

# Building Bridges: the use of reflective oral diaries as a qualitative research tool

## Abstract:

The article is a reflection on the use of an oral diary as a qualitative research tool, the role that it played during fieldwork and the methodological issues that emerged. It draws on a small scale empirical study into primary school teachers' use of group discussion, during which oral diaries were used to explore and document teacher reflective thinking across time. The paper considers the design of the oral diary tool in this context and how its use created both a window on the developing construction of teachers' ideas about their practice of using group discussion in science and also a space to explore emerging analytical themes. The way in which the regular routine of the oral diary entries helped to make connections between researcher and participant and nurture fieldwork relationships is discussed in addition to the limitations of this specific research tool.

Key words: oral diary, fieldwork relationships, teacher reflection, teacher thinking, qualitative research

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There are no known conflicts of interest in relation to the research described within the submitted manuscript.

# **Building Bridges: the use of reflective oral diaries as a qualitative research tool**

## **Introduction**

In this article I consider the role of reflective oral diaries within an empirical study which took place in three different primary schools in England and focussed on teachers' use of peer group discussion in science lessons. The use of a diary is a well-documented method for the provision of crucial data in qualitative research and the reflective oral diary employed in this study became a key tool for an exploration of issues surrounding the application of group discussion strategies within primary science classrooms, providing a bridge to new understandings for both researcher and participants.

The peer group context is an ideal forum for knowledge construction but research has found that it is under exploited by teachers and productive talk rarely occurs (Littleton and Mercer 2013, Mercer and Howe 2012). There have been calls for further studies which explore how and when talk flourishes (Wolfe and Alexander 2008) and also the challenges faced by practicing teachers in using dialogic pedagogies during day to day classroom life (Reznitskaya *et al.* 2009, Howe 2014). Through my own practice as a primary school teacher, this particular pedagogic approach emerged as an area of interest for me as I considered the ways in which I was able to engage my own pupils in group discussion which facilitated their scientific understanding. This professional interest developed into a more structured study, the principal aim of which was to develop understandings of the productive ways in which other practitioners engage pupils in effective group talk and also to gain insights into teacher thinking around the facilitation of science learning using this approach.

A diary was selected for this study due to its potential as a tool for prompting, capturing and exploring teachers' reflective thinking. Over the course of a year, I observed the participants teaching a number of science lessons and in each class I also recorded the resulting

discussions of a focus group of pupils. The diary entry did not take a written format but captured through an audio recording, the teachers' oral reflections immediately after each observed lesson; each time teachers were prompted to consider specifically the way they had facilitated peer group talk. The use of oral diaries as carried out in this study is little reported upon. Through a study of their use in context, it is possible to seek an understanding of their benefits and limitations in the collection of primary data and consider emerging tensions.

The focus of this article is methodological; it is concerned with getting close to the social process and practices of research (Burgess 1984) and aims to provide an account of emerging issues and considerations with the use of oral diaries. I examine how this particular method afforded regular space for teachers to engage in reflective dialogue, provided a window on the developing construction of classroom practices and became a dynamic data source. In addition I note how the construction of field relationships was mediated by the on-going use of this research method, such that it served as a linking mechanism between researcher and participant.

### **Using diaries for reflective thinking**

One of the aims of the study described in this paper was to capture and explore teachers' thinking about their practice of using group discussion in primary school science. The oral diary data collection method used for this classroom research draws on the strengths of reflective practice as a space for participants to consider professional action. Reflective practice enables a deep and thorough examination of what went right or wrong, involves the querying of situations, feelings and understandings and acts as a bridge over boundaries to new ideas, providing clarification of thinking and professional role (Bolton 2001) .

Dewey is attributed with the idea of reflective thinking, describing it as 'active, persistent and careful consideration' (Dewey 1909, 6) which helps find the way through uncertainty. Schon

(Schon 1983) later explored this kind of professional thinking and characterised both ‘reflection-in-action’ and reflection-on-action’. Reflective practice has implications for action (Scaife 2010); considering an experience, reviewing and explaining it to yourself, enables you to think about how to approach it in the future. It involves raised awareness of an aspect of practice and assumptions that affect it. Engaging in reflective activity in this way supports the development of professional expertise and can provide fulfilment for teachers (Pollard 2014) because engaging in a critical dialogue, based on experience can enable justification and clarification of ideas leading to a more in depth understanding of practice.

There are many frameworks and scaffolds for reflection which aim to move the practitioner from description to analysis of events and experiences. Some of these are based upon critical incidents, some on working through a set of questions or prompts which are designed to probe understandings and some aim to develop a sharp critical stance on practice. Where a teaching and learning process is explored, a cyclical reflective process, iterative in nature is seen to be complementary (Ghaye and Lillyman 1997). Kolb’s (1984) discussion of the theory of experiential learning highlights this cyclical nature and reflective prompts can be structured following this framework.

Scaife (2010) suggests using such a framework to promote an internal reflective conversation, which can organise and facilitate thinking. Whilst this personal, individual dialogue is crucial, sharing thoughts with others could be seen as a step further towards raising the level of consciousness of the beliefs that impact practice. (Cooper 2014) proposes that a reflective conversation with a partner, which allows for the development of shared understandings, is a vehicle for learning and autonomy. Bruner (1996) detailed such ‘externalisation’ as one of the tenets for professional learning. This involves creating ‘outside us’ records of mental efforts through externalised endeavour, with dialogue and reflection

triggering the action of making tacit knowledge explicit. Such outside records can potentially be constructed within an open-ended or structured diary and the use of this type of tool to document regular reflective thinking and professional exploration is well established (Bolton 2001; Moon 2006).

### **Using diaries in qualitative research**

A diary may be considered a systematic record with discrete entries arranged by order of date; a type of report and commentary upon events, experiences, thoughts and feelings. The keeping of any diary not only implies regularity but also the inclusion of an intriguing combination of routine and mundane happenings alongside more personal thinking and together these can become a type of self-observation or introspection. Diaries yield information about the life of the author, making experiences visible which are often hidden (Elliot 1997).

Historical and biographical researchers have long drawn upon material within unsolicited diaries in order to narrate history from a range of perspectives and sociologists have highlighted their importance in constructing a dynamic and subjective picture of human social reality (Plummer 1983). Diaries can be utilised in qualitative social research to explore the complexities of human behaviour and practice and collect information about a particular topic (Bryman 2012). These researcher driven, solicited diaries have been developed as a specific methodological tool, the aim of which is to gain a ‘view from within’ (Zimmerman and Weider 1977, 484), to encourage participants to focus on activity that they value or perhaps carry out subconsciously and therefore take for granted. Solicited diaries are created with the research clearly in mind, completed by participants with a focus on the issues central to the study and with the knowledge that they will be read and interpreted by the researcher. Using a diary encourages a retrospective account of experience and a reconstruction of

practice and provides researchers with possible insights into participants' worlds, a way to begin to understand how events are perceived and understood (Block 1996; Bruner 1993; Kenten 2010).

Diaries are most effective when used in combination with other research tools (Crosbie 2006; Duke 2012; Kenten 2010) for example the diary-interview method (Zimmerman and Weider 1977) where the keeping of a participant diary is followed by a structured 'debriefing' interview with the researcher. In this case the diary is used to fill the gaps where researcher observation is not possible; indeed the participant becomes the observer, casting their mind's eye over recent experience, relating their thoughts and interpretations and recounting illustrative excerpts. Taylor (2013) used audio recorded diaries with children to capture developing thinking on the notion of place after geography lessons. She noted that the diaries provided key insights and that they complemented more naturally occurring opportunities for communication of children's ideas. This idea of integrating the use of diaries alongside other methods can be viewed as a strategy for gaining a range of perspectives, leading to deeper understandings of the issue under study and a step on the road to greater knowledge (Flick 2009).

Diaries are flexible tools and can be used to collect data over extended periods of time (Bolger, Davis and Rafaeli 2003). In this way they capture the subjectivity of the moment but also a whole picture develops, illustrating an 'ever changing present' (Plummer 1983, 18). They can be used under differing methodological umbrellas, for both quantitative and qualitative research (Corti 1993; Duke 2012) and across a range of disciplines. Monrouxe (2009) used audio diaries in a narrative inquiry study in order to gain a sense of developing professional identity among medical students. Written diaries are used extensively in qualitative health care case studies which aim to explore the life worlds of those living with

chronic or recurrent illness in an attempt to develop better treatments (Katz and Misler 2003) with patients telling their on-going stories and in doing so vicariously taking the researcher into their personal setting. In educational contexts, written diaries are widely used in second language teaching research as a way to access teachers' and learners' introspections about classroom practice (Nunan and Bailey 2009), during initial teacher education research in order to gain insights into how students to make meaning from the challenging situations they face (Chetcuti, Buhagiar and Cardona 2011) and to explore work patterns (Duke 2012). Other areas where diaries have been used as a research tool are in family therapy, criminal behaviour, market research and psychology (Corti 1993).

Diaries have many different structures and formats and written reflections are common but technology has created new opportunities for diary keeping (Alaszewski 2006) for example video self-report accounts and even blogs which have been considered as online versions of diaries (Hookaway 2008: Harricharan and Bhopal 2014). Block (1996) used audio devices to record the oral diaries of a range of participants in classroom based research. He provided each diarist with a set of questions to 'orientate rather than predetermine their discourse' (171) and they privately recorded their entry as soon as possible after the lesson, noting details such as activities, their purpose, what was learned and how it was enabled. He found the technique successful for collecting participant perspectives but also that it was sometimes limited by equipment failure or lack of detail in the entry due to time restrictions for participants. Whatever the format of solicited diaries in social research they all a common purpose – to access and examine the practices, experiences, feelings or motivations of participants (Kenten 2010).

Despite the advantages of using diaries as a research tool they do also present challenges (Bryman 2012). In particular the participant must have the ability, willingness and time to

maintain the diary as a systematic record of events. There are the practical issues of collection from participants and making copies for analysis if they are written by hand. In addition there is a paradox – on one hand the idea of a diary being a private document but on the other it being handled in a shared and public way for the purpose and duration of the study. Perhaps some formats alleviate this issue for example it has been found that using online blogs which allow anonymity from the outset mean that participants can feel more at ease in revealing their thinking (Hookaway 2008). It has been noted that written diaries allow for more intimate introspection than interactive, face to face accounts (Day and Thatcher 2009; Jacelon and Imperio 2005), although they also bring with them significant issues around participant burden (Iida *et al.* 2012) which can impact upon collecting enough detail for research purposes (Corti 1993).

There are methodological and ethical implications for the researcher when using a face to face diary method, where there is less privacy. Berzano and Riis (2012) advise that the use of diaries as a research method must allow time for the development of sufficient intimacy to enable narratives to emerge and that in building up trust and relationships in the field is of key importance. The asymmetry in the researcher – participant relationship is also relevant here as diaries are co-constructed by the author and researcher (Elliott 1997; Kenten 2010). The researcher could be viewed in a position of power due to the choice of design and analysis of diary data and this may have a restricting effect on emerging description and commentary. However, Meth (2003) suggests that diaries can also be seen as a tool of empowerment for participants - a space for them to develop insight and understanding of their own experience, give voice to ideas and reflect on their own professional action (Day and Thatcher 2009).



The literature suggests that choosing a diary for this study is appropriate, as both a reflective space for the participants and as a method of capturing experiences of everyday life and documenting teacher thinking for the research. The literature also makes clear the variety of formats a diary can take and their attending challenges. After briefly introducing the empirical phase of the project, I will move onto describing how and why an oral format was selected.

## **Project overview**

The empirical phase of the study took place in three different contexts in the UK; all judged as good or outstanding primary schools by the Government's inspectorate, Ofsted. The proportion of children with English as an additional language was low in each case. The three participants were the Year 4 teachers and their class of children, aged 8-9 years old. Over the course of an academic year, twenty two science lessons in total were observed across the three classrooms and after each one the teacher's reflective oral diary entry was recorded with an audio device.

The choice of the reflective oral diary was based upon the methodological assumption that it could access the authentic truth about the ways in which a teacher thinks. Of course there are criticisms of this which claim that people's talk does not always accurately represent what they are thinking (Hammersley 2008; Roulston 2010), that individuals can be unreliable narrators, creating recollections tarnished by emotion or dominated by specific events and naturally occurring data should therefore be used (Silverman 2005). It has also been noted that a disadvantage of diary data collection methods is their use in isolation (Crosbie 2006; Duke 2012). With this in mind, a combination of methods was employed; extensive classroom participant observation of teaching and learning, the use of oral diaries and interviewing.

Before the classroom observation phase of the study, the teachers were interviewed in order to explore their classroom practices and ways of thinking regarding the use of talk in science. Interviews were conducted again at the close of the study. Throughout the study, during each observed science lesson a focus group of pupils chosen by the teacher were recorded talking during their collaborative work. In this way, all of their discussions were captured and they were later transcribed and sent to the teacher so that they could read what the reality of the group's talk was. In addition to this, the focus group of pupils was interviewed after each lesson to explore their ideas about what they had learned and the ways in which talk had enabled this. Transcriptions of this interview were also sent to the teacher. During the lessons, I worked as a participant observer. I had a field note sheet with me to record the flow of the lesson, details about the ways in which the children were working, the classroom environment and the teacher's observable strategies and interventions but I also tried to work alongside the children. I found that achieving a balance between observing and participating during the lesson was a tricky, delicate and complex matter to negotiate. It was a challenge to try and be part of the lesson and the classroom, to interact with it whilst it was in action (Delamont 2012), to immerse myself and become a part of that culture but also hide myself away so that the session was as natural as possible. However, as the time progressed I became aware that not only was working flexibly important but also that by being part of the lesson and working with the children, I had stumbled across an important way by which I was able to initiate and facilitate the teachers' reflective oral diaries that followed. I will return to this point later in the article in the discussion of fieldwork relationships.

## **Reflective Oral Diary Design and Use**

### ***Diary purpose***

The use of a diary was chosen as one of the research methods for this study firstly because of its potential to capture teachers' reflective thinking regarding their practice. Its purpose was

to prompt the teachers, immediately after a lesson, to describe, analyse and reflect upon significant moments in relation to how pupils had used group discussion for their science learning. It was hoped that regular and focussed reflection upon the use of peer group talk in science would naturally give rise to the teacher working with and trying out a range of ideas in the classroom, allowing for interesting and varied naturally occurring data through the duration of the project.

The second purpose for the diary was that it should provide qualitative data, in the form of reflective dialogue, which could be explored for the purposes of the research. In addition, by documenting the reflective diary accounts across a whole school year, it was hoped that any changes in teacher thinking about the use of group talk in science could be discerned (Plummer 1983). Therefore the diary had a dual purpose, to provide a space for teacher reflection but also capture it for exploration.

### ***Diary timing***

The timing of the diary entry directly after a lesson was important; collection of a contemporaneous account, close in time to the experience is thought to possibly result in less self-censorship or reframing, reduce retrospection bias, minimise recall issues and ensure small details aren't lost (Bryman 2012; Elliott, 1997; Kenten 2010). However, a primary school teacher is a busy person, with one lesson following on quickly from another, often with little break in between to collect thoughts together, never mind to stop and make time for a reflective diary entry. This issue of time had an impact upon the planning for the diary entry. Much of the literature on reflective practice discusses the use of written diaries or learning journals (Bolton 2001; Moon 2006) but requiring the teacher to write lengthy reflections as a part of this study may have implied a lack of empathy with their busy schedule, may have caused diarist burden or even deterred some from participating (Spowart

and Nairn 2013). In order to have as little impact on the participant's time as possible and speaking being more speedy and efficient than writing, I decided to draw on the idea of audio recording entries which had emerged from the literature review. In this way the reflective diary for the study became a reflective oral diary, with the idea being that the teacher would talk through their thinking immediately after the lesson and it would be audio recorded by me. This plan seemed to go some way towards mitigating the ethical issue, noted in the literature, of expecting participants to spend huge amounts of time making written recordings. As another measure, a ten minute time frame was put on the reflective oral diary entry, so that it did not impact too heavily on the myriad of post lesson teacher tasks.

### ***Diary prompts***

It has been noted that giving participants guidelines around which to focus their diary entries is beneficial because they can lessen participant selectivity (Alaszewski 2006; Block 1996; Plummer 1983). Open prompts based upon a reflective cycle (Kolb 1984; Scaife 2010) were created at the outset of the study, covering issues relevant to the research. This follows a common protocol for diary design where participants answer a series of questions at a fixed time (Iida, Shrout, Laurenceau, and Bolger 2012). In practice each reflective oral diary entry engaged the teacher in a dialogue based around this set of open prompts regarding the teacher's thinking about the observed lesson. The initial prompt I provided was always one requiring the teacher to recall and describe significant or critical events from the lesson and what their feelings were, in particular about the collaborative talk. In this way each time the narrative diary nature of the dialogue was reaffirmed but also it provided a familiar way to begin the new entry. Other prompts triggered teachers to reflect upon things such as planning decisions, conclusions about learning, the impact of the collaborative group talk approach and thoughts about pupil experience.

### ***Practicalities***

The teacher and I engaged together with the diary account in the immediate minutes after the lesson, as soon as was practical for the teacher. Usually this meant waiting until the children had gone out to play or had gone home for the day and throughout the year's study I was generally able to facilitate each oral diary entry within ten minutes of a lesson being finished. It was a very simple set up; all that was required was the list of prompts for reference and then the recording device laid upon the table between us, switched on when the teacher said that they were ready and comfortable to begin and switched off if anyone else entered the room. The recording usually occurred in the classroom but on some occasions the teacher asked to move to another more peaceful room, when flute lessons or 'golden time' (an often noisy free choice pupil reward session) were nearby! I led the teacher through the prompts and listened as they recorded their thoughts. From a practical standpoint, the fact that I myself had facilitated the recording of the diary entries immediately after the lesson meant that there were almost no issues from participants being unable to or not having the time to do these themselves, which would have given me an incomplete data set or truncated entries. However, the fact that I was present during the reporting and recording process, could have meant that the teachers felt less inclined to speak honestly and openly, especially at the outset of the study, before teacher-researcher rapport had been established. From a different perspective, being there allowed me to begin to interpret by noticing how participants assigned significance to events highlighted in the diary entry (Alaszewski 2006; Duke 2012).

Each time a diary entry of reflective dialogue was recorded and I took it away to create a written narrative summary (Clayton and Thorne 2000). This and the transcriptions of both the children's group talk in the lesson and their interview were sent to the class teacher by email as soon as was practical. The sharing of the written summary served two functions: the teacher reflections reported within it could be confirmed as a correct representation for data

validation purposes and if the teacher so wished, the documents could be collected together to create the story of their practice and used alongside a more formal written reflective diary which had also been provided. This was designed as a place to record any further reflections after the recorded entry, however not one of the teachers made use of this. There was also an open and repeated invitation to give reaction to the written summaries of the diaries; this only occurred once in the duration of the project.

### ***Challenges***

One limitation in the use of oral diaries may be that at certain times of day the teacher's thinking at the end of one lesson may have moved straight to the next. In fact I did assist one of the teachers set up the classroom for the following session on a number of occasions in order to allow him time to also conduct the oral diary while the pupils were on their mid-morning break. On another occasion a different teacher asked if they could email me written reflections due to her hectic schedule. I hesitated slightly to respond to this request because I was aware that writing the entry would perhaps allow for neatly shaped and crafted metacognitive thoughts which are clearly interesting and important for practice but through the oral diaries I was aiming to capture the more immediate, affective or 'messy' kind of thinking (Zembylas 2005). The teacher must have noted my awkward reluctance and very quickly she said she would in fact manage the time after school. On reflection, the placing of the diary entry with me as soon as possible after the lesson, whilst based upon an empathetic understanding of teacher's busy lives and ethical considerations around taking up participants' time, as previously mentioned, maybe in some ways placed unintended pressure on them. In addition, although the immediacy of the oral diary entry was useful for capturing the initial and fresh thinking, perhaps in these tightly timed situations there may have been some trade off in the level of depth that was possible. These concerns are illustrated in extracts from my research journal:

*Nov 6<sup>th</sup> - I hope that short reflections are going to give me enough information. I need to choose my prompts carefully.*

As this shows, I became conscious of the need to have some flexibility in the use of the set prompts if I was to draw as much as possible out of the relatively short reflective oral diaries and not allow them to become a mechanistic operation. To this end, I realised the importance of reacting to comments that emerged; not just moving on to the next possible prompt in the list but listening carefully and responding where necessary so that diary entries varied slightly based on responses and follow ups:

*Nov 12<sup>th</sup> - This sounds obvious but in fact in the practicality of the moment, with the clockwatching and the knowledge that there is a recorder there so everything is being taken down for me, it could be easy to be too relaxed and miss opportunities to really listen to what the responses are and explore further.*

## **Considering reflective oral diaries**

In this section, under three broad categories, I reflect upon the usefulness of the oral diaries in the context of this project but also the methodological issues emerging from their use.

### ***Exploring developing thinking***

The value of diary study is its potential to uncover and explore the inside viewpoint (Zimmerman and Weider 1977). During the course of this project the oral diary method provided rich examples of reflective teacher thinking and there were many occasions when teachers openly questioned themselves and their practice whilst making their entries. Interestingly, there were also times, when analysed alongside other methods of data collection, the oral diaries revealed reflections which were at odds with those elicited from pupils.

To illustrate this and the underlying importance of the oral diaries for exploring teacher thinking, I will consider a sequence of two lessons taken from one of the classrooms studied.

This sequence has been selected because of the interesting contrast between the two lessons within it but also the accompanying shift in teacher thinking which ultimately became evident through the oral diaries.

The following two lessons occurred in the same classroom, within three school weeks of each other and both are conducted by a highly experienced teacher named Emma. They formed part of a sequence of lessons on ‘keeping warm’, looking at insulating materials. By the time these lessons were observed Emma had become familiar with the routines of the project and with the purpose and structure of the reflective oral diary.

### ***Lesson 1***

This lesson was one in which the class were to plan and carry out a fair test investigating how temperature of water changes when it is left to stand. As the lesson progressed small group talk opportunities punctuated whole class episodes, as the children were invited to share with others their ideas on predictions and how they might test them out and at the end what their interpretations were of the teacher-led whole class experiment.

In the reflective oral diary after the lesson, Emma expressed her pleasure with the learning because children were sharing and developing their ideas on temperature changes and because the concept of fair testing was covered. She shared a wide variety of ideas and it became clear that she greatly valued talk. Specific mention was made of it leading to assessment opportunities and that planning for the lesson and timing decisions took account of the importance of group discussion. However many of the issues raised during the reflective oral diary were related to children gaining confidence; confidence through contributing but also confidence to experiment with ideas.

*I think they are more confident... it (the talk) gave them a chance to go with someone else to see that perhaps other children were making not the same mistakes but had to change their views as well, so they could see they weren't just the only one, because I*



*think that a lot of the time the children think it's just them and you...they don't get that perspective*

*It's just that I just like to think it's (the group talk) a safe place where they can make mistakes and somebody can have a giggle*

*she's confident enough to say against what others think ...and it also shows the others that she's got something of value to say*

*we're always worried about what people think...what should be right and really if we talked about what was there we'd all see that we're in the same boat*

Interestingly, when pupils shared their reflections after the lesson, although they were able to say what they had learned in terms of the water temperature moving towards that of the room, they did not review the lesson as positively as Emma:

*too much of like explaining I wanted to more like work more... have more challenges; I was only listening erm I like to do things more than listen; we were talking together and when we were talking together er basically I didn't really know everything... no one said oh you did something wrong here*

Oral diaries were one vital tool in this situation for revealing not only the reflective thoughts of the teacher but also an emerging dissonance between the participants. This clear mismatch in perspective - with Emma thinking she was providing children with talk opportunities for confidence yet pupils expressing desires to have a more active and challenging role as they worked in science discussion groups - was to have an apparent impact on the teacher's thinking for future lessons; this also became evident through the oral diaries of the subsequent observed lesson.

## **Lesson 2**

The plan for this lesson was again for children to carry out a fair test and through doing so continue to construct understandings of which materials were thermal insulators. During this lesson, the groups of children were given access to a variety of materials, they made choices on the variables for their test and they were asked to record their group's decisions in their

own way. There was an air of excitement in the classroom and towards the end, the groups were given time to visit each other's tests and ask questions.

In the oral diary reflection after this lesson, Emma appeared pleased:

*I really enjoyed it. It just went really quickly and they were all on task*

*I think they worked well as groups. They were challenging each other a bit more...they did get on quite well, they had their own ideas and they talked to each other and they learned things as they went on and agreed things*

Through her dialogue she again drew on a wide range of ideas about her teaching. Of particular significance perhaps was evidence of a shift in the focus of Emma's thinking from confidence building with talk towards using it to enable children to take responsibility and ownership of their learning, for example:

*I said I'm going to let you decide...it's up to you how to do it*

*I kept my nose out I think. The hardest thing was not to get involved but at the same time not to let them go off at the totally wrong tangent... that was the critical thing. The fact that they knew they had to do it and they were on their own and that it was okay...it gave them the freedom to talk about it and come up with their own ideas...rather than straight jacket them into something rather than just be able to do it, so I think the fact that I just said I might ask you a few questions but I'm going to try and keep out of it it's your experiment, that actually gave them the freedom*

Another notable characteristic of the reflections around this lesson was an emphasis on children asking questions and a focus on scientific enquiry, these notions being drawn on significantly more than had been in the past:

*the intended learning was there's lots of things but to experiment. The idea, the whole thing about experimenting and the fact that you have to try something*

*the whole experiment thing... to change things and learn from things and that's how scientists are and to get them to think about how they could improve it*

*they were learning... they were questioning themselves*

*they've started looking for patterns...to see if they can see something happening*

The perspectives of the children captured during a post lesson interview certainly reflect that they felt they were enabled more in this lesson:

*we got to make our own science; we could just get on with it; I sort of felt like I was the teacher for a lesson*

It is clear from the Emma's reflective oral diary data that she considered differently when planning this second session but also that the lesson had been approached differently not only to lesson one but also when this lesson itself has been conducted with previous classes:

*I didn't know how they, what they were going to come out with particularly, even though I have done this for the last few years, I didn't know how it was all going to play out so I didn't know how it was all going to pull together...I just knew I needed to pull it together*

From this last reflection, perhaps what also emerged is the challenge this new approach brought for Emma in terms of being out of her 'comfort zone', in not really knowing how things were going to work out as she tested out her new ideas. As this short sequence shows, the oral diaries were powerful in providing a window into Emma's changing ways of thinking and they provide evidence of a teacher building tentative bridges to new professional knowledge and classroom practices (Bolton 2001):

*it encouraged me to carry on with the paired talk but it's made me think...be a bit more choosy as to what I get them to think about or to talk about and to try and question myself as to which bits are important to talk as a group and which bits aren't. I think I'm still learning*

Perhaps in this lesson, it can be seen how the immediacy of the diary entry meant that the excitement palpable in the classroom was also expressed in the teacher's reflections, as she spoke of pupil freedom and enjoyment in the learning occurring. She was however, also able to express feelings of concern, those which she had just experienced minutes before in the plenary. This mix of emotions about practice was still fresh for capture in the timely oral

diary entry but the sustained diary keeping also meant that the teacher's ever changing present (Plummer 1983) was also recorded.

### ***A dynamic data source***

The on-going nature of the oral diary data collection and the use of researcher guidance for reflective entries made it possible to tailor the prompts if this was deemed useful. In the case of the lessons described above, due to the differing perspectives offered by the participants in the first episode, after lesson two it was interesting to prompt Emma to think about the experience of the pupils, something which had not been touched upon during oral diary for lesson one:

*They were learning, they were definitely learning. They were learning about group dynamics, they were sharing, working together and the team work that was going on, questioning themselves, backing up their reasoning, using what they've learnt before to help them, there was just so much in there and a bit of science as well thankfully because it's science and they've started now looking for patterns, ...trying to get them not to just do the experiment but to look at their results and see if they could see something happening, so the table over there were like "This is a bit strange" and you don't usually hear it from the kids*

Again, this extract reveals the shift in teacher thinking but interestingly, the oral diary design was significant here also because it allowed for flexibility. Being able to explore a theme which emerged as the study progressed was a useful characteristic in terms of allowing for the collection of relevant data in a personalised but collaborative way, clarifying or expanding issues as necessary (Zimmerman and Weider 1977). Of course it was important to remain with a core bank of prompts for the sake of validity but the potential to have space to responsively explore emerging analytical themes proved fruitful in revealing teachers' possible priorities when thinking about teaching and learning through group discussion in science. In this way understanding was perhaps co-constructed, the diary not being the product solely of the teacher (Elliott 1997; Kenten 2010).

A further example of this useful flexibility occurred when using the oral diary with one of the other participants, David, as once again an analytic theme had emerged as the study progressed. This theme centred on David's shifting emphasis on pupils' use of scientific vocabulary when they were talking in groups. He had specifically referred to the importance of children using scientific vocabulary during the interviews at the outset of the project and observations of lessons early on also showed a focus on this purpose for group talk. Interestingly, during one lesson about half way through the year, David instead emphasised scientific inquiry skills as the focus for group discussion, yet afterwards reflected on his uncertainty about this approach in his diary:

*'...they were not secure in their vocabulary and they needed lots of prompting...vocabulary is a big thing I think. One of the major problems with science teaching is that they are not secure with their vocabulary at all, even getting ready for their final year exams they are not secure with vocabulary and I think plenty of repetition all the time would help them pick it up... so if I could have given them more support to understand the vocabulary that would be much better.'*

After the following lesson David reflected in his diary on his refreshed aims for group talk and the oral diary entry once again made explicit David's earlier beliefs about an important feature of science learning:

*'it was all about vocabulary and it's the practice of vocabulary really and just repeating the words and using the correct words so that was my intention to purely focus on the vocabulary'*

Even further on into the study, David provided lessons in which he re-focussed the pupils' use of group discussion onto scientific inquiry and the pupils' use of vocabulary did not emerge spontaneously during the oral diary entries, yet the developing analytical theme enabled me to create a prompt around his early emphasis. This prompt led to responses which revealed an interesting new dimension to David's thinking about using group discussion; that besides being where children practice correct terminology, it could also be space for children to talk in exploratory ways, as scientists:

*'There wasn't so much vocabulary discussion today, I mainly wanted to concentrate on the fair testing side of things and planning so we did a lot of discussion on that so that was what my main aim'; 'talk as a scientist so they're sort of developing their investigative skills through talking'*

This non-linear story left by David through his oral diaries is a unique insight into developing teacher thinking around the purposes of group discussion and it reflects the presence of an iterative process of sense making about practice (Monrouxe 2009). The capture of this teacher thinking was possible through the use of a prompt which was developed dynamically from ongoing analysis of early diaries, interview and observational data sources.

The probing approach just described can also be drawn upon to gain more detailed data when using an interview method for research (Hobson and Townsend 2010). The oral diary however, differed from an interview in that it created a log of experiences related to the same subject over time, a characteristic of the diary. In addition, its purpose was more than data collection for research; it also constructed a space for professional reflective thinking. Indeed, the three teachers in this study suggested that they had used it as such:

Teacher 1: *it makes you think, it makes you give reasons to yourself, the process makes you think about why you're doing things and what the children are actually getting, what learning is actually taking place and how that group talk affects it.*

Teacher 2: *my own diary as well made me more reflective about the way I think about it, so when you finish a lesson you think oh my God, what's the next thing to do, you just have to move at a rapid pace but actually it's good to stop and think about what you said about things and you may think well, I didn't quite agree with that.*

Teacher 3: *I've really appreciated the sessions afterwards in terms of discussing myself. I know I can talk quite a lot but that's been useful because it's, you think things by saying them, you realise it more, if that makes any sense.*

### ***Fieldwork relationships***

Prior to the study I did not know any of the participating teachers as 'getting into the field' had been achieved through gatekeeping Head Teachers. Initially the teachers each seemed a little reticent about the project, expressing interest but also some reservation in the way in which it would impact upon their time. Indeed I wondered if one of the teachers was participating on the instruction of his Head rather than invitation. This cautious beginning was entirely understandable and predictable; generally observers in the classroom can be seen as sitting in judgement and I soon realised that I would have to make a concerted effort to show that this was not the case. I began to attend to this with very clear explanations of the aims and nature of the project so that perceptions of both myself and the project generated trust and reassurance from the outset (Wall and Stasz 2010), however, the importance of being a teacher with very recent and local classroom experience, also seemed to become immediately apparent. Using this professional history as a way of opening up communications and establishing common ground was vital in these very early stages of the project with regard to initiating and facilitating the reflective oral diaries, due to the fact that they were not a private self-report. Indeed, sharing my own professional story with the teachers seemed to be a good place to start and it soon emerged that this was helpful in establishing some measure of trust as I encountered comments such as 'well you know how it is round here'. This intersection of perspectives or construction of similarity (Abell, Locke, Condor, Gibson and Stevenson 2006; Berbarry 2014) between teacher and researcher was perhaps an important feature in initiating collaborative fieldwork relations - the 'lifblood' of

effective qualitative enquiry (De Laine 2000) and it seemed to set up the trust required for ease and openness during the first reflective oral diaries.

More and more often as the project progressed, the recorded reflective oral diary was preceded by an informal chat and this became a good way to warm up and seemed to lead smoothly into the start of the teacher's own specific, recorded reflection. This was possible perhaps because I had begun to work more flexibly within the classroom as participant observer, spending time with groups, involving myself more and so I felt I was able to contribute in a small way to this informal conversation. We sometimes began with a friendly laugh over something that had happened during the lesson and often I related things I had heard children say, anecdotes which the teacher may not have had access to but which indicated what a particular child had learned or was grappling with. During these times I was careful to only share and never offer an opinion as I was keen not to be seen as judging teaching, just merely part of the classroom. In this way an air of joint participation emerged, allowing for discreet reassurances for the teacher that this was a collaborative meaning making exercise (Mahoney 2007). Amongst other features of constructing effective field relations De Laine (2000) lists the avoidance of being judgemental alongside the development and maintenance of trust and rapport. The evolution of this relatively informal yet professional regular space before an oral diary entry seemed to provide an opportunity to continually construct rapport, reflecting the idea that there is no 'time-out' in field relations (Silverman 2005, 256).

However, I also needed to be mindful that allowing my own perspectives into this space could produce skewed accounts. As a teacher my own background and ways of working and thinking are ever present subjectivities and I had to be mindful not to make these explicit. Roulston (2010, 16) advises that a researcher must 'exercise wisdom in judging when it is necessary to talk about his or her own experiences' and notes that sharing stories can be



useful in opening up channels. However, she also warns against self-disclosure as this could lead to muddying the data with personal accounts. Silverman (2005, 266) writes that ‘the researcher needs to work at balancing the closeness and distance present in fieldwork’ and Flick (1998) suggests the researcher has to be a ‘professional stranger’, becoming accepted and familiar yet remaining distant. Clearly the issue of researcher subjectivity is connected with fieldwork relationships and for me this created methodological tensions which were tricky to navigate in practice. Whilst aiming to develop rapport through participation, sharing of stories and the building of connections I was also aware that I may later find it more difficult to stand back during the interpretation of data. Constant consideration and researcher reflexivity was required on the way in which this facilitation of oral diaries contributed to this on-going balancing act of proximity and distance.

I hoped that taking a neutral approach to the actual oral diary entry would lead to open, unguarded reflections but I also realised that this stance was important in the challenge to generate authentic knowledge through the elicitation of descriptions of a teacher’s personal but professional ways of thinking. The semi structured approach through use of the prompts was a helpful tool in this challenge as, despite it perhaps leading to a more asymmetrical relationship than if I had chosen an unstructured approach, I realised it was less likely to lead to free flowing conversation. This was important to avoid on account of its potential to allow my own perspectives to become explicit which could possibly give rise to biased accounts.

In an analysis of patterns in the construction of researcher-participant relationships, Pitts and Miller-Day (2007, 191) identify stages that may be moved through when building rapport, which is seen as key to the uncovering of honest and open data through methods such as interviews or diaries. They note that it is important for the relationship to reach at least the ‘Self and Other Linking’ stage, the second of four. This is where the individuals connect,

where trust has been established and where researchers may be welcomed into the professional life of the participant and given ‘back stage access’. Further stages are when more personal and long lasting relationships occur. In this study, initiating the diary entry with an open, shared episode, being an attentive listener during the oral diary entry, having a set time for it and building confidence through respondent validation were all important features in continually negotiating relationships, developing rapport and showing my commitment to collaboration. The open, honest and self-critical reflections emerging through the oral diaries not only became evidence of the ‘linking stage’ of the relationship having been achieved but it could also be argued that the oral diary method itself became in part, an unintended but vital tool for the development and maintenance of rapport. The regular routine of the oral diary entries not only gave access to reflective professional thinking but perhaps in some way it also informed and shaped the relationship between the participant and researcher, building a bridge over the gap in roles, as progressively it became a more and more comfortable and familiar constant. This research journal extract shows how as the study developed teachers became more relaxed and at ease:

*Feb 28<sup>th</sup> - After the lesson the teacher mentioned that now she felt very comfortable with me coming in – that at the beginning she wanted to prove what she could do and now it is just ‘oh Author is coming in’.*

## **Conclusion**

This research, concerned with the learning dialogue of children, in turn held at its heart a process of dialogue between researcher and teacher in order to attempt to explore through reflective oral diaries how a practitioner thinks about, plans for and organises successful group talk in science. These diaries provided a space for reflection and knowledge construction for the teachers and their contemporaneous nature meant that fresh and affective thinking was captured, providing a catalogue of events from the practitioner’s perspective, which then proved to be an invaluable source of research data from which changes in

thinking could be charted. The reflective oral diaries used in this study uncovered construction of teacher thinking and told a story of teachers building bridges to new beliefs regarding the use of talk in science.

Initial analysis of the diaries also provided a platform for the construction of ongoing analytical themes and facilitated collaborative meaning making. One of the unexpected but significant strengths of the oral diary approach was its potential as a tool for maintaining and enhancing field relations, a cornerstone of collaborative, qualitative research. The diary entry process provided a space for building rapport and the regular connection between researcher and participant enabled metaphorical bridges to be constructed, spanning the gap between participant and researcher.

The methodology clearly placed value on the teacher's professional knowledge, understanding and skill by fore-fronting their accounts and interpretations through the implementation of a reflective oral diary. However, the use of this kind of oral diary has limitations; the strict timing, whilst initially viewed as a positive aspect of the design could be thought of as a restraint as it perhaps may not always allow for great enough depth in discussion. Using oral diaries alone in the form described may not have allowed for a full enough exploration of the ways in which teachers consider and develop the use of group discussion in science. However, additional information from the structured interviews before and after the project supplemented evidence gained through the reflective oral diaries. The methodology was strengthened by employing a combination of tools including the multiple approaches to interviewing, the classroom observation and the clarification and validation of participant responses. In this way it became possible to begin to access both the dynamic and more deeply considered thinking of practitioners. Despite this, in a future study a serious

consideration of the timing of oral diaries, both within the day and in length, would appear to be an important methodological issue.

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