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What are Teachers' and Pupils' Perspectives on the Teaching of Modern Foreign Languages as an Embedded Subject?

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Abstract

This research project explores teachers' and pupils' perceptions of teaching Modern Foreign Langauges (MFL) as an embedded subject in the primary curriculum. The literature suggests that there are many possibilities for achieving this. I interviewed teachers and key advisors and found that their views were in keeping with those in the literature. I also investigated children's views by teaching two French lessons, one as a typical French lesson and one as another lesson with embedded French, and subsequently gained children's views through a circle time. I triangulated the data by asking the children to assess their progress.

Despite similarities in the views amongst participants, many issues may have affected the results gained in this research, such as interviewer bias and unrepresentative sampling. These and other issues affected the reliability and generalisability of the data. The validity of the study is also debatable. The research concludes that teachers and children perceive embedding MFL as a successful approach to consolidate learning when MFL is also taught as a separate subject. These results will inform my teaching of MFL in the future. They also offer an insight into the thoughts of teachers, advisors and children on the topic of embedding MFL, which will be of interest to others working in the primary school environment.

Introduction

During the subject leadership module, taken as part of my degree studies, my reading suggested that Modern Foreign Languages (MFL) is a very important subject and one that is currently being reintroduced as part of the primary school curriculum. Its importance has been recognised by Lawes (2000: 50) who comments that:

> *…learning a MFL offers the possibility of breaking down the barriers between people. It is liberating in that it emphasizes common humanity in a world more disposed to emphasizing difference.*

Another reason for studying MFL is that by developing language learning skills pupils also learn skills that can be applied to other areas of learning (Field 2000: 15). During module PE202 I produced a framework for languages that highlighted the thinking skills, key skills, Information and Communication Technologies (ICT) skills and cross-curricular links for numerous topics across the primary school spectrum (nursery to Year 6). These thinking and key skills are not only relevant to MFL but to all subjects in the National Curriculum (NC) as connecting skills between programmes of study: `The curriculum offered […] should not simply be a collection of separate subjects' (DES 1981: 12). These connections with key skills are evident in the languages scheme of work produced by the DfES and QCA (2008).

The literature also suggested that embedding was a good approach to teaching and learning in MFL by giving many different instances where MFL could be integrated into the rest of the curriculum. The key methods include songs and rhymes (links to music), stories (links to literacy) and games (linked to maths and other subjects). These activities

can be integrated into timetables to help children gain more of an understanding of what they have been learning in both MFL and other subjects.

Kelly (2004) comments that the growth of understanding is not a linear process which is as true for MFL as all other subjects. Kelly's comment is in support of Bruner's idea of the spiral curriculum, which revisits basic ideas repeatedly, building upon them (Smith 2002). This theory is at the heart of embedding where vocabulary is revisited within other subjects. Despite the advantages of using a spiral curriculum, the theory has been recently contested in Caldwell's research, which suggests that students resent repetition (2008: 3-5). As part of her research she interviewed students about why they thought teachers repeated topics over different year groups; one student said, `so that it's…branded in our brains, so that we know it forever' (Caldwell 2008: 3-5). This suggests that children need to be aware of the big picture and why it is important to revisit past areas of work in order to remain motivated.

My reading inspired me to pursue the topic of embedding for this research project, because I knew from experience in schools that embedding is not used as an approach to MFL teaching. This could be for many different reasons. It may be because teachers lack confidence and experience teaching MFL. For this reason many schools employ language specialists to teach MFL once a week in different classes during the usual teachers 'Preparation, Planning and Assessment' time. This means that MFL is limited to this particular slot in the timetable and is left unmentioned during the remainder of the week. As MFL is a relatively new subject all schools are at different stages of its introduction. Most schools buy schemes of work to support their planning and these may have been followed so closely that embedding has not been considered.

All of these issues are central to the embedding debate and it is clear that there are many advantages and disadvantages to such an approach and potential reasons why embedding is an infrequent method of teaching MFL in the primary school. Some of the pros ands cons of embedding have been outlined in the previous paragraphs but it is important that they are examined in depth in order to focus this assignment. My preliminary research question was: `Is it effective to teach MFL as an embedded subject?'

Literature Review

MFL will be a statutory subject for all primary schools from 2010, following the recommendations arising from Lord Dearing's *Languages Review* (Dearing 2007; BBC 2007). This change has been met with a mixture of responses by staff in schools, arguably because:

> *…introducing a foreign language into the primary school means finding time in an already packed curriculum (Hunt and Barnes 2006: 68-74).*

The *Framework for Languages: Key Stage 2* states that MFL requires 60 minutes of teaching time per week (DfES 2005). In order for this to be achieved the DfES proposed that the time can be divided into shorter chunks of time spread across the week. Such an approach is known as cross-curricular learning or embedding learning as language is 'embedded' into other aspects of the curriculum and school life. Cross-curricular or topic-based learning is increasing throughout primary and secondary schools across the country, not just for languages but for all subjects (Mansell 2008). In the case of primary

MFL a cross-curricular approach to learning prevents teachers considering MFL as something extra. Rather, it becomes part of what is already happening in schools (Brown and Brown 1996). Brown and Brown's perspective is in agreement with the DfES which comments that:

> *…language learning should be planned as an integral part of the whole curriculum, adding a new dimension, rather than as a 'bolt on' extra (DfES 2005: 8).*

Martin and Cheater explain that `it is the frequency of exposure to the foreign language which is…important' (1998: 3). This 'exposure' to language means that MFL is practiced and developed during everyday activities, creating an `economy in time' (Tierney and Dobson 1995: 24). The DfES (2002), Dearing (2007) and the National Advisory Centre on Early Language Learning (NACELL) (2008) all suggest that learning MFL when integrated into the primary curriculum makes language learning effective. This is made explicit in the *Framework for Languages: Key Stage 2* (DfES 2005). Cross-curricular links are evident in other published schemes of work, such as *The Catherine Cheater Scheme of Work for French: Year 3* (Cheater 2005).

Cross-curricular links and possible means of embedding MFL into the primary curriculum have been suggested by innumerable sources, independent of government advice. Morgan and Neil suggest that MFL can be used in everyday classroom language such as instructions, which they refer to as 'incidental language' (2001: 165). Sharpe (1999: 178) shares Morgan and Neil's philosophy and states that:

> *…an item of foreign vocabulary becomes an accepted and unremarkable element of a communicative process: this is a key objective for all language.*

Kirsch (2008) concurs and explains in depth the advantages of employing MFL in this way. Tierney and Hope (1998) provide further examples of how to use MFL in an everyday context and recommend foreign language labels displayed around the school and registration time as opportune occasions for language and vocabulary learning.

In addition to promoting the benefits of daily language use, Martin (1995: 40) argues that the best way of practising MFL involves games, which `are not an optional extra, but an essential part of the learning process, especially in the teaching of younger children'. The use of games has been praised by Sharpe (2001), who explains that they are motivational and therefore promote learning. He elaborates by claiming that games are advantageous because they are familiar, increase concentration, create real meaningful situations and force key language to be repeated and so reinforced. These ideas are validated by other sources such as Jones and Coffey, who argue that `the enjoyment factor is paramount' (2006: 77). Jones and Coffey also identify rhymes and songs as ideal ways of embedding MFL into the curriculum for similar reasons as using games. Martin and Cheater (1998) explore the advantages of songs and rhymes in depth, because they are enjoyable and memorable. Fawkes (1995), Muir (1999), Cameron (2001), Kirsch (2008) are all in agreement.

Tierney and Dobson (1995) identify storytelling as a further enjoyable and memorable method of bringing MFL into daily classroom life because `stories in any language provide very powerful models for language learning' (Datta and Pomphrey 1998: 24).

Activities can be undertaken before the story (for example, key vocabulary learning), during the story (such as listening, repeating key phrases and using actions) and after the story (for example, using games, songs, puppets and role play to recreate the story or even write their own stories) (Tierney and Dobson 1995).

Stories are a fantastic tool for providing insight into different cultures but Kirsch (2008) explains that if English traditional tales are studied in another language then this can also be beneficial because the stories will be familiar thus allowing the children to concentrate on the language being used, rather than the content of the story. Dual language books are popular in schools, partly for this reason but Jones and Coffey (2006: 61) suggest that `big books' already in schools for literacy lessons can be changed into MFL books by covering up the English text and adding another language. Reading in addition to speaking, listening and writing are the elements that make up language learning (DfES and QCA 1999) and consequently literacy promotes the biggest link to MFL over and above all the other subjects. Similarly Drama an element of speaking and listening, (DfES and QCA 1999) is a very generative subject for MFL as it allows children to understand the language in a life-like scenario, an idea Boys and Spink (2008) support.

Learning a language also helps understanding of people as it allows communication with others across the world. Contact in this way is possible with ICT, which is an essential cross-curricular link. Children can use new technologies such as e-mail, forums and video-conferencing to contact schools in other countries speaking the target language (Jones and Coffey 2006). This is essential in providing a real context for language use (Jones and Coffey 2006: 134). Speaking to people across the world facilitates inter-cultural understanding a strand of the *Framework for Languages: Key Stage 2* (DfES 2005). Brown and Brown (1996: 1) explain that cross-curricular MFL learning can:

> *…broaden pupils' understanding of world issues in MFL lessons [and] help to prepare pupils for their role as future citizens of an increasingly interdependent world community.*

Young and Commins develop this point and show that understanding culture and learning languages is about developing ourselves as global citizens, part of which is becoming 'aware of the wider world and [having] a sense of [our] own role as…world citizen[s]' (2002: 1). This can be enhanced if people who speak different languages from the local community or from across the world visit the school or vice versa.

Knowledge of other languages as a global citizen means that languages are recognized and celebrated and the European day for languages (held every September) is an important part of this (NACELL 2008). One school I have visited during my studies, which has a high proportion of the pupils speaking English as an Additional Language, learnt a new language every month to celebrate the languages spoken in and beyond the school. The language of the month was clearly displayed throughout the school with examples of the children's work incorporated into this. Datta and Pomphrey (1998) discuss the value of displays, which when interactive can create a rich multi-lingual environment to support learning and celebrate pupils' work, while also giving information. Displays are usually part of a whole-school approach, which is essential when embedding MFL into the curriculum and into school life because of the support needed to `foster and disseminate good practice' in embedding (Muir 1999: 101).

Instructions, games, songs, stories, communication with others, language awareness and displays are all good methods advocated by literature for embedding MFL into the primary school. Many sources (Tierney and Hope 1998; Sharpe 2001; Boys and Spink 2008; Kirsch 2008) discuss in depth how MFL can be linked to the other National Curriculum subjects. However the purpose of this assignment is not to provide a teaching guide for MFL and list methods of achieving a cross-curricular approach, but to explore the fact that a wide variety of theorists have done this and describe the benefits of MFL being taught as an embedded subject.

Tierney and Hope (1998) explain that adopting an embedding approach can save time, give a real context for language use, make the teacher (who may not be a language expert) feel more comfortable teaching language and allow pupils to acquire and reinforce the language and the other subject(s). Similarly Brown and Brown (1996) comment that a cross-curricular approach motivates children as it accommodates different learning styles and allows links to be made with previous learning. Additionally, Sharpe states that, `an integrationist environment transforms the significance for pupils of what is learnt and can potentially raise standards of achievement' (2001: 17).

Kirsch (2008) argues that teachers could liken the content of the language lessons to a topic already being covered in another subject, not just in the past. This type of approach would result in a more topic- or skills-based curriculum and would perhaps involve no subjects being taught separately. Cameron (2001) defines theme-based learning as many different activities linked by a topic or theme that connects everything that happens in the classroom. Cameron's recommendations for teaching in this way and the benefits of such a style of teaching have also been proposed by Barnes because `our experience of the world is cross-curricular' (2007: 1) and because the core of education is to help 'children appreciate, enjoy and understand their lives and worlds now (2007: 9).

As demonstrated, the majority of the literature explores techniques of embedding MFL and the advantages of this, but less delved into the disadvantages. Although this information is practical and helpful it has been deemed rather idealistic by some academics. Research conducted by Driscoll et al. (2004) claims that 44 per cent of all schools that teach Key Stage Two pupils in England offer curricular or extra-curricular primary MFL learning to pupils. In those same questionnaires only 34 schools said that they embedded primary MFL in other lessons. If embedded language learning is as beneficial as the experts suggest, why is it rarely taught as an embedded subject?

Low claims that the embedding model trialled in Scotland was `at best difficult and at worst unrealistic' (2004: 57) because of the lack of knowledgeable teachers in each school. However, Boys and Spink argue that, `a teacher does not have to be an expert linguist to create an appropriate context that facilitates language learning (2008: 96). Moreover, Muir (1999) suggests that a lack of subject knowledge can be successfully tackled through training sessions and that schools, local authorities and the Government must take responsibility for the provision of such opportunities.

Some of the literature highlights additional difficulties, for instance both Muir (1999) and Morgan and Neil (2001: 165) argue that cross-curricular language learning leads to `fragmentation' where the language learnt appears unconnected and without progression. Kirsch concurs and warns that `it is crucial that the combination of two

subjects does not come at the expense of the learner's progression in either of them' (2008: 98). Muir (1999) responds to this by explaining that this can be prevented by deploying careful planning based on a clear long-term plan, a policy for the teaching of MFL, suitable classroom and resource organisation and systematic approaches to pupil assessment and learning.

It is important that feedback from the children is gained as this promotes assessment for learning where children are made partners in their learning (DfES 2003). Drummond argues that the children's learning 'must be the subject of teacher's most energetic care and attention' (2003: 10) yet only one piece of literature I read explored the views of children about their learning in MFL. Hood (2006: 4-12) discovered that children found integrated language learning motivational and that:

> *…language learning, if both embedded and if using an optimal methodology, can in certain aspects be a major contributor to the 'emotional landscape' of the school.*

Research Methods

The majority of the sources in the literature review supported embedding as a good approach to the teaching of MFL in the primary classroom and provided many reasons and examples for that opinion. As a result of the literature review I decided to investigate whether teachers and pupils in reality agreed that embedding is an effective approach.

MacNaughton et al. (2001) make the distinction between methodologies and approaches in educational research. According to Sikes (2004: 16) methodology refers to 'the theory of getting knowledge'. Sikes goes on to make a distinction between methodology and `procedure or method'; the latter defined as `the specific research techniques that are used to collect and then analyse data' (2004: 16). Cohen et al. (2007: 47) define methods as `the range of approaches used in educational research to gather data which are to be used as a basis for inference and interpretation, for explanation and prediction'.

According to Bell (1999) my methodology is a case study because I studied one aspect in depth with a limited time scale. For Bell (1999: 11), the advantage of using a case study is that it:

> *…allows the researcher to concentrate on a specific instance or situation and to identify, or attempt to identify, the various interactive processes at work.*

This is exactly what this research investigates. Drever comments that in a case study the researcher tries to give a detailed picture of a something small and independent (2003) and Edwards mirrors this view defining a case study as a `detailed snapshot of a system in action' (2001: 126). Edwards identifies the main drawback as being the `temptation to generalise from the cases to the wider population' (2001: 127). The fact that case studies cannot be generalised means that they lack external validity. As a result the reliability, which Wellington (2000) describes as the extent to which a piece of research can be repeated achieving the same results, decreases. Despite these disadvantages I

believe that taking a qualitative approach based on a case study is the best approach for this research project as it sought to understand individuals' perceptions (Bell 1999).

Cohen and Manion (1994) comment that observations are the most typical method for a case study. Bell suggests that `direct observations may be more reliable than what people say in many instances' (1999: 156). However, observations were inappropriate for this research as they would have involved interpreting what people think which would have produced unreliable, subjective and potentially skewed data.

Although questionnaires were another possibility, my focus was on a limited number of adults and children whose views would be explored in depth, something that would be difficult with a questionnaire which would (on the whole) generate significantly shorter responses. For these reasons I chose to use interviews, following Bell (1999: 135) who argues that `a major advantage of the interview is its adaptability' - which is a definite weakness of questionnaires. Interviews have numerous other advantages and disadvantages. A big advantage is that they can be `enjoyable and interesting' and provide individuals or groups of people with a `voice' (Wellington 2000: 71-72). In this instance, this voice was revealed through questions that were semi-structured. The semi structured nature of the interviews meant that the interviewer has:

> *…a general structure by deciding in advance what ground [was] to be covered and what main questions [were] to be asked (Drever 2003: 1).*

This approach was selected over a structured interview because the latter often involves an interpretation of answers and thus introduces bias; whereas semi-structured interviews give the opportunity for prompts and follow-up questions to clarify the interviewees' meanings.

This implies that the interviews have to be carefully planned, the importance of which is highlighted by Drever, who comments that `nothing is more important […] than having a good interview schedule' (2003: 18). My planning involved creating a timetable to ensure I completed the assignment on time, as Edwards (2001) warns that a weakness of interviews in qualitative research is the length of the process. Unfortunately I over-estimated how much I could do in the timescale I had set myself. This was mainly because of issues of gaining access to interviewees and the transcribing of the recorded interviews that followed. An advantage of recording and transcribing is that it `comes close to being a "true" record of an interview' (Drever 2003: 63). However, Opie (2004) cautions researchers that the data itself may be distorted by the fact that the interviewees know they are being recorded.

The interviewees were key people involved in introducing MFL into primary schools and I sought their views on embedding MFL into the rest of the curriculum. The sample (based entirely on opportunity) was composed of teachers, subject co-ordinators and people with specialist knowledge who provide advice for teachers. This provided a range of views from practitioners with varying expertise and promised a balanced set of views. The participants were made aware of their rights prior to the interview and were asked if they were willing to be recorded. I produced a consent form outlining the rights, which they all agreed to and signed. These actions are in line with the *Research Ethics Policy* (Bishop Grosseteste University College Lincoln 2008). Ethics are particularly important when conducting research with children, who are entitled to the same rights as adult participants.

In order to research the views of children about language learning in other subjects I taught a lesson with MFL embedded into it and a pure MFL lesson. This was one way of ensuring the children had experienced both types of lesson. I took the role as the teacher which meant it was difficult to analyse whether MFL was effective as an embedded subject through observation. Consequently to be able to research the children's views on their learning, I employed an interview method.

The interview was conducted on a group basis because of time constraints and in order to make the pupils feel more comfortable (Opie 2004). It was presented as a discussion shaped by structured questions, not only to help the children feel at ease, but to encourage them to explore the topic in more depth. This whole-class discussion gave each child a choice as to whether to participate or not, an important ethical issue emphasised by Dockett and Perry (2007). The children were informed of their rights as part of the introduction to the circle time. Clear rules were established to ensure that only one person spoke at a time (the person holding the dictaphone was allowed to speak while everyone else listened) and that they had the right not to answer any of the questions or a limited number as they wished. Ball (1985) comments that usually in research no one consults the children but I ensured that this was not the case, choosing to adhere to *Convention on the Rights of the Child,* Article 12, which states that:

> *The child shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of the child's choice (United Nations 1989: 4).*

I did not ask the children to sign a consent form as this was not appropriate because according to the *Research Ethics Policy*:

> *…informed consent need not be obtained […] when […] the research is part of normal professional practice for the researcher (Bishop Grosseteste University College Lincoln 2008: 3).*

Another consideration when interviewing, as Brooker (2001) has highlighted, is power relations in an interview situation with children). As discussed, I tackled this problem by conducting the interview as part of a circle time so that everyone had an equal opportunity to provide their views without being interrupted. The power balance when interviewing adults was not something I considered in advance but something that I recognised both during and after the interviews and which will be discussed further.

The lessons and interviews were conducted with one class in Key Stage Two in a primary school in which I had previous experience. This means, as mentioned, that both samples (with the children and adults) are based purely on opportunity. Subsequently my research may be biased and not representative of other teachers' and children's views. This means that the results may not be generalisable to other teachers or children. As a result the findings may not be reliable as if someone else was to replicate the study they may get different views thus rendering my research invalid.

My results were triangulated as I obtained the views of the children and adults and compared them with the literature. In addition I asked the children to assess themselves through a traffic lights system after both lessons providing an additional

degree of triangulation. This method of data collection also provided some degree of data triangulation with the answers they provided during the interview (Crane 2008a).

I wanted to discover if teachers embed MFL, why or why not they embed it, how they embed it and whether they think embedding is a successful approach to teaching MFL. These questions were devised based on previous experience in schools and the literature review. My preliminary research question was: 'Is it effective to teach MFL as an embedded subject?' I became dissatisfied with this because the 'effective' element of the question seemed subjective and immeasurable and would inevitably lead to a judgemental conclusion, which felt inappropriate given my inexperience as a teacher. Once I had decided upon my methodology and methods, the question seemed increasingly unsuitable and comments given in feedback on my proposal acted as confirmation of this view. I realised the data being collected related more to `perspective' than `effectiveness' and therefore changed my question to: `What are teachers' and pupils' perspectives on the teaching of MFL as an embedded subject?'

Findings/Results with Analysis

My adult participants are referred to as A, B and C in order to preserve anonymity. Participant A was a Teaching Assistant, B was a Newly Qualified Teacher (NQT) and C was an advisor for the teaching of MFL. I found that the majority of the adults' responses were in agreement with those views outlined in the literature.

A, B and C thought that the embedding of MFL was a successful approach to teaching MFL in the primary school, but only when MFL was also taught as a separate subject. B and C agreed that embedding was important. B said it was important because:

> *...then I think they get it in context… For me it's a bit like ICT, if you just teach it as a subject on its own it doesn't have any relevance and it's the same I think with MFL.*

This perspective was validated by C. A had a different point of view saying that, `it might be a slightly more interesting way of doing it rather than just teaching it as a formal subject'. A went on to praise cross-curricular learning explaining that it was good for different learning approaches and using different parts of the brain. B claimed that through embedding `understanding would come'. C summarises her view on cross-curricular learning by stating:

> *…I think it enables them to consolidate their learning and to use their skills in other contexts and that's what life is all about really isn't it? We learn things and then we have to translate them over into other situations… I think that's the crux of it really.*

The responses of A, B and C may be unreliable due to `interviewer effects' (Crane 2008b). Drever (2003) describes these effects as being when interviewees tell the interviewer what they think they want to hear. This was especially true for participant A, who was not involved in the actual teaching of MFL but had observed some lessons and attended a staff meeting about embedding MFL into the curriculum. During the interview I was aware that she was trying to give me the information she believed I needed, for example, by suggesting ways that MFL could be embedded rather than what she had actually witnessed being done in the classroom. Although participant B

was in the classroom as a teacher she did not actually teach MFL. This did not prevent the sharing of views regarding MFL as an embedded subject, but B may have been influenced by the results s/he thought I wanted. As Drever (2003: 30) comments:

> *…the mere fact that you want to interview them about something suggests that you regard it as important, and they will try to appear knowledgeable and interested.*

Interviewer effects were also a possibility in the interview with participant C, as C had requested a copy of the interview questions prior to the interview claiming time constraints as the reason for this. I did not feel in a position to refuse and hence C's answers were prepared in advance and dominated the interview. This was unethical because I did not give A and B the same opportunities as C and their interviews had taken place before C had asked for the questions.

During the interview design process and the pilot interview I was very conscious of avoiding questions that were biased and used open questions to steer clear of this. Schostak (2002) comments that peer review and evaluation help to safeguard against bias but this did not prevent me from altering my well-planned questions during the interviews themselves. In one instance I led A to give the answer I was expecting, thereby not following Wellington's (2000: 72) observation that: `The interviewer should not play a leading role' and instead creating an invalid response by altering the power distribution. Power distribution was also an issue in the interview with C. The only interview where power was equally distributed was with B and this fits Opie's objective of a good interview which is `to encourage respondents to say what they think and to do so with greater richness and spontaneity' (2004: 115).

Problems arose during the interview with children as well, primarily because it was conducted as a whole-class circle time and the children's responses were influenced by each other. Indeed, many were simply repetitions of what others had already said. Twenty eight children were effectively being interviewed at the same time which far exceeds Greig et al's recommendation of 5 or 6 as the optimal group size (2007: 162). I was concerned with the trustworthiness of the children's responses and also afraid the children would tell me what I wanted to hear (Dockett and Perry 2007) so I took precautions and asked the children to self assess their work using a traffic light system to triangulate the data. In reality the results themselves proved that I was mistaken about my influence on their responses.

It did not surprise me that 22 out of 26 children that answered preferred the Physical Education (PE) lesson to the pure MFL (French) one because the lesson was more practical in nature, something commented on by many of the children. I assumed that based on this they would all say they learnt more in the PE lesson, but I was wrong. Instead 24 of them said that they learnt more in the French lesson. When questioned why they thought they learnt more in the French lesson most children replied saying `because we learnt the language', `you taught us a bit more' and 'because if you didn't know the left or right then you wouldn't be able to move around when we did PE'.

I realised that I had made a major mistake when designing the lessons. The French vocabulary was introduced in the French lesson and repeated in the PE lesson with no new French being introduced. The children were correct when they said they learnt more in the French lesson because in the PE lesson they were simply using what they

had learnt before. When analysing the data of the adult interviews, A, B and C had all suggested that embedding was good for consolidating learning and I had applied that to the children's lessons and not taught them new things in both lessons. In hindsight the first French lesson was cross-curricular too as it was heavily reliant on geography. This meant that it was an unfair test and the results are invalid. I should have introduced new vocabulary in both lessons and asked the children in which lesson they felt they learnt the most. I realised that although my methods had been a good idea I had been incredibly naïve and overlooked a lot of factors which have consequently meant that the research is not as meaningful as it could have been.

Despite my immediate disappointment, during the analysis I realised one child commented that `in PE I thought we got taught more because we got to practice the directions'. This suggests that embedding can be successful and was supported by another child who stated `in PE I learnt more because I said "left" and "right" more instead of the first lesson'. By using the vocabulary in a practical way the children's learning had been consolidated in the lesson with embedding. These comments were supported by the traffic light results which indicated the children's self assessment after each of the lessons.

There was a lack of new skills or actual teaching in terms of PE and there was only progression in French, which is another potential flaw in the embedding approach (mentioned in the literature review) if planning is not carefully considered. One child commented that I needed to `make the PE a bit more interesting'. This was not because they did not enjoy the PE (most of the children claimed they enjoyed the PE more than the French lesson) but because the PE was simply too easy for them. Participant C commented that the objectives of the lesson determine the amount of MFL and original subject being taught and did not think that embedding could be detrimental to either subject. However from my research I think it is important to plan carefully to ensure that the content of each lesson is sufficiently challenging for all subjects.

Conclusion and Recommendations

Through this research project I have discovered that research in education can be `very enjoyable […] it can also be messy, frustrating and unpredictable' (Wellington 2000: 3). The word `frustrating' is used by Lewis to describe research, along with `stressful' and `lonely' (2004: 1). During the research my focus changed from: `Is it effective to teach MFL as an embedded subject in the primary school?' to `What are teachers' and pupils' perspectives on the teaching of MFL as an embedded subject?' This was because of a realisation that the data I was collecting would not answer the initial question. My original question was also subjective and immeasurable, while the second question looked at different viewpoints, which could be reported more objectively.

I encountered a variety of issues, such as interviewer effects, problems with power distribution during interviews and difficulty gaining access to the school. Because many of these issues had a significant effect on the research itself, an awareness of them is important when judging its success. Reflection is important at every stage of research (Wellington 2000) to ensure that issues are recognised and their impact assessed. As Sikes comments, failure to `tell it like it is' is unethical (2004: 31). Completing research involves much decision making and `knowing where and when to stop is a far more difficult problem than knowing where to start' (Wellington 2000: 34).

The whole research project was incredibly time consuming but nevertheless invaluable. Undertaking it has been enlightening regarding the research process itself and the use of it in education. According to Bell (1999: 12):

> *…a successful study will provide the reader with a three dimensional picture and will illustrate relationships, micropolitical issues and patterns of influences in a particular context.*

To some extent I feel that this was achieved in my research. All of the sources (from the literature review and interviews with teachers and children) concurred that embedding MFL into the curriculum is an effective way of teaching primary MFL when used in conjunction with separate MFL lessons. The data provided by the participants and literature also highlighted issues surrounding the embedding debate. Results are triangulated, which grants an element of reliability and validity to my research (despite the bias of the samples and the other flaws highlighted in the previous section). I have found that when teaching MFL it is important to give the language being learnt a context, which helps to consolidate learning. Embedding as an approach to MFL can be successful but only if there is sufficient planning for the progression of skills in all of the subjects involved. MFL must not be embedded at the expense of other subjects or vice versa. Through this research I have learnt a wide range of practical strategies through which MFL can be embedded into school life.

I have also learnt that engaging children in discussion about their learning is incredibly informative and should be done more often in the primary school so that the children are not just analysing their own learning but also giving the teacher ideas for what to do to aid that learning. It is key to professional development and it was fascinating to see how the children were quick to identify what I could have done to improve the lessons. For example, one child identified that during the French lessons the vocabulary for `left' and `right' could have been written on their hands as a reminder when giving and using directions; something I had not considered. Information such as this is essential to improvement and is something I intend to use more regularly during my teaching. I therefore feel that this research will have an important impact on my teaching.

Another outcome of this research for me will be to use an embedding approach to teach MFL in the primary schools in which I work. This will be alongside subject-specific MFL lessons with the embedding as part of other subjects and daily routines, such as doing the register. If I were to extend this research project further I would use a larger and more representative sample. I would do a series of different lessons with children, perhaps my own class if appropriate, and try different methods of embedding MFL into the rest of the curriculum, even if only for five minutes a day. I would also encourage other teachers to try an embedding approach and I will provide feedback to those involved in the research not only for ethical reasons, but because it offers insights into varying people's perceptions of embedding MFL which may be useful for them.

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Strategies to Support Pupils with Autistic Spectrum Disorders Learn Names and Identify Others by Name.

Karen Fixter

Abstract

This research set out to develop strategies that would support two 18-year old pupils, one verbal the other non-verbal, to learn names of, and identify by name, peers and regular staff with whom they work. Both pupils are on the autistic spectrum, both have severe learning difficulties and exhibit challenging behaviour. Three strategies were implemented at weekly intervals; all involved attaching Makaton finger-spelling signs to photographs to provide visual aids.

Data were gathered through structured and unstructured observations, through completion of a reflective journal, staff questionnaires and a Likert rating scale. It would appear that the aids introduced were beneficial to both pupils, but in particular to the non-verbal pupil. Both pupils required less support while the resources were available. Increased independence, increased confidence and improved signing were additional outcomes.

Introduction

The aim of this research was to develop strategies to support pupils learn the names of their peer group and of the staff who regularly support them. The research focussed on two 18-year old males with severe learning difficulties and challenging behaviour, who are supported on a one-to-one basis within a special school. Both are on the autistic spectrum and have difficulties with communication associated with the 'triad of impairments' (Wing 1998: 22).

Pupil A is non-verbal and has shown difficulties in learning the names of peers and staff with whom he regularly works. His verbal understanding is limited to a few key words and he follows many instructions from gestures, Makaton signing, or from 'contextual cues' (Potter and Whittaker 2001: 36). His limited understanding can cause him to become agitated.

Pupil C is verbal and does not experience too many difficulties naming peers even though he does not interact with them. He does however have difficulty identifying familiar staff by name, requiring verbal prompts and gestures to do so; this often results in him repeating his own name or confusing pronouns (Schopler and Mesibov 1985).

An initial analysis of why staff names presented more of a problem when (as with pupil's names) only first names were used, suggested that there were increased opportunities to learn the names of peers, as the school is residential. Another consideration was that pupils always sit in the same places whereas staff members sit in different seats throughout the day.

The purpose of this research was to improve pupils' abilities to learn and/or recall names with increased independence. At the same time, I wished to try out the newly available extension to the computer programme *Communicate in Print* which enables

printed representations of Makaton signs to be produced in addition to the Rebus symbols that are regularly used to provide visual support. Therefore a further purpose of the research was to make use of this resource and evaluate its effectiveness.

Although the strategies put in place were intended to increase the knowledge and understanding of names, as the pupils would first need to learn to use the resources being made available to them, full effectiveness may not be realised within the time constraints of the research.

Literature Review

Kanner first described the features of autism in 1943 (Wing 1996). Those with autistic-spectrum disorders have since been portrayed as sharing a 'triad of impairments'; these affect the ability to communicate effectively, interact socially, and inhibit imagination (Wing 1998). Farrell (2006) argues that educational provision needs to take account of the triad of impairments. However degrees of difficulty vary between individuals and additional factors including individuality, medical conditions and environmental factors may also influence behaviours (Jones 2002; Blamires 2004; Pittman 2007). Furthermore, according to Powell and Jordan (1997), many on the autistic spectrum have other learning difficulties. This represents a departure from Kanner's original research that suggested children with autism were basically intellectual and it was the autism that caused the difficulties (Jordan and Powell 1995).

Lack of 'theory of mind' or 'mindblindness' is another factor of autism, whereby those on the spectrum experience difficulty understanding the thoughts and emotions of others (Baron-Cohen and Bolton 1993: 46). Another difficulty is inappropriate eye contact and the inability to use such contact for communicative purposes; although it has been suggested that it is the length rather than the lack of eye contact that is the issue (Baron-Cohen and Bolton 1993; Jordan and Powell 1995). Moreover, this may be due to physical difficulty; Bluestone (2002) argues that weak muscle tone makes it difficult to maintain eye contact. A further difficulty is prosopagnosia, alternatively referred to as 'face-blindness', where difficulties are experienced in recognising different people (Bogdashina 2003: 127). For Powell and Jordan (1997), this is a consequence of lack of attention to faces. Prosopagnosia, it has been suggested, may result in social impairments that are associated with autism (NINDS 2007). Additionally, Delacato (1974, in Bogdashina 2003: 53) claimed that those on the autistic spectrum may exhibit sensory difficulties resulting in hyper, hypo or 'white noise' sensitivity within sensory channels; sensitivities which may fluctuate.

Research by Kanner (1946, in Schopler and Mesibov 1985) reported that the main problems in autism lie with language difficulties. However, according to Chomsky (1959, in Arnold and Yeomans 2005), everyone has an innate ability to acquire the rules of language, particularly a grammatical awareness. This conflicts with the behaviourist view of Skinner (1957, in Schunk 2004) who argued that language is acquired through operant conditioning whereby behaviour is learnt through reinforcers. Other theorists, such as Osgood (1962) and Mowrer (1960) (both in Bogdashina 2005), take a neo-behaviourist view and argue that the acquisition of verbal language cannot follow the same process as other behaviours because some form of mediation is also required.

Cognitive perspectives on the acquisition of language revolve around Piaget's and Bruner's work (in Kearsley undated). Bogdashina (2005) describes language as a mode

of communication and a system to devise and communicate thoughts. Many individuals on the autistic spectrum do display difficulties with language development, including anomalous use and a lack of understanding of language systems (Baron-Cohen and Bolton 1993). On the other hand, Potter and Whittaker (2001) are of the view that some communication skills are possible when appropriate environments and strategies are put in place. This is echoed by Thompson (2003) who maintains that difficulties in communication can improve within structured settings. However the definition of what communication is can vary; for some it is seen as any act that affects the actions of another, whereas for others intent needs to be involved (Fay and Schuler 1980, in Olley 1985).

Although verbal communication consists of speech and language, language can take other forms such as signing, thereby enabling non-verbal communication (Bogdashina 2005). Tod and Soan (2004) cite the importance of augmentative and alternative systems within educational environments to enable inclusion. Such systems, Law and Elias (1996) maintain, are not intended to substitute for speech, but to build on what is already known and used. British Sign Language (BSL) and Makaton are both manual forms of communication, with Makaton (unlike BSL) accompanied by speech, with one sign representing a complete word (Arnold and Yeomans 2005: 60), and only key words signed (Newman 2004). Jordan and Powell (1995) argue that the benefits of gestures as an augmentative system should not be overlooked.

Enabling non-verbal communication is of particular importance for those on the autistic spectrum considering that as many as 50 per cent have extreme difficulties with speech (Jordan and Powell 1995; Peeters and Gillberg 1999; Bogdashina 2005). Furthermore research suggests that signs may be easier to learn than words (Reid 1984, in Grove 1980), although Bogdashina (2005) cautions that as with verbal language, signs may be processed literally. However signing does allow for interactions to be made via another means and it has been suggested that in addition to enabling communication, signing can help to keep thought processes on track (Schaffer et al. 1977, in Wilbur 1985; Law and Elias 1996).

Furthermore signing can help to enhance understanding (Jones 2002) particularly for those with a preference for visual or kinaesthetic learning (Bogdashina 2005). This would support Newman's view (2004) that learning language through signing involves a multi-sensory approach, whereby the word is heard, seen and signed. However, as Jordan and Powell (1995) point out, some individuals may experience difficulties in receiving information through more that one sense simultaneously.

Research Methods

Issues of voluntary-informed consent were considered; this involved gaining consent from the head teacher. Additionally, although the nature of the research did not necessitate parental consent, as the pupils were in residential care, consent was gained *'in loco parentis'* from the head of care (Kershner and Chaplain 2001: 13).

Parental consent was already in place regarding the use of photographs. Although aged 18 the pupils who were the focus of the research were not assisted to give consent themselves as per the requirement of the United Nations Convention of the Rights of the Child due to the severity of their learning difficulties. Rather, consent was gained from a responsible person on their behalf (British Educational Research

Association 2004). Consent was also obtained from staff members that work on a regular basis within the class where the research was to be undertaken. Other staff members provide support during the course of a week but it was arranged that during planned research observations only those staff members that had given consent would provide support to the pupils concerned. Following Cohen et al. (2007), all participants were informed that confidentiality would be respected, and with the exception of myself, anonymity. The principles of the Data Protection Act (1998) were also adhered to (BERA 2004). Only when all issues of consent had been established did the research begin.

Structured planned observations of two male pupils were carried out to ascertain the support required to name others during greetings each morning, and when possible each afternoon.

Table 1 – Stages of observations:

Observations	
1st week	Initial observations to ascertain the extent of difficulty and to gain a baseline to measure improvements against
2nd week	Cycle 1 – Attaching Makaton finger-spelling signs to photographs on greetings card
3rd week	Cycle 2 – Displaying large photographs together with signs on walls
4th week	Cycle 3 – Wearing badges consisting of photographs and signs
5th week	Continuation week
6th week	Observations following removal of resources

Due to their learning difficulties the pupils did not appear to be aware that they were being observed, therefore their behaviour appeared unchanged. The initial observation form was found to be inadequate and was replaced with something more appropriate and specific. Since one pupil was non-verbal it was not appropriate to tape record sessions, therefore notes were made during observations. Video recording would have been an appropriate method of data collection because as Koshy (2005) points out, this allows for everything to be captured and watched at a later time without distractions. However due to staffing requirements within the class this was not possible.

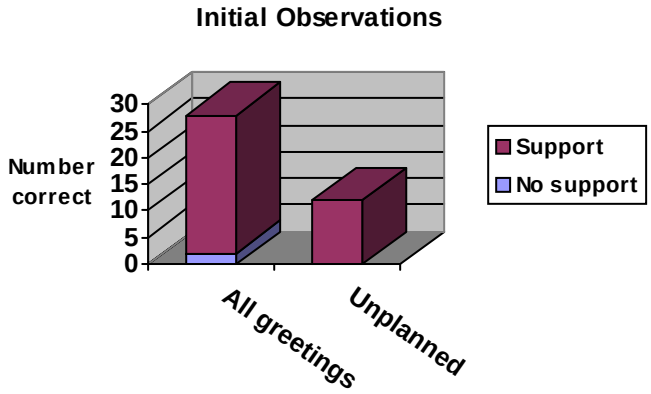
As all pupils exhibit challenging behaviour seating arrangements were planned so that I was able to sit with the less disruptive pupils thereby facilitating more focussed observations. Moreover, my seating position enabled me simultaneously to see the non-verbal pupil signing and to hear the verbal pupil. It was not possible to be a non-participant observer, although whenever possible I did not support the pupils who were the focus of the research. Unstructured observations were carried out as and when opportunities arose to name or recognise pupils or staff. Observations provided qualitative data that has been translated to additionally provide quantitative data (Koshy 2005).

To ensure triangulation, other research methods were used (Cohen et al. 2007) including a reflective journal to record thoughts on progress, thus providing qualitative data. Participating staff were asked to complete research questionnaires, again providing qualitative data. However the wording of the questions resulted in differing amounts of feedback (Bartlett et al. 2001). On reflection, following Sharp (2009) interviews would have allowed points to be elucidated, but this was not possible due to working commitments and time constraints. Pupil questionnaires were not deemed appropriate, because the nature of the learning difficulties meant that information gathered could not be regarded as reliable (Kershner and Chaplain 2001). Lastly, the class teacher rated the effectiveness of each cycle for each pupil, providing additional quantitative data.

Findings/Results

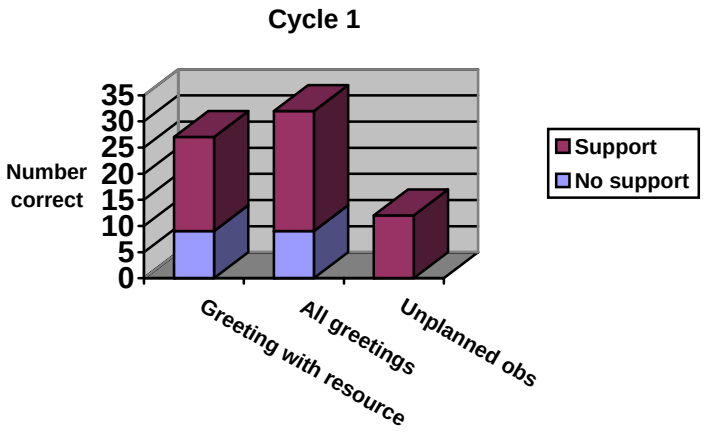
Existing practice to assist pupils to make a greeting involved the availability of a greeting card containing photographs with names of staff and pupils, thereby enabling choices to be made. If pupils experienced difficulties in naming they were prompted either verbally or through signing. During initial observations it was found that on 26 out of 28 occasions support was required. Full support to identify others by name was required during the 12 unplanned observations that took place.

Figure 1 – Level of support required during initial observations:



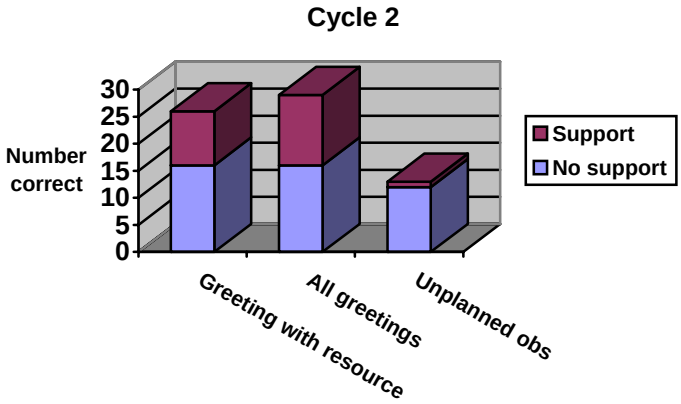
The first cycle of research involved attaching Makaton finger-spelling signs, representing the initial letter of names, to the photographs on the greeting card. As with the issue of consent, because a number of staff members provide additional support during the week, it was not possible to provide photographs and signs for everyone, therefore signs were only added to the photographs already available. Over the week the greetings that occurred where a resource was available resulted in support being required 18 out of 27 times, compared to 23 out of 32 overall. Twelve opportunities for unplanned observations arose, all instances requiring full support.

Figure 2 – Level of support required during first cycle:



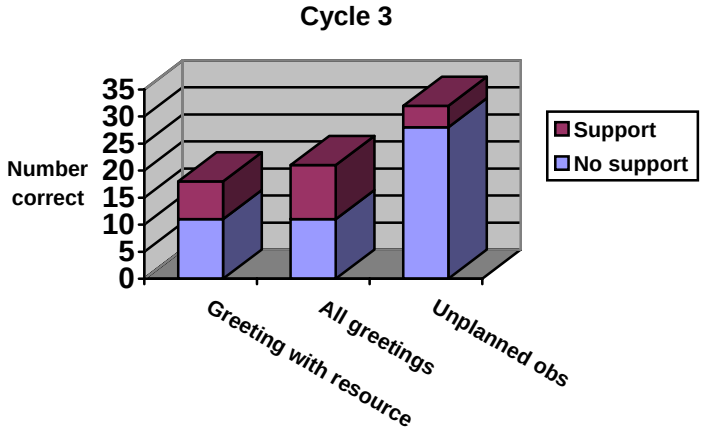
The second cycle involved displaying large photographs together with signs on the walls of the classroom; the strategy that was implemented during the first cycle remained in place. During this cycle staff began to pass the greeting card to pupils when they were responding to a greeting in addition to when they were initiating a greeting. During greetings this week, support provided to pupils where resources were available had reduced to 10 out of 26; overall support required was 13 out of 29. Out of the 13 unplanned observations, support was required only once.

Figure 3 – Level of support required during second cycle:



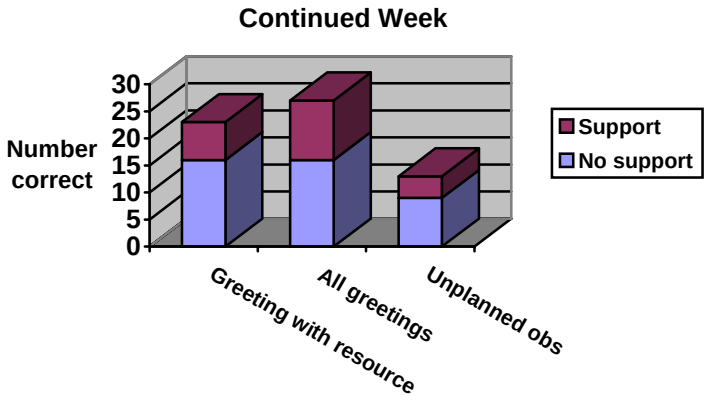
During the third cycle badges were made for both staff and pupils consisting of their photograph and the relevant sign. Everyone wore these on most occasions throughout the day, with the exception of one pupil. Again the strategies implemented during the previous cycles remained in place. This week the support required to name during greetings where resources were available again reduced, this time to seven out of 18, compared to 10 out of 21 overall. Support was required in four of the 32 occasions of unplanned observations that took place.

Figure 4 – Level of support required during third cycle:



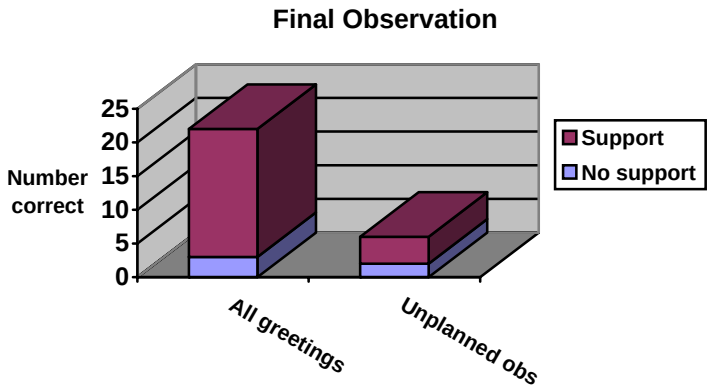
Due to the time constraints of the research each cycle only lasted a week. However as the pupils had needed time to learn to use the resources that had been made available to them, all strategies remained in place for a further week to consolidate learning. Support was required seven out of the 23 times when resources were available, against 11 out of 27 overall. Support was required in four of the 13 unplanned observations that took place.

Figure 5 – Level of support required during continuation week:



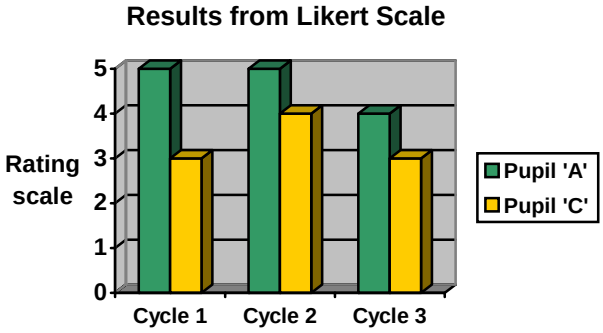
To ascertain whether any learning had taken place or if pupils would continue to rely on the resources, all the resources that had been introduced for the research were removed and observations continued for a final week. This in turn would allow for further analysis of the effectiveness of the strategies. Observations undertaken this week resulted in support being required 19 out of 22 times, with unplanned observations requiring support in four of six instances.

Figure 6 – Level of support required following removal of resources:



Throughout the period of research a reflective journal was completed recording thoughts on how the research was going and any other areas or issues that were identified. Following the completion of all cycles, the three staff members that regularly provide support within the class completed a questionnaire indicating their views on the effectiveness of each cycle for each pupil, whether they thought any strategies should be continued, plus any other comments they wished to make. Finally, the class teacher used a Likert scale of one to five to indicate how effective she felt each cycle had been for each pupil.

Figure 7 – Effectiveness of each cycle as rated by teacher:



Analysis and Discussion

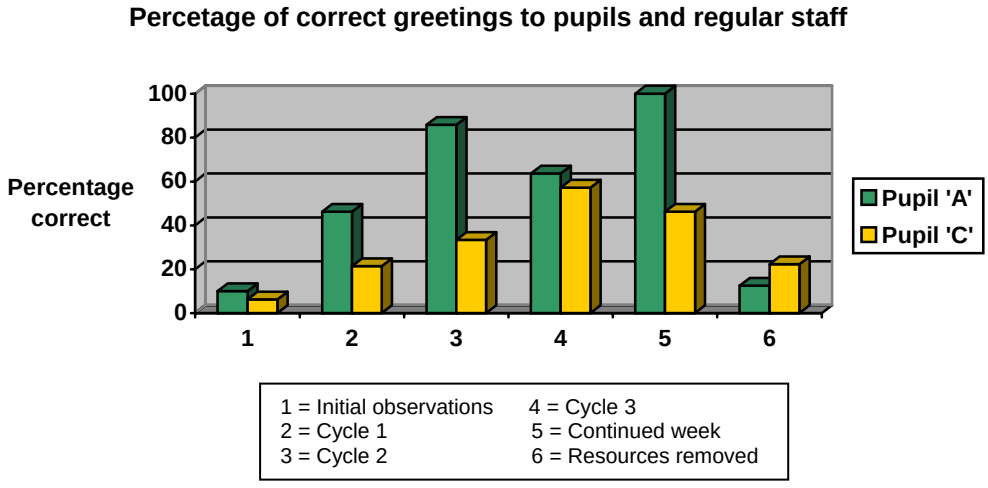
During the period of the research it would appear that when participating in greetings both pupils made improvements when naming or identifying peers or regular classroom staff. This was supported, with the exception of one week each, by a weekly rise in the percentage of correct responses that were made during the period that the resources were available (Figure 8).

During observations prior to the strategies being introduced, non-verbal pupil A named, through signing, 10 per cent correctly compared to 100 per cent during the continuation week; therefore this had the consequence of increasing his independence.

Following Pittman (2007) this could be attributed to the availability of visual aids. However once the resources were removed, unsupported correct responses reduced to 12.5 per cent thereby correspondingly reducing his independence. The week that pupil A did not show an increase was during the third cycle; however during this week it was noticed that staff had prompted too quickly on at least two occasions therefore not reducing their support to allow him to name independently (Kamen 2003). Moreover, those on the autistic spectrum do require time to process information (Bogdashina 2005).

Verbal pupil C named 6.25 per cent correctly during initial observations, increasing to 57.14 per cent during the third cycle (Figure 8). A slight reduction (46.15 per cent) was seen during the continuation week; however one name that was stated incorrectly did begin with the same initial letter that he had signed correctly. During the week that the resources were removed, the number of correct responses dropped to 22.22 per cent, although this was still an increase of 15.97 per cent on the initial week. This may indicate that some learning took place. However it is difficult to determine whether this was as a result of the strategies implemented or due to repetition, although the fact that a reduction was seen when the resources were removed may indicate that the strategies were of benefit. It was also noted that during the period of research pupil C appeared to gain in confidence during greetings, which is something he seemed to lack beforehand, regularly looking for reassurance before speaking. As Hammersley-Fletcher et al. (2006) observe, increasing his confidence might additionally increase his self esteem.

Figure 8 – Percentage of correct responses during greetings:



Occurrences of unplanned observations were considerably greater for pupil A with 81 compared to just seven for pupil C. This was because most of the opportunities for unplanned observations involved pupils moving unaccompanied around the classroom and because of pupil C's behaviour, fewer such opportunities arose. However it is accepted that undoubtedly there were occasions that involved naming or recognising others by name that were not observed or able to be recorded due to the nature of observing in classrooms (Burton and Bartlett 2005).

Nevertheless out of the observations that did take place, pupil A required less support once the second and third cycles had been implemented. This appeared to be as a result of the creation of an environment where visual support strategies were available at all times (Potter and Whittaker 2001).

Pupil C on the other hand did not require any support to name peers but did for the one occasion involving staff, which had consistently appeared to prove more of a difficulty. Due to the extent of this, the current classroom practice during greetings was to encourage him to choose a member of staff rather than a pupil to greet, so as to increase opportunities to learn names of staff. Taking this into consideration, it was therefore surprising that during greetings support to name pupils was required 30.77 per cent of the time although it had generally been felt that there were few difficulties in this area. This may indicate that a greater difficulty existed than was realised, with the greater difficulty in naming staff obscuring the overall difficulty. However the greatest problem for pupil C appears to be attaching the correct name to the correct person rather than knowing the actual names. Taking into consideration that names may have been learnt through auditory input, if as suggested by Powell and Jordan (1997), he did not pay attention to the face to whom the name belongs, this may have accounted for the difficulty. Furthermore 'face-blindness' is a factor that could also be taken into consideration to explain the difficulties. Additionally as pupil C regularly covers his ears and/or eyes, fluctuating sensitivity may be an additional factor (Bogdashina 2005).

It is difficult to analyse the effectiveness of each strategy individually, as when a new one was implemented the previous one remained in place. However there were definitely difficulties associated with the third cycle. Although the rationale for this strategy was to enable responses to be made without the need for previous resources to be used, the badges were at times difficult to see, due to the angle at which the people wearing them were sitting and/or light reflection. Additionally one pupil did not wear his badge at all, and on occasions some badges were misplaced; having duplicates available would have alleviated this problem. Taking these factors into consideration, it is possible that the other strategies proved more effective, a view endorsed by the class teacher. A difficulty associated with the second cycle was the availability of space to display the resources. This resulted in them being displayed on the wall behind pupil A who it was considered would benefit most from them; consequently the full potential was not gained from them. However during unplanned observations, when the pupil was moving around the classroom, he did begin to use them spontaneously.

Conclusions and Recommendations

It would appear from the research that providing additional visual aids incorporating Makaton signs proved a beneficial strategy to assist pupils with autistic spectrum disorders to learn names and identify others by name. In addition to the original aim of learning names, unplanned consequences of the strategies implemented were observed: increased independence, increased confidence and improved signing.

With regard to pupil A, these strategies proved to be effective due to the fact that he appears to be a very visual and kinaesthetic learner; consequently the resources supported his style of learning. However, as Bogdashina (2005) points out, rather than having a preference for a particular learning style, it may be a result of compensating

for weaknesses in other areas, in this case limited verbal understanding. Additionally it could be that given time the availability of signs would allow for an association to be made, thereby supporting the behaviourist point of view (Eysenck 2005).

Pupil C on the other hand appears to learn mostly through repetition, although the availability of the signs seems to have helped his understanding and enabled him to focus (Wilbur 1985; Jones 2002). The research has therefore highlighted the importance of understanding the difficulties associated with autism and through this understanding to work with the strengths that individuals show (Bogdashina 2005; Pittman 2007).

As mentioned, an additional aim was to use the Makaton programme and to evaluate its effectiveness. Having completed this research with the programme providing the main basis for each cycle undertaken, it would appear that it is indeed an effective resource and can contribute to successful learning outcomes. It would be interesting to research other areas of communication in this way.

The data collection methods proved to be effective, although there were areas that could have been improved upon. Firstly, even though observations allow judgements to be made (Burton and Bartlett 2005), the vast quantity of data gathered made analysing and reducing them to a workable quantity a time consuming activity (Sharp 2009). If this research were to be repeated, it would therefore be beneficial to consider alternative methods of recording; however this may not then provide as much detail. Although data received via questionnaires were satisfactory, not all respondents explained the reasons behind their views; therefore more consideration to wording may ensure more in-depth responses (Koshy 2005).

The class teacher has continued to use the system implemented during the first cycle. This will therefore consolidate learning and help to develop skills further, taking into account, as mentioned, that the pupils first needed to learn to use the resource. Although it was designed primarily to use during greetings, I would recommend displaying the resource throughout the day to allow for continuous use. Furthermore another class has implemented this system. I would propose that the system be introduced across the school, a view shared by other staff, thereby providing consistency across classes to enable continued learning. A further suggestion would be to design a resource to promote learning the names of more people. Due to the numbers involved, it would not be practical to have photographs of all staff members; nevertheless a Makaton sign representing each letter of the alphabet presented one per page in a book-style format may provide a useful resource.

It is not claimed that these strategies would prove to be effective for others on the autistic spectrum. However if difficulties in naming could be overcome, it may assist with promoting social interaction, which would be highly desirable (Nind and Hewett 2005).

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An Exploration of the Factors within Primary Schools that Affect the Time Allocated to Physical Education

Philip Davies

Abstract

This small-scale ethnographic case study, utilising both qualitative and quantitative methods, set out to investigate what factors within a school affect the time allocated to Physical Education (PE). It examined whether the time allocated for PE in schools is sufficient to meet the requirements of the National Curriculum (NC) and to provide reasoning for barriers affecting time allocation.

Qualitative data were gathered through the use of individual semi-structured interviews and quantitative data were collected through observations and questionnaires. The findings suggest that the attitudes and values of the Head Teachers have an impact on how much time is allocated for PE and also that the time allocated is sufficient to meet the requirement of the National Curriculum. However, my research also suggests that the time allocated in some schools is not sufficient for a child's overall development.

The research found that the school hall has a significant impact on lesson time and that the PE training teachers receive is minimal, with teachers wanting to increase their confidence and knowledge in areas such as dance and gymnastics. The recommendation made from this research is that schools review their training policy.

Further research could be conducted into the area of training for PE, as I believe it is vital that this is increased. If teachers lack confidence in particular areas this could affect the children's learning in PE and training is a key issue if the Government wants to achieve its target of all schools participating in two hours of high-quality PE per week.

Introduction

I firmly believe it is the role of the teacher to teach at least two hours of PE per week as it is vital to a child's overall development and that the importance of high quality PE cannot be stressed enough (Blair and Capel 2008). PE in primary schools can support physical, cognitive, emotional and social development and hence contribute to both specific and broader educational experiences of children (Blair and Capel 2008). For these reasons I believe PE should have as much time dedicated to it as possible.

The importance of PE is stressed in the media due to the increase in childhood obesity. The level of childhood obesity in England is rising each year with estimates that one million children will be obese by 2010. The *Health Survey for England* warns that 19 per cent of boys and 22 per cent of girls aged two to 15 will be obese with the main reason for this being a decline in physical activity during childhood (Harris and Cole 2007). The Government has recognised these alarming statistics and has acted by stating that it aims to have 85 per cent of schools by 2008 spending at least two hours a week on PE (Harris and Cole 2007; BBC Health 2008) and by 2012 having each child spend five hours on physical activity and sport (Andrews 2008).
The aim of this research project is to investigate what factors within a school affect the time allocated to PE. The idea for this investigation initially came from past school

placements when I was required to teach PE only once a week and therefore found it difficult to cover the objectives stated in the scheme of work. I found out that schools only provided one hour of PE a week and that they had no intentions of increasing the time allocation even though, as already mentioned, by 2008 the Government hopes to have 85 per cent of schools spending at least two hours a week on high-quality PE (Harris and Cole 2007). This is an area that intrigued me and stimulated me to further investigate the factors within a school that affect the time allocated to PE.

What I learnt from the subject leadership modules also contributed to my decision to investigate time allocation. As a group we decided to base our presentation on obesity and how PE can prevent and overcome this. When undertaking research for the presentation the literature suggested that time allocation in some schools needs to be increased if obesity is to be prevented in the future. This was the aspect I wanted to further research. I am using this research project as the opportunity to do so.

The final factor that contributed to me undertaking this area of research was school visits in the summer. As I already knew roughly what area I wanted to research I questioned two PE co-ordinators from different schools about their opinions on how well PE is provided for in their school. The impressions I got were that the Head Teacher's attitude and values towards PE contributed significantly to how it is resourced and the time allocated to it.

From my initial reading and my own experiences I was able to devise three aims that I wished to pursue in this project. These are:

- Is the time allocated in PE sufficient enough to meet the requirements of PE in the National Curriculum (NC)?
- Do the attitudes and values of the Head Teacher/teachers towards PE affect the time allocated to PE within the school?
- Do teachers receive enough PE training to teach the curriculum effectively?

My research project followed an ethnographic style in that I used fieldwork to collect raw data to provide a descriptive study drawing on quantitative and qualitative paradigms. Although action research was very appealing at the start of this project it was not feasible for a small-scale research project such as this because I would not be able to implement my findings in a classroom environment.

Literature Review

A range of literature was analysed and it is evident that a considerable amount of research has already been undertaken into the area of time allocation for PE. Many analysts argue that the time allocated is not sufficient to meet the requirements of the NC. Other key themes that arose were that the attitudes and values of the Head Teacher and the availability of hall space both have an impact on the time allocation and that teachers do not receive enough PE training.

By 2008, the Government hopes to have 85 per cent of young people aged five to 16 spending at least two hours a week on high-quality PE and school sport (BBC Health 2008). This is also highlighted in the National Curriculum. The Government claims it has met and `smashed' its target of 85 per cent of schools as 90 per cent of the 21,631 primary schools surveyed allocate two hours a week to PE (Quick et al. 2008). Although

this is the figure for partnership schools it does highlight the significant increase in the time allocated since 2004 when only 49 per cent of primary schools were receiving two hours of high-quality of PE a week (Sport England 2004). However, a recent article by Marley (2008) in the Times Educational Supplement, suggests that the Government's report is inaccurate as `schools and development managers feel under pressure to fudge the figures because they don't want to be criticized'.

Ofsted (2005) has reported that the time allocation for PE in some schools is insufficient to meet the requirements of the NC. This coincides with the literature analysed that also suggests that PE is being delivered ineffectively (Speednet 2000; Warburton 2001; Wright 2004). The Speednet survey (2000) reported that half a million hours of PE time have been lost since the introduction of the Numeracy and Literacy Strategies in primary schools. This is echoed by Almond (in BBC Health 2008) who states that there has been a major reduction in the total amount of PE time. Hawkins (2004) suggests that the introduction of the NC is to blame for the reduction in PE as schools are now more concerned with academic subjects and achieving high levels in SATs. Fox and Harris (2003) also claim that PE has failed to compete with the `core' academic areas of Mathematics, English and Science, and that school authorities regard PE as `expendable'. However, Winterfeld (2007) argues that schools should not treat PE as optional, because it is fundamental to the success of children's reading, writing and arithmetic. According to Warburton (2001) pupils are typically offered one PE lesson per week, with most lasting for 30 minutes. Toner (2000) highlights this problem further by stating that 56 per cent of children transferring to secondary school do not have the basic skills or stamina to take part in `normal' PE lessons.

Curtner-Smith et al. (2007) believe that strenuous efforts need to be made to improve the quality and quantity of school PE lessons with Evans and Penney (1996) suggesting that schools and teachers are not all equally well positioned or resourced to offer children the educational experiences that NC texts say they need and deserve. This suggests that PE is still in a state of neglect in some schools with Griggs (2007) claiming that relatively little attention is given to it and Hardman and Marshall (2000) indicating that PE in schools is in serious decline. Morgan and Hansen (2007) extrapolate further by saying lack of time, training, and resources have resulted in the delivery of PE lessons that resemble supervised play.

Ofsted (2002) has identified reasons why schools may not be meeting the allocated two hours a week with the main reason being too much pressure to focus on literacy and numeracy. Teachers also have many targets to achieve throughout the year meaning that PE has been reduced to the extent that some schools cannot meet the requirements of PE in the NC. Literature analysed also suggests that the attitudes and values of the Head Teacher affects the time allocated to PE with Evans and Penney (1996) strongly stating that the Head Teacher is a key figure in determining the place (timetable allocation and arrangements, staffing and funding) and status of PE in the school and also the general well being of the subject.

The availability of resources has also been highlighted as a major barrier for effective PE teaching. Morgan and Hansen (2007) and Morgan (2008) state that insufficient equipment and facilities are major barriers that inhibit teachers with Toner (2004) arguing that the biggest barrier in resourcing PE is the shared dining hall. If quality PE in the primary sector is to be provided then the subject requires proper resourcing (Evans and Penney 1996).

Research suggests that many teachers have negative attitudes and values towards PE (Xiang et al. 2002). Faucette and Patterson (1989) go further by saying that many teachers question the value of PE for children. Similarly, Brumbaugh (1987, in Faucette and Patterson 1989) suggested that classroom teachers were uncertain of the purpose of PE and report that they generally place a low priority on PE in relation to other subjects. This can have a negative affect on the children's attitudes to PE with both Aicinena (1991) and Morgan (2008) arguing that teachers' perceptions can have a profound affect on a child's attitude to PE and subsequently exert a significant influence on a child's PE experience and achievement of key outcomes. However, Gray (2006) states that almost a third of primary teachers would like to see PE given a bigger slot in the timetable.

Literature shows that not all teachers receive adequate training for teaching PE with Morgan and Hansen (2007) convincingly stating that many teachers believe that they do not possess the knowledge or skills to plan and implement developmentally appropriate and meaningful learning experiences in PE. This coincides with Blair and Capel (2008) who state that many generalist teachers do not perceive themselves to be adequately prepared to teach PE with research showing that 40 per cent of all newly qualified primary teachers have received only six hours on physical education in their initial teacher education. Marsden and Weston (2007) state that primary school teachers, unless they have a specific PE specialism, will have encountered varied and often limited training on the teaching of PE in their initial training with Wright (2004) arguing that the amount of time given to the subject both within teacher training and within the school timetable needs to be increased significantly. Morgan and Hansen (2007) and Bloom (2007) believe that inadequate training is a major barrier for effective PE teaching as it can result in low levels of teacher expertise and confidence, echoing Waring et al. (2007) who claim that many teachers are unable to provide quality early PE learning experiences that will foster positive attitudes and subsequent physical activity. Ofsted (2002) reported that children's behaviour was unsatisfactory in a significant amount of the lessons where pupils were not sufficiently challenged and that `good teaching' is associated with teachers who are confident and plan carefully on the basis of their subject knowledge. Morgan and Hansen (2007) convincingly argue that with regular training classroom teachers can improve the quality of their PE lessons and Wood (2006) suggests that teachers would benefit from observing specialist PE teachers, as they are renowned for their creativity and resourcefulness. Wood also argues that the quality aspect is more important than the time aspect and that the former needs to be addressed before devoting energies to addressing the `two hours' issue.

The literature has suggested many reasons for why the time allocated for PE in schools is not sufficient and I intend to explore these reasons in more depth through using a variety of research methods. By analysing the data I intend to gain a clearer idea of the factors within a school that affect the time allocated to PE.

Research Methods

This study is a small ethnographic study consisting of qualitative and quantitative data collected from three different primary schools in the county of Lincolnshire. The first school (School A) is a large primary school as is the second school (School B). The third school C is a large junior school that I attended myself. I was previously known in all

three schools so gaining initial access was not difficult, which according to Cohen et al. (2007) makes this a convenience sample. Walford (2001) agrees with using a convenience sample when conducting a research project with time constraints but Cohen et al. (2007) state that such a sample makes the quality of the research questionable, especially regarding reliability and valid generalisations. I decided to conduct my research in three schools as this is a small-scale research project and with the time constraints I felt three schools was a significant sample to identify patterns and recurring themes but not to make generalisations as my sample does not represent the wider population.

Before conducting the research I gained consent by writing a formal letter to each school accompanied by a formal letter from the University College. The Head Teachers gave permission and gained informed consent from all the participants that were directly involved in the research, which included themselves, subject co-ordinators and teachers. Therefore I followed BERA's ethical guidelines (2004) and the Bishop Grossesteste University College Research Ethics policy (2008). However, the children were not made aware that I was conducting research and although they were not directly involved (as I was only observing the class teacher) I did ask for their consent at the start of the lesson. However, as I had already been introduced I felt that they had no choice but to give their consent, which coincides with Greig and Taylor's (2005) view of children being in a vulnerable position regarding informed consent during observations and goes against Kumar's (2005) theory that consent should be voluntary and without pressure.

As my research is about the factors within a school that affect the time allocated to PE, it relates significantly to the teaching and learning of PE, thereby making primary school-based research vital. Each school is of a similar size and the classes in which I undertook research were also of similar sizes with 30 pupils in each. Although my sample was a convenience sample I also tried to conduct research in schools that were quite similar so I could effectively triangulate my results. This coincides with Laws (2003, in Bell 2005) who states that the key to triangulation is to see the same thing from different perspectives and thus be able to confirm or challenge the findings of one method with those of another.

Substantial reading helped me to decide which research methods to use. I selected three different research methods (interviews, questionnaires and observations), for triangulation purposes and also to test and revise my findings as I gained more data (Hopkins 1993). The methods allowed me to collect both qualitative and quantitative data, which concurs with Denscombe (2003: 132) who believes that using a mixed-method approach is a good way of collecting more data, which can `improve the quality of the research'. My quantitative research allowed me to collect facts and to study the relationship of one set of facts to another whereas my qualitative research allowed me to understand individuals' perceptions of PE in their school (Bell 1999). From this I could triangulate my data to see if the qualitative research (interviews and observations) provided reasoning for the quantitative data collected from questionnaires, thereby enhancing the validity of the research (Denscombe 2003).

Interviews

To distinguish whether the attitudes of the Head Teacher have an impact on the time allocated to PE I interviewed each Head Teacher from the three schools. I wanted to find out the Head Teachers' views directly. I decided to use interviews to gather this data as the literature suggests that interviews generate rich data and detail and are very productive sources of information (Hopkins 1993; Cohen et al. 2007). Although individual interviews are time consuming they provide a more private and intimate setting than a group interview (Bell 1999; Greig and Taylor 2005).

I asked each Head Teacher similar questions regarding their values and attitudes towards PE and what they consider to be the main factors that affect the time allocated to it. Semi-structured interviews allowed me to gain in-depth information whilst having the flexibility to follow up any key points that arose, as opposed to a structured interview, which I believe would have been too restrictive.

I also interviewed the three PE co-ordinators of the schools, so as to get direct access to their views. I hypothesised that the subject co-ordinators would have a strong knowledge in this area. However, there are issues regarding reliability with one interview as it was in the classroom environment whilst children were working. This meant the co-ordinator was often distracted, which resulted in questions not being fully answered, and no chance to clarify any data given.

Prior to each interview the interviewee was made aware that the data would be kept anonymous and that they could end the interview at any time. Keeping data anonymous applied to every research method used and every participant was assured that the data given would be confidential, which Lovell and Lawson (1970) and Kumar (2005) believe is vital if research is to be ethical. However, the data collected from the interviews might not be reliable, as I already had established links with the schools. The interviewees therefore may have altered their responses to enhance my research thereby distorting the data, which according to Bell (2005) means the results cannot be generalised. Interviews are also a highly subjective technique and therefore there is always the danger of bias (Bell 1999). Furthermore, there is the risk of the interviewee not giving complete or even honest answers, which again raises questions about the reliability and validity of the data.

I believe that data collected from the interviews were valid as direct contact meant that accuracy and relevance could be checked for accuracy during collection (Denscombe 2003). In terms of reliability, the impact of the interviewer and of the context meant that consistency and objectivity were hard to achieve. The data collected were, to an extent, unique owing to the specific context and the specific individuals involved which according to Denscombe (2003) has an adverse effect on reliability. Unforeseen circumstances meant I only got the chance to interview the Head Teacher of School B for a very short time via the telephone. This made it difficult for me to judge if the interviewee was being sincere, as I could not read body language or engage in eye contact. As I had very limited time I did not get the chance to check for accuracy and relevance so I believe the data collected from the Head Teachers of Schools A and C is more reliable as direct contact allowed me to achieve this.

To analyse the data collected from the interviews I organised the data individually as this preserves the coherence and integrity of the individual's response (Cohen et al.

2007). I then transcribed each interview before adding comments and reflections in the margins alongside the raw data (Denscombe 2003). From this I attempted to identify patterns and see whether there were any recurring themes, which is vital when analysing qualitative data (Denscombe 2003; Bell 2005; Miles and Huberman 1994, in Cohen et al. 2007). Identifying recurrent themes in interviews indicates that the issue is something which is shared among a wider group, and therefore I can refer to it with more confidence than an idea which stems from the words of one individual (Denscombe 2003). LeCompte and Preissle (1993, in Cohen et al. 2007) state that constant comparison is a valuable technique for the qualitative researcher to use in analysing data and generating theory. I could then establish and compare any recurring themes and patterns with existing theories or explanations (Denscombe 2003).

Questionnaires

Questionnaires were used as a means of gaining teachers' perceptions of PE, including their attitudes and values and whether they think PE receives enough time and resources. I chose questionnaires to collect this data, because I wanted to gather a large range of data and to provide a direct comparison between the teacher's attitude towards PE and the time allocated to PE within the school. Although questionnaire responses have to be taken at face value (Bell 1999) and the analysis is time consuming (Hopkins 1993) they do provide data that is quantifiable and consist of questions that all respondents can respond to (Hopkins 1993).

The questionnaires had a mixture of open and closed questions. I decided on this because, although closed questions are simpler to analyse, they only find out which of the offered options respondents chose. Open questions provide the opportunity for respondents to give an answer that better matches their views, but which then needs to be categorised. A number of open questions also gave the participants the opportunity to expand on their answers. This was to capture sophistication, intricacy or even inconsistencies in their views, following Denscombe (2003) who states that not being given this chance may cause frustration.

A range of open and closed questions allowed me to collect qualitative and quantitative data and also contributed to the structuring of interviews. However, as I found out, questionnaires are limited as a means of eliciting in- depth information as it is difficult to formulate such questions (Hopkins 1993).

Before issuing the questionnaires they were piloted with several groups of peers to get feedback on the questions and the layout. By piloting I believe I was being ethical as from the feedback I was able to change certain questions so they were clearer and more concise. Piloting also enabled me to identify the absolutely crucial questions, which Denscombe (2003) states is a vital process when designing questionnaires. It also enabled me to see how long it takes to answer, which according to Denscombe (2003) is important if you want a high percentage return rate. A questionnaire needs to be as straightforward as possible to answer. The feedback received allowed me to address this and make it as user friendly as possible, for example, easy on the eye.

Even though it was stated at the top of each questionnaire that the respondents give their consent for the data to be used in my research project and that it will be kept anonymous, some confidentiality issues remained. Some teachers filled them out when

I was present and others in groups where discussion was taking place with regards to answers they were unsure of.
As this is a limited-time project it was necessary to begin recording responses as soon as the first questionnaires were returned (Bell 2005). A summary sheet was prepared before the questionnaires were distributed, so that returns could be entered as they came in (Bell 2005). This enabled me see where similarities and differences lie (Cohen et al. 2007). The closed questions provided pre-coded data that was easily analysed (Denscombe 2003) whereas I typed out all the responses to the open questions and from this I could then identify any recurring items, which formed the basis of my coding system (Bell 2005). Coding allowed me to `cluster' key issues in my data and allowed me to take steps towards `drawing conclusions' (Bell 2005: 214). To illustrate my findings I created pie charts from the data, as they are a particularly useful way of illustrating proportions (Denscombe 2003; Bell 2005).

Observations

I intended to observe two PE lessons in each of the three schools to collect qualitative data regarding the resources the teachers have available to them and how they manage their time. I chose observations to collect this data, as it is a technique that can often reveal characteristics of groups or individuals, which would have been impossible to discover by other means (Bell 1999). The observations also provided powerful insights into classroom practice (Hopkins 1993).

In School C, I only observed one PE lesson, which was taught by PE specialists. The data collected from this observation are still valid as the specialists had the same time allocation and access to the same resources as the teacher would have had. However, it is not as reliable as the other observations as the lesson had a very set structure that was strictly followed and applied to each school the specialists taught in.

In School B, I was again only able to observe one lesson so any conclusions made about the school are very tentative. According to Hopkins (1993) this is one of the main negative characteristics of observation, as he believes there is a danger of jumping too quickly to conclusions about the behaviour of others.

The children were particularly reactive towards me and keen to show the skills they had been learning and to apply them to new situations. This coincides with Greig and Taylor (2005) who state that children are particularly reactive to unfamiliar people. The observations therefore pose reliability issues, as I was not studying behaviour in its natural setting. This was not ideal as my focus was time and resources and I often got distracted by the children, as I was genuinely interested in what they were learning. According to Denscombe (2003) it is also exceedingly difficult to repeat an observation to check for reliability.

I analysed the data through analytic coding by breaking the data into units for analysis and categorising the units (Denscombe 2003). From this I was able to recognise themes and patterns from the observations and make a suggestion on whether the time allocation was sufficient.

Other research methods

In discussion with a tutor regarding my progress I was given some suggestions on how to further my research. One of these involved collecting timetables from peers who were currently on placement to see how much time is dedicated to PE in their schools. This allowed me to collect a significantly larger sample than my original sample of three schools and from this a more reliable conclusion could be reached on the average time allocated for PE. However, reliability concerns arise from this data. Past experience has shown me that there has often been an issue of availability of staff to supervise trainee teachers and because of this PE has had to be reduced. Another case I have experienced is an increase in the time allocated for PE due to trainee teachers wanting to enhance their development with regard to teaching PE. Although the data collected is a large sample representing schools in a small proximity, I will take the data at face value.

I analysed this data by transforming it into tables and then creating charts, which Denscombe (2003) states is a vital part of making sense of the data. From this I was able to identify stronger patterns in the time allocated to PE.

Another suggestion on how to further my research was to study the *School Improvement Service* book (CfBT 2008-2009) to see how many courses are offered for PE in the Lincolnshire area as my literature review had identified that training for PE was an issue among teaching staff. I analysed this by comparing the average number of courses for the subjects in the NC with those for PE.

I believe the data collected gives me a strong indication of the factors within a school that affect the time allocated for PE but any conclusions are tentative as the sample I used does not truly represent the population and, as discussed, a convenience sample was used making any generalisation unreliable (Cohen et al. 2001).

Findings/Results with Analysis

Information collected means nothing unless it has been categorised and interpreted, this should be done carefully in order to avoid vital information being disregarded (Bell 2005).

As discussed in the methods section I used the following stages of analysis with my interview data:

- Arrange individually
- Transcribe each interview
- Add comments and reflections in the margins alongside the raw data
- Identify patterns and recurring themes

Whilst adding comments and reflections in the margins of the interviews, I collated the data and placed them in a grid alongside the transcribed interviews. From this I could identify patterns and recurring themes. It was evident after analysing the interview transcripts, that interviewees in all three schools felt the time they allocate for PE is sufficient to meet the requirements of the NC. However, the PE co-ordinators of Schools A and B felt that the time allocated is not sufficient for a child's overall development.

School A was the only school that allocates two hours a week to PE. When the Head Teachers of schools B and C were questioned on why only one hour of PE is allocated, both said they did not think allocating two hours was realistic at this time as their main focus is on raising standards in literacy and numeracy. All three Head Teachers however, stated that an increase in the time allocated to PE would mean there would have to be a re-arrangement of the whole curriculum.

The PE co-ordinators of schools B and C did not agree with their Head Teacher's view that the main focus of the school should be to raise standards in literacy and numeracy, being of the view that PE is as important as any other subject. The PE co-ordinator at school C believes that the Head Teacher and other teachers in the school do not appreciate the impact PE has on a child's overall development and is often frustrated because of this. This echoes my own experience when I have taught in schools where the Head Teacher and teachers do not seem to have high regard for the place of PE in the curriculum; because of this, enthusiasm when teaching PE was low.

The Head Teacher of school A believes PE is as important as every other subject. Although admitting that the quality of PE could be increased within the school, it was evident that the Head Teacher had a very positive attitude towards PE, stemming from receiving poorly taught PE as a child. It was also evident that the Head Teachers from schools B and C have positive attitudes towards PE but did not value it as highly as other subjects in the curriculum. One significant theme from all of the interviews with the Head Teachers and PE co-ordinators is that they all agreed that the attitudes and values of the Head Teacher have an impact on how much time is dedicated to PE.

The use of the hall was something that all the co-ordinators stated has a significant influence on time allocation as it is also used for school dinners and events throughout the year such as school play rehearsals. The subject co-ordinators from each school also believe that teachers would benefit from more training as some have low confidence in certain areas. Moreover, findings from School C suggest that training would provide some new and exciting ways of delivering certain areas of the curriculum. When the Head Teachers were questioned on this they all admitted that very basic training is provided for teaching staff. When analysing the *School Improvement Service* (CfBT 2008-09) book I found there is only one PE training course opportunity whereas the average for curriculum subjects is six. By triangulating this data I was able to come to a reliable conclusion on the training provided for PE.

As described in the research methods section, I analysed the responses given for the closed questions in the questionnaires as soon as they were returned by recording the data onto a summary sheet. From analysing the summary sheet I could begin to identify themes and patterns. I had a relatively successful return rate, receiving a total of 48 completed questionnaires out of a possible 90 (53 per cent). Sixty seven per cent of the completed questionnaires were returned by schools that I conducted interviews and observations in. By having this contact with the school, I was personally able to hand out the questionnaires and collect them. I believe if I had done this with every school I would have received a higher return rate, but as this is only a small research project with time restrictions I did not feel this was feasible.

Analysing the summary sheets after the cut-off date I instantly recognised patterns in the results. Seventy five per cent of the respondents' average PE lesson is 45 minutes long, which does not include time for getting changed, meaning the time children are

physically active is likely to be even less. However, 78 per cent of the schools (seven out of the nine schools, including the schools I conducted research in) teach two lessons of PE a week, which does not take into account extra-curricular activities.

Sixty five per cent of teachers feel that the average PE lesson is long enough, which was unexpected as my observations suggested that the average lesson time was only 30 minutes which meant significant parts of the lesson, such as the warm down, had to be left out. Sixty five per cent stated that the time allocated is also sufficient enough to meet the PE requirements of the National Curriculum. This data therefore makes it difficult to form generalisations as if this research was done on a wider scale I believe the results may differ to mine.

One hundred per cent of the respondents stated that their school is sufficiently resourced in terms of equipment. This can be triangulated with my observations as I felt that each school had sufficient resources to meet the requirements of the NC. However, 79 per cent stated that the time allocated for PE in their school is not sufficient enough for a child's overall development.

Ninety four per cent of the respondents stated that they have a positive attitude towards PE with 81 per cent stating that the attitudes and values of the teachers in a school does not affect the time allocated to PE within their school. However, 92 per cent of the respondents stated that the attitudes and values of the Head Teacher affect the time allocated for PE.

As mentioned in the research methods section, the open questions produced unexpected data so I typed out all the responses and then identified any recurring items. I was then able to note themes and create a tally chart and tally each time the theme was mentioned. Seventy nine per cent of the respondents stated that both the hall and space in general has an influence on the time allocated to PE with 50 per cent believing that having to use the hall for school dinners is problematic as the teachers have to allow for lunch preparation. This coincides with the data collected from the interviews and also one of my observations when the lesson had to be cut short to allow the dinner staff to prepare. By triangulating this data I can make a reliable suggestion on the influence the school hall has regarding the time allocated to PE.

Training was a recurring theme with 85 per cent of the respondents stating that they would like more training and 65 per cent believing that training would increase their confidence in the subject. I can again triangulate this data with the data collected from the interviews as the subject co-ordinators were also of the view that all teaching staff would benefit from more training.

Although 92 per cent of the respondents said that they had a positive attitude towards PE, this does not necessarily mean that they have high confidence in teaching the subject. On reflection I now believe if I had included a question on confidence I would have been able to identify a more reliable relationship between the training teachers receive and their confidence in teaching PE.

As stated I analysed the observation data through analytic coding. This allowed me to break the data down into units for analysis and then to categorise the units so recurring themes and patterns could be identified. However, as discussed, I was only

able to observe one lesson in two of the schools so only a very tentative conclusion can be made.

The average time of physical activity in the observations was only 30 minutes with the total time allocated for children to get changed and the set up of equipment being 20-25 minutes. In discussion with the teachers after the observation, a common theme was that they have to leave sufficient time for the dinner staff to prepare for school dinners so having the slot just before lunch was not ideal. Another theme was that out of the four lessons I observed only one had a warm down. When questioned on this each reply was similar with the recurring theme that there was simply not enough time and that they thought meeting the lesson objective was more important than the children warming down.

The structure of the PE specialist's lesson was slightly different in that it followed a strict routine with a warm up/down, time for a team game as well as time to develop skills. When asked for their views on why they think I observed lessons without a warm down they believed this was due to the teachers not understanding the importance of a warm down.

By collecting 16 timetables from my peers, I now know the time allocated for PE in 25 schools, which is significantly larger than my original sample making my conclusion more reliable. When analysing the charts created from this data and my original data collected from the questionnaires, a high proportion of the schools (56 per cent) still only allocate one hour a week for PE. However, as already mentioned there are reliability issues that arise from this data as time for PE is often changed for trainee teachers due to the availability of staff to supervise etc. Fifty six per cent of the timetables analysed from peers provide extra-curricular activities which contribute to the two hours of suggested PE with only one hour dedicated during school time. My results when taking into consideration the data collected from my peers do not coincide with the Government's announcement that 90 per cent of schools have allocated two hours to PE a week.

Conclusions and Recommendations

Throughout the project I have attempted to only collect reliable and valid data so that I could come to a successful conclusion. Through the use of triangulation I have been able to use two or more methods allowing me confirm or challenge the findings of one method with those of another therefore providing more valid and reliable data (Laws 2003, in Bell 2005; Cohen et al. 2007). I have also enhanced this data by not making any generalisations throughout. I piloted the questionnaires and used semi-structured interviews and observations, which again provided more reliable and valid data helping me to avoid bias and preconceived ideas. This also enabled me to be consistent throughout the project. I believe that if my research was conducted by someone else on a wider scale, similar conclusions would be made. However, as already mentioned it is difficult to make generalisations, as it is a small-scale research project and a convenience sample was used. Therefore any conclusions made are tentative and based solely on the evidence gathered for the purposes of this project.

As stated in the literature review, the Government have recently reported that 90 per cent of schools are participating in at least two hours of high-quality PE a week (Quick

et al. 2008). This contradicts my research as 56 per cent of the schools that participated still only allocate one hour a week to PE.

My observations coincide with Warburton (2001), as the children on average were physically active for only 30 minutes. The main reason for this was that the school hall is used for various different activities with my research suggesting that this is a major barrier to the time allocated to PE. This coincides with the literature and was triangulated with observations, interviews and questionnaires so a valid and reliable conclusion has been reached. The main issue with the hall is that it is also used for school dinners and other events during the school year such as rehearsals for school plays. This results in PE lessons often being cut short and leaves teachers frustrated if they have the slot just before lunchtime.

My research echoes Wright (2004) Marsden and Weston (2007) and Morgan and Hansen (2007) who all state that a lack of PE training is a serious barrier in effective teaching and teachers' confidence in PE. All the Head Teachers and PE co-ordinators interviewed agreed that the PE training offered to their teaching staff is minimal and needs to be addressed. This can be triangulated with the questionnaires as 85 per cent of the respondents stated that they would like more training with 65 per cent believing that training will increase their confidence within the subject. The courses offered in *School Improvement Service* (CfBT 2008-09) also highlight that PE training is not sufficient. From the data collected I have reached a reliable conclusion that PE training needs to be increased and more opportunities provided for teaching staff to increase their knowledge and confidence in areas they deem to be outside of their comfort zone.

One factor that all the Head Teachers and PE co-ordinators agreed with, as well as 92 per cent of the respondents who answered questionnaires, is that the attitudes and values of the Head Teacher towards PE affects time allocation. This coincides with Evans and Penney (1996) who state that the Head Teacher is a key figure in determining the timetable allocation for PE.

My research, to some extent, contradicts what Ofsted (2002) identified to be the main reason for schools not allocating two hours for PE, which was the pressure to focus on literacy and numeracy. Although this was a recurring theme throughout my research, it was more evident that the attitudes and values of the Head Teacher have a bigger impact on time allocation with the use of the school hall affecting actual lesson time.

The research undertaken will have a significant impact on my future practice as a primary class teacher. Lesson structure has always been of high importance, but I now appreciate this even more, especially in PE. As I have a good knowledge of the benefits PE has on a child's overall development, I see it as vital that each lesson has a structure that includes both a warm up and warm down and hopefully from my research, teachers will also realise the importance of a structured PE lesson. Although it may be difficult due to restrictions with the hall, I will find out prior to the lesson anything that may affect the time allocated to the PE lesson and apply this to my planning so the lesson will still follow a solid structure. However, I also need to try and take into consideration that unexpected occurrences often happen in school.

Although I am very passionate about PE, and often become frustrated with the time limitations in some schools, I now have a more realistic view of the curriculum as a whole and understand that all subjects are of equal importance. I also have a greater

understanding of the targets some schools set themselves in order to improve in certain areas. However, I am a firm believer that there is always room for improvement so the focus should be on constantly improving the whole curriculum and not just focused on raising standards in literacy and numeracy.

My research and past experience has shown me that teachers often lack confidence in teaching some areas in PE and that the training teachers have received may be insufficient. This is an area I would like to research further and believe it is vital that it is researched thoroughly in the near future, especially if the Government wants to achieve its target of all schools participating in two hours of high-quality PE each week.

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An Exploration of Fine Motor Skills Activities to Improve Pencil Grip

Caterina Scott

Abstract

The aim of this action research was to explore a range of fine motor skills activities to improve the pencil grip of a group of Key Stage 2 children and if successful, to investigate whether the consequence would be an improvement in the legibility of their handwriting. The teaching of handwriting is a requirement of the National Curriculum which states that handwriting should be 'clear and neat in order to communicate [their] meaning effectively' (DfEE 1999: 21). Prior to the research, the children had been identified as having a non-standard pencil grip and their hand writing had been considered poor.

Both quantitative and qualitative data collection methods were used to ensure results could be measured and interpreted effectively. Data were gathered using initial and final questionnaires completed by the class teacher; observations carried out during the activities; reflective journals; digital photographs of the children's pencil grip, and examples of their handwriting.

The children took part in a fine motor skill activity once per week over 13 weeks, though not continuously. The evidence collected suggested that their pencil grips did change and handwriting improved in most cases. It was recommended that the children continue with a series of fine motor skill activities particularly involving in-hand manipulation and for the activities to be undertaken during the daily handwriting lesson.

Introduction

The aim of this action research was to explore fine motor skills activities to improve the pencil grip of a group of Key Stage 2 children and if successful, to investigate whether the consequence would be an improvement in the legibility of their handwriting. The research follows a recommendation from a study completed during the Foundation Degree for Teaching Assistants (FdA). That study examined the effectiveness of using a visual aid to remind primary school children how to sit, position their paper and hold their pencil when writing; one recommendation was to carry out specific activities to improve pencil grip.

Handwriting seems to have had low status in education recently (Medwell and Wray 2007). This is reflected in the findings of a study into handwriting policy and practice in primary schools which found a lack of training for teachers in handwriting and a lack of coordination regarding schools' approach to it (Field 2006). However, the National Curriculum requires Key Stage 1 children to be taught how to hold a pencil and how to present their work so that it is 'clear and neat in order to communicate their meaning effectively' (DfEE 1999: 21). According to the Lincolnshire County Council (LCC) occupational therapy (OT) manual *1st Move*, handwriting is 'perhaps the most complex perceptuo-motor skill that children have to acquire' (undated: 40). The findings of the FdA research supported this statement, showing that some children had difficulty holding a pencil in a standard tripod-style grip, and that no amount of reminding them seemed to alter their grip.

There is a paucity of recently published research in the United Kingdom (UK) about the employment of fine motor activities and their impact on children's handwriting; much of the OT research emanates from the USA, Australia and Canada. This piece of action research seeks to rectify this situation by investigating the impact of a series of fine motor skill activities on the pencil grip of a group of children and the effect if any on their handwriting.

The study focused on a group of five Key Stage 2 children, three from Year 4 and two from Year 3, in a small rural school. The group took part in a series of fine motor skill activities for up to 25 minutes once a week for 13 weeks. The effectiveness of this small-scale research may have been influenced by a number of factors. Firstly, by the small number of children involved; secondly, by the children's intrinsic physical or cognitive developmental abilities and thirdly, by the amount of time needed for a physical change to be seen. However the study did take place over a period of four months which provided sufficient evidence for analysis.

Literature Review

The review of the literature focused on the areas of handwriting, fine motor skills relating to pencil grip, the effectiveness of pencil grip and on the activities that would be suitable to employ during the research. Most of the literature spanned the late 1970s to the present day. As mentioned, it was rare to find any published research relating to fine motor skills in the UK. Most of the research in this area was found in OT journals from the USA, Australia and Canada.

Views about the importance of handwriting vary. Jarman (1979: 16) states that the skill of handwriting is a `relatively minor part' of a child's overall education and development. To an extent this statement remains true today, particularly given the increased use of Information Communication Technology (ICT) by primary-school children. However, as noted, the National Curriculum requires Key Stage 1 children to be taught to write in a legible style, and a study into handwriting policy and practice in English primary schools concluded that handwriting skills remain extremely important despite ICT use (Field 2006). Even with the current emphasis on children using ICT in school, Feder and Majnemer (2007: 312) state that children spend `31 to 61% of their school day performing handwriting and fine motor activities' and that difficulty in this area can interfere with academic achievement. The need for children to write legibly is important. Handwriting is worth up to three marks in Standard Assessment Tests (SATs), so for example, 'good hand writing can mean the difference between level 3 and 4' (Bamford undated).

Having affirmed its importance, there was a need to investigate how children's handwriting develops. Browne (1993: 75-80) argues that, `clear and well formed handwriting does not develop naturally' - it needs to be 'nurtured'. Lockhart and Law (1994) found that children who do not learn the skill adequately often suffer poor self-esteem and frustration, as not only is their handwriting criticised but also the content. There is a growing body of research suggesting that handwriting is critical to creative and well-structured written text and that this has an impact on how fluent the writing is as well as on the quality of composition (Medwell and Wray 2007).

The topic of fine motor difficulties and how they affect children's handwriting was an area for discussion within the literature. As Jarman (1979: 16) points out, the fine

motor development of a child is a 'good gauge against which to measure a child's handwriting needs'. This is in line with Feder and Majnemer (2007) who claim that a lack of fine motor control is the cause of common writing errors in children aged six to seven, and that an inadequate pencil grip may result in children experiencing difficulty moving their fingers and therefore developing compensatory strategies to stabilise their pencils. Conversely, a major research project over a 10 to 15 year period adds another element to the discussion by arguing that handwriting is far from solely a motor act and that 'the ability to recall letter shapes contributes more to handwriting than do motor skills' (Berninger and Amtmann 2004, in Medwell and Wray 2007: 5).

The issue of the most effective type of pencil grip was also a subject of debate in the literature. According to Tseng and Cermak (1993: 919) most children between the ages of four and six develop a pencil grip called the `dynamic tripod grip' which they refine between the ages of seven and fourteen. There is no precise method of holding a pencil, but a natural tripod grip is accepted as one that most children adopt (Smith and Inglis 1989). However, Koziatek and Powell (2003) found that an atypical grip was just as functional as the dynamic tripod grip. Cooley (2004) agrees with these findings claiming that a functional grip is one that allows the child to complete his or her work in a legible manner.

In the light of these debates, the aim of this research is to consider the effect that an atypical or faulty grip may have on children. The literature yielded mixed opinions about this. Penso (1987) found that some children unconsciously held on to the tip of the pencil to try and get better control. Tseng and Cermak (1993) observed that a poor grip may result in quicker fatigue and as result speed and accuracy would decrease. They argue for relaxation training to improve performance. Thomas (2008: 20) found that a 'near point grip' was used by many poor spellers and that this seemed to cause fatigue and obstructed their 'visual feedback and so hampered learning'.

Finally, there was a need to consider the activities I should employ within the study. A main source of information was the OT literature. The Lincolnshire County Council *1st Move* manual offers considerable information about activities to build children's fine motor skills i.e. activities that are 'beneficial in developing thumb/finger opposition to improve pencil grasp.' The manual also recommends that children carry out activities that became progressively more difficult, and to motivate them by encouraging them to compete against a clock (LCC undated: 36). The Department of Occupational Therapy at the Royal Children's Hospital (RCH) in Melbourne, Australia, posits that a type of fine motor activity called 'in-hand manipulation' is one of the most complex fine motor skills and one that can be used to improve everyday activities such as picking up and holding a pencil (RCH 2005: 3).

The sources of literature discussed in this review revealed a variety of issues pertinent to the study and confirmed and informed my consideration of the handwriting of lower Key Stage 2 children. I was able to review literature regarding children's fine motor abilities and the effectiveness of various pencil grips. This provided a baseline should grip and handwriting not change as a result of the study. Lastly, I took into account the range of activities that would be suitable for the children to use during the study. This enabled me to refine the project and carry out a series of fine motor skill activities to investigate their impact on the children's pencil grip and any subsequent effect on their handwriting. I wanted to help children to improve their handwriting and to write with an effective and comfortable pencil grip; knowing from my review of

the literature that having difficulty with handwriting 'can interfere with academic achievement' (Feder and Majnemer 2007: 312).

Research Methods

Action research can be defined as a way 'to actively make changes which will benefit the situation in some way' (Bartlett and Burton 2001: 59). I had identified in a previous study that some children in the school had a non-standard style pencil grip; some of these were now in the Year 3/4 class where I worked as a TA. Before undertaking the study, I obtained written consent from the head teacher, produced an action plan within my research proposal, and observed the children in the class in order to identify those who still had a non-standard pencil grip. The class teacher suggested additional children whose handwriting she considered to be poor and who might also benefit from taking part in the research.

I was aware that the research was small in scale and focused on a group of children who exhibited a specific combination of issues with the aim of 'affecting change locally, *in situ*' (Taylor et al. 2006: 5). However, following Bassey (1990, in Bartlett and Burton 2001: 60), `its strength is that it is still relatable to similar situations'.

It was important to consider ethical issues. Following the *Bishop Grosseteste University College Research Ethics Policy* (BG 2008), I completed the Ethics Guidelines and Checklist and an Ethics Statement. After obtaining written consent from the head teacher, I obtained written permission from the class teacher, a teaching assistant who worked with some of the children, and from the parents of the children identified. The letters gave the participants and their carers, information about the nature of the research including the data collection methods. I informed them that I would observe good ethical conduct throughout by ensuring anonymity and that the findings would be available prior to submission. As discussed by Taylor et al. (2006) failure to work within ethical procedures can jeopardize the value of the work. Anonymity was achieved by referring to the children by their initials only; where comments were made by the class teacher on questionnaires, names have been removed and replaced by initials.

The research was carried out over a period of four months. This allowed for three cycles of research with alterations to the focus of the fine motor skills activities made after each cycle. According to McNiff et al. (2003), reflecting on each cycle helps one to form new actions based on those reflections. The cycles were not able to run continuously due to school timetabling issues and holidays. However, the first cycle contained five fine motor skill activity sessions and the second and third cycles contained four activity sessions; all with one set of activities each week. Each week during the first cycle, the children carried out a variety of fine motor skills activities, all based on the idea of using fingers in a pincer grip to pick up and post objects into containers. In the second cycle, the children used their whole hand to do scrunching activities. Activities in the third cycle were based on the children manipulating a pencil in their hands. Following the LCC *1st Move* manual, each week the activities became more difficult.

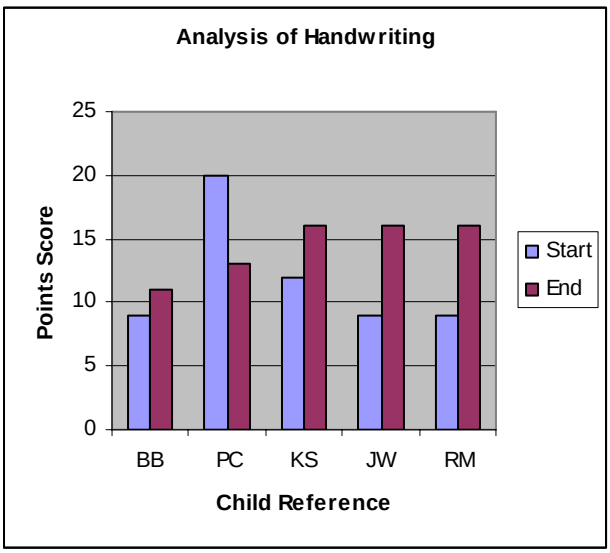
Research methods during the study drew from both qualitative and quantitative paradigms. Qualitative methods included: observations of the children doing the activities; questioning them about the activities; a questionnaire completed by the class teacher asking about changes in their handwriting, and a researcher reflective journal completed after each activity. Collecting data from three different sources ensured

triangulation and enhanced the validity of the results (Taylor et al. 2006). Quantitative methods were used within the class teacher's questionnaire and in the one I used for my analysis of the children's handwriting examples.
There are many elements to handwriting; to help the identification of those elements and to assess any changes, I used the Likert scale (Likert 1932) with the statements: strongly disagree, disagree, agree and strongly agree. The statements were such that there could be no ambiguous answers. As discussed by Burton and Bartlett (2005) a benefit of using quantitative methods is to aid data analysis and representation in a statistical format. The questions were the same in both questionnaires to enable me to compare my assessment of the children's handwriting with the class teacher's. I asked the children to give an example of their handwriting at the beginning and end of each cycle and at the end of the project for comparison. I also asked them to copy the same example of writing and took photographs of their pencil grip; this was recommended by Koziatek and Powell (2003) who argue that it enables better analysis of the data. The quantitative method made it easier to measure whether or not there had been any change in the children's handwriting. The qualitative method gave the teacher an opportunity to make comments to expand on her answers. Moreover, the children also had an opportunity to comment on the activities; thereby enabling me to compare their comments with my observation of how they performed the activities. Following Bartlett and Burton (2001: 45) these accounts would then help me to 'explain and understand the actions of those being studied'.

Findings/Results with Analysis

As discussed, the children provided a sample of their handwriting at the beginning and end of each cycle and at the end of the study; copying the same example of writing each time. This allowed me to see if there had been any improvement as a result of the study. Figure 1 shows the analysis of those examples based on a total of seven criteria with points awarded 1 to 4 for each element: one point for strongly disagree; two points for disagree; three points for agree and four points for strongly agree. My findings show that all bar one child's handwriting had improved as a result of the study.

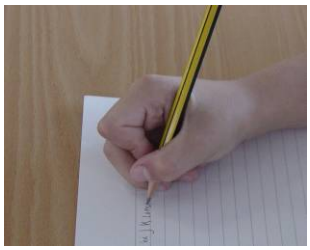
Figure 1 – Assessment of the elements of the children's handwriting at the start and end of the study:



To allow for a comparison of the children's pencil grip, I took digital photographs of their writing process at the beginning and at the end of the period of study. Figure 2 shows a photograph of each of the children's pencil grips. Each child's pencil grip has changed and appears to have improved.

Figure 2 – Photographs of children's pencil grip at the beginning and end of the research:

Child BB Beginning



Child BB End

Appears to have a more relaxed grip at the end of the research

Child PC Beginning

Child PC End

Grip appears to have changed almost to a more standard tripod grip

Child KS Beginning

Child KS End

Grip appears to have changed slightly with the pencil being more upright and the forefinger being used to exert more control over the pencil

Child JW Beginning

Child JW End

Grip appears to have changed to almost a more standard tripod grip

Child RM Beginning

Child RM End

Grip seems to have relaxed and the shaved area of the pencil is more visible

At the beginning of the research, three of the children, BB, PC and RM appeared to have a tight grip on their pencil. This reflects the findings of Stott et al. (1986) that one of the most common faults of grip is that the pencil is held too tightly thereby inhibiting finger flexibility. However Ziviani and Elkins (1986) disagree, arguing that the way the child holds the pencil will not necessarily influence legibility. Child PC's pencil was held so tightly at the beginning of the study that she had a red sore area where it had been held against her thumb. PC's handwriting had scored well at the start of the study, but appears to have scored worse at the end, yet her grip had changed. She was selected to take part in the study not only because her pencil grip was of a non-standard type, but because the teacher thought that her handwriting was inconsistent. The result of the study for this child may therefore support Ziviani and Elkins (1986: 256) findings that 'grip is unlikely to be the sole cause of poor handwriting'.

Each week the children used their fine motor skills to undertake a variety of activities. I planned each activity carefully to enable me to explain in detail how to carry them out. The first cycle's activities required the children to use their thumb and fingers in a pincer grip to pick up and move items. In week one, they threaded pasta onto a shoe lace, in weeks two and three they posted pasta into a plastic bottle and in weeks four and five they posted dried peas into a plastic bottle. The activities were altered each week to make them slightly more challenging. During each activity I observed the children's ease and difficulties. I also asked them to comment at the end of each session saying how easy or difficult they found the activity and why.

During the first cycle the children undertook each activity for one minute, four times in each session. Each time they had to use a different finger with their thumb to form the pincer grip; this made the task progressively more difficult. All of the children said they enjoyed the activities and that they were fun and most of them noted that the activities became progressively harder. During the first session I observed that they rushed because of the competitive element. Reflecting on this in my journal, I concluded that they tried to compensate for any difficulty by using their other hand or in one case their face to steady the pasta in their grip. I decided to remove the shoe lace replacing it with a bottle for them to post the pasta into. This achieved the aim and the fine motor activities became focused on the writing hand only.

Activities in the second cycle consisted of the children using their whole hand to scrunch items; again as recommended by the LCC. Reflecting on the first cycle, I decided to remove the competitive element from the second cycle; this had the effect of focusing concentration on the task and reducing the rush to complete it. During the first week they scrunched tissue paper, the second week they scrunched newspaper, the third week they squeezed sponges to move water from one container to another, and in the last week of the second cycle they did the same as in week three but using smaller sponges. Changing the activities helped to keep the children's interest to the extent that they commented on how much they enjoyed these activities particularly in weeks three and four. This is in line with the ethos of the *Excellence and Enjoyment Strategy* which states that `enjoyment of learning is at the heart of what we do' (DfES 2003: 4). The children said they did not want to stop doing the activity as it was so relaxing. Reflecting on the activities in my journal, I noted that they appeared to be using their fine motor skills very effectively to carry out the tasks.

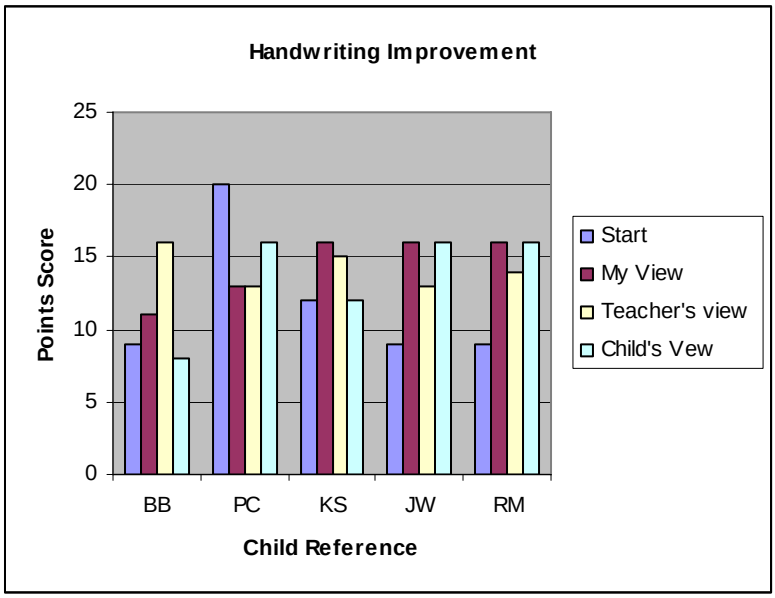
After reflecting on the second cycle, I decided to shift to a focus on activities that could be transferred into the classroom; thereby giving the children more opportunities to practise their fine motor skill activities more than once a week. During the final cycle, the children used a pencil to carry out in-hand manipulation activities – as developed by Wells (2004). The use of this activity is supported by Case-Smith (2002) who found that an intervention group's skills became more consistent when using in-hand manipulation activities. Therefore in week one the children did a pencil translation activity where they had to roll the pencil using their fingers from their palm to their finger tips. In the second week they had to hold a pencil in a tripod grip and move it in their fingers sliding it from tip to end. In the third week they did a simple rotation of the pencil activity, and in the last week they undertook a more complex pencil rotation. During this final cycle the children were asked to practise these in-hand manipulation activities in the classroom before they started writing.

From my observations during the activity sessions I noted that the children found the activities in cycle three far more difficult than the previous ones. As noted, the Department of Occupational Therapy at the RCH reported that in-hand manipulation (that is the manipulating of an object in one hand) is one of the most complex fine motor skills. In the light of this, I hypothesised that the children may have found the activities difficult because their fine motor skills were still lacking, particularly their ability to use their thumbs and bend their fingers effectively to control the pencil. This reflects the findings of Tseng and Cermak (1993: 924) who argue that 'uncoordinated finger movements can lead to diminished pencil control'. During this last cycle, although the children reported being bored doing the pencil activities, most of them did proudly say at the beginning of each session that they had remembered to do the activities in class and had even reminded others to do them. In my reflective journal I considered their lack of motivation and subsequently asked them to suggest alterations to the activities; this they did keenly and incorporated those changes when they practised in the classroom, thereby improving their own motivation.

Figure 3 shows the collated views regarding change in the children's handwriting. This is as a result of my analysis of their handwriting, the child questionnaire and the staff questionnaires. Being able to collect data from three different sources ensured triangulation thereby, enhancing the validity of the results.

Although triangulation took place, there may be a limitation to the findings regarding the handwriting improvements. On the days that I took a sample of the children's handwriting, they may not for some reason have been able to perform their best handwriting. In comparison, the teacher's comments were as a result of her looking at their writing over the period of study; therefore she had more examples at her disposal for evaluation. The children's view of their own handwriting may be unreliable as they based their view on how they felt rather than examining their work as the teacher and I had done. However the nature of action research is to `increase our professional development' (Taylor et al. 2006: 5) therefore my professional judgement about changes in the children's handwriting can be justified as mine, and the teacher's views were not vastly different.

Figure 3 - Views of children's handwriting improvement:



At the beginning of the research, child KS and child RM reported that they found handwriting uncomfortable. Child KS had a pain in her shoulder as she wrote even over a short period of time, and child RM had a pain in his wrist that affected how long he could write without discomfort. Child PC and child JW both found that the pencil made a mark on their hand where they held it. The *1st Move* manual does say that there may be 'holes' in a child's basic gross motor skills, such as low muscle tone (LCC undated: 33). As already discussed, Tseng and Cermak (1993) point out that a poor pencil grip may result in quicker fatigue and that relaxation training is important as an aid to performance. Consequently after each activity session, I incorporated a period for the children to massage their hands or to consciously relax their shoulders and recommended that they continued this when in the classroom if discomfort continued. At the end of the study, child KS said her shoulder still ached when she wrote but less than before. The photograph of her pencil grip shows that her grip has altered slightly and this may have eased her discomfort. Child RM said that the way he held his pencil at the end of the study meant that he had less pain in his wrist, but the main benefit was that because he was holding the pencil higher up the shaft; he did not need to lower his head as much as before because he could now see his writing a lot better.

Conclusion and Recommendations

The aim of this action research was to explore a range of fine motor skills activities to improve the pencil grip of a group of Key Stage 2 children and if it did and if successful, to investigate whether the consequence would be an improvement in the legibility of their handwriting. Activities deployed during the research were mainly taken from those recommended by the LCC *1st Move* manual and investigated those that used pincer grip, whole-hand and in-hand manipulation activities. The children seemed to enjoy the whole-hand activities the most and found the in-hand manipulation activities the most difficult. This difficulty reflects the comments from the Department of

Occupational Therapy at the RCH (2005) that in-hand manipulation is one of the most complex fine motor skills.

At the beginning of the research, two of the children held their pencils particularly tightly when handwriting and one child held his pencil so close to the point that he could not see his own writing and had to lower his head to the paper. This is similar to Thomas's finding (2008: 20) that the use of a `near point grip' can cause fatigue and obstruct `visual feedback and so hamper learning.' The findings of the study show that RM's grip changed to the extent that he did not have to hold his head so low and as a result he reported being able to see his writing better.

The evidence collated throughout this study found that the children's pencil grip did change and a number of them improved their handwriting. This reflects the findings of Case-Smith (2002) who concluded that those who received OT improved the legibility of their handwriting. One child's pencil grip appeared to alter only slightly and the aches in her shoulder did not disappear, possibly indicating that a lack of gross motor skills was reducing her ability to take full advantage of the fine motor skills activities. This may be as a result of `holes' in basic gross motor skills, such as the low muscle tone discussed in the LCC manual. Two of the children's pencil grip appeared to have changed considerably in favour of the dynamic tripod grip which Tseng and Cermak (1993) maintain is expected of this age range. However, this apparent improvement was not reflected in the analysis of one child's handwriting which appeared to have worsened by the end of the study. Furthermore, that child was selected because her handwriting was inconsistent. Here the findings concur with those of Tseng and Cermak (1993: 924), that handwriting is such a complex skill that `many variables contribute to hinder performance.' Moreover, I noticed during casual observations after the research project had finished that although JW's handwriting had improved, he and PC often changed their pencil grip and did not maintain the dynamic tripod grip they had displayed at the end of the research process. This may support the findings of Koziatek and Powell (2003), that an atypical grip is just as functional as the dynamic tripod grip.

Although this was a small-scale study, the fine motor skill activities carried out over a period of four months were sufficient to show that all the children's pencil grip did alter to some degree, although there is no specific evidence to say that any changes in their handwriting were solely as a result of this study. Handwriting is far from purely a motor act and as noted research has found that 'the ability to recall letter shapes contribute more to handwriting than do motor skills' (Berninger and Amtmann 2004, in Medwell and Wray 2007: 5).

This project report has been disseminated to the class teacher and to capitalise on the progress made so far, includes recommendations that the children continue with a series of fine motor skill activities particularly involving in-hand manipulation and that these form part of the daily handwriting lesson. It has also been recommended that the activity be carried out by all children in the class so as to not single out any particular children as different and to encourage the whole class to improve their fine motor skills. The teacher is considering including this in her planning of subsequent handwriting lessons.

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Investigating the Relationship Between the Use of Puppets for Teaching and Pupil Attention and Participation

Laura Rusling

Abstract

This research project was undertaken as the result of an identified weakness in the levels of attention and participation of pupils within the Early Years Foundation Stage. The study was conducted over a period of eight weeks, with the objective of investigating the impact of puppetry as a teaching strategy to improve pupil attention and participation. Data were gathered from a combination of structured and non-structured observations, in addition to the use of a reflective journal.

Data analysis showed improvements in both attention and participation during the period of intervention, with pupil attention being most improved during Phase One of the research, and participation most improved during Phase Two. The puppet's ability to influence social skills was another major finding of the project, evidenced through non-structured observation. The conclusions of the research were that puppetry was effective in improving pupil attention and participation across a range of abilities within the Early Years Foundation Stage.

Introduction

The central question for this research is: 'Will the use of puppets, as a teaching strategy, improve pupils' attention and participation within the classroom?' I undertook this particular research project for a combination of reasons, mainly because the subject is an area of personal interest and something that I was keen to investigate the impact of within my educational role.

The research project was conducted within the Foundation Stage of a small town infant school. Observations made prior to my work placement led me to identify the difficulty of both gaining and maintaining the attention of young children, particularly during lesson inputs. There were strategies within the class that were designed to engage pupils, but as Cowley (2006: 186) acknowledges, `the teacher must work hard to keep the attention of a class of young children' and there was evidence that not all pupils were responding favourably to current interventions. Likewise, once the pupils' attention was gained, participation appeared limited to a small group of pupils. As Thornhill (2007: 120) explains:

> *Once you have established the attention of the class you are moving into a phase of 'management' where your task is to ensure that an environment is maintained where effective learning can continue.*

With my teaching placement imminent, pupil attention and participation seemed an appropriate focus, and an area that it would be pertinent to address.

During my experience as a Teaching Assistant (TA), I have observed the use of puppetry in both the classroom and beyond, for example, in units such as 'The Rainbow Room' (a specialist pre-school provision designed to integrate Special Educational Needs (SEN)

children into the full-time mainstream school). Linn (2005: vii) describes, `the astonishing capacity of puppets to affect people who are hard to reach through more traditional means'. I became fascinated by the impact puppets can have upon their audience, having seen challenging children transformed into compliant, eager to please individuals. Preliminary investigations involving teachers within my setting confirmed, in most cases, that they too regarded puppetry as a positive tool for teaching.

The aim of my research was to investigate the relationship between the use of puppetry as a teaching strategy and the attention and participation of the students I was teaching. From a practical viewpoint, this was a manageable task to complete during teaching placement, with potential benefits to pupils, school and to my continued professional development. There were limitations in terms of the number of pupils involved and the relatively short timescale for the project. I did, however, feel I planned a worthwhile and realistic research project that would provide sufficient evidence upon which to base judgements about the effectiveness of puppetry. My expectation was that the use of puppets would improve attention and participation amongst the participants, but the purpose of my research was to investigate and measure this idea using reliable methods.

The *Practice Guidance for the Early Years Foundation Stage* (DfES 2007) advocates the use of puppets for teaching. I was encouraged by the recognition of the value of puppets by the DfES and aware from preliminary reading and earlier study that there was literature within the field relating to this topic.

Literature Review

A review revealed an abundance of literature relating to the use of puppets and their impact upon language and communication. Puppetry is an ancient art form originating 30,000 years ago (Blumenthal 2005). Smith (2005: 83) refers to it as a `fantastic educational vehicle' with the 'capacity to reach across cultural and social barriers'. Likewise (Burn 1989) has written extensively about a language, unique to puppetry, with the power to unite people. As previously acknowledged the `power of puppets' appears to be beyond debate; however, there is little research within the education sector that evaluates just how `powerful' puppets are as a teaching strategy (Silver 2005). My project will make a small contribution to rectifying this situation.

Although historically the puppet's use has been in theatre, increasingly its value in therapy and education is being realised. Renfro (1984), Aronoff (1996) and Bernier (2005) have all written significant texts about the puppet as a `therapeutic medium', helping children to recover from traumas such as divorce, accidents or abuse. Children feel able to talk to a puppet when perhaps they cannot speak to anyone else. The use of puppets in hospitals has been widely publicised. Linn (1977) and Schneider (1976) investigated the puppet's effect upon children's feelings and its role in preparing children for surgery. More recently, the European Commission (2009) reported on work undertaken by a team of Greek researchers to study the effect of puppet play on children undergoing minor surgery. The team concluded that there was less behavioural disturbance in the children assigned to the therapeutic puppet play intervention.

Within education the use of puppets is seen as contributing to social, behavioural and communicative development, whilst also appealing to a range of learning styles. As

Bentley (2005: 7) explains, `puppets are particularly effective in fostering and developing a child's social and emotional development'. Arguably, it is these areas of development that enable pupils to take an active part in lessons. A recurring theme within the literature is that puppets make children feel `safe'. Linn (2005: vii) argues that, `speaking through puppets provides a "me/not me" experience that allows us to say things we might not be able or willing to say directly'. She goes on to explain how the `me' aspect results in honest expression from the child, whilst the `not me' aspect gives the confidence for expression. Similarly, O'Hare (2005) speaks of the puppet being an extension of the child and providing anonymity; the anonymity that Astell-Burt (2001) considers is crucial to children revealing a part of themselves that they cannot release in normal circumstances. It is these ideas, coupled with experience, that lead me to expect that the presence of puppets in my lessons would impact positively upon pupil participation.

Cowley (2006: 186) promotes the use of puppets as a behavioural strategy to retain the attention of young children on the basis that if children are not engaged then behaviour will deteriorate. Klein (1996) speaks of a group of 21 'disturbed' children, noting that although they provide huge challenges to teachers, they demonstrate high levels of engagement and affinity with puppets.

Regarding communicative development, Burn (1989) and Freeman (2005) both consider puppets valuable in language acquisition because they provide a comfortable, nurturing environment where risks can be taken. Bentley (2005: 20) concurs, describing puppets as, `at the peak of their effectiveness when it comes to getting young children's language development off to a positive start'. Mosley (2005: 5) describes how, `the quietest child can whisper words of encouragement to a shy puppet and a noisy child learns to listen carefully to catch the voice of a puppet'. This last statement captures the essence of what my research is about, participation and attention, and how both are influenced by puppetry.

It is worth noting that puppets appeal to a range of learning styles. The Department for Education and Skills (DfES 2004) acknowledges claims that we all have a preferred learning style. Bentley (2005) and Chesse (2005) discuss puppets in terms of providing an enticing visual stimulus and note that they are physically active and interactive within the learning process, therefore appealing to visual, auditory and kinaesthetic learners. O'Hare (2005: 2) states that, `a well planned puppetry program taps into all of Gardner's multiple intelligences', resonating with the many different ways that people learn and retain knowledge and skills. Ginther (2005: 40) has considered this in detail and similarly concludes that carefully planned puppetry 'will address all aspects of Gardner's theory'. It is prudent to always be aware that to achieve a good level of pupil attention and participation we must teach in ways that appeal to the full range of learning styles and preferences.

There is substantial reference to the puppet's ability to capture children's attention. Bentley (2005: 6) recalls her work with puppets: `Quite simply, I had given them pleasure and in return they had given me their rapt attention'. Likewise, Down (2005: 20) describes `fully engaging' the child whilst Astell-Burt (2001: 102) talks of children developing `their ability to focus, concentrate and remain alert'. Findings from Naylor et al. (2007) confirmed the use of puppets to enhance children's engagement and motivation within science. My project will aim to measure the extent to which

children's attention is altered before, during and after puppet intervention across the curriculum.

Finally, I wish to consider the influence of puppets on pupil participation specifically. Chesse (2005: 14) describes the puppet as the 'perfect medium for motivating children and involving them'; whilst O' Hare (2005: 64) describes a puppet as a `vehicle for communication and personal interaction'. It would appear that in some cases participation is increased because the child wishes to `speak' to the puppet since it offers a 'safe' voice - a voice that they may not have in the puppet's absence. Ross (1997: 1) confirms this idea, describing how, `with a puppet children can discover ways of expressing thoughts and feelings they may normally keep under wraps'.

Those who have written about puppetry are highly emotive in their discussion which in many ways leads to a somewhat biased account. I think, without doubt, puppets have a role to play in mainstream and SEN education. I do appreciate, however, that they are just one of many aspects influencing the way pupils think and learn. My research will help to establish how puppets, in particular, affect attention and participation within the Early Years Foundation Stage (EYFS) setting.

Research Methods

To recap on the context of this research: I had identified children within the Foundation Stage were neither as attentive nor participative during lesson inputs as I would have liked. I was conscious that my expectations may be a little high, as my practitioner experience was with Years One and Two. Although strategies were in place to engage the younger pupils, these were proving unsuccessful. The objective of my action research was to see if the introduction of puppetry, combined with existing methods, would result in a more effective teaching and learning experience.

As Gray (2004: 26) states: `Action research … places an emphasis on promoting change within an organisation'. O'Leary's (2004) model represents the cyclic nature of this type of research illustrating planning, acting, reflecting and observing as an iterative process which evolves as the researcher gains knowledge of the situation and evaluates his or her actions/intervention on an ongoing basis. I expected that my research would involve six cycles, in two phases. In Phase One, I would use a puppet during three lessons each week, for three weeks, and during this time measure the impact upon pupil attentiveness and participation. If the outcomes in Phase One were positive, my intention during Phase Two would be to continue the use of puppetry within my lesson inputs, but also allow the pupils to use puppets within the lesson. Again, this would be during three lessons a week, for three weeks.

Initially I met with my mentor to discuss the project outline, ethical implications and to consider practicalities. With the project approved, I completed an equipment audit to establish available resources, and began my literature search. As Koshy (2005: 43) explains, `time spent on searching for literature could in fact optimise the benefits of your research and support you with the structure and quality of your enquiry'.

Ethics are a major consideration within any research project. As Taylor et al. (2006: 39) points out: `Regardless of which data collection tools you use in your research, ethical guidelines must be followed'. Following consultation with my head teacher, it was agreed that 'informed consent' from the research participants was unnecessary. This

was on the because my research was not influencing lesson content, affected only a limited number of lessons, and fundamentally would not alter the pupils 'normal' school day. It was also agreed that anonymity would be maintained, the essence of which is that `information provided by participants should in no way reveal their identity'. Cohen et al. (2000: 61). We did, however, consider it good practice to inform parents of the research proposal, and offer my availability to discuss the project. Such practice is supported by Gray (2004) who especially recommends communicating your intentions in writing, when dealing with parents or guardians.

My data collection methods provided me with a combination of qualitative and quantitative data. Koshy (2005: 142) states: `The simplest explanation is to describe qualitative data as being in the form of descriptions using words, whereas quantitative data involves numbers'. I felt that both types of data would add value to my work.

The Foundation Unit in which I was teaching is structured so that the same lesson input is taught to the two classes, with the same resources, simultaneously. Having enlisted the support of my colleague practitioner, we agreed that her class would be used as the 'control' group and mine the 'experimental' group. We both rated eight children from our classes (two from each ability group), three times a week during the same inputs, the differential being my use of a puppet. Observations were made during lessons pertaining to all areas of the EYFS guidance, over a six-week period. We enlisted our support staff to complete parallel observations during the specified inputs. I was of the view that this would help to validate my research and reduce bias. I was conscious that I must observe as impartially as possible, ensuring that I recorded the lesson outcomes accurately, rather than seeing what I expected or wanted to see. A second observer allowed any anomalies in given ratings to be investigated as part of the research cycle. In addition to the six-week 'puppet' period, observations were made the week prior to, and the week following the intervention, to provide a project baseline and to check for residual effect. I was satisfied that this data would provide me with sufficient evidence for comparison and analysis.

My primary form of data collection was a structured observation checklist using a rating scale to make judgements against observation of specific pupil behaviours. Having used this successfully to gather baseline evidence, I also wanted to supplement this data with additional non-structured observations, in order to gain a fuller picture that would not be obtained by statistical results alone. Wragg (1999: 92) describes how, `by studying what pupils do, observers can learn a great deal'. The additional non-structured observations recorded examples of pupil behaviour and interactions and captured the detail of each session.

All of the observations were `participant observation' which involves the researcher 'participating in the daily life of an individual, group, or community and listening, observing, questioning and understanding' (Bell 2005: 186). As suggested by Taylor et al. (2006), I made a video recording of the session inputs being rated; these could then be reviewed to verify discrepancies in teacher/TA ratings and moderate results. It also meant that in the occasional absence of a supporting TA, a second individual could still validate my observational ratings at a later time.

Throughout the project I kept a journal to capture any reflections, ideas or insights as they occurred. Taylor et al. (2006: 12) explain how the journal provides `a vehicle through which to organise your thoughts, feelings, attitudes and hypotheses, as well as

to note down practical details'. I also used this method of data collection to record significant pupil comments. I had considered using some form of pupil questionnaire within my data collection, but from my previous experience of using questionnaires with Year One pupils, I decided that the recording of incidental pupil narrative may be of greater value in terms of providing an accurate insight into pupil motivations.

I therefore tried to achieve balance in my data collection methods. The quantitative data would allow for ease of analysis, but the qualitative data was necessary, as stated earlier, to create a full picture of the research outcomes.

Findings/Results with Analysis

In this section, I analyse, evaluate and discuss the findings of my research project, integrating my findings with appropriate literary sources. Please acknowledge that any statements regarding attention and participation of pupils made in the forthcoming sections relate purely to the outcomes of this research.

The quantitative data obtained from structured observations before, during and after the research period highlighted a number of findings. Sixteen research participants, each observed by two adults, during three lessons a week, for eight weeks yielded 96 ratings for each participant. Forty eight of these observations related to pupil attention and 48 related to pupil participation. I found that the quantitative data provided some insight into overall patterns and trends, but the qualitative data enabled me to give more detail about 'why' these patterns and trends had emerged. I will consider first the results of the project on pupil attention during Phase One. To some extent, observation is open to bias but the practitioner ratings showed minimal variances, therefore I considered this a suitably reliable instrument for data collection and analysis.

Observations made in the 'pre-puppet' phase provided baseline data against which comparisons could be made. There was a varied baseline, indicative in most cases of pupils' general academic ability. Wood (1998) suggests that the inattentiveness displayed by lower-ability pupils may in fact be a result of lesson content that is too demanding resulting in pupils being unable to concentrate on what is being said and done. I will consider this idea in more detail later.

During Phase One, all experimental pupils showed improved levels of attention, varying between an increase in rating of 0.5 (pupils E and H) up to as much as 2.5 (pupil D). These increases meant that attention levels within this group were significantly higher than those observed in the control group. The results from weeks one to three were quite uniform, showing a maximum variance of 1 on the observation ratings, between weeks. Non-structured observations give a more detailed insight into pupil behaviours during this phase.

Initial Phase One observations highlighted 'excitement' amongst the pupils; the children were engaged, taking notice of what the puppet had to say, listening, looking, and less prone to distraction than usual. These results were in line with my expectations and with similar behaviours reported by Down (2005) and Astell-Burt (2001). It would appear that children are engaged not only by lesson content (Wood 1998) but by suitable teaching strategies. Katz (1998) explains that any such strategies should be appropriate for the context, age and developmental stage of the children. During

Phase One, the use of puppets had a positive affect in a variety of contexts, and was certainly well received by the Foundation Stage pupils.

Participation within this phase was also increased in six out of eight cases within the experimental group, with just pupils G and H showing no change. Again, participation ratings were noticeably higher than those in the control group. Pupils were keen to interact with the puppet, questioning and commenting upon the lesson content. They were highly motivated by the puppet's presence in our lesson, and my observations showed increased levels of participation amongst typically quieter pupils. Interactions between the group and between students and the puppet were lively but constructive, and the children appeared to thrive on the puppet reacting to them on a personal level. Ackerman (2005: 8) points out that: `The participation of the audience has an effect on the movement and action of the puppet'. It is my finding that, equally, the action of the puppet stimulated the audience's participation.

During Phase Two of the research, the use of puppets was extended to the children, with an unexpected effect upon pupil attention. Seven out of eight participants saw a decrease in the attention ratings they had been given during Phase One. Five of the eight saw a further increase in participation ratings, whilst pupils A, F and G maintained the participation levels they reached in Phase One. Observations of pupil behaviour would suggest this was due to a shift in the children's focus. Their excitement about taking on the role of puppeteer appeared to reduce their ability to listen to the adult in the classroom, and whilst participation levels were increased, this had a negative affect on the pupils' attention. For example, children were busy talking about the work ahead, prior to the teacher finishing her input. One possible explanation is that the children were given too much freedom to manipulate the puppets during this phase.

Attention levels reached their lowest point for almost all pupils in week four of the intervention. Improvement was evident during weeks five and six as the pupils became more familiar with using the puppets. Similarly, in my role of teaching practitioner, I was becoming more comfortable with my expectations of the group. Despite the decrease in attention compared with Phase One, all pupils, with the exception of pupil H, still rated higher in week six of the project than during baseline assessments. This showed that although the puppet project had impacted most positively upon pupil attention during Phase One, it had still produced encouraging results across the whole of Phase Two.

Post-intervention results showed both attention and participation returning to baseline levels, and in some cases slightly below baseline. Non-structured observations indicated the disappointment of the children that the classroom puppets had been removed. This confirmed my expectation that the puppets are only effective if used continuously, and that the effect is not residual.

The puppets had a definite effect during independent and child-initiated learning. Pupils were observed reading to their puppets and showing them how to complete tasks using strategies they themselves had learned in school. Linn (2005: vii) explains that, `as "nearly humans" puppets elicit identification from audiences'. Certainly, the pupils bonded with their puppets, developing a surreal relationship, where they could take on the role of educator to their new 'friend'. Having a 'puppet buddy' to work

with gave children the confidence to, essentially, work independently without it feeling that way.

Having considered pupil attention and participation separately, I decided to analyse the correlation between the two. I charted this information by pupil and by week in the form of line graphs to highlight patterns in the data. This revealed a strong correlation for all pupils in the control group between attention and participation. Pupil M showed a consistently higher level of attention than participation, whilst pupil P showed a consistently lower level of attention than participation. Knowledge of these children explains these results. Pupil M was generally attentive, but especially quiet and reluctant to join in whole class activity, whilst pupil P was extremely talkative, very involved in the learning but often needing to be given instructions more than once due to a lack of attention during the lesson input stages.

Correlation was examined between attention and participation for pupils within the experimental group. Pupil A shows a very strong correlation between attention and participation. Pupil E shows a correlation more typical of this group with participation levels gradually improving as a result of the puppet intervention, but with a decrease in attention occurring in the middle of the project. I have already discussed the reasons for this anomaly. The patterns observed within the experimental data are as a direct result of the puppet intervention.

Through non-structured observation there was also evidence of the value of puppets in addressing specific individual pupil needs. Pupil H is an extremely quiet little girl, the youngest child of three, with two elder brothers. Pupil H's confidence and self esteem have been an issue since entry to the Foundation Stage. She is a girl who will often cry but is unable, or unwilling, to disclose the cause of her upset. During Phase One of the research project, her attention levels increased, the impact upon her participation levels were negligible. Phase Two however was a huge success for her. Through her puppet this child visibly grew in confidence. She was empowered to communicate at a level we had not previously observed during her time in school. This behaviour is similar to findings by Klein (1996: 1) who observes: 'Children can take risks with the puppets. They can say things through them that they can't say face to face with staff or other children'. In essence, what we observed was the 'me/not me' experience discussed by Linn (2005: vii). Through the adoption of a new identity, this child was able to take an active role within the lesson, interacting confidently within her peer group.

During both phases the puppet served as an excellent behaviour management tool. It was successfully used to address inappropriate behaviour displayed by one of the group during playtime. Pupil G was extremely upset that the puppet was disappointed with his behaviour and through conversation between puppet and practitioner: "Oh, dear (puppet's name) it makes us very sad when (pupil's name) hurts people doesn't it?" I was able to effectively address this child's behaviour. Similarly, giving pupil D responsibility for 'looking after' a puppet brought about remarkable improvements in her ability to sit attentively on the carpet area (a particular personal weakness) as she endeavoured to show her puppet how it should be done.

Overall, the results of this project did reflect my expectations. Introducing puppetry into the Foundation Stage classroom energised my teaching and improved the attention and participation levels of those students involved. Initial over-excitement, I believe, was due to a change in teaching approach, but non- structured observations

highlighted excellent levels of motivation and children engaged in their learning. This was reflected in the structured observational ratings. The DfES (2004) encourages practitioners to make lessons varied and interesting to engage children by using visual, auditory and kinaesthetic modes. This was achieved throughout the project. I was satisfied that the improved ratings were as a direct result of the puppet intervention.

Prashnig (2007) reports the value of teaching through media that consider all learning styles, providing new opportunities for students that have previously lost their way. Again, I believe the use of puppets gave children that opportunity. As mentioned previously, I am conscious that there are limitations to my work and will consider these within my conclusion and recommendations.

Detailed planning, clear objectives/expectations and a supportive school network were all major contributors in the success of this project. I was also very lucky with the attendance of the selected research participants; there were no absences for any of the planned puppet intervention sessions.

From a critical viewpoint, I was unprepared for the decline in attention ratings during Phase Two of the project. Whilst the achieved ratings across the whole of this phase were still ahead of baseline observations, if I were to repeat this research, I would seek to address the effect that allowing pupils to use the puppets had upon their attention levels. It may be that this dip was necessary for children to establish how to use the puppets in a constructive way; however, that is an aspect that I would wish to consider further.

Conclusions and Recommendations

The aim of my research was to investigate the relationship between the use of puppets for teaching and pupil attention and participation. The evidence collected has highlighted improvements within these areas. Whilst I appreciate there are other influential factors and individual issues pertaining to each participant, the only differential between the control and experimental groups was the use of puppetry as a teaching strategy. This would indicate that the improvements shown were as a direct result of this action.

Bentley (2005) and Mosley (2005) have both written of the puppet's ability to capture its audience. My research has concluded that the puppet is indeed an effective tool for developing children's attention, and has demonstrated its value in helping pupils to create strategies conducive to successful learning. This was most apparent in Phase One and in the later part of Phase Two.

Chesse (2005) recognises the puppet's motivational value. The findings of this study showed the puppet's ability to increase student interest, therefore increasing involvement in classroom activities and interactions. The theatrical nature of puppetry provides something for the visual, auditory and kinaesthetic learner. During the research, I have seen children transfixed by the puppet's actions, straining to hear its words, and pupils who are excited, animated and engaged in their activities.

The benefits to social development have also been significant and most apparent with regard to the progress of individuals. O' Hare (2005: 64) describes puppetry as a `vehicle for communication and personal interaction'. In particular, my research has shown how

puppetry enabled pupil H to develop her social skills and pupil G to address his behavioural issues. As the DfES (2004: 36) highlights, `effective learners need to possess the social skills that allow them to learn in public and develop as learners'. Puppetry can enable pupils to develop these skills.

My study has addressed the issue of engaging children in their learning with activities that are challenging and also enjoyable. The DfES (2007) specifies that children in the EYFS must continue to be interested, motivated and excited to learn, interact with others in a variety of contexts, and be able to talk and listen confidently. Whilst my project is small scale and localised, I believe the action taken during the research period has contributed to the achievement of these goals.

My research does have limitations and its findings should not be generalised because of the relatively small number of research participants and the restricted timescale of the project. I would like to continue the research over a longer period of time, involving a larger number of pupils and a wider age range. Also, whilst my research has investigated the effect of puppetry upon attention and participation, it has in no way considered the effect upon pupil attainment.

Overall, I was pleased with my methods of data collection. The quantitative data proved invaluable in evaluating trends, whilst the data derived from observations gave me insight into the detail of each session. The process of completing the journal was important in helping me to consolidate my thinking and reflect upon my actions within the classroom.

My research has already influenced practice within my setting. I have presented my findings to colleagues, who in turn will review their practice and consider whether the use of puppetry could have a positive impact within their classrooms. Work has begun with the Early Literacy Support intervention group which now have its own puppet working as part of the group. 'Pip' is used as an incentive to the children, with the 'best' worker getting to take him home each weekend and to complete a diary of his activities whilst in their company.

With all of the above in mind, I can conclude that the introduction of puppetry as a teaching strategy in the EYFS classroom contributed significantly to improved pupil attention and participation.

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Contents

Editorial Policy

Articles submitted for consideration in educationUndergraduate, the Journal of Undergraduate Research in Education, originated as research projects undertaken by honours undergraduates in their final year of study at Bishop Grosseteste University College Lincoln. The original submissions achieved a first class award. Enquiries relating to submissions in future editions of educationUndergraduate, the Journal of Undergraduate Research in Education, should be directed to a member of the editorial team.

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