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DOCTORAL THESIS

Art history in an infant primary school
an intervention in the curriculum

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CHAPTER TWO: RESEARCH METHODOLOGY

2.0 INTRODUCTION

In this chapter I present the research methodology, design and approach to data analysis. I begin by explaining my reasons for situating the research in a particular school before describing it. The chapter is divided into three sections. The first section provides an overview of the research methodology and explains why I chose action research and the research model. The middle section reports the design of the action research, participant roles, timing, planning, actions and description of cycles with the intention of clarifying how the research was conceived and set up. In the third section, I present the data collection instruments, reflection as an approach to analysis and plans to examine the data thematically.

2.0.1 The school context

The setting for the research was an infant primary school near London, where I was a governor. The school was pro-active in its improvement policy and had taken part in other research projects in recent years.[1] In this school there was a headteacher, four classroom teachers (two in a job-share) and three classroom teaching assistants. It was a small village school, with a planned admission number (PAN) of 90 pupils aged between four+ and seven years. It had three single-form entry year groups: Reception (Foundation Stage) and Years One and Two of Key Stage One (KS1). The school was situated within a Victorian building. In 2005, the school's intake was largely from the prevailing middle to low income housing estate in the immediate vicinity. It had a mixed sex, non-denominational community school profile with a high percentage (18%) for the locality of children eligible for Free School Meals (FSM). The school's ethnicity was predominately white, mainly British-born pupils with approximately 9% non-British-born. Children from travelling families in the area sometimes constituted nearly 10%, moving in and out of the school on a regular basis. In negotiations, an agreement was reached for me to collaborate with the headteacher and teachers in an art based project which formed part of the school's improvement plans for the subject in 2006-2007.

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[1] 'Dad's Reading Project' (action research) and a Social and Emotional Aspects of Learning (SEAL) project for the National Strategy initiated by the Department for Children, Schools and Families (DCSF) in 2005-2006, latterly known as the Department of Education and Skills (DfES) after 2008.

2.1 CHOICE OF METHODOLOGY

Richards (2005:33) claims that the 'rich and fleshy detail' of qualitative research can provide deep meanings for a given situation being studied and from the beginning I made the assumption that this would be beneficial for investigating the research problem. Before the submission of the research proposal, I reviewed various qualitative methodologies for conducting an intervention in school. I tried to develop a sense of what kind of methodology would be most effective and looked at mixed method, single case research and quasi-experimental methods. My initial thoughts were to conduct an experiment that tested out a hypothesis; however, I was concerned about warnings by Kerlinger (1986) and Smith (1991) about researcher interference in school activities. In particular, I was concerned about the impact on teachers, pupils and the research of having an external researcher working in the classroom environment but realised I could not play a direct role in teaching in this setting as I was not qualified as a primary teacher.

I considered the feasibility of testing a hypothesis with one group of pupils against a control group in the same class and concluded that research findings would be limited by this small scale. I also looked at using experimental and control groups from another year group but realised the data would be non-comparable. Next, I considered changing the setting for the research and debated whether to carry it out in an art gallery but decided this would fundamentally change the focus of the research away from formal education where I located the research problem initially. Following Eisner (1985), I appreciated the necessity of testing theory out in practice and so I approached a group of generalist teachers to test out and evaluate a conceptual framework and related strategy I designed for them to interpret art in the classroom.

From the very beginning, I felt it was important for the teachers to take a lead role in the implementation of the experimental strategy as I wanted to tap into their particular perceptions and experience of the problem and setting. I envisioned it would be useful to elucidate teachers' interpretations of actions undertaken in this research and wanted to do so through a filter of my own perceptions of what was happening. In this, I recognised the research would follow an interpretivist paradigm. Cohen, Manion and Morrison (2000:19) explain that in this type of approach, reality is understood, or constructed, from the standpoint of those individuals involved in the actions being investigated. Therefore,

interpretations were recognised as partial and determined by individual biases, experience and cultural backgrounds. Mason (2002:56) reports that in an interpretivist paradigm, 'people and their interpretations, perceptions, meanings and understandings' are viewed as primary data sources and I planned to use the teachers' interpretations and my own to help me gain a deeper understanding about the research problem. According to Cohen and Crabtree (2006), this kind of research often relies on naturalistic methods, that are *in situ* and this led me to review methodologies sympathetic to classroom settings such as action research. I was most impressed by this methodology because it appeared to capture many of the characteristics I understood to be essential for this research and they are discussed below. Above all, the literature reports that action research is an effective methodology for improving or changing practice (Noffke and Zeichner, 1999). Because this research was about a whole school improvement project for the art curriculum, this was a key factor for selecting action research as a methodology.

2.1.1 What is action research?

According to Elliott (1991:69), action research involves 'the study of a social situation with a view to improving the quality of action within it'. It is self-reflective enquiry undertaken by participants in social situations with the aim of understanding, improving or changing their own practices and situations (Bogdan and Biklen, 1992; Carr and Kemmis, 1986). Kemmis and McTaggart (1992:22) credit action research with being 'systematic study' and Ebbutt (1985) claims it can improve educational practice by means of group action and reflection on the effects. McNiff and Whitehead (2002:86), Noffke and Zeichner (1999) amongst other researchers, promote it as a 'powerful methodology for effecting change in practice'. Rapoport (1970) describes it as 'joint collaboration' and Kemmis and McTaggart (1992:23) as 'collective self-reflection'. According to Stringer (2007) it has been applied to a wide range of professional and organisational contexts and Stenhouse (1975) claims it is useful in naturalistic settings such as classrooms.

2.1.2 Rationale

I chose this methodology to address the research problem for several reasons. I was attracted by Elliott (1991) and Mason's (2004) suggestion that it is holistic in nature. According to Elliott (1991) it unifies areas of educational practice otherwise seen as disparate, for example teaching, curriculum development, evaluation, educational research

and practitioners' professional development. I recognised that engaging teachers and pupils in a new approach to teaching and learning in art would almost certainly touch on each of these key areas. It seemed to me action research offered a seamless way to carry out an intervention in a school in the least intrusive way for teachers and pupils.

In keeping with one idea of McKernan (1991) and Stenhouse (1975:86), I believed in the actions taking place *in situ,* in the classroom, 'the realm of the practitioner' as this was the setting in which, if successful, the strategy would be used in future. Like Costello (2003), I felt teachers should have a direct hand in bringing about changes in their own teaching. I realised introducing a new way of engaging with artworks would likely involve them teaching outside or beyond their existing practice. Stenhouse (1975) claims action research treats teachers as researchers and I recognised their knowledge of pupils and the setting would give us a deeper understanding of the inner workings of the school, colleagues and pupils involved. Elliott (1991:18) suggests curriculum development is an important role for teachers and he highlights the importance of practitioner involvement in curriculum reform. In this research, testing out a strategy for interpreting artworks constituted a curriculum intervention and required teachers' professional development.

I was drawn to Carr and Kemmis's (1986: 162) and Kemmis and McTaggart's (1992:23) definition of action research as 'collective self-reflection' and 'collaborative teamwork'. According to Stenhouse (1975), teachers should reflect on their own practice and that of others. Carr and Kemmis (1986:162) claim that collective reflection improves their understanding of practice and the situation in which actions are carried out. In their evaluation of action research as a methodology for change, Noffke and Zeichner (1999) reported that teachers can change their existing beliefs and values through reflexive practice. Therefore, I understood that providing reflective opportunities for teachers to individually and collectively consider new ideas in teaching practice and school curriculum would be important.

2.1.3 Collaborative action research

I envisaged that action research across a whole school would involve everyone's input in a collaborative effort. Winter (2006:13) suggests that 'effective' action research requires collaboration and the sharing of views and maintains it can contribute to a deeper, more purposeful understanding of a situation or problem. Elliott (1991:53) also suggests that

working collaboratively offers teachers the possibility of forming a collective 'felt' understanding which can strengthen their practice.

According to Gatton and Williamson (1992), individuals working together to achieve a shared goal is an essential characteristic of collaborative action research. McNiff, Lomax and Whitehead (2003:40) claim this to be a major strength of the methodology. Macintyre (2000) points out it is *social* research and highlights social interaction and commitment to a cause as two factors necessary for a collaborative relationship to work effectively.

Ferrance (2000:4) reports that collaborative action research generally involves a group of practitioners but may also include an individual outside the school, such as a 'university researcher, specialist or community partner'. Cousins and Earl (1992:399) and Weiskoph and Laske (1996) sometimes refer to this type of collaborative partnership as participatory action research and define it as 'applied social research [involving] a partnership between trained personnel and practice-based decision makers, organization members with program responsibility or people with a vital interest in the program or practice'. In the UK, collaborative partnerships such as the Creative Partnerships creative learning programmes have increased steadily since their inception in 2004. Research alliances and collaborations have also been established between art, museum and general education practitioners and university researchers, for example Engage, organised by the National Association of Gallery Education. While Creative Partnerships are not typically action researches because they favour external evaluation, they demonstrate a culture or ethos for research collaboration between communities that existed at the time this research was undertaken. Government funded initiatives, for example the Networked Learning Communities (NLC), developed by the National College of School Leadership illustrate further examples of collaborative enquiries 'within and between schools' over the past decade and according to McGregor and Holmes (2004:2), some of these partnerships have involved action research projects.

2.1.4 Limitations of action research

Stout (2006:196) reports criticisms of action research that it is 'soft, derivative, political and situated in praxis and absent theory'. Ashcroft and Palacio (1997:12) suggest these criticisms occur because it is situation-specific and the results are often unverifiable. They recognise it involves problems of non-generalisability for other contexts. I realised the

issue of generalisability might arise as this research was specific to a particular group of teachers and population (the pupils at the school, at the time) however, I considered other researchers might benefit from the knowledge and discourse about whether the experimental strategy worked or not in this particular context.

Action research is sometimes challenged for lacking reliability. Cohen *et al.* (2000:85) suggest this is because it often involves 'interpretation of actions' (Walliman, 2006:213) To safeguard against this criticism of the research I adopted Cohen *et al.*'s (2000:85) advice to build in cross checks to ensure that reports of actions were triangulated and interpretations were considered fair and acceptable by all. I acknowledged Mason's (2004) warning that research should describe what it says it does, and thought that by asking different teachers to implement the strategy and reflect on it together this would contribute to the reliability of the findings.

A challenge for any research is establishing the validity of findings. Whitehead and McNiff, 2006:97) call it 'the authority of a claim of knowledge'. I hoped by adopting a systematic approach to action research (for example, Elliott's, 1991) and carrying it out rigorously (Cohen *et al.,* 2000:241) to meet this claim. Costello (2003:41) says critics of action research often cite a 'perceived lack of rigour' in studies but suggests this may be an attack on the nature of the methodology. Whitehead and McNiff (2006:93) recommend steps are taken to ensure rigour is demonstrated by articulating the criteria and standards used to make judgements about what happens in actions. Winter's (2006:93) criteria for rigour are set out as 'reflexivity, dialectical critique, collaborative resource, risk, plural structure and theory-practice transformation in the conduct of action research'.

 Some researchers such as McKernan (1991:32) point out that action research cannot fail to achieve success as a result of the continuous cycles of amendment and claim this weakens the validity and reliability of its findings. Perhaps one reason it typically has positive results is because the method is formative, as well as summative and from another perspective this may be understood as a strength not a weakness.

Somekh (1995) challenges the legitimacy of its claims about group consensus and questions whether this agreement is always achievable. Furthermore, she questions the veracity of findings that are negotiated as well as whether dialectical critique is being

undertaken. While I understood these criticisms, I considered the nature of social research, conducted in collaboration, meant consensus was often the result of accepting others' viewpoints and compromising to arrive at group decisions.
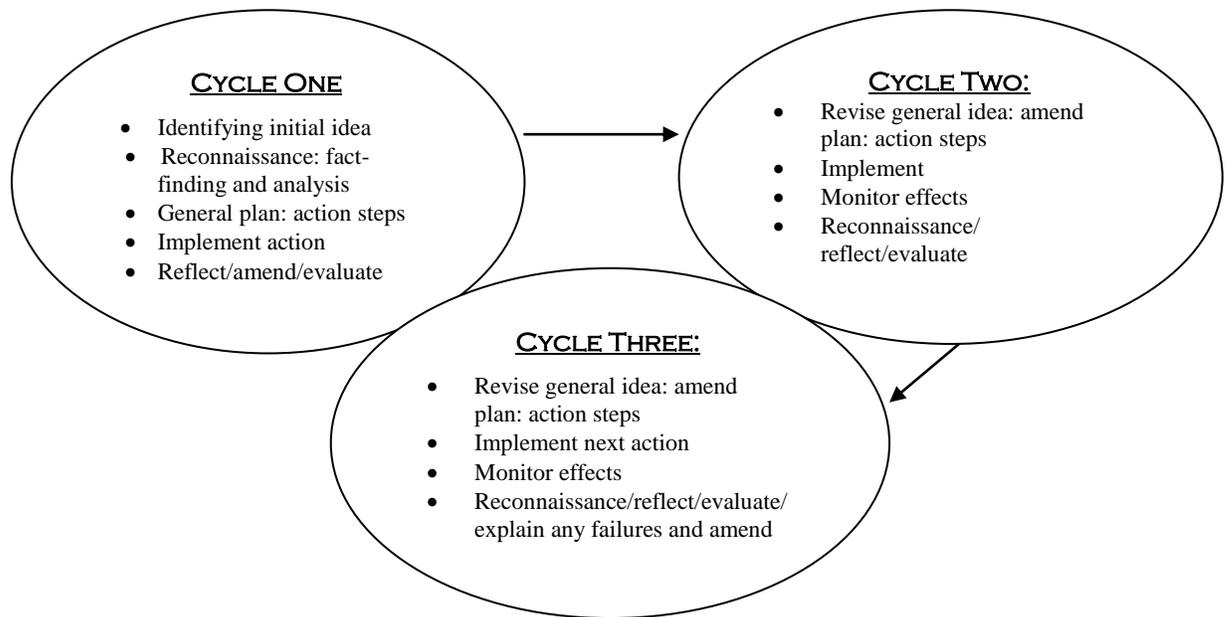
Another criticism of action research is its subjectivity or lack of objectivity (Melrose, 1996). Much of the descriptive data it reports are presented from individual viewpoints and while I recognised this privileges subjective explanations, in an interpretive paradigm this is what I was looking for. Robson (2002) points out that researcher, participant and/or practitioner bias may be an issue when research is subjective. Elliott (1991) however, argues that because of its subjective detail, action research provides unique opportunities to glimpse classroom practice from within and he claims this to be a strength of the methodology.

2.1.5 Selecting Elliott's model (1991)

There are several models for applying action research including those by Ebbutt (1985), Elliott (1991), Kemmis and McTaggart (1992), Lewin (1948), McKernan (1996) and Zuber-Skerritt (1996). Lewin's model (1948) has provided a framework for several researchers to develop their own models but has been criticised for its functionalist orientation and prescriptive process in recent years (Hopkins, 2002:50). My concern with many of these models was their failure to acknowledge that people and situations are unpredictable and therefore, subject to change. However, Elliott's three cycle model (1991) acknowledged that because action research is first and foremost a formative enquiry, general ideas are likely to change and shift and his model accommodates this.

In the end, I selected Elliott's (1991) model because it has simple and logical steps which I could envisage adapting for action research in a school. It comprises three cycles of action and uses feedback from reflection and evaluation of data to inform and allow for change, on a cyclical basis. As shown in Figure 2.1, his model includes i) planning with reconnaissance; ii) implementation and monitoring and iii) evaluation and amendment, and is set within the real educational setting.

Fig.2.1: Elliott's model (1991) (from Hopkins, 2002:47)

CYCLE ONE
- Identifying initial idea
- Reconnaissance: fact-finding and analysis
- General plan: action steps
- Implement action
- Reflect/amend/evaluate

CYCLE TWO:
- Revise general idea: amend plan: action steps
- Implement
- Monitor effects
- Reconnaissance/ reflect/evaluate

CYCLE THREE:
- Revise general idea: amend plan: action steps
- Implement next action
- Monitor effects
- Reconnaissance/reflect/evaluate/ explain any failures and amend

Elliott's model is a modified version of Lewin's (1948) with several amendments. First, he allows for the possibility of changing views of both the aims and methodology (Kemmis and McTaggart, 1992:33). Second, he recommends that analysis as well as fact-finding be incorporated into 'reconnaissance' (Kemmis and McTaggart, 1992:70) as an ongoing activity. Third, he stresses that implementing action should be followed routinely by reflection, evaluation and amendment on a continual basis (Elliott, 1991).

2.1.6 Developing a hybrid version of action research

Preliminary discussions with the participant teachers in June, 2005, prior to the action research, indicated they wanted me to lead the research project to alleviate time pressures, carry out professional development and co-ordinate day-to-day activities. This meant the action research was atypical in that it involved directed, rather than dispersed leadership, in an otherwise collaborative partnership.

Cohen *et al.* (2000) suggest two strengths of action research lie in its ability to consider various viewpoints on an equal basis, utilising the combined knowledge and skills of all its participants. While Pollard (2008) celebrates this notion of equality amongst team members, he points out a dilemma that sometimes a group needs a leader to co-ordinate actions even though this may lead to the formation of hierarchies.

Brydon-Miller, Greenwood and Eikeland (2006:129), all recommend action research as a partnership of equals and raise concerns about directed collaboration. Whitehead and McNiff (2006) also warn that hierarchies within research, or non-equal power bases, can create problems within groups and the possibility of emerging cultures and sub-cultures as a result. Although I was mindful of these warnings and the top-down situations referred to by Nind (2003), I recognised the practicality of Pollard's (2008) solution to have a co-ordinator, or lead researcher. Because I needed the teachers' help to deliver a curriculum in an infant primary classroom and they needed my help with the art history subject training and guidance using my strategy, I assumed our mutually dependent relationship would provide us with an equal power base, in the sense that Cohen *et al.* (2000:226-230) talk about. Furthermore, I considered we already shared a good working relationship through my twelve years as a school governor.

Whitehead and McNiff (2006) define action research as a group of practitioners identifying a problem in practice and taking steps to improve or amend it. In this research, the problem was initially identified by me and brought to the attention of the teachers. Weiskoph and Laske (1996) calls it participatory action research where all participants work together to resolve a problem they may not necessarily have identified for themselves. They too acknowledge that a lead researcher may be required to play various roles from 'facilitator, guide, formulator and summariser of knowledge and raiser of issues' (1996:132-3). For Weiskoph and Laske (1996) effective shared dialogue is a key factor is maintaining relationships between lead researcher and group members.

I reviewed examples of action researches and found one study in particular, carried out by the Institute of Education (IOE), that involved a hybrid partnership between several groups of school practitioner and art gallery personnel that was led by two external researchers in a year-long action research project (Burgess and Addison, 2007). This influenced my decision to design my own hybrid version that would be directed, or at least initially led by me with a group of participant teachers from a particular school. And, although it was a collaborative partnership with the shared goal of introducing an interpretive strategy in the art curriculum, as an external art history researcher, I had my own overarching aim of introducing these teachers to teaching art history. As such, I concluded there would be two levels of action research taking place together at the same time; one involving an action

team (including me), reflecting on, evaluating and interpreting data and the other, my own overall interpretation and re-interpretation of findings as lead researcher.

2.2 DESIGNING AND PLANNING OF RESEARCH

The overall design of research consisted of a literature review to inform the development of a conceptual framework and related strategy and data collection instruments; followed by empirical research which tested out the strategy in classrooms and reflection and evaluation of data to arrive thematically at findings. Elliott's (1991) action research model was adapted in a hybrid version to include three planned cycles of preparation, action, reflection and evaluation and implemented in classrooms. Apart from the literature review, input from my previous work as an art history lecturer and co-ordinator of school and family visits at an art gallery and discussions I had with museum and gallery educators and teachers were all used to inform the overall design.

2.2.1 Negotiating the research

I arranged a preliminary meeting with the headteacher and two Key Stage One teachers from Years One and Two in June, 2006 to negotiate the research project. Although I purposely addressed the meeting to the Key Stage One teachers (Years One and Two), the two Reception teachers asked if they could join in the research and their decision is discussed further in Chapter Three (page 92).

In the meeting, several aspects of the research were agreed. First, the teachers agreed the teaching would be *in situ,* to provide a real life setting for the research and the teachers and I anticipated it would take place during regular class time and in a normal classroom setting. The headteacher, teachers and I agreed to work together as a team and to be interactive, professional and act as *critical friends* in team meetings. We agreed to share input and expertise and consider ourselves equals as researchers undertaking a joint intervention. Elliott (1991) points out the importance of creating a non-judgmental or non-threatening environment for practitioners in action research and I understood that dealing with issues constructively, while providing opportunities for differences in personal and professional opinions would be central to how all the participants enacted with each other. I planned to encourage open lines of communication as Mason (2002) and Richardson and

Maltby (1995), all recommend for critical evaluation. These characteristics of good action research practice were discussed and agreed on at this preliminary meeting.
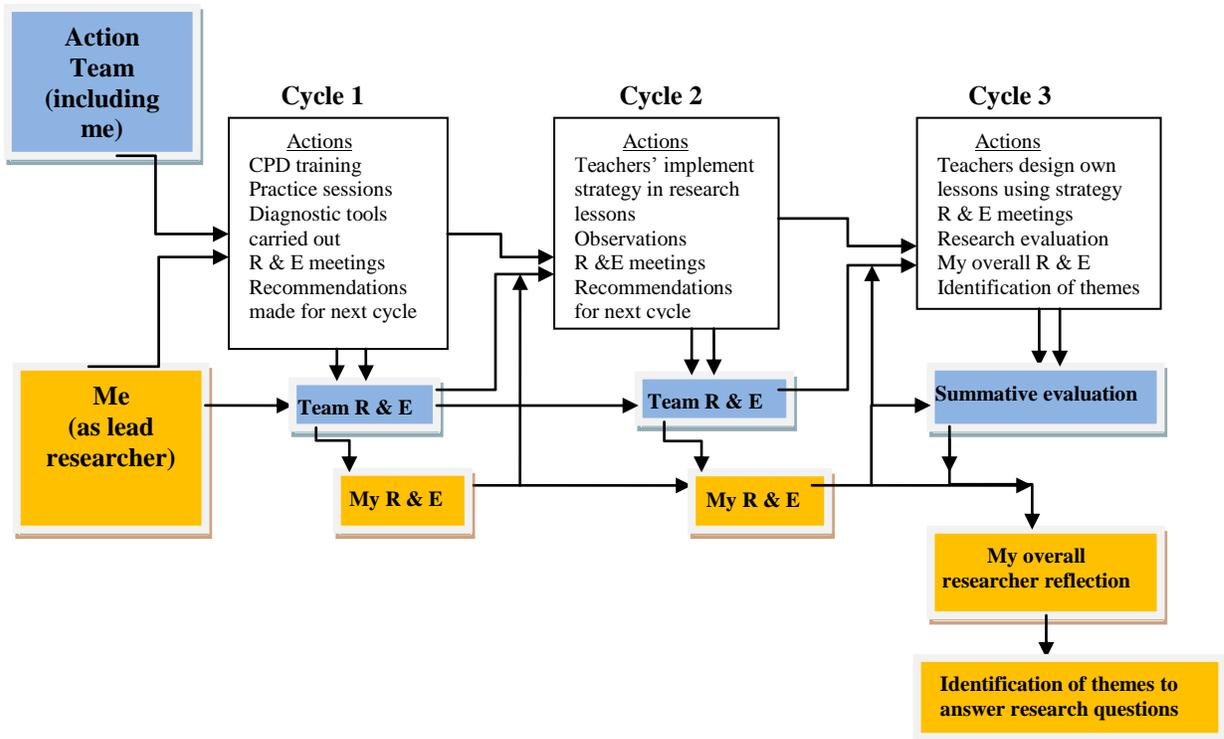
2.2.2 Research model

Elliott's model was replicated with some modifications. The main difference was that Elliott (1991) recommends reflection on actions *at the end* of each cycle while I planned to use reflection and evaluation, on two levels (the team and my own), on a continual basis throughout each cycle in a way similar to Donald Schön's (1983) view of reflection *in* and *on* action.

The three cycles of action in the designed model included:

- Cycle One: Teachers' CPD, preparation and planning, reflection and evaluation and recommendations for the next cycle.
- Cycle Two: Teachers' implementation of strategy in research lessons, reflection and evaluation and recommendations for the next cycle.
- Cycle Three: Teachers' designed lessons, reflection and evaluation and evaluation of research as a whole.

Macintyre (2000:2) suggests reflection should be an ongoing process and I anticipated adjusting and amending actions through collective discussion and agreement (Whitehead and McNiff, 2006). A final action meeting was planned for the end of each cycle to evaluate it and make recommendations for the next one. In this model (shown in Fig. 2.2), I adopted a principle of Elliott (1991); Holly and Whitehead (1986) and McKernan (1991), that action research is formative enquiry. In the last cycle, a summative evaluation that included input from all participants in the action research took place. Findings from this meeting fed into my final overall reflection and interpretation of the research as a whole. The action research model (see Fig.2.2) shows how the two strands of action research were envisaged and used to inform actions from one cycle to the next.

Fig.2.2: The action research model

	Cycle 1	Cycle 2	Cycle 3

Action Team (including me)

Me (as lead researcher)

Cycle 1 — Actions: CPD training, Practice sessions, Diagnostic tools carried out, R & E meetings, Recommendations made for next cycle

Cycle 2 — Actions: Teachers' implement strategy in research lessons, Observations, R &E meetings, Recommendations for next cycle

Cycle 3 — Actions: Teachers design own lessons using strategy, R & E meetings, Research evaluation, My overall R & E, Identification of themes

Team R & E — My R & E — Team R & E — My R & E — Summative evaluation — My overall researcher reflection — Identification of themes to answer research questions

2.2.3 Aims

While the overarching aim was to broaden a particular group of teachers' perspectives about teaching the art curriculum to include interpreting art with art history information, subsidiary aims were to:

i)   Involve the whole school in an action research

ii)   Combine researcher and teacher professional expertise to reflect on and evaluate actions

iii)   Expand the teachers' art history subject knowledge through professional development

iv)   Build their confidence in working with and talking about artworks

v)   Build pupils' interpretive skills and confidence in engaging with artworks

vi)   Create opportunities for teachers and pupils to engage with a range of fine art exemplars as part of the school's art curriculum

2.2.4 Timescale

Elliott (1991) suggests 'term time' is a natural timeframe for action research set within a school. Discussions with the teachers and headteacher at the participant school concluded with an agreement to conduct the action research over a full academic year, as part of the

school's improvement planning. Approval and support were received from the governors in June, 2006 and the timescale was set for eleven months from September, 2006 to July, 2007. I was aware of Richardson and Maltby's (1995) warning that motivation can flag when research is spread over a lengthy period and recognised this might be an issue given the proposed time-span, however it suited the school's timetable.

2.2.5 Participants

The following subsections of this chapter introduce the participants in the research who were members of either the **action** or **observation teams.**

2.2.5.1 Action team

Four classroom teachers, the headteacher and I agreed to work together as the action team. Two of the teachers worked in a permanent job-share in Reception (Foundation Stage) and two taught in Year One and Year Two (Key Stage One) respectively. All the teachers, including the headteacher taught lessons using the designed strategy.

To prepare for the teaching, all teachers agreed to take part in some professional development in Cycle One. In Cycle Two, they planned to implement the strategy and in Cycle Three, to design and teach two lessons of their own based on it. Regular attendance at team reflection and evaluation meetings (known as team meetings) was agreed and these were scheduled throughout each cycle.

Other than me, the teachers and headteacher were experienced classroom teachers but did not have specialist art training. Two of them were leading Literacy[2] teachers for Surrey County Council (SCC) and the headteacher was a Local Authority (LA) associate consultant to primary schools. The school was involved in an annual cycle of governor monitoring and regularly provided shared practice observational opportunities for teachers from a hub cluster of eight schools in the locality. As a result, the teachers in the school believed they had positive professional relationships with each other and were experienced at working in observed lessons.

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[2] Involved in raising standards of reading and writing as part of the National Literacy Strategy (2003) of the Primary National Strategy.

2.2.5.2 Observation team

Each classroom had a designated teaching assistant (TA), who supported the teacher and pupils in their daily lessons. They were responsible for carrying out practical tasks such as maintaining displays, preparing and clearing up resources and working with small groups of pupils in lesson activities. Each classroom TA was asked by the headteacher to act as observer to the weekly research lessons in Cycle Two. Their role was explained by the headteacher at the beginning of the school year (September, 2006) and their agreement to participate was sought at a staff meeting at the beginning of Cycle One. Aside from observing research lessons in Cycle Two, TAs were asked to complete prepared observer record forms (see Appendix 1) to detail their observation comments on pupils' behavior, actions and dialogue, classroom setting and resources.

2.2.5.3 Others

In negotiations, the school governors and headteacher expressed an interest in observing a lesson so the action team invited them to do so. In Cycle Three, an LA consultant, as part of his regular monitoring visits, was also invited to observe a lesson. I hoped by soliciting multiple viewpoints to encourage triangulation (Robson, 2002) of opinions and reduce potential researcher/participant bias. I anticipated this would increase the reliability of research findings at the end (Macintyre, 2000).

2.2.5.4 Pupils

Eighty-four pupils of mixed sex, ability and ethnicity took part in the research lessons. They were aged from four+ to seven years and made up the three classes of the school. They participated in research lessons, in their classrooms, during their regular school day.

2.2.6 Researcher roles and responsibilities

Hitchcock and Hughes (2000:140) draw researchers' attention to the need to reflect on emotions, attitudes, beliefs, values and characteristics they bring to the research. In this case, I was aware I held pre-conceived ideas about what was important in the research and how it might unfold. I expected my role would vary and recognised all of these factors might influence or impact on the research outcomes.

From my knowledge of the teachers involved and experience of co-ordinating school/gallery education activities with primary teachers (KS1 and KS2), I was aware they

might need continuous professional development in art history subject knowledge and practice talking about paintings prior to implementing the strategy in Cycle One. There was also a possibility I would need to repeat or provide further training support in Cycles Two and Three. Overall, I identified the following roles for myself.

2.2.6.1 Trainer

In negotiations, the staff indicated they expected to receive art history subject training. Therefore, from the beginning, I adopted the role of trainer and planned to introduce teachers to selected paintings and coach them in using my designed strategy to interpret them. I wanted to demonstrate how to introduce information about art and artists when talking about particular artworks and planned to practice the strategy with them in two training sessions.

2.2.6.2 Co-ordinator/Organiser

As discussed above, I expected to take on the role of co-ordinator and organiser. Hopkins (2002:52) reminds teacher-researchers that their primary role is to teach and I was concerned data collection and sourcing resources would be too time consuming for them. Therefore, as organiser, I planned to take responsibility for the collection and storing of data as well as sourcing and supplying art resources. As co-ordinator, I anticipated my responsibilities would include timetabling and leading team reflection and evaluation meetings. At the conclusion of the action research, I planned to present a summary oral report of initial findings at a governors' meeting.

2.2.6.3 Observer

During the research lessons in Cycles Two and Three, I took on the role of researcher/observer to observe and record what happened. McNiff, Lomax and Whitehead (2003:30) point out validation procedures should be undertaken on a regular basis and suggest using a researcher journal to record actions as well as personal observations of what is happening. This prompted me to consider using one regularly to record observational comments about the actions as they unfolded. During lessons, my intention was to act as a silent observer, a 'fly on the wall' to record my observations about teachers and pupils, the strategy, methodology and resources, including artwork.

2.2.6.4 Researcher

In keeping with the views of Hopkins (2002); Stenhouse (1984) and Whitehead and McNiff (2002), all the teachers in the action team were considered teacher-researchers. Although I was a member of the action team, I felt it was necessary for me to maintain a researcher's perspective as art history researcher.

2.2.7 Potential concerns

I worried my role as a governor to the school might lead to conflicts of interest and/or contribute to researcher bias. Prior to the action research I decided to step down as governor but in negotiation the headteacher and chair of governors asked me to remain in post as there was a pending Ofsted inspection. At the meeting (June, 2006) I volunteered to remove myself from committees relating to staffing and remuneration but agreed to be involved in the school governors' monitoring visits during the action research.

Another potential concern was teacher and/or TA bias. As the action research involved classroom practice, it formed part of the teaching staff's performance management. This was discussed with teachers and the headteacher in June, 2006. In planning actions there was also the possibility the TAs might face potential tension or conflict in their role as observers in the action research and I planned to revisit these concerns with participants at the start of each cycle.

Robson (2002:172) points out that 'prolonged involvement' in a study increases the risk of incurring researcher or teacher bias which may affect critical judgment. Ineffective triangulation, where participants' records of events and actions conflict because they do not accurately reflect what happened (Robson, 2002:93) or describe what they mean to describe (Bell, 1999: 104) can also occur. Robson (2002) warns this can lead to an inconsistent audit trail. I assumed action research conducted over a year would require all team members to redouble efforts to remain critically aware.

2.2.8 Ethical considerations

As in all research involving participants it was important to gain ethical approval to carry it out. An application was therefore submitted for approval to the Roehampton University Ethics Board prior to the start of the action research (see Appendix 2). In this research, I identified three points for ethical consideration, principally the need to obtain participants'

informed consent, guarantee physical and emotional safety and protect identities. Approval was received in September, 2005 with the *proviso* I would strictly adhere to the guidelines set out by the British Educational Research Association (BERA). Before starting the empirical research, I sought out the teachers', TAs' and headteacher's informed consent to participate (see Appendix 3). The teachers were given the option of not taking part in the action research and were informed of their right to withdraw at any time, for any, or no reason. Plans were made for the headteacher to explain the art project (as the action research became known by teachers, pupils and parents in the school) in a whole school assembly at the start of the academic year (September, 2006). This involved explaining to pupils they would be looking at, thinking and talking about paintings, as part of their regular classroom art activity. As the art project formed part of their weekly curriculum and was taught by the classroom teacher in their own classroom, written permission from individual pupils and parents was not required. My role as researcher/observer in the classroom was explained to them. Because the art project was a whole school initiative, the decision was taken to keep parents and governors informed about it throughout the school year through the headteacher's regular newsletters, governor's meeting minutes, parent/teacher curriculum meetings and the pupils themselves.

No selection process was necessary for pupils as the whole class was expected to take part in research lessons. Pupils were given the option not to participate in individual and group interviews if this was their wish. I assured the headteacher, governors, teachers and parents that at no time would pupils or teachers be compromised in the action research. Identity was protected with code names such as 'Teacher A' for teachers and 'Year One girl' for pupils. I gave an undertaking to protect teachers and pupils from recognition (Appendix 4).

2.3 CYCLES

2.3.0 Introduction

This section outlines the design of the three cycles of action. It sets out the aims, roles, timeframe and actions negotiated between me and the teachers before the strategy was implemented. Details of these actions are reported in Chapter Four (Cycle One); Chapter Five (Cycle Two) and Chapter Six (Cycle Two). In writing up actions in each cycle I have chosen to report them in the past tense.

2.3.1 Cycle One (Preparation and planning)

2.3.1.1 Aims and roles

The aim of this cycle was for the participants to prepare for the art project. This involved teacher training and practice using the designed strategy and establishing participants' existing experience and attitudes towards engaging with artworks.

2.3.1.2 Action team

- Participated in teaching staff questionnaire

- Attended and participated in continuous professional development (CPD) training and practice sessions in art history and interpreting artworks

- Refined preparation and planning of cycles of action

- Discussed and agreed roles and responsibilities, data collection and instruments

- Met regularly to reflect on and evaluate actions in team meetings

2.3.1.3 Researcher

- Acted as a member of the action team as well as lead researcher/co-ordinator of art project

- Designed, administered and analysed a staff questionnaire to determine attitudes, interest and experience working with artworks

- Designed and conducted one-to-one pupil interviews to establish existing attitudes and experience with artworks and analysed findings

- Led an In-Service (InSET) training morning with staff to introduce art project

- Led discussion on action research methodology

- Summarised findings from review of literature about teaching about art and artists, other strategies for engaging pupils with art and children's preferences for artworks

- Demonstrated a lesson to staff using the designed strategy

- Organised and co-ordinated two further practice sessions to embed the strategy

- Designed nine research lessons for teachers to teach in next cycle

- Discussed and agreed data collection instruments, including research lessons and evaluation criteria and other methods of data collection

- Collected and examined data from training and practice sessions and diagnostic instruments to use in reflection and evaluation meetings

- Selected paintings (poster reproductions) for action research (research lessons, diagnostic instruments, training and practice sessions)

- Led team reflection and evaluation at end of cycles

- Carried out overall reflection on and evaluation of strategy, cycle actions, methodology and artworks

2.3.1.4 Actions

Action in this cycle included researcher and teacher preparing and planning, professional development training, demonstrating a lesson, practicing the strategy and embedding the practice of reflection and evaluation on action. Researcher preparation included implementing two diagnostic data collection instruments i) a staff questionnaire and ii) pupil interviews; co-ordinating and leading art subject training and strategy practice sessions, writing research lessons, selecting artworks, finalising the design of data collection instruments for Cycle Two with teachers and reflecting and evaluating on these actions. The teachers and TAs prepared by taking part in the questionnaire and attending and participating in an InService training (InSET) morning. Teachers carried out two further practice sessions and two action team reflection and evaluation meetings. Throughout these actions I carried out my overall reflection on, and interpretation of what was happening in the cycle.

2.3.1.5 Activities

The underlying aim of the planning and actions in Cycle One was for team members to prepare for roles. This began with my presentation to the school's governors in September, 2006 after which I carried out the two diagnostic data collection activities mentioned above. To prepare for the art project, an InSET training morning with teachers, TAs, headteacher and me took place. The aim of this training session was to review the planning, introduce action research as a methodology and art history subject knowledge for discussion and to demonstrate a lesson using the proposed strategy. Two further training sessions were held for action team members to practice and embed the strategy. After each session, the team carried out a separate reflection and evaluation of actions. Evaluation

centred on the collective preparedness for the next cycle. In the final meeting the design of data collection instruments, nine research lessons and selected artworks were finalised.

2.3.2 Cycle Two: Implementing the ISEE

2.3.2.1 Aims and roles

The aims of Cycle Two were for the teachers to implement the strategy in nine research lessons while the TAs and I observed, and for the action team to reflect on and evaluate actions.

2.3.2.2 Action team

- Teachers implemented the strategy in nine (20 minute) research lessons where pupils interpreted a selection of paintings

- Reflected on and evaluated the strategy for teaching and learning in regular team meetings

- Shared leadership in reflection and evaluation in team meetings

2.3.2.3 Observation team

- Observed and recorded settings, resources, circumstances and pupils' behaviour, attitudes and responses in lessons

2.3.2.4 Researcher

- Acted as a member of the action team
- Observed, audio tape recorded and wrote fieldnotes of what happened in lessons
- Recorded reflections in research journal
- Collected, examined, coded and stored data
- Set agenda and co-ordinated action meetings
- Reflected on and evaluated strategy, actions and artworks as lead researcher

2.3.2.5 Actions

The actions in Cycle Two centred on implementing, observing, reflecting on and evaluating the designed strategy in nine research lessons. In team meetings, reflecting on and evaluating the strategy resulted in amendments and recommendations for change for the next cycle. My overall reflection on and interpretation of actions continued.

2.3.2.6 Activities

Cycle Two took place from January to April, 2007. Once a week for nine weeks, teachers taught a 20 minute research lesson using the designed strategy in which pupils interpreted a single painting. Posing questions formulated as part of the strategy, teachers prompted pupils to explore and interpret it. During the lessons, the TA and I observed and recorded details of what happened. Following each lesson, the action team reflected on and evaluated the actions together. I examined transcripts from lessons and my own fieldnotes to identify issues for meeting agendas. Written comments from the observation team were recorded on prepared record forms and used to inform discussion in team meetings. The action team attended seven team meetings on a regular basis throughout this cycle.

2.3.3 Cycle Three: Teachers' lessons and research evaluation

2.3.3.1 Aims and roles

The aim of Cycle Three was for teachers to design and teach their own lessons using the strategy and for the participants to carry out a reflection and evaluation of the research as a whole.

2.3.3.2 Action team

- Teachers designed and taught two lessons using the strategy (May and June, 2007)

- Attended team meetings, to reflect on and evaluate actions and carry out a final summative evaluation

2.3.3.3 Observation team

- They were not involved in Cycle Three but took part in the final summative evaluation

2.3.3.4 Researcher

- Acted as member of action team

- Supported teachers' art history subject knowledge

- Collected, examined, coded and stored data

- Conducted three group interviews with six pupils from each class (Reception, Year One and Year Two) to obtain their evaluation of the art project

- Set agenda for action meetings

- Led a final summative evaluation meeting about the whole action research

- Reflected on and interpreted findings from the research as lead researcher

2.3.3.5 Actions

The actions in Cycle Three centred on teachers designing and teaching their own lessons incorporating the strategy, evaluating it and a final summative evaluation of the action research. Following my own examination and reflection on the findings, my final act as researcher was to review emerging patterns and categories and to identify themes for further analysis to help me answer research questions.

2.3.3.6 Activities

Cycle Three took place in the Summer term, April to July, 2007. In this cycle teachers designed and taught two lessons. I conducted three group interviews with 17 pupils so as to solicit their views of the art project. Throughout this cycle, team meetings were held regularly to reflect on and evaluate actions. A final summative evaluation meeting took place in mid July, 2007. Afterwards, I gave an oral summary of initial findings to a wider audience of the school's governors, parents and interested teachers from schools in the locality.

2.4 DESIGN OF DATA COLLECTION INSTRUMENTS

Data about the actions were collected from a wide range of participants, principally teachers, pupils, teaching assistants and researcher but also parents, governors and an LA consultant. This section described the design of five main data collection instruments and how they were used in the research and six other tools used for data gathering. Of the designed instruments, I distinguished between diagnostic or ongoing data collection tools. The diagnostic instruments included a staff questionnaire and pupil interview and group interview schedules. Two designed instruments used for ongoing gathering included the teacher and observer record forms.

Data were also collected through several ongoing tools including audio taped recordings of research lessons and team meetings and related transcripts, pupils' work, photographs of lesson activities and minutes of team meetings. My researcher's fieldnotes and reflective journal gathered data on an ongoing basis. While I collected the majority of data, teachers collected pupils' classwork and sometimes photographed it. During planning in Cycle One, provision was made for me to store data in a locked cupboard in the school staff room with

full access for teachers, researcher and headteacher. After the action research, I stored all data in a large container at my own house, to be destroyed two years after the end of the action research project or once the research has been published in the form of a doctoral thesis for Roehampton University, in keeping with Roehampton University guidelines.

Costello (2003:57) points out the more rigorous and systematic the data collection and analysis, the more useful and significant the findings and recommendations of a research are for others. I tried to effect this by checking data and interpretations regularly with other team members during team meetings. To ensure reliability of findings, I planned to identify emerging patterns of behavior, attitudes and events from lessons and team meeting transcripts with the help of team members and to crosscheck coding with an external researcher at another university.

2.4.1 Instruments

Five main data collection instruments were created, as shown in Table 2. The two diagnostic ones were piloted in July, 2006, prior to the action research. The amendments made as a result of these pilot tests are reported on pages 58 and 59 (and in Appendix 5). In this part, I discuss the purposes, design and methods of implementation of these main instruments.

Table 2: Designed data collection instruments

Type of instrument	Name of instrument	Purpose/used by	Timing	Summary of findings
Diagnostic	**Staff questionnaire**	**Researcher:** To diagnose teachers, headteacher and TAs' attitudes and experience towards art to inform teacher training	**Cycle One**: October, 2006,	Pages 113-115
Diagnostic	**Pupil interview schedule**	**Researcher:** To assess pupils' attitudes, experience and ability talking about artworks at the beginning of the research. For the purpose of informing the action team	**Cycle One:** October to December, 2006.	Pages 117-120
Diagnostic	**Pupil group interview schedule**	**Action team:** To provide pupils' with a voice in final evaluation of research	**Cycle Three** July, 2007	Pages 219-222
Ongoing	**Teacher record form**	**Teachers:** To record reflections and evaluations of lessons	**Cycle Two:** Immediately following each research lesson	Key issues used in R & E meetings ; to code patterns; **Triangulation**

Ongoing	Observer record form	Observer: To record observations in research lessons	Cycle Two: Immediately following each research lesson	Key issues were used as agenda items in R & E meetings; in coded patterns ; for **Triangulation**

2.4.2 Diagnostic

2.4.2.1 Staff questionnaire (Appendix 6)

I designed the questionnaire to use with the teachers, TAs and headteacher (see Appendix 6). It was administered at the beginning of Cycle One and the findings informed me about the teachers' art experience and training needs. The questions enquired into their existing interest in, experience with, and practice using artworks in lessons. The questionnaire was also intended to provide a profile for each staff member (reported in Appendix 7).

I referred to Kvale (1996), Silverman (1993), Oppenheim (1992:147) and McGill and Beatty (2001:128-9) for guidance on structuring and choosing appropriate wording. I included a combination of open and closed questions to draw out factual information about the staff's background experience, training, confidence and interest in art. One question was reflective and asked how comfortable they felt talking about art with others. Another question asked them to choose a painting from a selection of 12 I gave them and to write down what interested them about it. Bearing in mind Kvale's (1996:149) advice about the need for clarity, I tried to make the questions transparent and unambiguous. The order of questions (Birmingham and Wilkinson, 2003) and their structure and purpose were carefully considered as were the selected artworks. The questionnaire was piloted with two primary teachers unrelated to the action research in August, 2006, before the start in September, 2006.

I gave out the questionnaire to staff to complete in their own time as I expected some responses would require thought. I hoped they would take it seriously and their responses would provide an honest, reflective account of how they felt at the beginning of the action research. For the questionnaires, I said they could use bullet points if they preferred, to make it less time consuming.

2.4.2.2 Piloting staff questionnaire

I piloted a questionnaire (see Appendix 8) with two infant primary teachers from two separate, unrelated schools prior to Cycle One. The teachers involved in the pilot test were similar in profile to those of the action research team in that they were experienced classroom teachers with no specialist art (history) training. They completed the questionnaires at home in their own time and returned them to me. All three of us met together to critique them. Their suggestions for change (see Appendix 9) related mainly to my choice of artwork as they considered the Christian imagery in J.E Millais' ***The Carpenter's Shop (Christ in the House of his Parents***) (see Appendix 10) to be culturally biased. After due consideration, I decided not to use this painting in the questionnaire. Instead, I chose Chardin's ***The House of Cards*** to replace it (see Appendix 10).

2.4.2.3 Pupil interview schedule (Appendix 11)

There were three aims for the pupil interviews. One was to determine their prior experience and interest in art. Another was to create a pupil profile to refer to, if necessary, in the data analysis. The last was to determine what kind of things pupils said about artworks. Having a record of this was understood to be necessary to help the team evaluate the effectiveness of the strategy at the end of the research. The pupil interviews were scheduled to take place during Cycle One.

In keeping with ethical guidelines for research with young children in particular, I informed pupils about the art project and obtained their oral permission to take part in a preliminary interview before it began (see Appendix 12). Oral permission was also sought from pupils involved in piloting the interview schedule. All pupils were advised of the purpose of the interview, that it would last no more than fifteen minutes and that they had the option not to take part.

I designed a prepared interview schedule of eight structured questions and two tasks to use in one-to-one interviews (see Appendix 11). Because the pupils were aged four to seven years and had varying reading and writing abilities, I elected to read out the questions for each pupil and scribe their answers if necessary. In keeping with McGill and Beatty's (2001) advice on effective questioning, I designed a simple open and closed question sheet to interview each pupil. I anticipated they would provide quantitative and qualitative data. The closed questions sought factual data that profiled pupils by age, sex and year group and

57

the open ones sought detailed responses about what they said about paintings I showed them.

In two tasks, pupils were asked to look at and talk about a painting. During the interviews I showed them a total of thirteen reproductions. The first task asked them to select one painting from a group of 12 (see Appendix 13) and explain to me why they chose it. The other requested they 'tell me about' a single painting I showed them entitled, **Allegro Strepitoso** by Carel Weight (see Appendix 14) and to ask me any questions they wanted to know about it. The purpose of this was to determine what interested pupils about the reproduction. Two questions that asked them to indicate whether they preferred making to looking at paintings required only *Yes/No/Don't Know* responses.

Because I had experience of working with pupils of this age, I appreciated the importance of finding appropriate wording for interviews. I took advice from primary teachers I was working with at an art gallery. Literature about interviewing children by Simons (1982), McCormick and James (1988) and Kvale (1996:158) made it clear the questions needed to be simple and unambiguous and so I used the pilot test to check each question asked *single* questions and enquired into what I wanted to find out.

During the planning, I was concerned that reading out questions and scribing answers for pupils might prevent me from engaging with pupils through direct eye contact and facial expression. Furthermore, I worried whether tape recording the interviews might demotivate pupils and make them reluctant to answer my questions. I checked these out when I conducted the pilot interviews.

2.4.2.4 Piloting interview schedule

Prior to the start of the action research on 16th and 18th July, 2006, I conducted one-to-one pilot interviews with six Year Two pupils from the same school who were graduating in July, 2006. A classroom teacher chose one seven year old boy and girl to represent each of the school's more able, able and less able ability sets. The pilot interviews were conducted in a quiet area of their classroom during a normal school day. They lasted no more than 15 minutes. As a result of the pilot test slight changes were made to three questions pupils had difficulty with and they are reported in Appendix 5.

Because some pupils were initially shy or self-conscious about taking part in the pilot interview, I decided to include an ice-breaker question at the beginning of the interview schedule to establish an informal and friendly rapport with them. Kvale (1996) advises interviewers to be gentle and sensitive working with young children in such situations and I realised it was important to establish a relationship with each one. In the pilot, I found it useful to scribe answers as it provided a certain distance between researcher and pupil. There were benefits to being able to sit back and listen to what pupils said without fear of missing anything. Kvale (1996) points out interviewers need to find satisfactory ways to record interview responses and so I decided both to scribe and tape record responses myself to ensure accuracy of wording and prevent misinterpretation. Furthermore, I thought this would improve reliability by providing a way to cross check answers.

2.4.2.5 Pupils' group interview schedule

This instrument was designed in Cycle Three following a request made by the teachers to provide the pupils with an opportunity to take part in the evaluation of the art project. The details, description and summary of findings from the pupils' group interviews are reported in Chapter Six (pages 219-222) when they were designed and carried out.

2.4.3 Ongoing

2.4.3.1 Teacher record form (see Appendix 15)

Reflection on actions is a significant and continuous part of action research (Ebbutt, 1985; Elliott, 1991; Hopkins, 2002; Kemmis and McTaggart, 1992; McKernan, 1991; Schön, 1984; Whitehead and McNiff, 2006). For Carr and Kemmis (1986:239) it is the core concept of action research. I appreciated teachers might have difficulties finding time to reflect on practice in a busy school day. Whitehead and McNiff (2006:137) acknowledge getting them to record their reflections is 'far from easy'. By creating teacher record forms for them I hoped to facilitate their reflective practice and stimulate the recording of thoughts, concerns or questions arising from the lessons. Furthermore, I used the completed forms to identify agenda topics for team meetings.

During the negotiation period in June, 2006, prior to the action research, I discussed the idea of a teacher record form with the headteacher. She asked me to design it with tick box responses such as *yes/no/don't know* as she was concerned about teachers' heavy work schedules, and the time it might take to complete them. I was concerned, however, that it

might lead to superficial reflection and evaluation. Therefore, I combined a tick box format with a comment section. Because the learning objectives changed for each lesson, the record forms altered slightly each week although the majority of questions remained the same. The record forms sought to document:

i) Teacher's thoughts on/reactions about a lesson, immediately following it (24 hours)

ii) The ways pupils engage with paintings in the lesson

iii) Teacher's reflective and evaluative comments on pupils' ability to look at, question, analyse and interpret the artworks using the strategy

iii) Recommendations for changes or amendments to the strategy

iv) How teacher disseminated art information and reflections on it

v) Reflections on and recommendations for resources, pace and training needs

These record forms were reviewed and modified slightly during the action research to accommodate different lesson plans.

2.4.3.2 Observer record form (Appendix 1)

These record forms were designed for use by TAs to record their observations of the research lessons (see Appendix 1). They were intended to direct their observations to specific aspects of classroom activities and were designed by me, with input from the teachers. Although the TAs carried out regular tasks in the classroom, during the nine research lessons they were asked to act as observers and another 'pair of eyes' in the classroom. Denscombe (1998:63) highlights ethical concerns about observing teachers' practice and reports problems associated with being 'under the microscope'. These concerns influenced the content of the observation record sheets and TAs were asked to comment only on pupils' behaviour, differences or changes in habits or attitudes, resources, classroom setting and any particular nuances in the classroom on the day. Popper (1973:107) notes that 'observations are always interpretations of the facts observed' and I hoped to get a better understanding of what happened in lessons by triangulating the teachers' and my interpretations with observations made by the TAs.

From the beginning, there was an expectation that other people, for example a school governor, headteacher and an LA consultant would observe a lesson and their observational comments be recorded. The headteacher agreed to use the observer record form but the school governor used the school's regular governor monitoring sheet (see Appendix 16). The LA consultant's observations were not included in the research data, although he did provide oral feedback to the action team following one lesson observation.

2.4.4 Additional instruments for data gathering

Aside from the designed instruments, several others were used for gathering data on an ongoing basis. Table 3 shows additional data collection instruments used in the action research, by cycle and purpose.

Table: 3 Additional instruments for gathering data

Type of instrument	Name of instrument	Used by/purpose	Timing	Examples shown
Ongoing	Audio tape recordings	**Team/lead researcher** To record dialogue in research lessons and team meetings for transcription	Cycle One (C1) Cycle Two (C2) Cycle Three (C3)	Example of research lesson and Team meeting transcript See Appendix 30 and 36
Ongoing	Transcriptions of tape recordings	**Team/lead researcher** Used for coding emerging patterns For discussion in reflection/evaluation meetings	C1 C2 C3	Example of colour/number coded data See Appendix 19
Ongoing	Researcher's fieldnotes	**Lead researcher** Used to identify agenda items in team reflection/evaluation meetings Used as aide-mémoire in researcher-reflection	C1 C2 C3	Example shown on page 62-63
Ongoing	Researcher's reflective journal	**Lead researcher** Used as aide-mémoire in researcher-reflection	C1 C2 C3	Example shown on page 64
Ongoing	Pupils' work	**Team/lead researcher** Used as aide-mémoire	C2 C3	Appendices 17; 34
Ongoing	Photographs	**Team/lead researcher** Used as aide-mémoire	C2 C3	Figs.6.3;6.4;6.5;6.6;.6.7; 6.12; 6.14-6.16

2.4.4.1 Taped recordings and transcripts

I tape recorded pupil interviews (84), class lessons (33) and team meetings (11). My intention was to use a directional microphone to record each event, having first obtained permission from those involved. In the pupil interviews these recordings were expected to

fill in missing commentary. According to Macintyre (2000: 95) audio recordings produce data free of procedural bias and are therefore, 'true' recordings of interactions. Despite this, I realised they would not provide any indication of body language, gestures and facial expressions and therefore planned to record them in my fieldnotes. From the literature, I was aware of drawbacks associated with using recording devices and in particular the disruptive element or novelty value of having a microphone nearby. Practical problems such as operating the equipment can also be a concern. Above all, I was aware of issues of sensitivity in team meetings and accepted that if tape recording became a negative issue in meetings I would turn it off. This possibility reinforced my decision to safeguard data collection by writing fieldnotes wherever possible in research lessons and team meetings and to keep a reflective journal.

Scheduled action team reflection and evaluation meetings were held regularly throughout the three cycles and from them I gathered data in the form of tape recordings which I later transcribed. In Cycle Two, however, the teachers asked me not to record some of the meetings because of sensitive school issues being discussed. Regular attendance was expected. Team meetings lasted regularly in excess of 45 minutes and took place in the staff room after school.

2.4.4.2 Researcher's fieldnotes

I made the decision to record my lesson observations and notes from team meeting s through fieldnotes using an A4 notebook. I considered they should be accurate and consistent and, therefore, planned to write them regularly and in as much detail as possible during lessons and meetings. Although I expected fieldnotes would contain general and detailed descriptions of events, people and settings, I was concerned about their subjectivity and the extent to which I should record my interpretations of events. Hopkins (2002:59) argues in favour of this type of data collection tool and claims its subjective nature enables the recording of 'real life happenings' in observations. The following extract is an example of a fieldnote entry written during a Year Two lesson.

(Taken from my fieldnotes: 25 January, 2007)

> *Classroom setup: Pupils sitting on floor surrounding teacher. Teacher D sits on chair at front, beside painting set on easel.*
> *Third lesson with same painting (de Hooch). One boy (groans) – 'we've seen this already'*

TA working with Pupil C on separate table, off to side. Pupil/TA listen to class discussion, TA repeats questions for him and what other pupils say.

3 external observers in this lesson (3 headteachers/local schools). Teacher D starts by explaining adult presence to pupils. She appears keen to demonstrate the strategy/enthusiastic.

External observers: No eye contact with teacher and they don't speak to pupils, but whisper to each other while taking notes.

(6:08 min)...Teacher D talking about Step 2 – says ' think about 'why' questions, why is it in the painting?' Turns to painting. 'You've seen this before. Look carefully at it again. Think about why that lady is standing in a dark corridor. (She uses her own sub question.)

Pupils are sitting up, looking back and forth at her and painting on easel. One boy has his hand up – keeps it up. Teacher ignores him - 2 minutes. Tells him to put his hand down and listen. (Poses new sub question): Why is it dark in the passageway of the house? Boy appears frustrated and starts to play with pupil beside him.

Teacher points to girl (Pupil A) to answer. Pupil A gets up, moves to front of class, stands by painting, looks at it closely. Answers: It's a tunnel. Teacher asks 'why?'Pupil A traces her finger along the passageway in painting. No comment. Sits down. (Teacher telling boy off for playing with postcard)

(14.25 min.) Noise of chatting – two boys talking together and several listening to them. Count eight pupils have hands up. Four pupils (2 boy 2 girls) distracted with postcards –don't appear to be listening, fidgeting. Same boy still has hand up.

Note: Two new sub questions (see above). Quick pace, pupils not given much time to think about questions.

I wanted my fieldnotes to act as a reminder of what happened and this proved useful in five lessons when the tape recorder failed or was turned off by pupils.

2.4.4.3 Reflective journal

In addition to fieldnotes, I decided to keep a personal journal to reflect on events, comments and conversations that took place in and out of action meetings and lessons. Whitehead and McNiff (2006: 65) consider reflective journals valuable instruments both for collecting and reflecting on data. They recommend using them over time to reflect on actions and their possible significance for research. Although it is time consuming, I understood keeping one might offer insights at a later date. Maintaining one seemed an appropriate way to carry out this methodology and it provided documentation of my own reflections, perceptions and interpretations taking place. In planning this kind of record

keeping, I borrowed Whitehead and McNiff's (2006: 65) suggestion of arranging journal entries into four sections labelled 'actions', 'reflection', 'significance' and 'new action' and tried to maintain this format. I understood that journals are even more subjective than fieldnotes but I heeded Hopkins' advice that subjective comments can offer useful insights. The following extract is an example of a journal entry in this format:

> (Taken from my research journal, 4 June, 2007)
>
> ***Reflection***: *Thinking a lot about Step 2 over half term and am very surprised by problems arising about it. I didn't expect it to present difficulties for teachers. (I have been more concerned about Step 3 art information.) Teachers (B,C and D) tell me Step 2 is most difficult for them. Looking over lesson transcripts, I can see a problem. Teachers aren't asking: 'why are these objects/people etc included in the painting?' They are shortening it and asking simply, 'why?' Eg. (Inuit) Year One pupil says 'I see a reindeer'. Teacher 'why?' Pupil: 'because it's there on the snow'. Teacher accepts this and moves on to another pupil, without following it up with a question like 'why would a reindeer be walking on snow in this picture?'. It worries me so near the end and in retrospect I think I should have done another demo lesson in Cycle 2. Maybe I should have demonstrated each lesson so teachers could see my thinking more clearly? But wouldn't this have influenced them to reproduce my ideas without trying out their own? This needs action. Contact the teachers and explain again. I must be confusing them or didn't explain it clearly in training. But this wasn't happening in our practices. What's different now?*
>
> ***Significance:*** *Teachers not understanding my intended purpose for question. (All are missing it so it must be my explanation)*
>
> ***New Action***: *No time to discuss before next meeting. Send email, re-explain rationale for question 'why is it in this painting?' Send transcript of lesson to each teacher so they can study them. Ask for feedback"*

Cohen *et al.* (2000:239) advocate a form of reflexivity that encourages researchers to develop a 'self-conscious awareness of the effects they are having on the research'. To do so, Zubrizaretta (1999) and Trisenar (1995) recommend that researchers use diaries or journals to record personal thoughts, feelings and opinions and I found this helpful for understanding how, and what to record. I realised that by its very nature a reflective journal is not intended to present factual evidence. By recording personal ideas and accounts of feelings I hoped to become aware of my own biases during the research. According to Schön (1983: 84) when teacher/researchers write out their reflections they are 'rethinking' their thinking and in this way, they honour the reflective process. I used the journal to pose questions to myself and make links between the literature, theory and actions taking place. Following Robson's (2002: 2) advice, I decided that keeping both a journal and fieldnotes would help me to establish an audit trail of my thoughts and interpretations of what happened in the research.

2.4.4.4 Pupils' work

The pupils' classroom work was considered data. It was used for reflection and evaluation purposes. Pupils' work, produced during the research lessons, included artwork, written stories, story picture planners and five activity worksheets (explained in Appendix 17).

2.4.4.5 Photographs

On a few occasions, the teachers and I took photographs of pupils' artwork, worksheets and classroom activities and displays. Obtaining permission from the school, parents and pupils prior to taking any photographs was understood to be important and I was hesitant to collect data this way. As a result only 36 photographs were taken and I chose to obscure distinguishing features and faces. Classroom wall displays and settings also provided data and on two occasions these were photographed for use as *aide-mémoires* to jog the team's memories of events (Hopkins, 2002:59; Macintyre, 2000: 88) and activities taking place in the cycles.

2.4.5 Summary of data collection by instrument

Table 4 shows a summary of the preparation, teaching and reflection and evaluation undertaken by actions and cycles and related data gathering instruments.

Table 4 Cycle actions and data gathering tools

	ACTIONS BY CYCLE	DATA COLLECTION INSTRUMENTS
	CYCLE ONE	
P R E P A R A T I O N	Staff profile and baseline assessment Staff INSET training morning Demonstration lesson with strategy Teachers' CPD training Teachers' practice sessions Pupil profile and baseline assessment Individual planning and preparation Review/amend research lessons, designed data collection instruments, selection of artwork Coding, storing data	Staff questionnaire (Appendix 6) Video tape recording, Fieldnotes, research journal Tape recording, Fieldnotes, research journal Lesson assignment Homework assignments Anecdotal comments/informal/formal discussions Pupil interview schedule (Appendix 11) Tape recordings/transcripts Fieldnotes from team R & E meetings/research journal Finalised format Coded pattern sheet (Appendix 18)
	CYCLE TWO	
	Teacher preparation for research lesson input	Tape recorded R & E meeting transcripts Fieldnotes/research journal

	TA organisation of setting/displays Coding, storing data	Observer record form Coded pattern sheet (Appendix 18)
	CYCLE THREE	
	Teacher designs research lessons Designed pupils' group interview schedule Coding, storing data	Written lesson plans (x 2) Group interview schedule Fieldnotes from interviews/research journal Coded pattern sheet (Appendix 18)
T E A C H I N G	**CYCLE ONE**	
	CPD training (led by lead me) Art history subject knowledge and practice with strategy	Tape recorded practice sessions/transcripts Fieldnotes/research journal Anecdotal feedback
	CYCLE TWO	
	Teacher taught research lessons (teacher-taught) Observations Photographs of classroom setting Pupils' work	Teacher record forms Tape recorded lessons/transcripts Observer record forms Fieldnotes/research journal Photographs Worksheets, written stories, artwork
	CYCLE THREE	
	Teacher designed and taught research lessons	Tape recorded practice session transcripts
R E F L E C T I O N & E V A L U A T I O N	**CYCLE ONE**	
	Formative team reflection and evaluation (R & E) meetings Lead researcher, overall R & E Coding, storing data	Tape recorded meetings/transcripts List of recommendations for next cycle List of amendments for next lesson Research journal Coded pattern sheet (Appendix 18)
	CYCLE TWO	
	Formative team R & E meetings Lead researcher overall R & E Coding, storing data	Tape recorded meetings/transcripts List of amendments and recommendations Research journal Coded pattern sheet (Appendix 18)
	CYCLE THREE	
	Formative team R & E meetings Lead researcher, overall R & E Pupil group interviews Observer summary Coding, storing data Summative evaluation Final overall R & E Review of coded patterns/categories Identification of themes	Tape recorded meetings/transcripts Research journal Tape recorded interviews/transcripts Fieldnotes/research journal Coded pattern sheet (Appendix 18) Teachers' written notes Observer summary sheet Research journal Coded pattern sheet (Appendix 18) List of three themes

2.5 DATA ANALYSIS

One overarching research question and five further ones influenced the design of research and the instruments I used to gather data. They also guided my choice of how to analyse them and gave me direction for coding patterns emerging in the data. Data analysis was carried out in two ways, through reflective and thematic analyses of findings. Both methods involved my interpretations of data and analysis of findings in light of relevant literature, research and theories.

2.5.1 Reflection and reflexivity

Given the importance of reflection in the methodology of action research, I understood reflexivity would play a key role in how the data were analysed and evaluated. Whitehead and McNiff (2006) maintain that reflection and evaluation is an effective way to consider and analyse data. I understood the reflective process to offer researchers a twofold opportunity. On one hand, reflection can be a *source* of data collection when recorded, for example, in journals and fieldnotes. On the other hand, through reflexivity, researchers can analyse and evaluate data by developing 'some distance from one's immediate experience' to understand it better (Watkins, Carnell and Lodge, 2007: 129). I used reflection as a way to analyse the team and my own interpretations of findings in the research. Ultimately, all these interpretations filtered through me in a final analysis, as I tried to figure out what the findings meant for the research and for art history pedagogy.

Reflection requires 'thinking deeply' and asking searching questions about actions and interpretations 'together and aloud' (Unrath and Nordlund, 2006:37). It requires researchers to be aware of, and to question all individual contributions brought to the interpretation of events. Macintyre (2003) claims it is effective when participants reflect on and reconsider their positions, understandings and interpretations from all angles when evaluating them and this guided action team meetings. Watkins *et al.* (2007:129) suggest posing questions such as, 'What was it like [four] months ago?' 'What connections or patterns are emerging?' and 'What new understandings about [our] practice have emerged?' in team reflection. Nightingale and Cromby (1999:28) remind researchers to be sensitive about how personal interpretations are informing the research. I used my research journal to help me identify individual understandings and bias and to record and remind myself of perceptions

and interpretations I had during periods of reflection, questions I posed to myself and correlations I drew between data and theories in relevant literature. For example, a review of journal entries, midway through the research (Cycle Two), drew my attention to an increasing awareness that pupils were interpreting painting by using their feelings for them.

Besides personal and shared reflexivity, Willig (2001:10) points out that 'epistemological' reflexivity is also important and recommends researchers pose questions such as, 'How did the research questions [or aims] define or limit what was found?' or 'How has the design or method of analysis constructed the findings?'. These types of questions and others were used in my overall reflection of the research at the end of the action research.

2.5.2 Thematic analysis

Cohen *et al.* (2000: 147) and Costello (2003) warn that action research produces rapid and large amounts of raw data. Given the various actions undertaken in three cycles, and the fleshy detail of an interpretivist approach that gathered the interpretations of others, as well as my own, I anticipated there would be a considerable amount of data collected for analysis. It became clear that data reduction, 'the selecting, focusing, simplifying, abstracting and transforming of data' (Miles and Huberman, 1994:21), was necessary early on in this research. This included raw data (dialogue gathered from tape recorded research lessons, triangulation, CPD training sessions and team evaluation meetings) and interpreted data from observations, team reflection and evaluation and my own overall reflections.

I reviewed various ways to analyse the escalating data. Norton (2009) recommends several methods for analysing pedagogical action research, for example, grounded theory, content, thematic, discourse and conversation analysis. In the end, I was persuaded by thematic analysis after finding an art education study by Freedman and Wood (2000) which used it in similar circumstances. I reviewed literature about carrying out thematic analysis by Boyatzis (1998) and Norton (2009) and ways of coding patterns and generating categories such as those outlined by Lincoln and Guba (1985), Macintyre (2000), Norton (2009), Stringer (2007) and Walliman (2006). Walliman (2006:129) recommends that analysing qualitative data is often carried out concurrently with data collection and so I began to examine and organise data shortly into the research. He also suggests that refining patterns into categories helps draw the data together into compact, meaningful groupings. Freedman

and Wood (2000) provided helpful examples of what categories and subcategories might look like, although I needed to identify my own for the research.

According to Macintyre (2000), studying data, pulling out meanings and identifying constructs in the form of patterns, themes, incidences and trends are critically important steps in data analysis. I used the Oxford English Dictionary definition of a pattern as a 'precedent which may be [...] referred to as a prior example' and adopted Macintyre's (2000:91) definition of a theme as 'the consistent ideas which emerge' and trends as 'the frequency of patterns'.

In keeping with a recommendation by Miles and Huberman (1994:71) to check coding patterns with others to ensure reliability, I asked a social science researcher at another university to check that the patterns I identified from the data were correct and consistent. This led to some additions and corrections, for example I became aware of differences between teachers' professed confidence and their actions and this resulted in the addition of two new patterns: 'Claim of confidence' and 'Confident action'.

Coding of data from lesson transcripts, team meetings and record forms was carried out in three phases (Appendix 18). Phase I involved open coding of patterns emerging from data. In Phase II, I re-ordered these patterns into categories of similar ideas and numbered and gathered patterns under them. Then, in Phase III I determined sub-categories that refined these ideas into overarching concepts related to the research question they aimed to answer. I used these overarching concepts to identify a theme for the final thematic analysis undertaken in Chapter Seven. Themes were identified to answer research questions Three and Four specifically. From the grouping of categories, I realised Question Five embraced many of the patterns, ideas and categories identified from the data and so I decided to answer this question using reflective analysis but with input resulting from the thematic analysis. Therefore, the thematic analysis fed directly into my reflective analysis of Question Five: 'What were the implications for teaching and learning when pupils interpret paintings using the strategy?

As one research question enquired into which key variable impacted on the strategy and the way pupils interpreted paintings, I had pre-determined ideas about which variable(s) might be important and so I grouped the emerging patterns under four headings,'Teachers',

'Pupils' 'External Factors' and 'Resources/Artworks'. Next I assigned colour codes to these groups, for example: 'Teachers= (BLUE) and 'Pupils'= (PINK) and numbered each pattern, for example: T5 (Teacher: Pattern 5); P22: Pupil: Pattern 22). I examined the gathered data and colour coded and numbered them.

Kvale (1996:163) warns about 'transcriber selectivity' and problems of decontextualising data and this prompted me to review and discuss patterns arising from the transcripts with the teachers in team meetings, to avoid misinterpretation or bias, and to fill in missing context. On several occasions I asked the teachers to help me determine patterns in some of the lesson transcripts to share expertise and demystify the process of coding. Macintyre (2000:96) advises researchers to 'stay' with their generated categories and where trends change or categories become inappropriate, to find explanations rather than dismiss them. I accepted this suggestion to stick with categories.

Filing and storing data is also an important consideration in data analysis (McNiff, Lomax and Whitehead, 2003) because it provides a systematic system for data retrieval. In the early stages of the research I attended CAQDAS training sessions for qualitative data handling and analysis with a view to considering whether it was an appropriate and workable mode of data analysis for my research. I trialled several software packages like Hyper Research and Nvivo7, but in the end I opted for the more traditional method of data coding by hand. I used colour coded highlighter pens to code transcripts and attached matching coloured post-it stickers indicating pattern reference number (see Appendix 19).

2.5.3 Process of data analysis

The following section explains how the data analysis and findings from one cycle were used to inform the actions of the next one. Table 5 illustrates how data were gathered and how they contributed to the process of data analysis.

Table 5 Process of data analysis.
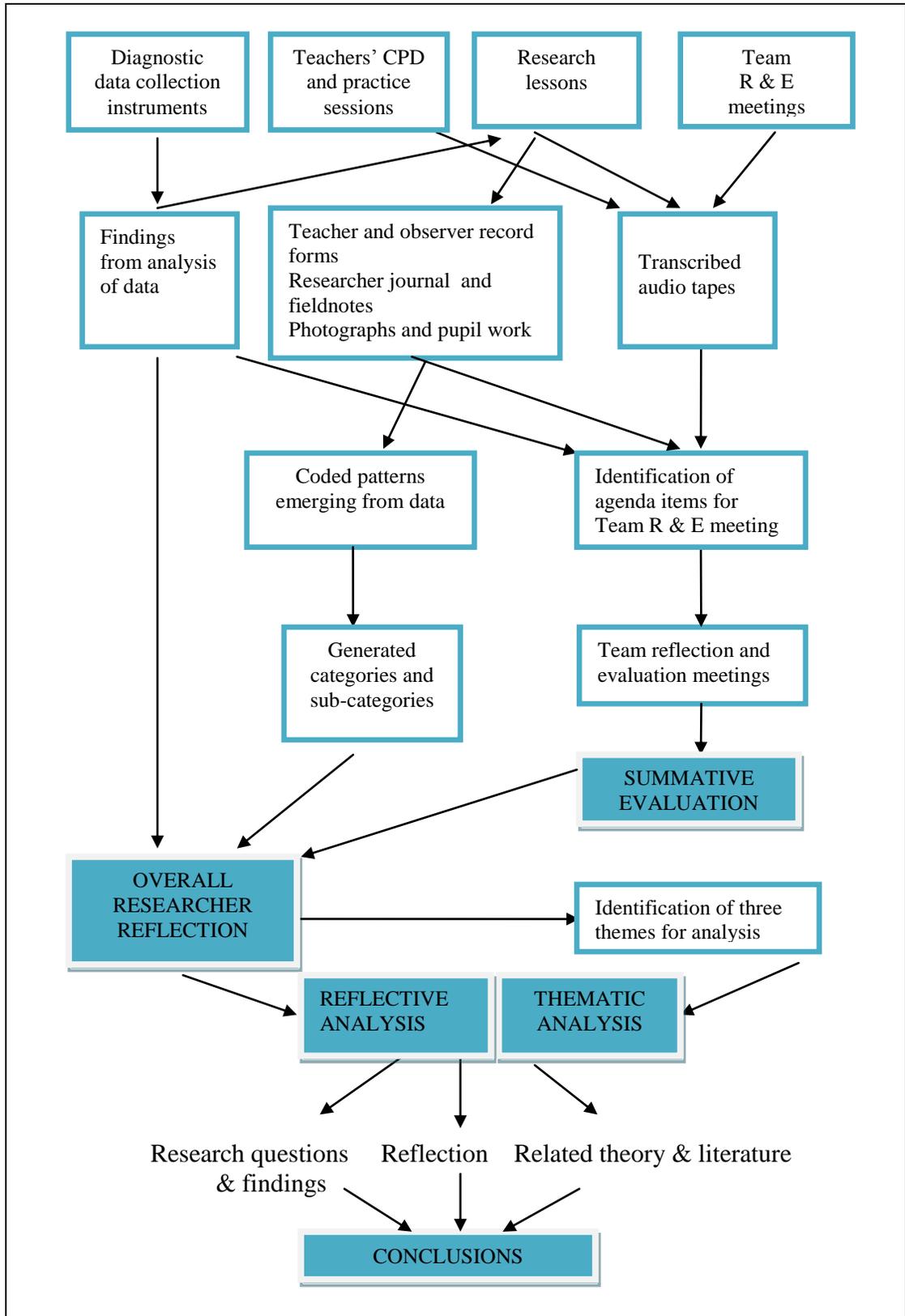
The process began with my analysis of data collected by two diagnostic tools carried out in Cycle One (staff questionnaire and pupil interviews). Findings from this analysis informed the design of research lesson plans and provided the action team with a background profile of participants and a baseline for subsequent data analysis. Teachers' CPD training and practice sessions in Cycle One were audio tape recorded and then transcribed by me. Although Macintyre (2000) warns researchers that transcribing is time-consuming, I hoped by carrying it out myself to gain a better understanding of what was happening in the lessons and meetings. Cohen *et al.* (2000:281) warn that transcribing material from tape recordings can have potential for 'massive data loss, distortion and the reduction of complexity'. Because of this, I made an effort to check transcripts with teachers in team meetings to ensure this did not happen.

I used the transcripts to identify key issues or points for discussion in the team reflection and evaluation meetings in all three cycles. This represented another step in the data analysis. Findings from these meetings were used to amend and/or improve actions in subsequent lessons and to inform actions in the next cycle. In this way, analysis from one cycle fed into the actions of the next one.

In Cycle Two, data collected from the research lesson transcripts, as well as observer, teacher and my own interpretations of them collected through record forms, fieldnotes and journal were triangulated and findings were analysed through team reflection and evaluation. This constituted another step in the data analysis. Findings were used to make recommendations for the next cycle. In this way, data analysis was a continuous process carried out through each cycle. Using reflection *in* and *on* actions, the team and I carried out two strands of reflection on events, issues and findings (Schön, 1983). My research journal helped me to interpret findings in an overall reflection of actions and data. Patterns emerging in the data from tape recorded transcripts, observation and teacher record forms, team interpretations and my fieldnotes and research journal were routinely coded and triangulated by me and checked with the help of teachers and an external researcher.

Formative evaluation continued throughout each of the three cycles and culminated in a final summative evaluation meeting at the end of the action research. For this evaluation, as lead researcher, I conducted, analysed and fed back findings from pupil group evaluations of the research project. The summative meeting, attended by the TAs, teachers, headteacher

and me, led to an evaluation of the action research, experimental strategy, teaching and learning and the methodology. At the end of the project, I carried out a final overall reflection of the research, interpretations and findings, as a whole. I reviewed the coded patterns and categories generated from the data to help me identify themes for the thematic analysis.

In Table 6, I set out the research questions alongside the main mode(s) of analysis used to answer them.

Table 6 Research questions and mode of analysis

Research Questions	Main mode of analysis	Answered in:
Q1 (overarching): What happens when generalist classroom teachers introduce art history through a strategy for interpreting artworks, in an infant primary school?	Formative team R & E (C1,C2,C3) Lead researcher R & E (C1,C2,C3) Summative evaluation (C3) Reflective analysis (mine) Thematic analysis	Dedicated discussion in Chapter 8.3: 'What happens when infant primary school teachers teach about art and artists?'
Q2: Does this experimental strategy help teachers to interpret paintings using information about art and artists in the classroom and if so, how?	Formative team R & E (C1,C2,C3) Lead researcher R&E (C1,C2,C3) Summative evaluation (C3) Reflective analysis (lead researcher)	Chapter 8.1.1 'Strengths and weaknesses of the ISEE'
Q3: Which key variable impacted on the strategy and the way pupils interpret paintings?	Thematic analysis	Analysis in Chapter 7, Theme 1: Teacher variable and in Chapter 8.1.2 'Significance of the teacher variable'
Q4: How do pupils engage with paintings and does the strategy support them?	Thematic analysis	Analysis in Chapter 7, Theme 2: Affective Response and in Chapter

		8.1.3 'How pupils engage with paintings using ISEE'
Q5: What are the implications for teaching and learning when pupils interpret paintings using the strategy?	Thematic analysis Formative team R & E (C1,C2, C3) Lead researcher R & E (C1, C2, C3) Summative evaluation (C3) Researcher's overall reflective analysis	Chapter 8.1.4 'The role of art interpretation in learning and teaching'
Q6: What are the strengths and limitations of action research as a methodology for changing art education practice?	Formative team R & E (C1,C2,C3) My own R & E (C1,C2,C3) Summative evaluation (C3) Reflective analysis	Dedicated discussion in Chapter 8.2: 'Reflections on methodology'