Interactive whiteboards and talking books: a new approach to teaching children to write?

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Abstract

This article presents work undertaken with a class of Scottish Primary Six children (aged 10) to investigate the use of interactive whiteboard technology and interactive talking books in whole-class writing lessons. The paper reports on a research project with three aims: to investigate how the use of an interactive whiteboard to reflect on the language and style of professional authors influenced the children's own writing; to examine the effect of this experience on the writing and behaviour of children with additional support needs; and to identify the advantages and disadvantages of using such technology in whole-class writing lessons. The resulting evidence suggests that while some children benefited from the approach, teaching children to write through examination of professional models of writing in whole-class lessons did not promote the most effective learning even where the text was provided in such an interactive medium. The implications of these results for practitioners who wish to use talking books and whiteboard technology to teach writing are discussed.

Key words: Big Books, interactive whiteboard, interactive teaching, enjoyment, inclusion

Introduction

This research was carried out in the school where I teach, as part of the new Scottish qualification of MSc in Chartered Teacher Studies, for which students are required to plan, implement and evaluate small-scale research and development work that has professional relevance to the student and to the school. In accordance with national and local priorities, the school prioritises raising achievement in literacy. The Big Book approach was already an established reading strategy in the early stages, up to Primary 3 (aged 7). As a class teacher, my intention was to investigate the potential of interactive talking books and an interactive whiteboard as a teaching and learning resource, to develop writing with Primary Six children. Through this medium, I wanted to find out how helping children to interact with and reflect on the writing of professional authors might motivate them, develop their understanding and influence their own writing.

Relevant research

The Big Book approach

The traditional shared reading model (Holdaway, 1979) builds on research indicating that shared preschool storybook reading is a critically important factor in young children's reading and development. Evidence about the benefits of parents' involvement in this activity is plentiful (e.g. Adams, 1990; Teale, 1986; Wells, 1985). Wade and Moore (2000) suggest that parents who introduce their babies to books give them a head start in school and an advantage over their peers throughout primary school. Mullis et al. (2004) show that the earlier parents become involved in their children's literacy practices, the more profound the results and the long-lasting effects. Holdaway investigated how the visual intimacy of such pre-school reading experiences with caring adults might continue within a school environment where teachers use oversized books (referred to as Big Books) with enlarged print and illustrations, to make the verbal and visual text fully visible to all in the classroom. In this model there are multiple readings of the books over several days. Through repeated readings of predictable text, children become familiar with word forms and begin to recognise words and phrases, reading along with their teacher. Big Books are therefore principally used in the early stages of learning to read. Holdaway claims that by "achieving a truly corporate spirit" (p. 64) there is no reason why a large class cannot learn together.

More recently Big Books have been popularised by England's Literacy Hour, as laid down by the English National Literacy Strategy Framework for Teaching (DfEE, 1998) where literacy is treated as a unitary process with two complementary aspects, reading and writing, and teaching objectives are set out for each term, focusing on specific reading genres and related writing activities. In the Literacy Hour, Big Books can be used to meet a number of these objectives, both in whole-class lessons and in group and independent work. Their use is not confined to the early stages of learning to read, but has now been extended to allow joint attention to specific features of more challenging texts, within an analytic approach, intended to give...
children greater control over genres of written language such as play-scripts, poetry and biography. Non-fiction from other subject areas also features concepts about Maths, Science, History and Design Technology.

The recent introduction of interactive Big Books combines multimedia with text presentation, eliminating the need for print copies of the book. A standard whiteboard will enlarge the book for shared reading and listening while an interactive whiteboard allows the text and illustrations to be manipulated, using electronic writing tools such as highlighter pens, speech and thought bubbles and a writing board which acts like a word processor. The British Educational Communications and Technology Agency (BECTA) the UK Government’s lead partner in the development and delivery of its e-strategy, reports that many teachers have found interactive talking books effective for children with short attention spans.

There is need for appealing presentation of written text: comparing data from English schools in 1998 and 2003, Sainsbury (2003) found a marked change in the attitudes of 10-year-olds to reading, over a period which had seen the introduction of the National Literacy Strategy in 1998. Enjoyment of reading had significantly declined.

Claiming that extensive literary analysis can destroy enjoyment of a story, a number of professional authors reject the analytic approach to literature of the NLS, embodied in its views of Big Books (Pearce, 1992; Pullman, 2003). Critics of the NLS have not confined their concerns to the way in which it treats the reading of literature: there is concern also about its effect on the teaching of writing. Anderson and Urquhart (2000) argue that an overemphasis on the receptive skills of identifying linguistic features in others’ texts and listening to others’ voices as models to copy will teach children what they have to say and write only matters if it confirms and conforms to prescriptions about linguistic features that are easy to identify and mark.

Marshall (2003) describes the damaging epistemological shift in English teaching, where attempts to outline the content of the subject and teach it directly have led to concentration on knowledge that is factual and formulaic, rather than a focus on what children need and can do as writers. She concludes that teaching writing should be about developing creative thought and not about concentrating on genre-specific conventions and techniques.

In an interview before his departure from the post of Director of the National Literacy Strategy (Hall, 2004), Stephen Anwyll challenged those who characterise the Strategy as reductive and mechanistic, representing their criticisms that the analysis of texts marginalises enjoyment for children as taking a narrow view of reading. In its defence, Anwyll instanced the changing pattern of reading on screen as opposed to reading in conventional books. It is unclear whether Anwyll meant the static texts of electronic books or the moving image texts of film and animation. However, the area of screen reading seems worth exploring for answers to the problem of the fall in enjoyment and response.

**Whole-class interactive teaching**

The Primary National Strategy (formally National Literacy Strategy) provides a framework of teaching objectives based on the belief that the “most successful teaching” is where “interactive pupils’ contributions are encouraged, expected and extended” (DfEE, 1998, p. 8). The daily Literacy Hour is designed to provide a practical structure of time and class management that reflects those objectives. To ensure a balance between whole-class and group teaching, a common pattern is provided for all classes. At Key Stage 2 for example, there is a 15-minute shared class session on test work balanced between reading and writing, a 15-minute session of focused word or sentence work followed by a 20-minute session of group and independent work, where the teacher works with at least one ability group on guided text work. A 10-minute plenary session at the end of the lesson provides the opportunity to review, reflect on and consolidate teaching points, and to present work covered in the lesson.

Recent studies investigating interactive whole-class teaching in the Literacy Hour suggest that it is encouraging teachers to use more directive forms of teaching with little opportunity for pupils to explore and elaborate on their ideas. Hardman et al. (2003) found significant differences between the discourse in the group part and the whole-class part of the Literacy Hour. It might be assumed that by working with a smaller number of pupils, teachers would provide more opportunity for pupils to initiate ideas, ask questions and elaborate on their answers. However it was found that teachers tended to use a larger number of lower cognitive interactions with fewer challenging questions and sustained interactions. Furthermore, Burns and Myhill (2004) suggest that pupil participation is differentially experienced in the literacy hour, with more active engagement by higher achievers and more off-task behaviour from lower achievers. Wearmouth and Soler (2001) discuss the dilemma facing teachers in attempting to meet the requirements of inclusive policy with regard to pupils who have literacy difficulties. They conclude that there is an ‘inherent contradiction’ between the philosophy behind whole-class and whole-group teaching and the principles of inclusive education.

**Interactive whiteboards**

Smith provides a critical review of the literature relating to the introduction of interactive whiteboards,
primarily based on the views of teachers and pupils (Smith et al., 2005). The authors state that while the review is overwhelmingly positive about the impact and potential of interactive whiteboards, there is insufficient evidence to identify the actual impact of the technology upon learning in terms of classroom interaction or upon attainment and achievement. Recent studies on the impact of ICT generally on learning and attainment have been more encouraging. The Scottish Executive Education Department (SEED, 2002) suggests that one of the tensions of implementing ICT lies in the debate as to whether it should be considered a subject in its own right or as a means to learning within other subjects and contexts. The report suggests an alternative approach to looking at ICT within curricular areas as a means of supporting learning and teaching more generally. Research on the motivational effects of ICT on pupils (Passey et al., 2004) supports this view, claiming that to maximise motivation ICT needs to be used in subject-specific ways and to be embedded in teaching and learning.

Research literature relating to ICT and attainment also notes a positive effect of specific uses of ICT on pupils’ attainment in almost all the National Curriculum subjects (Cox et al., 2004). The conclusion made is that there is a strong relationship between the ways in which ICT has been used and the resulting attainment outcomes. This suggests that the crucial component in the use of ICT within education is the teachers and their pedagogical approaches.

For the reasons set out above, in order to improve children’s writing, I therefore decided to explore the use of interactive electronic Big Books that have graphics and sound to support the text. In addition, an interactive whiteboard would allow children to make use of writing tools such as highlighter pens, speech and thought bubbles while composing, using the touch screen facility.

**Procedure**

My research questions were:

1. To what extent has using interactive whiteboard technology (IWB) to support whole-class teaching of reading and writing improved children’s writing?
2. How effective has IWB been in meeting the needs of specific children in the class?
3. What benefits/disadvantages for the teaching and learning of writing are offered by using IWB?

As a class teacher investigating my own classroom, I felt an action research model was most appropriate (Macintyre, 2000), as this would allow me to re-formulate ideas in response to my findings, and feed these back into teaching in a continuous process. It would also allow me to include qualitative as well as quantitative approaches.

The research was carried out in an open-plan school where there are no dividing walls between classes. Although the 29 pupils were familiar with the school’s mobile interactive whiteboard, they were inexperienced with its use in class and on a daily basis. Two interactive Big Books were used as a focus for this study: *Character Portraits*, an anthology selected by Brian Moses (Moses, 1998) and *Water: A Point of View* by Tony Norman (2003). Character description and persuasive argument were selected as two aspects of writing experienced by pupils earlier in the session, without technology. I chose these particular books to provide a comparison of similar types of writing before and as a result of using IWB. My intention was to use interactive Big Books within the conventional Literacy Hour, as frequently as other requirements permitted. Four 1-hour lessons of reading and writing were therefore planned for each week, over a 6-week period. This format allowed the writing outcome to be linked to the specific objectives identified for each book. Lessons addressed literacy strategy objectives, identified in the software’s matching chart. At text level the objectives were:

- To investigate how characters are presented, referring to the text.
- To write a new character into a story, in the manner of the writer, maintaining consistency of characters and style.
- To collect and investigate the use of persuasive devices from the reading of a text.
- To draft and write letters for real purposes.

The teaching notes accompanying the texts provided points for discussion and suggested how the interactive tools could be used. Follow-up written tasks at word and sentence level were accessed from websites and created by myself.

A 15-minute introductory lesson was planned each day, where as a class, we read and listened to a new story or the next part of the book, or revisited aspects from the previous day. Introductory lessons were also used to look more closely at the author’s style and use of language and sometimes to determine point of view. An interactive tutorial for each book provided a focus for teaching about connectives and ordering complex sentences. I also used this time to model my own stories on screen. Follow-on activities encouraged active participation where children might use the highlighter pens to distinguish between facts and persuasion or predict from the hidden text using the picture clues only. Written tasks were selected to support the main teaching, tailored to the learners’ needs whenever possible.

**Data collection**

Evidence was collected to measure writing performance, levels of interaction, attitudes and children’s
understanding about their learning. To answer question 1, a random sample of six boys and four girls (every third child on the class register) provided samples of character description and persuasive argument before and after the project, producing four pieces per pupil. (It is recognised that this was a very small sample and no generalisations can be made from the results.) It was agreed beforehand that two colleagues would assess the writing pieces. However, because of constraints of time and workload, four colleagues were eventually involved. Taking a Closer Look at Learning to Write (SCRE, 1995) was used as the assessment tool and the writing samples (with pupils’ names and dates removed) were graded on a scale of one to six, where one represented limited understanding, and six represented sound understanding.

The second question set out to monitor the effect of interactive whiteboard technology on the learning of two boys in class labelled pupil X and Y, both with additional support needs. I created a scaled observation schedule that measured aspects of behaviour before and during the project, and in each of four writing sessions. My support assistant observed one boy and various colleagues shared in observations of the other, leaving me free to teach the rest of the class. To address issues of reliability, an inter-observer agreement (Simpson and Tuson, 2003) was drawn up and discussed with colleagues beforehand.

The third question looked at the advantages and disadvantages of using the technology in teaching and learning. Two questionnaires were designed to assess children’s understanding about their learning and their views on using the technology in writing lessons. As the project developed I took the decision to investigate patterns in pupil behaviour during interactive whiteboard lessons and a further observation schedule was designed and administered by my support assistant.

Findings and discussion

Improvement in children’s writing

In answer to question one, the results did not show any significant improvement in describing character as a result of interactive Big Book lessons. Persuasive writing showed greater improvement, but on both occasions the writing reflected the range of ability of the selected group rather than the apparent impact of the intervention. No pattern was therefore established regarding the influence of interactive Big Books on the writing performance of the 10 selected children (Table 1).

The persuasive writing samples showed, in varying degrees, that the children had understood the use of persuasive devices with the higher achieving writers, as defined by Scottish national assessment, using these

| Table 1: Assessment of pupils’ writing |
|-------------------------------|--------|--------|--------|
| Character description         |        |        |        |
| Marker 1                      | 3      | 3      | 4      |
| Marker 2                      | 2      | 4      | 4      |
| Persuasive writing            |        |        |        |
| Marker 3                      | 6      | 3      | 1      |
| Marker 4                      | 8      | 2      | 0      |

more regularly in their writing. However, although they had experienced moving sentences around on the whiteboard in the book Character Portraits, and engaged in written tasks using commas and a range of connectives, none of the children showed significant gain in using complex sentence structure in their own descriptions. Their accounts of characters’ appearance, action and dialogue also showed no improvement over those the children had completed in a similar lesson 3 months earlier.

In the persuasive writing task, the topic of protecting the world’s water supply was not an issue my pupils felt strongly about, despite several readings of the interactive book. Improved performance in this at a later date might be explained by my decision to support children in finding more meaningful contexts. A wide range of contexts emerged such as persuading the head teacher to allow them to wear jewellery in school and stopping animal cruelty.

The order in which the books were used may have had some impact on results as my confidence in using this new teaching approach increased. Other factors such as the Hawthorne Effect (Mayo, 1933), defined as altered behaviour due to subjects knowing they are being studied or, as in this case, because a new approach is being trialled, may also have influenced results. The short duration of the project meant however that I was not able to get an accurate measure of achievement. As the research progressed, discussions with a language specialist revealed that, because of variability in writing performance, six pieces of writing (or three pieces marked independently by two people) are regarded as a minimum requirement. The timescale of my project made this an impossible goal. While the results cannot therefore be regarded as significant evidence, they nevertheless provide interesting material for reflection.

Children with additional support needs

The second question concerned the influence of the technology on the learning and behaviour of two boys in my class with additional support needs. Pupil X displays behaviour associated with autism, and had difficulty thinking up ideas or responding relevantly to the writing task. He often asked what I was talking about during class discussions, or what he was to write
about immediately afterwards. Pupil Y began his primary education in a language unit for children suffering from a specific language disorder and moved to mainstream school in Primary 5. Speech and language therapy assessment concluded that he had difficulty with both the expression and comprehension of language and that his language skills were slow to develop, both in English and in his first language, Punjabi. It was suggested that, although he had strength visually and enjoyed stories, he could have some difficulties listening and concentrating in a larger group and required tasks with appropriate differentiation to meet his learning needs (Table 2).

Table 2: Observation of pupils with additional support needs

<table>
<thead>
<tr>
<th>Pupil X - 8 observations</th>
<th>10</th>
<th>5</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>fully engaged</td>
<td>3</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>partially distracted</td>
<td>4</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pupil Y - 6 observations</th>
<th>10</th>
<th>5</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>fully engaged</td>
<td>1</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>partially distracted</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

There was little change in Pupil Y’s behaviour during whiteboard sessions and no improvement in his writing. He became restless very quickly, mostly appearing not to listen and attempting to distract others. This pattern continued during the writing task where he was seldom shown to be fully engaged. When questioned about his learning, Pupil Y was not able to explain the main idea of the lesson and expressed his boredom on several occasions. The whole-class Big Book approach was not conducive to pupil Y’s learning needs as it required him to listen for lengthy periods, and although he occasionally joined in class discussion, his comments were seldom relevant. He showed little understanding of persuasive devices and struggled to find a writing context. He eventually settled on persuading others not to drop litter in the playground but his account showed little coherence or use of persuasion. This echoes what I have read about the dilemma faced by teachers in integrating whole-class teaching and inclusion, and supports the view that whole-class teaching does not provide such a pupil with the easy access to a differentiated curriculum that is his requirement and entitlement (SEED, 2004). Pupil Y’s difficulty with receptive language and the observation that he benefits from having short chunks of information given in a clear order were not taken account of in the teaching approach used for this project.

I concluded that the approach had benefited Pupil X in this particular circumstance, but not pupil Y. Whether pupil X would continue to benefit from such an approach is a potential area for further investigation.
Interactive Big Books are available on our school network, making individual access possible.

**Advantages and disadvantages of interactive whiteboard technology**

*Children’s views.* The third question looked at the advantages and disadvantages of whiteboard technology as a tool for teaching and learning. Midway through the project, 28 pupils were surveyed on their views on interactive technology as an aid to learning in the class. The statements were:

A. Whiteboard lessons help me pay attention
B. The pictures on the screen help me to understand
C. The sound helps me to understand
D. Using the mouse and touch screen helps me to understand
E. I learn better writing when the electronic whiteboard is used in class.

At the end of the project, 26 pupils responded to statements A, C and E again. Their response showed a small negative shift in opinion (Tables 3a and 3b).

**Table 3a: Pupil attitude after 3 weeks**

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Don’t know</th>
<th>Disagree</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>23</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>B</td>
<td>17</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td>C</td>
<td>11</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>D</td>
<td>11</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>E</td>
<td>17</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

**Table 3b: Pupil attitude after 6 weeks**

<table>
<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Don’t know</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>29</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>B</td>
<td>17</td>
<td>19</td>
<td>12</td>
</tr>
<tr>
<td>C</td>
<td>19</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>D</td>
<td>12</td>
<td>12</td>
<td>14</td>
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<tr>
<td>E</td>
<td>13</td>
<td>11</td>
<td>12</td>
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</table>

While the results show that children were mostly positive towards electronic learning, it is recognised that this ‘feel good’ factor could be attributed to the Hawthorne Effect. To monitor pupils’ continued motivation, long-term study would be required, with the approach embedded into daily practice. In response to statement D, a high number of children either did not know or did not agree that using touch screen or mouse could help them to understand. This is a surprising result, as they had seemed enthusiastic in volunteering to do this. Additional data collected on what pupils like least about whiteboard learning showed that after 3 weeks, whole-class teaching meant that many children had not yet had the opportunity to experience the touch screen facility or mouse. There is no doubt that allowing children to interact with the screen slowed down the pace of the lessons, as did whole-class discussion. This may explain why teacher objectives and teacher talk are seen to dominate the literacy strategy (Burns and Myhill 2004; Hardman et al., 2003). From a teacher’s point of view there was a feeling of tension between the urgent need to move the lesson along, and allowing as many who wished to have the opportunity to contribute orally. From the pupils’ point of view, several expressed the length of time they had to watch and listen as what they like least about Big Books.

*Children’s participation.* The Action Research nature of the project allowed me to introduce new lines of investigation in the course of the project. Additional observations investigated patterns of behaviour in identified groups of children – two groups of boys and two groups of girls defined by Scottish national assessment as higher or lower achieving, making four groups in all. These were carried out by the support assistant over 12 writing discussions. As it was not realistic to observe all four groups at the same time, the observations for the different groups relate to different lessons. However, analysis of the data consistently shows differences by gender and achievement grouping. Higher achieving girls participated most frequently in ‘positive’ observable behaviours, such as putting hands up or being invited to comment, followed by higher achieving boys. Lower achieving girls and boys were less likely to offer a response, and lower achieving boys were more likely to display partially engaged and distracted behaviour. It cannot be assumed that the lower achieving girls were listening because they displayed settled behaviour (Table 4).

These results are consistent with those of Burns and Myhill (2004) who found that children of both higher and lower abilities and both boys and girls differentially experienced participation in whole-class teaching. Their findings corroborate those of previous studies (English et al., 2002; Galton et al., 1999). It is also worth noting that children appeared more distracted and contributed less, the further away from the screen they were positioned.

*Children’s learning*  
Follow-up questioning was also introduced to find out what pupils were taking from Big Book lessons taught through the medium of IWB. The questions were:
A. What was the main idea of today’s writing lesson at the whiteboard?
B. Do you think this is important for writing? Why/why not?
C. How did you use what you learned in the lesson, in the task you were given to do?
D. Do you think today’s lesson might help with the writing you do in future?
E. Does this lesson change how you feel about writing?

Analysis of the data again shows differences by achievement grouping. Lower achieving writers were more likely to refer to the content of the passage by way of explaining the purpose of the lesson. For example, in response to a lesson on persuasive devices, a lower achieving writer responded to question A saying “it was about damage to the water in Britain” whereas a higher achieving writer said “it showed ways to write about something you feel strongly about”. In response to children’s lack of understanding about the lesson’s purpose, I made visuals of the teaching objectives and used these to introduce the lesson, often referring to them during the lesson. Children soon became familiar with the routine and began repeating the objectives I held up. In response to question A, several lower achieving writers said it was about using facts and persuasion. This did not mean, however, that they understood persuasive language, or could apply it in their own writing. Furthermore, some began to manipulate the question as a means of answering it, “it gave me ideas about how to do it”. To which I was forced to respond “Well how do you do it?”

Table 4: Behaviour by gender and achievement grouping

<table>
<thead>
<tr>
<th>Group</th>
<th>Date</th>
<th>Offers suggestions/answers (tally)</th>
<th>Fully engaged/partially distracted</th>
<th>Setter quickly in task Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower achieving girls</td>
<td>11/5</td>
<td>I I</td>
<td>F</td>
<td>No</td>
</tr>
<tr>
<td>Lower achieving boys</td>
<td>23/5</td>
<td>II II</td>
<td>F</td>
<td>Yes</td>
</tr>
<tr>
<td>Higher achieving girls</td>
<td>17/5</td>
<td>III III</td>
<td>D</td>
<td>Yes</td>
</tr>
<tr>
<td>Higher achieving boys</td>
<td></td>
<td>I I I I</td>
<td>F</td>
<td>Yes</td>
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<td></td>
<td></td>
<td>III III</td>
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<td>III III</td>
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<td>III III</td>
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<td>Yes</td>
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Children across all attainment groups said what they liked most about Big Book work was that it gave them ideas for story writing. However, lower achieving writers were more likely to be referring to ideas for content whereas higher achievers were more likely to be referring to the generic language and conventions used. Finally in response to questions B and D, lower achieving writers were more likely to refer to passing tests, getting jobs and writing longer stories, whereas higher achieving writers referred to improving story writing as a result of the lesson, often giving examples of how they could do this. I concluded from these observations that higher achieving writers understood the teaching objectives in using Water: A Point of View more fully than the lower achieving writers, and were more likely to apply this knowledge to their own writing.

Hardware/software issues

Although the focus was on writing, the interactive Big Books also gave children the opportunity to share in whole-class reading. The sound facility was a big advantage for less able readers as the text could be challenging for some. It also freed me to observe their engagement when a story was being played. The variety of voices and regional accents used in the audio presentation of texts was also a motivational factor.

Some other technical features of the project were not so useful however. The ‘writing board’ where I modelled stories was not user friendly. Some children complained that the words were ‘fuzzy’ and I eventually switched to Microsoft Word in a larger font. The highlighting tools for touch screen were awkward to manipulate and it was difficult for children to capture exactly the words or phrases they wanted, especially as when they stood the screen was in their shadow. Lack of volume and feedback from the speakers also caused problems in the initial stages of the project. Buying more powerful speakers and investigating the laptop’s sound control panel eventually resolved this. As there are no walls to separate our classrooms, the interactive whiteboard was normally used in an audio/visual room, and had to be transported to my class each morning to be used in the children’s own working environment. There is no doubt, however, that although sound was a strong feature of this software, it did have a drawback in that it affected other classes and teachers.

For these reasons I concluded that teachers’ confident use of the technology is essential for the success of interactive Big Books. Accepting less than the software has to offer because of uncertainty in overcoming the problems will reduce children’s chance of success.
Not all the problems were technical: the main writing task did not always provide a meaningful context for extended writing; a persuasive letter about issues of global water pollution was not something my pupils felt strongly motivated to write about.

Other writing strategies

What improvements there were in the children’s understanding cannot be attributed solely to teaching with interactive Big Books. And as the project developed it became obvious that whole-class teaching using IWB was having little effect on the learning of lower achieving writers, or on one of the two ‘focus children’ with additional support needs. In the spirit of Action Research, I therefore introduced other variables to provide greater opportunity for success. Towards the end of the project pupils were asked about some of the other pedagogical approaches introduced.

The statements given to them for comment were:

1. Watching the teacher type her story helps me to understand
2. Having more time to write a story helps me to understand
3. Sharing stories helps me to understand (Table 5).

Table 5: Other writing strategies found useful by the children

Perhaps the most startling response is to statement 2, where almost everyone said they want more time to write. This was consistent with what children said orally and in some questionnaire responses, when this was stated as what they liked most about whiteboard lessons. Writing on a story several times a week gave them opportunities to reflect, revise, talk with peers and support their persuasive arguments with pictures. Writing became a more flexible and relaxed affair, rather than the pressured experience of the weekly writing slot, where the whole school participated in class writing at a set time, as had been agreed several years earlier to facilitate class discussion and to promote a quiet writing time in our open environment. These writing strategies of course do not need interactive technology to drive them, but on this occasion the discovery of their success can be attributed to this project.

Tentative thoughts

While it may be argued that as a researcher I should aim to reduce the variables such as introducing other writing strategies in order to produce more significant results, I am first and foremost a classroom teacher. I am accountable to the school, parents and other stakeholders in taking the learning forward. As stated earlier, the purpose of my enquiry was to research and develop the teaching of writing through an Action Research model (Macintyre, 2000), where ideas are re-formulated in response to the findings and fed back into teaching in a continuous process. My decision to introduce other variables may have led to a loss of clarity in my findings; it did however appear to provide greater opportunity for success.

I cannot conclude from this project that using interactive technology in whole-class writing lessons is the most effective way to teach children to write. The data concerning question 1 show no significant improvement in the writing of the sample group. Writing a persuasive letter on the issue of water pollution did not inspire my pupils, despite the book’s global perspective, colourful illustrations and lively narration. This raises a question about the extent to which one subject can be meaningful for all children, taking into account their different interests and experiences. Many pupils also said that what they liked least about Big Books was the time they had to watch and listen when what they really wanted to do was start writing.

As in Smith’s findings (Smith et al., 2005), although my evidence shows a positive motivational effect of interactive technology, its impact on learning is less obvious. Higher achieving writers benefited more than lower achieving writers in terms of matched learning and teaching objectives. The higher achieving girls participated more often in discussion followed by higher achieving boys. It may be argued that the higher achieving writers could have obtained these results in a series of linked writing lessons, without the use of interactive Big Books. However, this would require further investigation. The lower achieving girls and boys participated less often in discussion and were more likely to focus on the content of story than on the generic language used.

My teaching was, after all, primarily concerned to help the children to identify particular features of the two chosen genres, and to use these constructively in their own writing. Even with the aid of interactive whiteboard technology, this approach proved less successful than I had expected. I also came to question its value, and to support Marshall’s (2003) view that teaching desired competencies in certain linguistic generic conventions is a means to an end rather than
developing understanding of a subject that is predominantly aesthetic. The recommendation by SEED (2002) that ICT should be taught in subject-specific ways and embedded into teaching and learning needs clearer definition. Using the technology to drive the writing lesson seemed at times laboured and contrived. We need to have a clear idea of what we are trying to teach our children before we enlist the help of any technological support. And we need to be rigorous in assessing the effectiveness of the technology: although I had used the interactive whiteboard to teach about complex sentence structure in Character Portraits, the children did not transfer this learning to their own writing. Colleagues’ assessments show that similar outcomes were achieved in their classes without the technology.

The tightly structured writing objectives of Water: A Point of View reduced the opportunity for self-expression, as shown by children’s lack of enthusiasm in writing persuasively about water pollution. I came to realise that the teaching of writing is more than a technical matter: it is both complex and contested. Marshall’s (2002) research shows that teachers’ beliefs about content affect their pedagogical values and their practice. As a class teacher, I have come to see that if they are to develop as successful learners, children should be asked to write on topics that matter to them: writing contexts must be meaningful, taking children’s experiences and interests into account. Direct teaching about genre is a technical aspect and should not be the reason for writing. In addition to helping me towards this awareness, the investigation had one positive effect: it revealed that my children wanted more time to write.

It also raised further questions. How can interactive technology be used more effectively for teaching writing? And what writing strategies are effective in enhancing the progress of all learners? These two questions are contributing to a second phase of my research.

References


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