand still while their friend drew the shape of the shadow and to wait until the sun re-emerged from behind the clouds.			
	Children's comments:  <i>"I think we need to wait for the sun to come out from behind the cloud"</i> (observation, cognition) <i>"You need to stand still"</i> (problem solving) <i>"The brighter the sun, the darker the shadow"</i> (Observation, cognition. Scientific understanding)			
Day 53	Date: 06.05.15	Time of Day: 1:00pm		
Task 94	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book.	Story time	Zentangles cont.d	Zig zags, swirls, spirals, lines repeated patters
	Length of task		Silences or heightened chatter  Many silences of 30 seconds or more with the odd low whisper.	
Engagement  All children engaged	Children's Behaviours: Children more focused than the last zentangle doodling task with heads down eyes on pencil and paper. Children quiet and calm at the end			
	Children's comments:			
Day 54	Date: 07.05.15	Time of Day: 01:00pm		
Task 95	Drawing task	Subject	Drawing techniques	Vocabulary

No. of children on task 30	Passport task to draw the flag, costume and food from different countries around the world	Geography  Around the World  Pre-planned		
	Length of task  10mins	Silences or heightened chatter  General chatter		
	Children’s Behaviours:			
	Children’s comments:			
Day 55	Date: 08.05.15	Time of Day: 08:50am		
Task 96	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Drawing a Jewish Menorah	R.E. Judaism  Pre-planned	Copy an image of a menorah	Seven days of God, Light, gold for perfection, symbol of completion, holy Sabbath. ‘Lamp” in Hebrew.
	Length of task  10 mins	Silences or heightened chatter  Low level chatter		
Engagement  All children engaged	Children’s behaviours: Children engaged in general chatter about candles.			
	Children’s comments  “My grandma has candles like this at Christmas” (relating task to experience) “Seven for seven days in a week” (cognition)			
Day 56	Date: 11.05.15	Time of Day: 08:50am		
Task 97	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Memory (Brain Training) A robot A spaceship An alien	Morning Work	Drawing from memory	
	Length of task  10 mins	Silences or heightened chatter		
Engagement  All children engaged	Children’s Behaviours:  Children very eager to draw robots and spaceships Lots of talking like robots and Lots of sound effects of spaceships Significantly more sharing of outcomes by the boys			
	Children’s comments:  “Oh cool” (enjoyment) “Yeah” (enjoyment) “I’ve got a robot” (memory recall, prior experience, resourceful)			

	I'm doing the Millenium Falcon (memory recall, prior experience, resourceful) This is so much fun" (enjoyment)			
Day 56	Date: 11.05.15		Time of Day: 08:40 am	
Task 98	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Adding detail to animation on 2Simple	IT Animation using 2Simple Pre-planned		
	Length of task 30 mins	Silences or heightened chatter		
Engagement  All children engaged	Children's behaviours:  Children far more confident and independent using the 2 Simple drawing programs to create their own animation of their choice. The children showed good dexterity when working with the computer mouse pad and the manipulation of the computer drawing tools.			
	Children's comments:  Children engaged it lots of heightened chatter and sharing of ideas with running commentary about what they were drawing.			
Day 56	Date: 11.05.15		Time of Day: 2:30pm	
Task 99	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Doodling listening to class book	Storytime	Zentangles contd	Zig zags, swirls, spirals, lines repeated patters
	Length of task 20 mins	Silences or heightened chatter Many silences of 30 seconds or more with the odd low whisper.		
Engagement  All children engaged	Children's behaviours: All children focused, heads down eyes on pencil and paper. Very minimal movement  Children calm and quiet at the end when tidying up and leaving.			
	Children's comments:			
Day 57	Date: 12.05.15		Time of Day: 1:00pm	
Task 100	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Drawing portraits in miniature sized paper	ART Portraits  Pre-planned		
	Length of task	Silences or heightened chatter		
Engagement  All children engaged	Children's Behaviours: The children were 'restricted' to drawing a portrait on a small piece of paper (5cm x 10cm)  Children amused by size of the paper and confused about how they were going to fit the portrait on the paper.  28 out of the 30 children instinctively filled the small piece of paper with a portrait of a classmate - cognitively scaled down the image to fit the paper.			

	No child drew a portrait too large for the small piece of paper.  Two children over compensated and drew exceptionally small portraits, both children were amused by this.			
	Children's comments:  "We just need to make smaller drawings" (relationships between things)  "I like drawing small" (enjoyment)  "I am get better at drawing because they look like who I'm drawing (self-efficacy)  "You just have to draw smaller when you are doing a miniature" (sharing knowledge)			
Day 58	Date: 13.05.15		Time of Day: 01:00pm	
Task 101	Drawing task	Subject	Drawing techniques	Vocabulary Silhouette
No. of children on task  30	Creating drawn images for making light boxes	Science  Light and Shadows Pre-planned		
	Length of task	Silences or heightened chatter  Lots of chatter		
Engagement  All children engaged	Children's Behaviours:  Children engaged I lots of chatter about what 'silhouette' they were going to draw.			
	Children's comments:  "I'm doing a footballer" (decision making) "I'm doing a teletubby" (decision making) "I'm doing a bicycle" (decision making)			
Day 58	Date: 13.05.15		Time of Day: 02:30pm	
Task 102	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  26	Doodling listening to class book	Story time	Graph paper and drawing circles in each square	Graph, square, circles
	Length of task  20 mins	Silences or heightened chatter Low whispering but mainly quiet.		
Engagement  All children engaged	Children's behaviours:  The children required a quick demonstration. All children focused, heads down eyes on pencil and paper. Very minimal movement Children quiet, calm when packing away.			
	Children's comments:  What are we doing now? (suspension of time, emotional)			
Day 59	Date: 14.05.15		Time of Day: 2:30pm	
Task 103	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task	Memory (Brain Training) A clown	Morning Work	Drawing from memory	

30	A circus tent A trapeze artsit			
	<b>Length of task</b>  10 mins	<b>Silences or heightened chatter</b>		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b> Children immediately discuss task before books arrive. Children quick to draw independently. Lots of heads down with focused drawing ad Lots of sharing of outcomes.			
	<b>Children’s comments:</b>			
<b>Day 60</b>	<b>Date: 15.05.15</b>		Time of Day: 08:40 am	
Task 104	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing Fractions	Maths  Fractions Pre-Planned	Children organised manipulatives (Logiblox and Cuisenaire) and drew the fractions	
	<b>Length of task</b>  20 mins	<b>Silences or heightened chatter</b>  Lots of general chatter about fractions and the Logiblox and Cuisenaire		
<b>Engagement</b>  All children engaged	<b>Children’s behaviours:</b>  Children were very independent at organising the Logiblox and Cuisenaire into fractions and then drawing them as a picture.  8 children drew round the Logiblox and Cuisenaire.			
	<b>Children’s comments:</b>  Lots of general chatter about fractions and playing with the Logiblox and Cuisenaire.			
<b>Day 60</b>	<b>Date: 15.05.15</b>		Time of Day: 02:30pm	
Task 105	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Doodling listening to class book</b>	Story time	Graph paper and drawing circles in each square cont’d	Graph, square, circles
	<b>Length of task</b>  15mins		<b>Silences or heightened chatter</b> Quiet with low whispering.	
<b>Engagement</b>  All children engaged	<b>Children’s behaviours:</b> All children focused, heads down eyes on pencil and paper. Very minimal movement  When a child asked if they could colour in the circles, a few children copied the idea.			
	<b>Children’s comments:</b>  <i>Can I fill in the circles? (Questioning, decision making, creativity)</i>			
<b>Day 61</b>	<b>Date: 18.05.15</b>		Time of Day: 08:50am	
Task 106	Drawing task	Subject	Drawing techniques	Vocabulary



No. of children on task 30	Memory (Brain Training) A Cricket bat and ball A meadow of flowers A dog house	Morning Work	Drawing from memory	
	Length of task	Silences or heightened chatter		
Engagement  All children engaged	Children's Behaviours: Children quick to draw independently. Focused, on task Lots of questioning about the shape of a cricket bat and sharing of ideas, decisions and suggestions			
	Children's comments: "What does a cricket bat look like?" (Questioning) Like this (shows his cricket bat) (sharing of previous knowledge" "What does a dog house look like?" (Questioning) "Like a little wooden house with a big arched door" (Suggestion)			
Day 61	Date: 18.05.15		Time of Day: 01:00pm	
Task 107	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Drawing animation slides	IT Pre-Planned	Completing 2Simple animation	Draw, brush, colours, click drag
	Length of task	Silences or heightened chatter  Lots of chatter		
Engagement  All children engaged	Children's Behaviours: Children far more confident in using, adding detail and completing their animations independently. Children overheard helping each other with how to create the new slides. Children very animated in showing their peers their completed animations.			
	Children's comments:  "If you make the first slide then drag it to number 2 then add to it. That works" (sharing knowledge, problem solving)			
Day 62	Date: 19.05.15		Time of Day: 08:50am	
Task 108	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Drawing on large paper A3	ART  Pre-Planned (portrait)	Upscaling a drawing into large paper	Enlarge, larger scale, fit the paper, proportion
	Length of task  40 mins		Silences or heightened chatter  Lively chatter	
Engagement  All children engaged	Children's behaviours:  Children give paper larger than their sketchbooks (A3), 17 of them instinctively upscaled to draw a portrait that fit proportionately on the paper. (cognitive process of enlarging an image to fit a particular area on a piece of paper).  5children drew their portraits very big with no space around the head 18 drew their portraits relatively small in proportion to the size of the paper.  In a walk round discussion at the end of the lesson, I noticed that the children were quick to comment on those that were very small but they did not comment on those that were large on the paper.			

	<b>Children's comments:</b>  Lots of lively general chatter.			
<b>Day 62</b>	<b>Date: 19.05.15</b>		Time of Day: 2:30pm	
Task 109	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book	Story time	Graph paper and drawing circles in each square Cont.d Colouring in	Graph, square, circles
	<b>Length of task</b>  20 mins	<b>Silences or heightened chatter</b>  Many silences of 30 seconds or more with the odd low whisper.		
Engagement  All children engaged	<b>Children's Behaviours:</b> All children focused, heads down eyes on pencil and paper. Very minimal movement Remained quiet and calm while tidying away and leaving			
	Children's comments:  <i>"Doodling is very calming" (emotional)</i>			
<b>Day 63</b>	<b>Date: 20.05.15</b>		Time of Day: 08:40 am	
Task 110	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Drawing shapes for shadow puppets</b>	Science  Light and shadows  Pre-Planned	In groups to create a shadow puppet to go with others in group.	
	<b>Length of task</b>  20 mins	<b>Silences or heightened chatter</b>		
Engagement  All children engaged	<b>Children's Behaviours:</b>  In groups children had to negotiate the group theme for each child to create a shadow puppet.			
	Children's comments:  <i>"We are doing bees and she's doing a hive" (decision making)</i> <i>"We are doing Roman Soldiers marching" (decision marching and cross curricular links)</i>			
<b>Day 64</b>	<b>Date: 21.05.15</b>		Time of Day: 001:00pm	
Task 111	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Completing passports of countries around the world drawing flags, costumes and food from countries around the world.</b>	Topic Geography - Around the World  Pre-Planned	Continuation of Homework project to draw flags, costumes and food from countries around the world.	
	<b>Length of task</b>  20 mins	<b>Silences or heightened chatter</b>		

Engagement	Children’s behaviours:			
All children engaged	Children independently used the atlas to reference the flag they were drawing. Children looking back and forward to the flag and their drawing.			
	Children’s comments:			
Day 65	Date: 22.05.15		Time of Day: 2:40pm	
Task 112	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Drawing small things Sharpeners, coins Beetles and dragonflies	Spare time	Pick an item around the room to draw freehand	
	Length of task 10 min	Silences or heightened chatter Lots of low level chatter		
Engagement	Children’s Behaviours:			
All children engaged	Children enjoyed looking around for objects. A child recognised that the stapler was ‘too hard’ for him to draw. (awareness of drawing efficacy) A child drew his tiny pencil to his and his friends amusement.			
	Children’s comments:  “That’s too hard to draw” (self-efficacy)			
HALF TERM 25 <sup>th</sup> – 29 <sup>th</sup> May				
Day 66	Date: 01.06.15		Time of Day: 08:40 am	
Task 113	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Memory (Brain Training)  A watch A pair of trousers A chest of drawers	Morning Work	Drawing from memory	
	Length of task	Silences or heightened chatter		
Engagement	Children’s Behaviours:			
All children engaged	Children quick to draw independently. Focused, on task Lots of questioning about the types of watches, trousers.			
	Children’s comments: “What type of watch are you going to do?” (Questioning) “My dad’s watch” (prior knowledge)			
Day 67	Date: 02.06.15		Time of Day: 01:00pm	
Task 114	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Contour Drawing  Demonstration of drawing Pierre Bonnard.  Drawing hand using contour drawing	ART  Contour drawing  Pre-Planned (portrait)	Drawing without taking your eyes off the subject or pencil off the paper  Exploratory	Eyes on subject, continuous line on the paper
	Length of task	Silences or heightened chatter		

	30 mins	Very quiet when drawing apart from odd utterance.  Lots of laughter at the end when sharing the outcomes.		
Engagement	Children’s behaviours:			
All children engaged	Children amused by the outcomes of other contour drawing examples shown at the start of the task.  Children made utterances of “oh no” during the demonstration and during the task. Children laughed a lot at their outcomes.  Lots of heightened chatter after the lesson.			
	Children’s comments:  “That’s going to be hard” (awareness of efficacy) “Oh”(sense of unease?) “Oh no ” (awareness of inaccuracy?) “This is so hard” (emotional, efficacy) “I’ve definitely gone wrong” (Sense, efficacy)  “Look at my nose” (sharing of outcomes) “Look at mine ” (sharing of outcomes) “It looks really funny” (observation) ‘It is not as bad I thought it was going to be” (observation, efficacy)			
Day 68	Date: 03.06.15		Time of Day: 1:00pm	
Task 115	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing Igneous Rocks and Cross section of a Volcano	Science  Rocks Formations  Pre-Planned	Step-by-step guided of a volcano	Magma chamber, main vent, secondary vent, lava flow, eruption cloud or ash cloud, crater
	Length of task  10 mins	Silences or heightened chatter  Lots of mimicking of language used in demonstration		
	Children’s behaviours:  Children quiet as they listened to the instructional demonstration.  Drawing the labelled cross-section enabled the children to describe in words and in written form the process of how a volcano occurs. SEND children able to write simple sentences with correct language.			
	Children’s comments: Children mimicked the language used at each step of the demonstration: “Magma chamber” (Language) “main vent” (Language) secondary vent”, (Language) “Sides of the volcano ” (Language) “Summit ” (Language) “lava flow ” (Language) “eruption cloud or ash cloud” (Language) “crater” (Language)  At each stage the children could be heard to say the words of each feature of the volcano  “Magma chamber, main vent, secondary vent, lava flow, eruption cloud or ash cloud, crater”			
Day 69	Date: 04.06.15		Time of Day: 01:00 pm	
Task 116	Drawing task	Subject	Drawing techniques	Vocabulary

No. of children on task  30	<b>Drawing of the planets in the solar system</b>	Topic Space  Pre-Planned	Children watched videos and acted out the order of the solar system before drawing it	Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto (dwarf planet)
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>  Lots of chatter about the planets		
	<b>Children’s behaviours:</b>  Children encouraged to get the sizing and colour of the planets correct.  One child used the ruler to measure the height of the planet before drawing and another children noticed and copied this strategy then others followed suit.			
	<b>Children’s comments:</b>  “Oh cool. I like the planets” (Interest) I’m drawing a line across the page like this” (Sharing ideas, problem solving, cognition) “Mars is red or pink” (Scientific knowledge) “Earth is green and blue” Scientific knowledge) I think Jupiter is the largest planet. I’m going to do that bigger than the others” (decision making) “Yes and it has an eye on it” (Scientific knowledge)			
<b>Day 70</b>	<b>Date: 05.06.15</b>	Time of Day: 08:50am		
Task 117	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Morning (Brain Training)</b>  A snowflake A snow-capped mountain A ski lift	Morning work	Drawing from memory	
	<b>Length of task</b>  10 mins	<b>Silences or heightened chatter</b>		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b> Children quick to draw independently. Focused, on task Lots of questioning about the shape of a cricket bat and sharing of ideas, decisions and suggestions			
	<b>Children’s comments:</b> “I love snowflakes” (Enjoyment)			
<b>Day 70</b>	<b>Date: 05.06.15</b>	Time of Day: 1:00pm		
Task 118	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing of the strategies and rules of Rounders	P.E.  Rounders  Pre-Planned		
	<b>Length of task</b>	<b>Silences or heightened chatter</b>  Quiet whilst watching the drawing demonstration.		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b>  Majority of the class had not played rounders before. A layout of the rounders field was drawn on the board and a call and response was done whereby children echoed where 1 <sup>st</sup> base, 2 <sup>nd</sup> base, 3 <sup>rd</sup> base , 4 <sup>th</sup> base, bowler and back stop. The rules of rounders was explained using the drawing.			

	Children went outside and they set up two pitches based on the drawing demonstration. The children successfully set them up – just needed help with distances between posts. Children were able to play rounders with relatively little extra instruction.			
	Children’s comments:			
Day 71	Date: 08.06.15		Time of Day: 01:00pm	
Task 119	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book	Story time	Graph paper and drawing circles in each square Cont.d Colour in	Graph, square, circles
	Length of task	Silences or heightened chatter  Many silences of 30 seconds or more with the odd low whisper.		
Engagement  All children engaged	Children’s Behaviours:  All children focused, heads down eyes on pencil and paper. Very minimal movement Children calm and quiet when tidying away.			
	Children’s comments: “I enjoy doodling” (enjoyment)			
Day 71	Date: 08.06.15		Time of Day: 02:30pm	
Task 120	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Cartoon Faces	Spare time		
	Length of task  10 mins	Silences or heightened chatter Lots of laughter and very animated chatter		
Engagement  All children engaged	Children’s behaviours:  Children followed a demonstration of different cartoon faces and expressions and experimented with their cartoon faces.  Children were very animated with lots of laughter. Several children made faces before they drew or as they were drawing.			
	Children’s comments: “I’m going to try to do this face” (demonstrates face to his friend)  I’m going to make mine look angry” (decision making)  “Look at mine” (laughing) (sharing outcomes, enjoyment)  “I loved that” (enjoyment) “Can we do more cartoon drawing?” (eagerness)			
Day 72	Date: 09.06.15		Time of Day: 2:30pm	
Task 121	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing trees on large paper with pencil or charcoal attached to the end of a stick/twig	ART  Large format drawing  Pre-Planned	Using a pencil on an extended implement (stick/twig) <b>Exploratory</b>	
	Length of task	Silences or heightened chatter		

		Lots of animated chatter		
		Some children silently concentrating		
All children engaged	Children's Behaviours:  Children very keen and pleased to be going outside putting large paper on the tarmac. Children highly amused to be attaching their pencils/charcoal to long twigs or sticks.  At first many self-critical of what they were drawing but all persevered and filled their paper with a drawing of a tree.  (Because they were trees, the inaccuracy was not a problem?)			
	Children's comments: "This is so difficult" (efficacy) "It's hard to hold properly" (fine motor skills) "It gets easier" (efficacy)  Discussion at end of the task: Did it feel different drawing with a pencil on the end of a stick? "It felt strange at first but ok after a while" (emotional) "It looks ok" (observation, efficacy) "I really like mine" (efficacy)			
Day 73	Date: 10.06.15		Time of Day: 08:40 am	
Task 122	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Drawing a cross section of how sedimentary rocks are formed	Science  Pre-Planned	Step-by-step guided drawing of cross section of formation of sedimentary rocks	Land, sea, seabed, plants and animal skeletons, weathering erosion, sediment, compression, compacting, cementing sedimentary rock
	Length of task  15 mins	Silences or heightened chatter  Lots of mimicking of language used in demonstration		
Engagement  All children engaged	Children's behaviours:  Children quiet as they listened to the instructional demonstration. Drawing the labelled cross-section enabled the children to describe in words and in written form the process of how a sedimentary rocks are formed. SEND children able to write simple sentences with correct language.			
	Children's comments:  When drawing the children mimicked the language used at each step of the demonstration: "Land", "sea", "seabed", "plants and animal skeletons", "weathering erosion", "sediment", "compression", "compacting", "cementing", sedimentary rock"			
Day 74	Date: 11.06.15		Time of Day: 001:00pm	
Task 123	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	How the Earth Rotates around the sun	Topic Space  Pre-Planned	Children watched videos on how the Earth rotates around the sun and given a demonstration drawing before drawing it	Sun, Earth, tilted, axis, orbit, spin, tilt, hemisphere
	Length of task  15 mins		Silences or heightened chatter	

Engagement	Children’s behaviours:			
All children engaged	Children watched quietly the videos and demonstration on how the Earth rotates around the sun. Children all drew their interpretation many copying the demonstration drawing on the board.			
	Children’s comments:			
	As the children drew the words used in the demonstration and on the labelled demonstration could be heard in the children’s conversations (Sun, Earth, tilted, axis, orbit, spin, tilt, hemisphere)			
Day 74	Date: 11.06.15		Time of Day: 2:30pm	
Task 124	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Doodling listening to class book	Story time – Charlie and the Chocolate Factory – Road Dahl	Directed Doodle  Squiggly lines from a central point and curved lines joining them	Squiggly lines, central point, curved lines
	Length of task	Silences or heightened chatter		
		Many silences of 30 seconds or more with the odd low whisper.		
	Children’s Behaviours:			
	All children focused, heads down eyes on pencil and paper. Very minimal movement			
	Children’s comments:			
Day 75	Date: 12.06.15		Time of Day: 08:40 am	
Task 125	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	Memory (Brain Training)  A pair of sunglasses A pair of hands A pair of eyes	Morning Work	Drawing from memory	
	Length of task	Silences or heightened chatter		
	10 mins	Lots of general chatter		
Engagement	Children’s Behaviours:			
All children engaged	Children very quick to finish this task			
	Children’s comments:			
Day 75	Date: 12.06.15		Time of Day: 08:50am	
Task 126	Doodling listening to class book	Story time	Drawing techniques	Vocabulary
No. of children on task 30			Directed Doodle  Squiggly lines from a central point and curved lines joining them	Squiggly lines, central point, curved lines



	<b>Length of task</b>  20 mins		<b>Silences or heightened chatter</b> Quiet with low whispers	
	<b>Children’s behaviours:</b>  The children responded quickly to a short demonstration. No hesitation from any of the children. All children focused, heads down eyes on pencil and paper. Very minimal movement			
	<b>Children’s comments:</b>  <i>“I really like doodling” (enjoyment)</i>			
<b>Day 76</b>	<b>Date: 15.06.15</b>		Time of Day: 08:50am	
Task 127	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Memory (Brain Training)</b>  A hat A coat A pair of boots	Morning Work	Drawing from memory	
	<b>Length of task</b>  10 mins	<b>Silences or heightened chatter</b>  Lots of relaxed general chatter and laughter		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b> Children quick to draw independently. Focused, on task Lots of questioning about the shape of hats, coats, boots and sharing of ideas, decisions and suggestions			
	<b>Children’s comments:</b>  <i>“A hat is quite hard to draw” (Observation, cognition, drawing efficacy)</i>			
<b>Day 77</b>	<b>Date: 16.06.15</b>		Time of Day: 08:40 am	
Task 128	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Creating traced portraits with shading in pencil</b>	ART  Portraits with shading  Pre-Planned		
	<b>Length of task</b>  30 mins	<b>Silences or heightened chatter</b>		
	The children traced over a photocopied image of themselves with photocopier paper against the window pane to experience how to use light behind the image to trace the image  A majority of the children displayed focussed concentration for up to ten minutes during this activity and many of the children (26 out of 30) were observed to checked their own work independently throughout this task until it was finished. (engagement, independent problem solving, checking the work until it is completed.  Four of the children required prompting them to complete the nose, the chin and the eyebrows.  Discussion at end of task Children compared traced portraits with their freehand self-portraits. Many children expressed that even though they thought the traced portraits were more accurate they preferred their own freehand drawing.			

	Significant exercise for case study child A - low self-esteem. He was so impressed by what he had produced that he invited his mother into the classroom to look at his drawing at the end of the day. This was something he had never done previously.
	Children's comments: <i>"I love shading" (enjoyment, efficacy)</i> <i>"I like looking for shaded bits" (enjoyment, efficacy)</i> It looks just like the real thing" (Observation) I never knew I could draw like this" (efficacy) <i>"I am going to shade all my drawings" (decision making)</i>

Day 78	Date: 17.06.15	Time of Day: 01:00pm		
Task 129	Drawing Task	Subject	Drawing techniques	Vocabulary Metamorphic, metamorphosis change, magma, heat, high temperatures, pressure, layers of rock
No. of children on task  30	Drawing metamorphic rocks and the process of metamorphic rock formation	Science  Rock Formations  Pre-Planned	Step-by-step guided drawing of the process of metamorphic rock formation	
	Length of task  30 mins		Silences or heightened chatter Low level chatter Children mimicked the language used in the demonstration	
Engagement  All children engaged	Children's behaviours:  Children followed the step-by-step guided drawing of how metamorphic rocks are created.  Children described in written form the process of how metamorphic rocks are formed. SEND children able to write simple sentences with correct language.			
	Children's comments:  In each step of the guided demonstration the children mimicked the language used at each step of the demonstration: "Layers of rock", "brown, grey", "magma, orange", "high temperature", "pressure", "heat and cooling", "metamorphosis", "metamorphic rock"			
Day 79	Date: 18.06.15	Time of Day: 1:00pm		
Task 130	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	The phases of the Moon	Topic  Space  Pre-Planned	Children given a layout of the phases of the moon to copy	Waxing, waning, gibbous full half, crescent, in shadow
	Length of task  30 mins		Silences or heightened chatter	
Engagement  All children engaged	Children's Behaviours: As a class talked through the phases of the moon. Did echo calling of the name of each stage. Children tasked to copy the phases.  The majority (28) of children started at the moon at 12 o'clock on the clock, 2 children started with the full moon at 3 o'clock. (Transference of maths skills?)			
	Children's comments:  "There was a crescent moon last night. We saw it at Cubs" (prior experiences/knowledge)			

	"I am just doing my waxing gibbous" (technical language) "This part of the moon is in shadow" (cognitive understanding, technical language)			
Day 80	Date: 19.06.15		Time of Day: 08:00am	
Task 131	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Memory (Brain Training)  A clock A chandelier A table	Morning Work	Drawing from memory	
	Length of task  10 mins	Silences or heightened chatter		
	Children's Behaviours: Children quick to get on task Lots of questioning, sharing of ideas, decisions and suggestions about clocks, chandeliers and tables			
	Children's comments:  "I'm going to put my cat on the table because he is always on our table" (Prior knowledge and experience) "How do you draw a chandelier?" (Questioning, collaboration?) Well it hangs from the ceiling" (Suggestion, prior knowledge, sharing of ideas)			
Day 80	Date: 19.06.15		Time of Day: 08:50am	
Task 132	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book	Story time	Curved lines from a central point with different zentangles in each section	Curved lines, central point, zentangles, spirals, zig zags, ovals, squiggles
	Length of task  15 mins		Silences or heightened chatter Many silences of 30 seconds or more with the odd low whisper.	
Engagement  All children engaged	Children's behaviours: All children focused, heads down eyes on pencil and paper. Very minimal movement			
	Children's comments: "What happened to the time?" (suspension of time, emotional)			
Day 81	Date: 22.06.15		Time of Day: 08:50am	
Task 133	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Memory (Brain Training) An army of ants A swarm of bees Some spiders	Morning Work	Drawing from memory	
	Length of task		Silences or heightened chatter	
Engagement  All children engaged	Children's Behaviours: Children comment immediately about how much time it will take to complete task.			

	<b>Children's comments:</b> "This is going to take ages" (Observation, cognition, drawing efficacy) "I'm drawing a bee hive as well" (Decision Making)			
<b>Day 82</b>	<b>Date: 23.06.15</b>		Time of Day: 01:00pm	
Task 134	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	<b>Creating Portraits with shading - pastel</b>	ART  Pre-Planned		
	<b>Length of task</b>	<b>Silences or heightened chatter</b>		
	Children's Behaviours:			
	Children's comments:  "I love the way the pastels smudge"(enjoyment) "It is fun using your finger" (enjoyment)			
<b>Day 83</b>	<b>Date: 24.06.15</b>		Time of Day: 02:30pm	
Task 135	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	<b>Everyday objects - rulers, scissors, sharpeners, shells,</b>	Spare time	Observational drawing of items in classroom	
	<b>Length of task</b>  15 mins		<b>Silences or heightened chatter</b>  Low level chatter at first. Lots of quiet	
<b>Engagement</b>	<b>Children's behaviours:</b>			
All children engaged	Children now comfortable with this task and many children adopted the drawing behaviours little head movement and movement isolated to the lifting and lowering of the eyes when drawing			
	<b>Children's comments:</b> "My shell has got different size craters all over it" (Observation) "There's a spiral on one side and it's shiny inside" (Observation) "I'm going to do the stitching and the creases on my shoe" (Decision making) "It's going to be easier if I draw it from this angle" (side on) (efficacy) "Is my chair good?" (validation, sharing of outcomes) "yes, Is my shoe good?" (validation, sharing of outcomes) "Have you seen _____'s drawing its got lots of good shading"(sharing recognition of good drawing) "Look at _____s chair, it looks like the chair" (sharing recognition of good drawing) "Your drawing is really good" (positive praise)  "That's really good" (positive praise)  " Your drawing looks exactly like a chair" (positive praise)			
<b>Day 84</b>	<b>Date: 25.06.15</b>		Time of Day: 2:30pm	
Task 136	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task 30	All about gravity and magnetic fields	Topic – Space  Pre-Planned	Draw an interpretation of animation film about the discovery of Lodestone	Magnesia, Greece, Magnes the shepherd, nails in sandals attracted to rock, lodestone, compass
	<b>Length of task</b>	<b>Silences or heightened chatter</b>		

	20 mins	Lots of chatter about the story and general chatter		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b> The children explained the direction of the magnetic fields by drawing arrows around the earth, and articulated the discoveries of gravity when drawing a shepherd with his feet stuck to a lodestone rock.  After just one lesson of drawing everyday objects I previous lesson the children began drawing classroom items regularly and independently in free time session.			
	<b>Children’s comments:</b> “Rolling hills” (prior knowledge and decision making) “Shepherd and lots of sheep” (prior knowledge and decision making) “Sandals” “Rocks” “Clouds” <b>Running commentary style of talking</b> <b>These words were voiced out loud – articulation of thoughts at their peers rather than to them</b>			
<b>Day 85</b>	<b>Date: 26.06.15</b>	Time of Day: 11:30 am		
Task 137	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Urban Sketching (the school building and playground)	Spare time		
	<b>Length of task</b>  20 mins	<b>Silences or heightened chatter</b>		
	Children’s Behaviours:			
	Children’s comments:  “I think this is going to take ages” (cognition, observation) “I am going to draw the dinner all as it’s got big windows” (decision making)			
<b>Day 86</b>	<b>Date: 29.06.15</b>	Time of Day: 08:50am		
Task 138	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	<b>Memory (Brain Training)</b>  A mouse A rat A squirrel	Morning Work	Drawing from memory	
	<b>Length of task</b>  10 mins	<b>Silences or heightened chatter</b>		
<b>Engagement</b>  All children engaged	<b>Children’s Behaviours:</b> Children quick to draw the task Lots of general chatting rather than comments on subjects			
	<b>Children’s comments:</b> “A rat is just a big mouse with bigger teeth and whiskers” (Observation, cognition, prior knowledge) “And a squirrel is like a rat with a bushy tail” (Observation, cognition, prior knowledge)			
<b>Day 86</b>	<b>Date: 29.06.15</b>	Time of Day: 2:30pm		
Task 139	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  30	Doodling listening to class book	Story time – Charlie and the Chocolate Factory – Road Dahl	Cont.d Curved lines from a central point with different zentangles in each section	Curved lines, central point, zentangles, spirals, zig zags, ovals, squiggles
	<b>Length of task</b>  15 mins	<b>Silences or heightened chatter</b>  Many silences of 30 seconds or more with the odd low whisper.		

<b>Engagement</b>	Children's Behaviours: All children focused, heads down eyes on pencil and paper. Very minimal movement			
All children engaged				
	Children's comments:			
<b>Day 87</b>	<b>Date: 30.06.15</b>		Time of Day: 11:30 am	
Task 140	Drawing task	Subject	Drawing techniques	Vocabulary
No. of children on task  27	<b>Perspective Drawing</b> Drawing a giant from worm's perspective	Spare time	Step-by-step guided drawing	Head, neck, arms, body, waist, legs, knees, feet.
	<b>Length of task</b>  15 mins	<b>Silences or heightened chatter</b>  Lots of lively chatter and laughter		
<b>Engagement</b>	<b>Children's Behaviours:</b> Lots of facial expressions and utterances of excitement the moment I showed the children the picture of the giant/person from a worm's eye view the children demonstrated.  Children sat more upright in anticipation and expressed their eagerness and enjoyment throughout.			
All children engaged	<b>Children's comments:</b>  "I think the head is small because it is far away" (efficacy, cognition, making comments about the relationship between things)  Children made lots of utterances of wonder and surprise "Oh", "oh yeah"  Children mimicked the words and language used in the guided demonstration: Head, neck, arms, body, waist, legs, knees, feet.  "He's really good at perspective" (positive praise of a peer's drawing)  "That was so much fun" (enjoyment) "Yeah and it was so fun" (enjoyment)			
<b>Day 87</b>	<b>Date: 30. 06.15</b>		Time of Day: 02:30pm	
Task 141	Doodling listening to class book	Story time	Drawing techniques	Vocabulary
No. of children on task  27			Directed doodle  Cont.d curved lines from a central point with different zentangles in each section	Curved lines, central point, zentangles, spirals, zig zags, ovals, squiggles
	<b>Length of task</b>  15 mins		<b>Silences or heightened chatter</b> Many silences of 30 seconds or more with the odd low whisper.	
<b>Engagement</b>	<b>Children's behaviours:</b> All children focused, heads down eyes on pencil and paper. Very minimal movement			
All children engaged				
	<b>Children's comments:</b>			
<b>Day 88</b>	<b>Date: 01.07.15</b>		Time of Day: 08:50am	
Task 142	Drawing task	Subject	Drawing techniques	Vocabulary

No. of children on task 30	Water cycle	Science  Water cycle  Pre-planned	Step-by-step guided drawing of the water cycle	Land, sea, hill/mountain, river, trees, surface run-off, infiltration, ground water store, transpiration, evaporation, condensation, clouds, precipitation – rain, snow, sleet,
	<b>Length of task</b>  20 mins	<b>Silences or heightened chatter</b>		
	Children’s Behaviours:  As the children drew they talked through the drawing of the features of the water cycle - the clouds, mountains, rivers and sea – they verbalised their understanding of evaporation and precipitation when adding directional arrows to explain the dynamics of water cycle.			
	Children’s comments:  In conversation the children were overheard to use all the language used in the guided drawing demonstration: sea, hill/mountain, river, trees, surface run-off, infiltration, ground water store, transpiration, evaporation, condensation, clouds, precipitation – rain, snow, sleet,  SEND ad LA children able to explain the water cycle with correct scientific language.			
<b>Day 89</b>	<b>Date: 02.07.15</b>		Time of Day: 1:00 pm	
Task 143	Drawing task Drawing geometric shapes and patterns on black paper inspired by the work of Fred Thomaselli	Subject Science/Art  Pre-Planned	Drawing techniques  Using a compass or circle template and ruler and filling in block colours	Vocabulary Circles, lines, angles, curves, patterns, block colours, contrast
No. of children on task  30	Drawing Space art inspired by artist Fred Tomaselli	Topic  SPACE		
	<b>Length of task</b>  60 mins	<b>Silences or heightened chatter</b> There was a constant chatter at a low level		
<b>Engagement</b>  All children engaged	Children’s behaviours:  Without hesitation the children spoke animatedly about the features of the Fred Thomasselli drawings and paintings and were quick to decide what they were going to create as their version.  The children were eager and confident to use the compasses and circle templates to get started and create their own version.			
	Children’s comments:  It’s cool drawing on black paper” (enjoyment) “I’m going to leave this bit black like in space” (decision making) “I’m going to make this look like stars” (decision making)			
<b>Day 90</b>	<b>Date: 03.07.15</b>		Time of Day: 01:00pm	
Administration of Child Questionnaire 3				
End of Drawing intervention				
Parent Questionnaire sent home				

17.03.15	Parent Questionnaire collected for analysis