WRITING AND IPADS IN THE EARLY YEARS

DR JILL DUNN
STRANMILLIS UNIVERSITY COLLEGE

MR TONY SWEENEY
MAYNOOTH UNIVERSITY, FROEBEL DEPARTMENT

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A REPORT FOR THE STANDING CONFERENCE ON TEACHER EDUCATION NORTH AND SOUTH

STRANMILLIS UNIVERSITY COLLEGE
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SCoTENS
THE STANDING CONFERENCE ON
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Maynooth University
National University
of Ireland Maynooth

Writing and iPads in the Early Years

A Report for the Standing Conference on Teacher Education North and South

Dr Jill Dunn   **Stranmillis University College, Belfast**

Mr Tony Sweeney   **Maynooth University, Froebel Department**

Acknowledgements

Acronyms

CCEA	Council for the Curriculum, Examinations and Assessment
CPD	Continuing Professional Development
BERA	British Educational Research Association
DENI	Department of Education Northern Ireland
DES	Department of Education and Skills
EECERA	European Early Childhood Education Research Association
ETI	Education and Training Inspectorate
NCCA	National Council for Curriculum and Assessment
PISA	Programme for International Student Achievement
SCoTENS	Standing Conference on Teacher Education North and South

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Chapter 1

Introduction

This chapter sets out the rationale for the project and also sets out the policy context for literacy and digital technology in both Northern Ireland and the Republic of Ireland.

Writing in a digital age

Beard (2000) argues that the ability to write, along with reading, is acclaimed as one of the twin peaks of literacy and one of the central gains from education. Writing is both a powerful form of expression and a vehicle for learning. It affords the learner the ability to reflect, think, compose, rearrange and respond (Andrews and Smith, 2011). However, writing is a complex and effortful activity and many children lose interest and motivation when asked to engage in writing. In a recent survey by the National Literacy Trust of pupils aged 8 to 18, just over 50% of children and young people said they enjoyed writing either very much or quite a lot. However, that leaves the other 50% who only enjoy writing a bit or not at all (Clark and Teravainen, 2017). Fewer children are engaging in daily writing outside of class but when they do write, it is technology based formats which dominate this writing (Clark, 2016). So whilst schools maintain what Yelland et al. (2008) refer to as a 'heritage curriculum' where value is attached to print texts, children themselves are appropriating and using digital technology for their own purposes in their daily lives. Indeed, McTavish (2014, p320) suggests that 'for young children born into this technological epoch, there may be no choice, it is simply a way of being'. Many curriculum documents recognise and affirm the importance of communicating meaning through both traditional and digital texts yet print literacy continues to be privileged in classrooms (McKee and Heydon (2015). Therefore, this contradiction in rhetoric and reality is making it very difficult for educators to integrate new literacies and technologies within their classrooms (Wohlwend, 2009). Furthermore, where there is an emphasis on high-stakes testing, expanded views of literacy, beyond print-centric literacy practices, are difficult to achieve (Loerts and Heydon, 2017).

With this apparent gap in what policy is advocating and what is happening in classrooms, it is important to look briefly at policy in the two jurisdictions for this study, Northern Ireland and the Republic of Ireland to set the context for the study.

Policy contexts in Northern Ireland on literacy and ICT in the primary school

The Northern Ireland Curriculum, which was revised in 2007, emphasises its responsibility to provide a broad and balanced curriculum, using accessible texts which build on children's interests. At the heart of the curriculum, is an emphasis on skills including Communication across the curriculum and it states that pupils should 'develop, express and present ideas in a variety of forms and formats, using traditional and digital resources' (CCEA, 2007, p6). Another key skill is Using Information and Communications Technology across the curriculum which highlights children's abilities to express themselves in creating, developing and presenting ideas using a range of digital media (CCEA, 2007, p7).

School improvement is high on the educational agenda and is at the heart of policy in Northern Ireland. The focus is on achievement at Key Stage, GCSE and A level along with international comparison in the Programme for International Student Achievement (PISA). There is a recognition for an emphasis on literacy across the curriculum and a commitment to child-centred provision acknowledging resources and a curriculum which reflects children's aspirations (DENI, 2009). However, there is no indication of how digital resources might be capitalised on to drive this improvement especially in the crucial area of literacy. The policy document Count Read Succeed (DENI, 2011, p3) recognises the importance of 'traditional print and on-screen material' but lacks detail on how digital technology might prepare children for a society which they recognise is 'more globally connected and technologically complex than ever before' (p2).

The Education and Training Inspectorate (ETI) whose role it is to promote improvement through inspection, highlighted in their most recent report that standards in writing in the primary sector were less consistently good than standards in reading, particularly in the foundation stage (the first two formal years of schooling) (ETI, 2016). They also acknowledge that digital technology is being used to support teaching rather than enhancing learning and that young people may be more digitally confident than some teachers, but not all teachers and learners are sufficiently competent educational users.

Indeed, 'too many teachers, and most learners, still lack the knowledge, skills and confidence to harness digital technologies effectively to enrich learning across the whole curriculum (ETI, 2016, p22).

Policy contexts in the Republic of Ireland on literacy and ICT in the primary school

ICT as Methodology

The current Primary School Curriculum was published in 1999, and the Introductory Statement discussed 'utilising the learning potential of information and communication technologies' (NCCA, 1999, p21). ICT was listed as a methodology rather than a discrete subject and in 2007, the National Council for Curriculum and Assessment (NCCA) produced a document called the *ICT Framework: a structured approach to ICT in Curriculum and Assessment.* The framework identified four areas of learning objectives; Creating, Communicating and Collaborating, Thinking Critically and Creatively, Understanding the Social and Personal Impact of ICT and Developing Foundational Knowledge, Skills and Concepts. Teachers were supported in achieving the 15 learning outcomes at three different age levels through the provision of sample activities on the action.ncca.ie website.

Following a national census of ICT provision across primary, secondary and special schools in 2013, a report was published in 2014 and consultations began to develop a *Digital Strategy for Schools 2015-2020*: *Enhancing Teaching Learning and Assessment* which was published in October 2015, and outlines the vision for primary and secondary schools. The current administration are now developing a National STEM (Science Technology, Education and Mathematics) policy and list ICT in schools as an expressed priority. The first departmental circular this year (cl0001_2017) set out a grant for ICT Infrastructure for every school in the country to seek to support schools in delivery.

Literacy

While the 1999 Curriculum was still in effect, Circular 56/2011 outlined the increased emphasis and time allocation for primary schools in light of the new National Literacy and Numeracy Strategy, which was published by the Department of Education and Skills in July 2011. Since then, the first revision of the Primary School Curriculum was the publication of

the Language Curriculum in December 2015, and this curriculum is currently being rolled out in junior classes of primary schools in the Republic of Ireland.

The new Language Curriculum emphasises the significance of oral language, recognising that this is the foundation for writing experiences, and the writing process is clearly central to the learning outcomes. The methodology of the writing workshop is introduced, and includes a mini lesson approach, which provides for explicit teaching input. There is a commitment to writing across multiple genre, which are to be linked with reading and oral language, and the shared writing experience is presented as a means to scaffold and support pupil's individual writing.

As sharing of work is a fundamental aspect of the writing process, the recognition of the creation of audience and purpose is significant in terms of the potential use of digital media. Furthermore, the assertion of the importance of the choice of the child as author in terms of topic, and means of publishing suggests another role for technology in presentation of the writing. The learning outcomes from the *Motivation and Choice* section are particularly relevant in this context and include the aim that the child:

- *with increasing independence, chooses a topic and appropriate implements to create texts and selects texts to publish and display.*
- *chooses from a wider-range of topics and with support, selects content and different presentation formats to share their writing.*
- *chooses and refines ideas and content for their texts, and selects from a range of presentation formats to share their writing.*
- *begins to research and chooses content to write about less-familiar topics and selects from a wider-range of presentation formats to share their writing.*
- *researches and chooses content to write about less-familiar topics and selects appropriate presentation formats to share their writing.*

(NCCA 2015, p72)

Discussing the value of keeping pupil portfolios of work in this curriculum also indirectly could support the role of the electronic media, given the potential for digital composition,

capture of visual images of handwritten work, and the facility to store and present portfolios on their devices or in an online space.

Conclusion

It is clear from the above section, that policy in both jurisdictions of Northern Ireland and the Republic of Ireland have some similarities and some differences with regard to the potential use of digital technology in literacy and, more specifically, in writing in the primary classroom. The following chapter will explore the current literature in this area to set the project in the context of research which is fast moving in this area.

Chapter 2

Literature Review

Writing in the primary classroom

Writing can be defined as the use of visual marks for communication and expression (Olsen, 2009) and learning to write is considered essential for academic achievement and for success beyond school (Beam and Williams, 2015). Indeed, writing has traditionally been considered one of the 3 'R's that children will be inducted into and guided through in their first few years in primary school. The history of writing pedagogy demonstrates a continual shift in emphasis on what should be prioritised and foregrounded in the primary classroom. From the 1980s to the early 2000s the process approach to writing, influenced by Graves (1983), became popular in classrooms. This focused on the process of compositional decisions and the recursive nature of planning, drafting, editing, revising, editing and publishing. However, the work of the New London Group challenged the dominant views of literacy at that time and advocated a wider perspective of literacy which included multiliteracies with a recognition that all literacy is a social practice and derived from cultural processes (Street, 2009). Indeed, it is argued that children's earliest discoveries about written language are learned through active engagement with their social and cultural worlds (Bradford and Wyse, 2013). Young children tend to be drawn to other children and Dyson (2009) asserted that children will use their meaningful social practices and cultural experiences when entering official school writing. Vygotsky (1978, p117-118) also believed that if writing is to be more than a set of 'hand and finger habits' for children, it must be relevant to their lives. The ubiquitous presence of technology in the textual lives of children and the prevalence of out-of-school technoliteracies (Edwards-Groves, 2011) mean that there is a need for contemporary teaching practices to change in order to bring this relevance to children's writing.

Literacy in the age of technology

With the greater availability and accessibility of digital technology and the screen now taking a more central place in public and educational settings, literacy has taken a spatial turn (Bearne, 2009). It is suggested that these technologies can 'seductively grab our

attention and curiosity', allowing us to research, organise and individualise (McTavish, 2014).   Recent studies emphasise the central role of digital technology in the daily life of children and their families (Neumann and Neumann, 2017; Plowman, 2015) and evidence from a growing body of research would urge that children's interactions and experiences with digital texts can no longer be ignored as they are an integral part of their repertoire of activities (Aldhafeeri et al., 2016).

It is suggested that the increasing popularity of digital technology such as tablet devices is due to the affordances of these devices which include their portability, affordability and efficiency (Flewitt et al., 2015).   It is further reported that, in contrast to traditional computers, touch screen tablets provide an easier to use and more intuitive interface for a child (McManis and Gunnewig, 2012).   There is a growing body of research which is beginning to identify some of the affordances of digital technology, and in particular tablet devices, within literacy.   For example, in a recent study, it was reported that story making apps enable children to incorporate sounds, images, text and design into their stories which can enhance children's creativity (Kucirkova and Sakr, 2015). In another study on pre-school children's mark making development, it was found that tablets supported mark making interaction and enabled more mark making in a shorter time period (Price et al., 2015).   The use of tablet devices are also reported to enhance motivation and independence, particularly with those children who are more reluctant learners (Gray et al., 2017; Flewitt et al., 2015).

Indeed, it is argued that in order to offer young children an innovative and progressive education and ensure that all children develop the competencies they need to navigate the digital world, teachers must use a range of digital technologies to mediate teaching and learning (Beam and Williams, 2015).   It is further claimed that such technology use for educational purposes can pave the way for unprecedented learning opportunities for children (Aldhafeeri et al., 2016).

The concept of text is becoming more complex and now includes multimodal and screen texts (Levy and Sinclair, 2017) and the term 'digital literacy' can help to 'redefine conceptualisations of literacy as an ability to understand the many sign and symbol systems in existence with texts today as well as the ways in which children make sense of them (Levy, 2011, p152).   Therefore, Edwards-Groves (2011) asserts that a contemporary focus on

writing highlights how technology use enables new possibilities for creativity in multimodal text construction and meaning making.

Perspectives from within the classroom

However, the introduction of tablet devices into schools is not without its controversies (Clark and Luckin, 2013) and Merchant (2012) suggests that such technology can disturb the 'fragile ecology' of classroom life by opening up the possibilities for different kinds of learning, communication and interactions. Similarly, Lynch and Redpath (2014) warn that there are tensions when potentially transformative technologies meet institutionalised educational practices and a misfit between teachers' beliefs about teaching and learning and the use of technology can impede successful technological integration (D'Agostino et al., 2016). Many early childhood educators recognise the potential benefits of using technology with young children but lack pedagogical and technological knowledge. They report confusion around when and how to integrate technology into their teaching (Fenty and McKendry Anderson, 2014). Burnett (2015) suggests that while many teachers may be active participants in digital technologies in their own lives, they may see such practices as inappropriate in the classroom setting.

The other key stakeholder in the technologisation of classroom practices is the child, and research which is concerned with young children's use of tablet devices in the early years must heed the voices of those young children who are central in the debate (Dunn et al., 2016). There is a burgeoning recognition of children as competent social actors who are experts in their own lives, living their childhood now (Clark and Moss 2011). Indeed, consultation with children can contribute informed knowledge about the issues under consideration (Dunn, 2015). After all, as Loris Malaguzzi claimed, 'things about children and for children are only learnt from children' (Edwards et al., 2012, p30).

Aims of the study

After considering the research literature on the contemporary challenges in teaching writing in the primary classroom and the changing nature of literacy in the age of technology, it is timely to garner the views of the key stakeholders within the classroom on these issues.

Therefore, the aims of this small scale study on writing and iPads in the early years are:

1. To ascertain the views of teachers who are using iPads in the classroom for writing, on how the iPad changes children's engagement in and enjoyment of the writing process.

2. To investigate teachers' views on the benefits and challenges of using iPads to teach writing in the early years.

3. To ascertain the views of children on their use of iPads for writing activities in the classroom.

Chapter 3

Methodology

Ethics

The ethical guidelines, presented by the British Educational Research Association (2011) and by the European Early Childhood Research Association (Bertram et al., 2015), were followed throughout the project. Both researchers are fulltime lecturers, vetted by their respective jurisdictions for the purpose of school placement visits, and the host primary schools are partners of their universities.

Ethical approval was granted by both Stranmillis University College and Maynooth University individually.

Following visits to the partner schools, written consent forms from the school principals and individual class teachers were received. Subsequently, letters of information were distributed to the parents of the pupils, and only those children who returned their signed consent forms were then invited to give their own assent to participate. Anonymity and confidentiality were achieved throughout the project practice, and all participants were advises of their right of withdrawal at any stage of the process (Gallagher 2009).

Design

The research took a constructivist approach viewing people as dynamic, social beings who interact with others to construct joint meanings within a given context (Greig et al., 2007). The research also took a children's rights perspective with a view that children have a right to be heard on matters that affect them (Harcourt and Einarsdottir, 2011) and that they are capable in doing so as they are the experts in what it means to be a child in a primary classroom today. The following qualitative methods were employed in addressing the research questions:

1. Semi-structured interviews with the individual class teachers (see Appendix 1)
2. Focus group interviews with children (see Appendix 2)
3. Virtual tours of the iPad by the children (see Appendix 3)
4. Lesson observations of iPads being used for writing (see Appendix 4)

The focus group with children included some participatory exercises where the children were organised into pairs and were involved in a practical exercise where they sorted statements under true and false headings, they chose the most important statement and they visually represented their preference to use, or not use, iPads during writing lessons (see Appendix 5).

Participants

Six class teachers and children of three primary school classes in Northern Ireland and three primary classes in the Republic of Ireland participated. These schools were selected from the school placement partner schools of the respective institutions, and were chosen on the basis of available infrastructure, commitment, and prior working relationships with the researchers (Miles, Huberman and Saldana, 2014).

Data Collection

Following preliminary planning visits to the six schools, each researcher returned during the autumn and winter of 2016-2017 and writing lessons with pupils aged about 7 to 8 years were observed. After the lesson concluded in each school, focus group interviews of pupils and brief individual teacher interviews were conducted to explore their experience and views of writing lessons which incorporated the use of iPads. These semi-structured interviews were augmented by virtual tours of the iPad provided by children to show their understanding of its features and to gain further perspective. The post-lesson interview data from each of the six schools was recorded electronically, and later transcribed.

Data Analysis

Following transcription of the data, thematic analysis was used to identify, analyse and report themes from within the data and the findings will be discussed under the emergent themes from the teacher and child perspectives in the following section.

Chapter 4

Teachers' Perspectives

This chapter presents the teachers' perspectives on the use of iPads in the writing process. Their views are presented under key themes which were identified within the data. For the purposes of anonymity and confidentiality, each school was allocated a numeric code from School 1 (S1) to School 6 (S6).

Fun and Engagement

Most of the teachers talked about the fun and enjoyment experienced by pupils when using an iPad in the classroom.

> *It is just so much more exciting for them…They really love it and are really enthusiastic (S5).*

> *They are so excited about using it…They are using different elements which brings it to life for them and makes it more exciting (S3).*

Teachers felt that activities on the devices were not seen as work by the pupils.

> *I really enjoy Puppet Pals from seeing the children's enjoyment in it because they really don't see that as a task or work at all. They just see that as messing about and taking photos of themselves and turning it into a puppet. They are easy because the children enjoy it so much (S2).*

> *They are brilliant. I mean, they….I think because it is an iPad they see it more as a game than work (S2).*

Alongside this enthusiasm, pupils were motivated and engaged in the activities. Some teachers felt that pupils were more interested in writing due to the work on iPads.

> *I suppose they are really engaged, and they are really excited about using them. I think they probably look forward to the writing lesson more because they know they can use the iPads. (S5)*

Choice and Creativity

Three teachers mentioned the opportunities for creativity and choice available to the pupils when using the iPads. This included the addition of images, colour and drawings as well as

the ability to record their voice and add speech bubbles in apps such as Bookcreator and My Story. The S6 teacher said that creativity had increased as these apps provided pupils with more ideas for their work. Furthermore, one teacher implied that the iPad gave pupils more time to be creative.

> *Whereas on an iPad they have more choice. Even the fact that they can bring in images and different colours. They are not spending all the time drawing or creating that way. They have the additional things to add the quality to it (S1).*

Pupil Cooperation

In S3, pupils mostly worked in pairs or small groups when using the iPad as part of writing lessons. Mixed ability groups helped with pupil confidence and facilitated participation.

> *They are with somebody. Maybe they aren't confident in drawing or making pictures but the other child can help them. Where one is lacking in skills, the other can make up for it (S3).*

> *Everybody has success with an iPad. It is there to scaffold them. The fact that we would do a lot of our work in pairs. A lot of my groups are mixed ability though I let them choose groups this time. It just depends on what you are doing. So, they could be similar ability, mixed ability but they always have another person there to support them, as well as teacher input (S3).*

> *…the fact that so much of it is done in pairs and small groups, they are building up skills which will be useful for life in the workplace. They won't always be sitting and working on something by themselves. They need to know how to turn take, compromise and share. They do, and I think it is very valuable (S3).*

The S5 teacher also briefly mentioned teamwork.

> *Even with a partner, to brainstorm things and record it on the iPad (S5).*

> *…working together; they are very good at helping each other out (S5).*

Pupil Competency

All of the teachers talked about their pupils' competency and familiarity in using the iPads.

Children have no difficulty. They are very happy to use them. Generally very confident. They are not afraid to try within the apps and see what kind of different things they can produce. They will ask if they do get stuck but they are happy to have a go (S3).

The S1 teacher said that the pupils had become comfortable with the technology "very quickly" and that they "are so au fait now with the apps that they are using". This had developed from earlier in the year when pupils required more time for preparation.

…before that would have been a whole lesson, just us creating the puppets and the background but now they will have that done in 15 minutes (S1).

Competency and familiarity were advanced by teachers allowing the pupils to engage freely in the apps and have time to explore their use.

…every time it was a new app giving them (the children) a bit of free time because very often they found out things you hadn't realised. They aren't afraid to have a look and show each other new ideas (S3).

They kind of explored themselves on the first page. Used the text, used the pen and played around themselves. They were coming up with ideas themselves. They are used to using iPads (S5).

I mean, I only gave the kids a five minute tutorial and they could work away themselves. Twenty minutes later, they were flying ahead (S6).

Home Links

All of the teachers talked about the how the children's use of iPads in school for writing created links and opportunities for their use at home.

I would say it would, because if they are using in school they will want to go home and use the apps the same way. I know, certainly, on parent's nights we would talk about it and we would encourage them to use, especially Bookcreator. To take photographs of things even; weekend news and holidays and things. We would very much encourage that so that they are nearly creating digital diaries and things (S1).

Even when parents come in to interviews and say they were using something at home that they have tried, and they are amazed at what they can actually do. They do take some ideas home and make up their own stories with the iPads (S3).

According to some teachers, pupils had asked their parents to download apps at home or had done so themselves.

Yes. Some parents would mention in teacher interviews that children have asked them to download apps at home. That isn't exclusive to writing. It can be other apps we use for teaching but there will be…Bookcreator will be one they mention, and Pic Collage because it is one that people will already have on their phones. They will use that to write (S2).

A little girl said to me the other day that she was going to download and try and make books herself (S6).

The S2 teacher said that they would provide guidance about apps for parents.

Yes, I would talk about apps. Particularly for children who aren't engaging or finding it difficult to do certain things. For homework there are certain reading apps on the iPads where you can…where major book companies like Oxford Reading Tree…They have apps that will be levelled to the child. I am saying to the parents "If they aren't reading the books with you can you put it on the iPad?" (S2).

Some schools talked about the training which had been provided for parents. In S1, an external ICT company had run an internet safety workshop at the beginning of the year. This workshop had examined apps which parents could use at home with their children.

Two teachers talked about how work produced in school using an iPad was presented to parents.

…some of the things we have done would be on our school website and our class page so they are there to see as well. Plus, we have the TV at the front of school where stuff gets showcased on as well. So, parents have opportunities to see what is going on (S3).

I told them afterschool last week that when we come back after the holidays I would invite them in for five minutes after school and the kids can read it out to them (S6).

Oh yeah, I have told the parents I am going to show them the little book they made next week. Definitely, because they deserve to see (S6).

The teacher in S4 was particularly keen to engage parents in the work their pupils via new classroom technologies.

Well generally with the parents what we do is we save a lot of our work and we are going to create this 'e-portfolio' where kids will basically have a record of their work right through primary school to secondary school. They will just keep saving work to this thing called One Drive. The kids can access that and they have a log in so they can show their parents their work by logging in and looking in the folders and all the things saved there. We mostly try and encourage parents to get involved as much as they can in the work anyway but I think it happens naturally because the kids have the iPads the whole time (S4).

Teacher Confidence and Skills

In contrast to the competency and familiarity displayed by pupils, teachers reported they had taken longer to develop their skills and confidence with technology.

I suppose it did take a good wee while. Trial and error (S1).

For the first two or three years it was really us getting to grips with them and using them, before we started to hand them out. Then as we went along we started to see what works and how to get the most out of it as well (S1).

Whilst some teachers were familiar with technology from their own personal use, it took time for teachers to become more confident with using the iPad for teaching and learning.

It definitely gets easier over the years. I was fairly familiar with it from my personal use but have got more confident using it as a teacher over time (S2).

Though obviously the more you use it the more confident and the more ideas you get when you actually start to use them. I think at the start you are worried: "We can't all do the same thing. How can I make this different from what the other classes are

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doing?" But once they start to use them and link them to your topics, it is amazing

what you can come up with (S3).

Formal training had assisted in developing this confidence.

We had a lot of training in partnership with XXX (external digital literacy CPD

provider). We tried a few things, came back with our feedback, they showed us

something else and it was just a gradual process of using it (S3).

The S3 teacher talked about her own confidence and skills in relation to the competency
displayed by pupils.

I just had to really go for it at the start, because we have been through it…as long as

you are one step ahead of the children you are happy enough to keep going (S3).

…every time it was a new app giving them (the children) a bit of free time because

very often they found out things you hadn't realised (S3).

One teacher recognised that they were still building their confidence.

I am still building up my confidence! Even from…it was much more daunting when

you spoke to me first. I was going "Oh I don't know how I will cope with this."

Actually it was much easier than I thought because they were really engaged in it.

They loved it. It was quite easy to have in the lesson and to teach. Yeah, I definitely

think I will try it again (S5).

Reluctant Writers

All of the teachers discussed the advantage of iPads in engaging a range of ability levels,
including reluctant writers.

I think it is good as it encourages reluctance writers. I feel it definitely, particularly

with boys (S4).

I feel that it is good. I have had…definitely much better pieces of writing from

reluctant writers than I have had. Like, the class in the years without the iPads and

the reluctant writers, you would get very little from them. But the year when the kids

had the iPads, the reluctant writers, they were writing quite a bit and they were

taking more pride in their work because they were dead quick at typing. That was their skill, so they were quite confident as well (S4).

I would say a big thing is motivating your reluctant boys. It certainly helps that way. Some boys, when they get pencil and paper, that just turns them off straight away. It really engages them and it is so relevant to them nowadays. It certainly helps that way to inspire them. I think, just, as you said, the choice and the layout (S1).

The S1 teacher used an example of one male pupil "whose writing skills weren't great but talking and listening was amazing". They were able to use these skills in producing pieces of work on the iPad. The teacher said that "just to have that evidence is very good".

Most references to gender and writing were about male reluctant writers. However, the teacher in S1 mentioned female reluctant writers.

Most girls are quite motivated but any girls who are maybe that bit more reluctant or struggling, any with any literacy difficulties, certainly, it takes the fear…with some of the apps will have an autocorrect which I think they quite like (S1).

The S2 teacher mentioned the value of the use of speech and recording of oral stories in engaging a range of learners.

A lot of our children have speech and language difficulties so the chance to hear and record their own voice is useful for them. They are then able to talk about it and use their voice, which is less threatening than writing (S2).

Those children who find writing hard have text and speech as well. Every child is always proud of what they have at the end. It gives them confidence too (S3).

Autocorrect and spelling was also mentioned by other teachers.

A lot of them who have difficulty with spelling, it kind of makes it easier for them. If they need to go back and edit they can on the iPads (S5).

Definitely it could assist their editing. The predictive text function helps them with their spelling so they can edit their spelling. It suggests full stops, capital letters when they are needed. That kind of stuff I think helps them a lot (S6).

They probably would not have picked up the difference between 'a' and 'an'. Little grammatical errors. The predictive function on the iPad does suggest little bits and pieces which kind of pushes their literacy a little bit further to be honest (S6).

For these children who are maybe reluctant writers, the spellcheck helps them because the spell check will correct the words. If they are still not happy with typing they have their voice, so they are not left with nothing. Everyone has something to show and everyone has success at the end of it (S3).

While the S6 teacher highlighted potential drawbacks of this kind of assistance, overall they felt the iPad could help encourage those struggling with writing.

I think it could make their spelling a little bit lazy if they aren't sounding words out, because they are so small. When they are trying to learn the phonics of spelling, but that is the only drawback I can really see (S6).

As discussed, an iPad was a 'motivating factor' for some pupils when it came to writing.

I found that there were children who wouldn't normally be as engaged and wouldn't normally be very motivated but were motivated even when they were writing it in their book because they knew they were getting the mixture of everything (S2).

Yes, I use a lot of apps for hooks more than anything. I use a lot of apps to engage them. There is one called PhotoFunny which I use to put pictures into newspapers and billboards, and all that kind of stuff. So I used an app, a kind of green screen app, to put the dragon actually in the school grounds (S4).

A Balanced Approach

Four of the six schools mentioned the importance of having a balance between iPad and paper based writing in their classroom.

…we like to have a good mixture of paper and the iPad so we are using both (S1).

I think it is really important to get the balance right. You can't do everything on an iPad. Well, you could but you still need to be working on paper. It has to work alongside and enhance what you are doing (S1).

…you need to be fairly traditional as well. You need to learn to write and writing happens with paper and a pencil. I think that in terms of pencil grip and that sort of thing. The handwriting apps, I know that isn't compositional writing…There can be a drawback from that. Another thing which is a drawback from iPads in general is that I think children's concentration isn't great in general. The area that I work in, concentration would be an issue. Engagement would be an issue. Children are used to having that immediate gratification of…something shiny, flashing and exciting happens on screen but life isn't that exciting all the time. I suppose that is a drawback. Sometimes they need to be able to use their imagination instead of rely on having it on a screen (S2).

You need to get the balance though. Obviously, the stories on the iPad wouldn't be, maybe, as long and as detailed as one they were writing themselves, but it is a different way of presenting work (S3).

But still it is about pencil and paper, it is about getting a balance. It is another tool, if used right, but it is not the only tool to be used (S3).

One teacher said that some of their pupils preferred writing on paper.

A couple of kids said "Can I just write this on paper?" They just preferred it. My fear has always been, with iPads, like any technology, the whole mechanics of writing sometimes can teach kids to learn spelling as well. So I hope that doesn't get lost as well. That is why I try and have a balance of writing and iPad because I think if they were constantly writing their stories on iPads then the spelling wouldn't be as good and handwriting as well (S4).

iPads and the Process of Writing

The teachers discussed the ways in which an iPad was used in the stages of writing production; planning, composition, editing, presentation and evaluation.

Planning

All of the teachers talked about planning as an important stage in the writing process.

We would do a lot of planning before they actually move on to the writing bit, so they are very clear in their ideas and what they want to do but that it is fluid. If they get a

better one, that's OK, they can talk about that in their evaluation to improve and change it afterwards (S3).

The iPad was seen as a useful tool for pupils to plan their work.

…they definitely did some pre-writing, research and discussion based on what they were looking at, on the iPads (S6).

Even with a partner, to brainstorm things and record it on the iPad. Then use that when they start to draft their story (S5).

Explain Everything is a really good one to use. As a sort of pre-writing tool for them to base their ideas and things. To let them structure their ideas, to sound them out. I think it is very good for their writing (S1).

Like for planning we give them word banks. So if I find some pdfs…obviously some of the classrooms have displays of words they can use throughout the year and word walls but what I found worked really well was giving them a library of word banks that they could use in iBooks. So I would get a pdf say for story starters or weather words or character description words and send it to them. When we are planning our story and the kind of character, I would say "OK, have a look at your word bank there. The character you have in your head, what words would describe your character?" (S4)

It helped them to sequence the steps and break down the instructions into shorter steps. Organise their ideas; the pictures again kind of remind them of what we had done and made it easier for them to write (S5).

Composition

Four of the teachers discussed the use of iPads for composing writing.

I think it (Puppet Pals app) helps them with character writing and to help them understand the rule of a character. They are able to describe thoughts and feelings. They are able to use their voices to convey expression whereas sometimes if they are

just writing about it, it would be a straight forward story but there would be no thoughts and feelings in it (S1).

With Bookcreator it isn't just a case of using Bookcreator to create a book and write on each page. It is inserting different media, different videos, different…the likes of Puppet Pals and things. It is using them together, and building that up (S1).

If children get stuck when they go to write the steps down they could go back to the iPad and play through the recording as a peer or group activity. Listen to it and write down that sentence. I suppose it helped them structure it and order it as well (S2).

So, when they come to the story writing process, that they have lots of things ready that they can use. It is reducing the thinking they must do. So, as they go along the final product is better quality. The iPads (using the Book Creator app) are really when the story is planned and ready to use. They are putting it together based on what they have done so far. It can take quite a while to complete a project (S3).

Editing

Teachers reported that pupils were keen to edit their work and that editing was much easier on an iPad.

The children are very fussy. They are very keen to correct any mistakes they have within the story on the iPad. It is much easier to edit their work than it would be on pencil and paper (S3).

By the time, they look at it…change it, and edit it. I find, when they are on the iPads they are very particular about it. They will change everything. It is easier to get them to go back and change things than when it is written. They do try hard to make sure it is the best they can do (S3).

The beauty of the iPad is that they can go back and re-edit their work very easily. Whereas if you are doing it in a copy book you have to write the whole thing out again and it can get messy. They can see, OK, that goes there and you can move that bit (S4).

It seems easier to go back and adjust their ideas on an iPad than on paper. Then just putting their ideas together. Writing out the instructions, if they had it in the wrong

box they can just swap it down. There is no, "Oh lets rub this out and put it in the right one" (S5).

Related to their competency in using the technology, pupils were able to edit their work themselves.

…they could edit it themselves. It is easier to edit because it is less to rewrite. You can just go back over it (S5).

You could see that they could read the sentences quite fluently because they created the sentences themselves. They didn't have teacher prompting their spelling or prompting their editing. They edited all that themselves (S6).

Presentation and Evaluation

Most of the teachers were very positive about the use of the iPad in presenting stories to an audience. The S3 teacher said that their pupils enjoyed presenting, showing and evaluating their work. Similarly, the S6 teacher said that their pupils enjoyed seeing "their finished product" and they were "very proud" of their work.

The S1 teacher said that work on the iPad was different from work on paper in terms of providing a platform for presentation.

It gives them an audience for it so they then develop that side of the writing which they might not do as much on paper (S1).

Also, they always feel like they are writing for an audience on the iPad because they know it is going to be presented and they are going to show it to each other which is a big thing. It maybe has more of a purpose (S1).

Apps such as Tellegami and Photo Speak had been used successfully for presentation.

Tellagami as well I suppose. I use that for children to maybe present work at the end. There is a character who then…They take a photo of the writing and the character narrates their story (S4).

[PhotoSpeak] Our topic is dinosaurs, and what they will be doing is choosing their own dinosaur to research. They will find an image of a dinosaur, put it in, and share

facts about it. So, they have their research element. They are presenting it and teaching it to others. It can be done with lots of other characters (S3).

The S1 teacher talked about how the iPad could help inspire other pupils.

That flipped classroom where they can see each other's ideas. Sometimes if it is an app you can stop half way through to show and inspire a few people who maybe aren't…. (quite getting it) to the same detail and sometimes if they see one then it really helps them that way (S1).

Teachers reported that the opportunities for pupils to provide feedback on each other's work on the iPad was valuable.

"…it is a really quick way to show their work. We can take 5 or 10 minutes at the end saying, "OK, mirror your work up there." They then have to read their work and can correct any errors. We can give them feedback on what was really good, what would you improve if you were doing it again? So I think it definitely has improved writing at that stage, definitely (S4).

Just to read to each other. I suppose to present it to their friend. Or even, what I meant to do today was maybe mirror one of theirs up onto the whiteboard and they could present it from the top of the class which would be better to show everybody (S5).

Chapter 5

Pupils' Perspectives

This chapter presents the pupils' perspectives on the use of iPads in the writing process and are collated from both the focus groups and the individual iPad virtual tours. The pupils' views are presented under key themes which were identified within the data. For the purposes of anonymity and confidentiality, each school was allocated a numeric code from School 1 (S1) to School 6 (S6).

Fun and Enjoyment

Pupils in all of the schools talked about the fun and enjoyment they experienced when using iPads in the classroom.

> *Because it is really fun! (S6, Focus Group).*

Some pupils said they found writing on the iPad more fun than writing on paper, and that it helped them to enjoy writing in school.

> *If you try and write about something on a piece of paper it is like "Ugh, this is so boring! I don't like this" but on an iPad its "This is so fun!" (S1, Focus Group).*

> *The iPad helps you enjoy writing in school (S6, Focus Group).*

A pupil in S5 said that as well as being more fun, they were more familiar with writing on the iPad.

> *I am used to writing with the iPad so it is more fun. It is more fun to write with it because you know what to do with it (S5, Focus Group).*

Pupils in S2 also enjoyed using iPads and said that they enjoyed the range of apps available.

> *I like it because it is fun and you can go on different apps and all (S2, Focus Group).*

> *Because it's really fun and you can go to all different apps and I think the iPad is real fun because the teacher says it is fun and it is true (S2, Focus Group).*

Fun was related to the range of options and choice available when using the iPad as pupils enjoyed being creative in their work.

You can write fun things and change the fonts and all (S3, Focus Group).

I like it because it is fun making your own creations (S4, Focus Group).

Choice and Creativity

Pupils in three of the six schools talked about the range of options available when producing pieces of work using an iPad.

I like to use PicCollage because you can search up different photos, you can change your writing, and you can do lots of different things to make it look nice (S1, Focus Group).

In S1 the pupil taking part in the virtual tour was enthusiastic about the different ways things could be changed and agreed that there was lots of choice.

[Explain Everything] We can make our own shapes, and we get pictures off Google and we can put them on to this. On a big white background that we can cut them out like we did on Puppet Pals and we can, like….have different coloured backgrounds and have writing up at the top and it is just a really fun app to help us get some education (S1, Virtual Tour).

[PicCollage] So, we can put grids in, we can go for freestyle, and we can do templates. We can take pictures from our photos and we can add them in here. We can do some writing. We can put stickers in. What else… (S1, Virtual Tour).

Yeah. We can change the style of our writing that we want. We can change the colour of our writing and we can change the background of it. It is just amazing. We can also change the style of the page background that we can use as well (S1, Virtual Tour).

Pupils in other schools said that they liked the way they could choose to modify various elements within apps including page colour and background, and aspects of text such as font, colour and size.

I like changing the font (S3, Virtual Tour).

You can do lots of stuff. Add colour (S3, Virtual Tour).

You come in here and you can add new. You can colour anything. They give you much more tools; painting, colouring, crayons, markers, pencils and rubbers (S4, Virtual Tour).

Because you can write any story you want and you can post more pages. You can add in folders, you can add in text. Different pictures…You can add in….you can put in your voice. You can save it and you can print it off (S4, Focus Group).

If your writing is quite big and you go on to the text and you are typing, that could be an example for you to get your writing smaller because the writing on text is small. (S3, Focus Group).

…you don't always have to keep writing like you would. You can change your writing to something fancy. Like if you were writing about the evacuees that was in the past so you might want to write a bit differently like they did (child talking about changing the style of font to fit in with how writing might have looked in olden days) (S3, Focus Group).

If you just use pen it doesn't give you effects on the thing. You can do smooth, you can do crumbly, you can do different thickness… (showing different pen effects on the iPad)(S4, Virtual Tour).

A pupil in S4 said that they enjoyed the creativity involved in using an iPad.

I like it because you can really go wild with your imagination (S4, Focus Group).

Visual Communication

Pupils from four of the six schools talked about the potential of visual communication using an iPad as part of writing lessons.

The S1 pupil taking part in the virtual tour said that they preferred using the iPad for writing, and when asked why replied "because with the iPads I can have photos". Similarly, the pupil in S2 enjoyed using the iPad to take photos and adding them to their work. Other pupils in S2 and S3 talked about taking photos using an iPad.

Then we took loads of pictures. Then I swiped it and a wee save button came up and I pressed save. It means I can have it saved (S2, Focus Group).

You can take pictures of other people or yourself (S3, Focus Group).

The S4 pupil taking part in the virtual tour talked about manipulating photographs using the iPad.

You can add photos, different things on it. You can add text and you can draw on that photo (S4, Virtual Tour).

The pupil referenced Bookcreator and talked about how they enjoyed adding pictures to their work on this app.

In S1 the pupils had also used their photos and images in apps.

We were on PuppetPals and we were making stories. We were saving images and putting them into…we were using them as our puppets and then we were telling our stories (S1, Focus Group).

A pupil in S2 liked that when using the iPad there were illustrations and other items available which meant they could communicate ideas without drawing.

You don't have to draw the picture but there are some stickers. They come on the page and you can just drag it and tap the page and it's the same colour as your old page (S2, Focus Group).

Pupils in S3 also appreciated being able to add in visual items such as photos, emojis, stickers and illustrations without having to draw.

You get to put in stuff that you can't do when you draw because it's easier. Stuff might be harder. You can just put in stuff which is hard but you don't have to draw it (S3, Focus Group).

You are drawing with a piece of paper but you can put a photo instead of drawing it (S3, Focus Group).

[Bookcreator] It is easier with the pictures because we don't have to make it and draw it because it would take us for ages (S6, Focus Group).

However, pupils in S2 and S3 mentioned that they liked using the iPad for writing stories because they could draw pictures. Similarly the S5 pupil taking part in the virtual tour said

that they liked Bookcreator because they were able to draw pictures and a pupil in S2 said that the iPad helped with their drawing.

Verbal Communication

In five of the six schools, pupils talked about the ways in which an iPad facilitated different ways of communicating. Alongside visual means of communicating, the pupils in S1 were able to record their voices and add this to the visual aspects of their work using apps such as Puppet Pals and Explain Everything.

> *We used hedgehogs and we have almost recorded it. We have cut out our hedgehogs. It is a bit like PuppetPals. You cut out things and you use with your partners. Then you get an arrow and you move around and tell facts (S1, Focus Group).*

Similarly in S2, after taking photos or doing drawings pupils said they would add their voice to images.

> *Sometimes we take pictures and then we talk and our voices go on the iPad (S2, Focus Group).*

> *Because you can write any story you want and you can post more pages. You can add in folders, you can add in text. Different pictures…You can add in….you can put in your voice. You can save it and you can print it off (S4, Focus Group).*

A pupil in S3 said that:

> *You aren't using a pencil, you are using your voice or text (S3, Focus Group)*

Speed and Handwriting

Pupils in four of the six schools mentioned the speed and convenience of producing pieces of work on an iPad compared to paper.

> *It is much better than writing on a piece of paper. Sometimes when you are writing on a piece of paper it takes longer (S1, Focus Group).*

> *It is quicker than writing (S5, Focus Group).*

When you use your pencil, your pencil breaks a lot, but when you are typing the iPad doesn't break (S5, Focus Group).

A number of pupils talked about how their hands would get sore with traditional writing.

And you hand gets really sore (S1, Focus Group).

My hand does get sore. On the iPads it is easier and more fun to practice and stuff (S1, Focus Group).

Your hand gets really sore if you write or start to colour in… (S1, Focus Group).

Sometimes when you write to much your hand can get sore but on the iPad you can type or use your voice (S3, Focus Group).

I think I like (the iPad)….because your hand can get sore (S3, Focus Group).

When you are doing stuff in your book it will kind of hurt your hand but now you are typing words in (S6, Focus Group).

Some pupils talked about typing instead of writing using a pencil.

I like it on the iPad because you get to type and you can write and draw pictures (S3, Focus Group)

It is harder to write with iPads but you can type…It is more easier typing (S3, Focus Group)

Because you can type and its better and you can put in loads of stuff (S3, Focus Group).

I like the iPad more because you don't have to write it all ……….. I actually enjoy typing (S3, Focus Group)

Others talked about using their voice instead of text.

Sometimes when you write to much your hand can get sore but on the iPad you can type or use your voice (S3, Focus Group)

…when we had written what we wanted then I would use my voice to talk out what I had written (S3, Focus Group).

A Balanced Approach

Pupils in five of the six schools talked about their preference between writing on paper and using digital technology. When asked to state their preference, two pupils in S1 (male) were undecided.

Because if you go to write sometimes it feels more better than an iPad. Sometimes you go onto iPad and it feels better than writing on a piece of paper (S1, Focus Group).

Well because when I write I have my own ideas and I can do whatever I think which is best, but when you have the iPad it is good because it helps you with your spelling and knowledge and stuff (S1, Focus Group).

The pupil in S2 taking part in the virtual tour also said that they liked to use both options.

I don't really mind. I like writing a lot on the iPad and just writing with my hand (S2, Virtual Tour).

The S3 pupil taking part in the virtual tour preferred writing with the iPad.

I kind of like both but maybe on different days I might get tired or something and I would prefer to use the iPad. Most of the time I would prefer to use iPads actually, they are best (S3, Virtual Tour).

A pupil in S2 voiced their preference for writing on paper.

Because I like writing on paper and the iPad was too…. The glass. It annoys me (S2, Focus Group).

One pupil in S4 (female) said that it was different writing on paper because it helped improve handwriting, and the whole group agreed that this was important.

Your handwriting, because it never gets better if you keep using the iPad (S4, Focus Group).

A pupil in S6 preferred using the iPad because it was neater. However, they liked using paper to draw pictures.

It's neater but then I wanted…I like to use books as well because you can write your….you can draw a picture (S6, Focus Group).

Learning

In four of the six schools, pupils talked about how using an iPad helped them learn.

I think that when I go on the iPad, sometimes in school, it helps me to learn more (S1, Focus Group).

Because sometimes you will have literacy games and then on PuppetPals it helps you learn to make up stories and then you can record your voices and you can see if it's right or not and how to practice doing things (S1, Focus Group).

Another pupil in S1 said that the iPad "helps you with your knowledge and your education". Similar comments were made by pupils in the other schools.

Because it helps me learn, helps me draw and helps me write better (S2, Focus Group).

It is better to write if you use anything electronic to write stories because, like, if you wrote with a pencil it wouldn't come out as well. All the famous writers write with electronic (S5, Focus Group).

It helps you with your learning (S6, Focus Group).

Spelling

Pupils in all of the schools mentioned spelling, predictive text and the autocorrect function on an iPad when writing.

When you are spelling something, you might get something wrong whereas in the iPads it shows the words. If you want the word then that word comes up (S1, Focus Group).

Pupils recognised that being able to spell was important and felt that the iPad helped with their spelling.

Yeah, because it is important to know how to spell because if you don't know how to spell it would be really hard for you (S4, Focus Group).

It helps us with spellings…you have to know your spellings. It is really important (S6, Focus Group).

One way in which the iPad addressed spelling was by placing a red line under incorrect words.

If you do a spelling mistake on the iPad it will put a red line underneath it and will let you know that it's not right (S3, Focus Group).

Because an iPad is much easier to use because you don't…if you have spellings…and you play that or searching up something in Google, if you type it in, or if you are sending a message a red line will go underneath it so you know you spelt it wrong (S1, Focus Group).

I picked the tick (indicating they preferred to write with iPads) because if you spell something wrong the red line comes up. If you want to spell something, it tells you how (S4, Focus Group).

The iPad also suggested words to help pupils choose which word they wanted.

Because if you are stuck on a word, above the keyboard it will show the proper word (S4, Focus Group).

It can kind of…say, like, you can't spell "Animal" and you typed on ANI then sometimes the word might come up and you might know how to spell it (S4, Focus Group).

In Bookcreator also because words start popping up at the top which you might not be able to spell that you can tap on (S4, Focus Group).

If you make a mistake it will tell you how to spell it properly (S5, Focus Group).

Sometimes when you forget a spelling it sometimes comes up on the iPad (S5, Focus Group).

When you are adding text, sometimes it can have the words up there for you and you just press them (S6, Focus Group).

However, not all children liked the spelling and autocorrect functions. Some S4 pupils stated they preferred writing without an iPad because of these functions.

> *Because, whenever I write with a pen and paper it is kind of easier because you can write whatever you want. Then on the iPad when you are texting and you texted something in a different language, it comes up as a red line underneath it (S4, Focus Group).*

> *I picked the X (showing she preferred not to use an iPad for writing) because when you type a word, like an Irish word or in a different language, another word comes up after you put a space and then you have to type it all over again (S4, Focus Group)*

Some pupils in S1 also used internet search functions on the iPad to look up words such as names of cartoon characters which they did not know how to spell.

> *The best thing about the iPad is when I am stuck on something like names of Pokémon. You just type names into Google and it tells you names I don't know how to spell.*

Focus Group participatory exercises

As part of the focus group activity and discussion, the children in the focus groups were divided into pairs and each pair was given 8 statements about writing and iPads. The pairs of children were asked to physically sort them under true and false headings. Figure 1 shows one pair's completed sort.
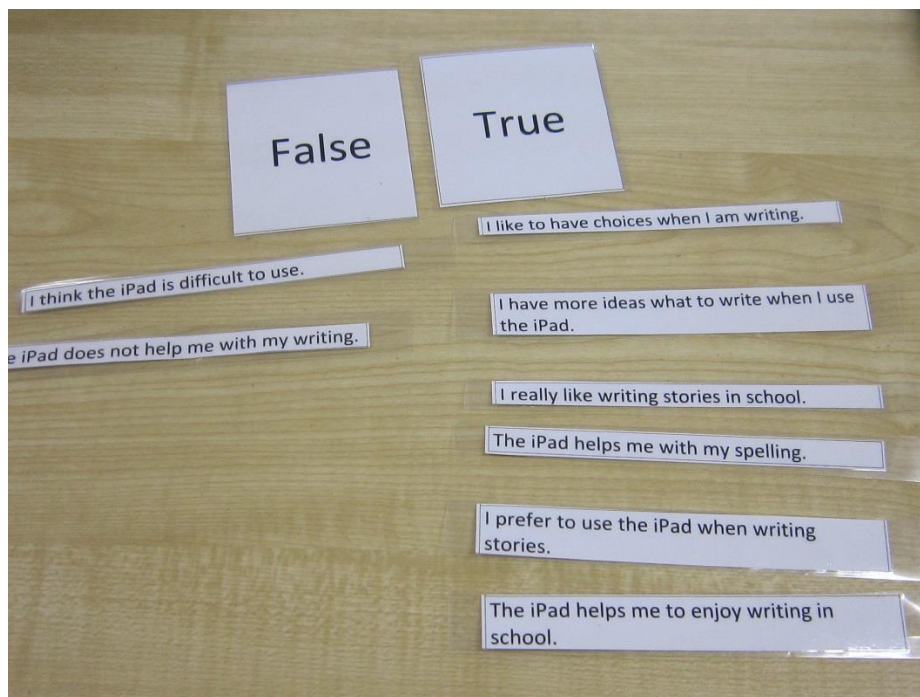

Figure 1: True and false sorting exercise

Figure 2 shows the responses from this sorting exercise in pairs from across the 6 schools. All of the children (n=34) stated that it was true that 'The iPad helps me with my spelling' and 'The iPad helps me to enjoy writing in school'. The majority of children agreed that 'I really like writing stories in school' (n=30) and 'I have more ideas what to write when I use the iPad' (n=28). Whilst the majority of children liked to have choices when writing (n=24), some children did not like choice when writing (n=8) and a small minority (n=2) were undecided. Only 2 children through the iPad was difficult to use and only 2 children thought the iPad did not help them with their writing.
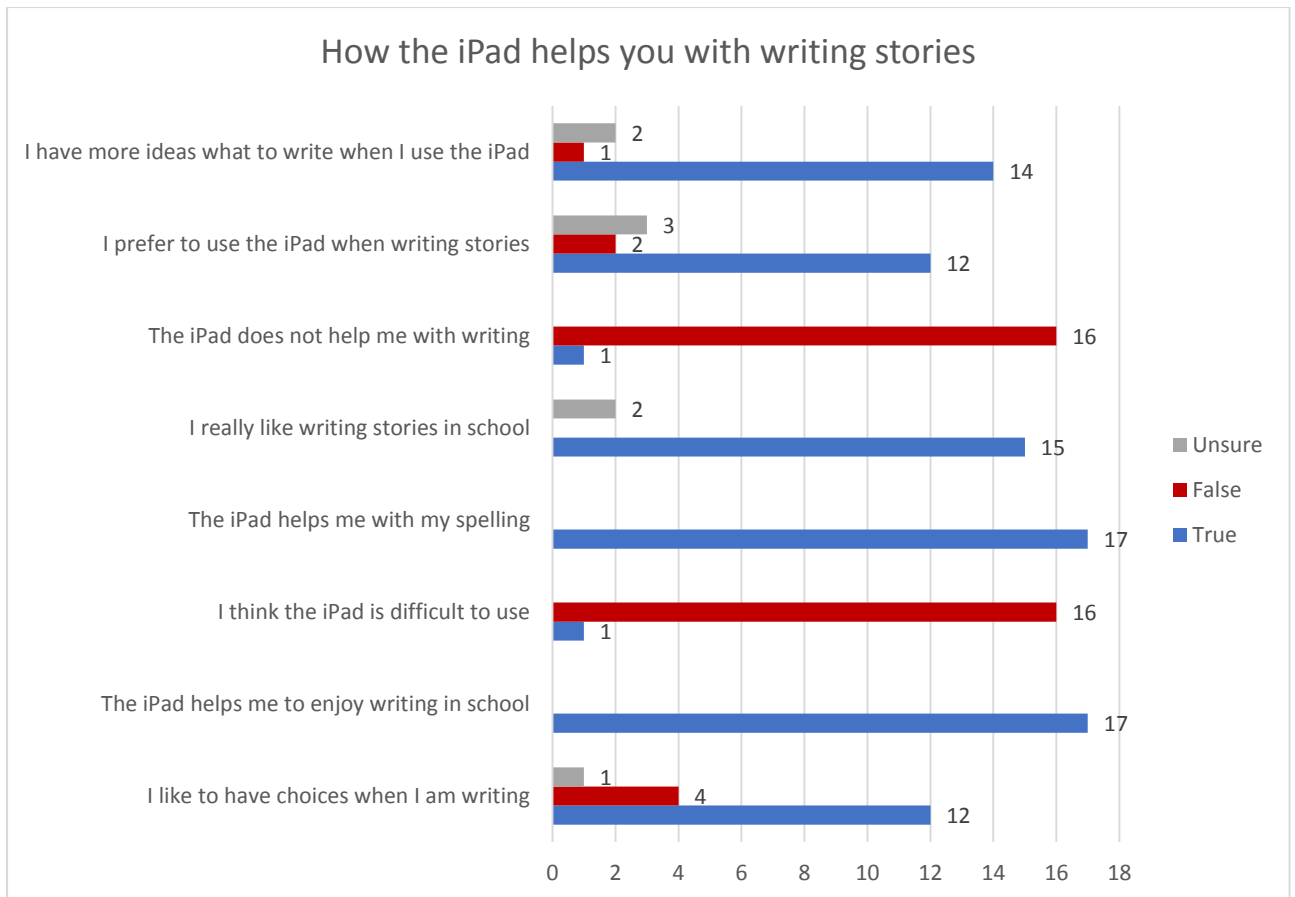
Figure 2: Sorting Exercise on how the iPad helps you with writing stories

The children were then asked, in their pairs, to pick out from their 8 statements the **most important** way the iPad helps with story writing. Figure 3 shows the statements the children chose in this activity. The most popular statements were 'The iPad helps me to enjoy writing in school' (7 pairs of children) and 'The iPad helps me with my spelling' (7 pairs of children). The third most popular statement was 'I have more ideas what to write when I use the iPad' (4 pairs of children) and the fourth most popular statement was 'I like to have choices when I am writing' (2 pairs of children). Please note that, whilst there were 17 pairs of children, there were more than 17 choices in this exercise as some of the pairs could not agree on one statement and were allowed to choose two.

Most important way the iPad helps you with your story writing

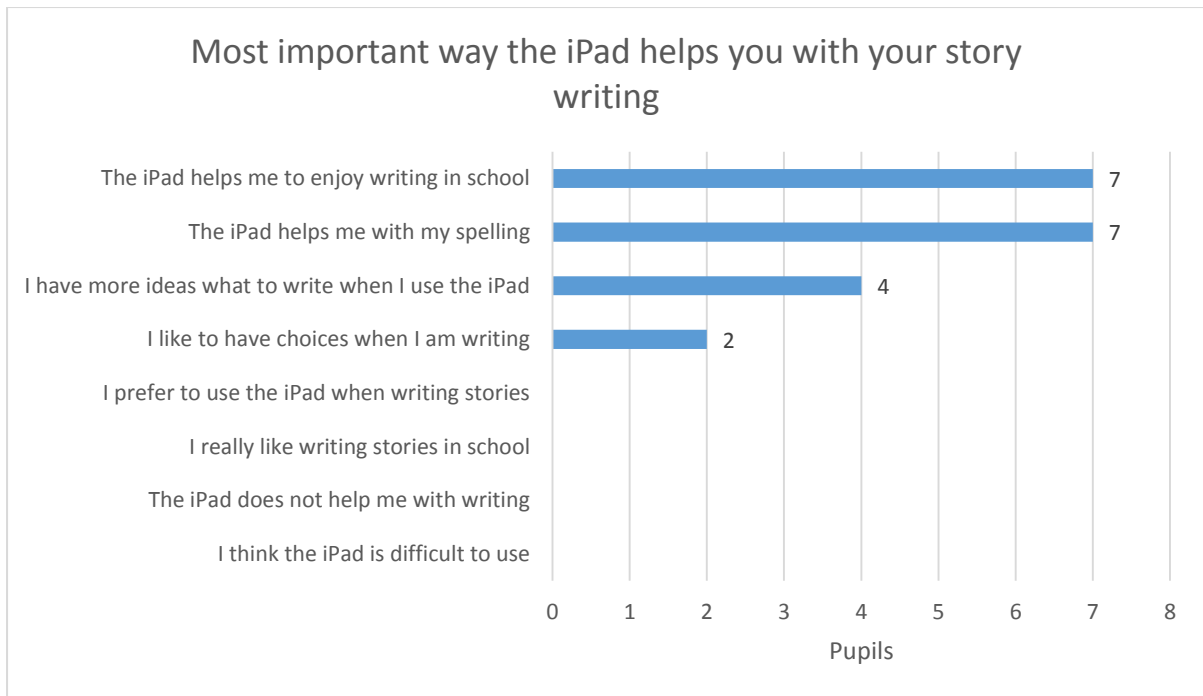| Category	Pupils
The iPad helps me to enjoy writing in school	7
The iPad helps me with my spelling	7
I have more ideas what to write when I use the iPad	4
I like to have choices when I am writing	2
I prefer to use the iPad when writing stories	
I really like writing stories in school	
The iPad does not help me with writing	
I think the iPad is difficult to use	

Figure 3: The most important way the iPad helps you with your story writing

Finally, the children were asked to visually represent their preference to use iPads during writing lessons or not. Figure 4 shows the total choices from all of the six schools. The majority of children preferred to use iPads (n=26) with a minority (n=6) preferring not to use iPads and 2 children were undecided.
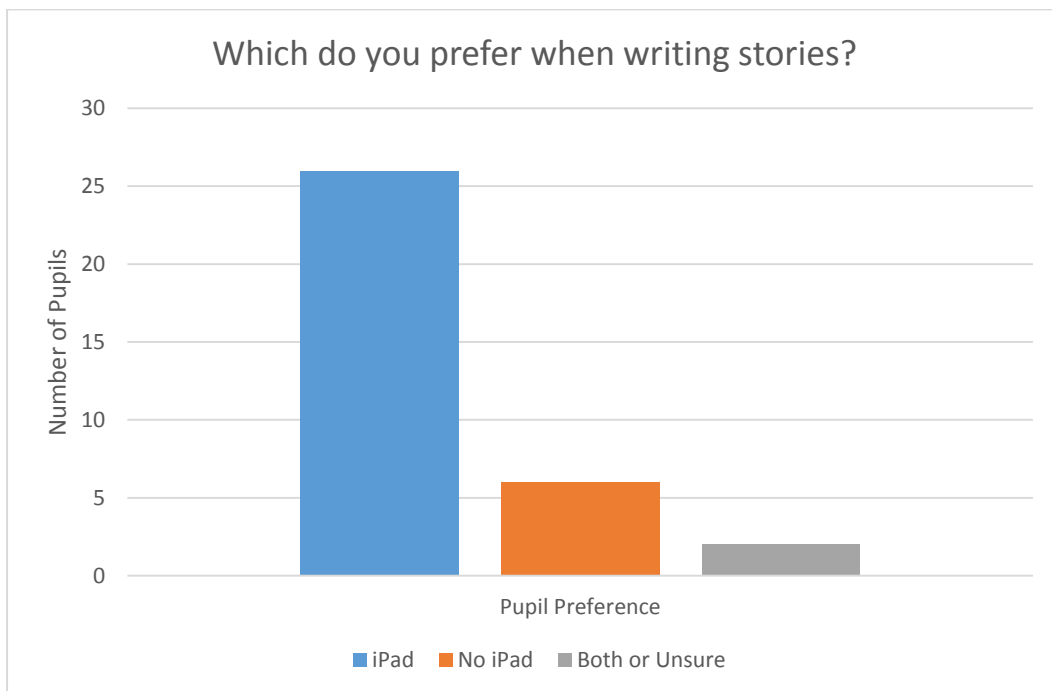

Figure 4: Preferences when writing stories

Chapter 6

Discussion

The aims of this study were threefold: firstly, to ascertain the views of teachers who were using iPads in the classroom for writing, on how the iPad changes children's engagement in and enjoyment of the writing process; secondly, to investigate teachers' views on the benefits and challenges of using iPads to teach writing in the early years; and finally, to ascertain the views of children on their use of iPads for writing activities in the classroom.

Teachers' perspectives on how iPads can change children's engagement in, and enjoyment of, writing

Recent surveys have indicated that fewer children are writing daily outside of class (Clark, 2016) and that many have limited or no enjoyment of writing. Yet enjoyment of writing is connected to writing behaviour, confidence, motivation and attainment (Clark and Teravainen, 2017). Therefore, children's enjoyment of writing warrants close attention since it would appear that children who do not enjoy writing are not going to engage in writing and this has the potential to have a negative impact on educational attainment.

The teachers in this study commented on the fun and enjoyment experienced by children when they were using iPads as part of the writing lesson. They maintained that the use of the iPads, whether it was for planning, composing or presenting their stories to an audience, made the children's learning more exciting and also that the children did not necessarily see their writing activities as work when the iPad was involved. They suggested that all of these factors led to the children being more engaged in writing lessons which incorporated the use of iPads. The opportunities for children to have greater choice to create a multimodal text, where they could include visual elements such as images, drawings, colour and design and also verbal elements such as their voice, were also reported by the teachers to be very motivational for the children. Therefore, the opportunity for children to communicate by drawing on multiple modes appears to be an important one in terms of children's enjoyment and engagement in creating meaningful texts.

Teachers' views on the benefits and challenges of using iPads to teach writing in the early years

Benefits

The teachers in this study reported pupil cooperation as being a benefit of the use of iPads in writing lessons. In most of the schools, the children worked in pairs or small groups. These configurations were often mixed ability and it was suggested that there were real opportunities for peer learning and for the development of interpersonal skills. This approach to meaning making as a collaborative exercise was seen as an enabling practice by teachers.

All of the teachers also reported how children's use of iPads in school would create links and opportunities for children to write using technology at home. Some children had asked their parents to download specific apps at home to allow them to do this and teachers felt there were opportunities to discuss this with parents at parent teacher meetings. Therefore, there are potential benefits in encouraging greater synergy between home and school so that children will want to engage in writing using technology in out-of-school contexts.

Another perceived enabling aspect of iPads in writing lessons in school was encouragement for reluctant writers. Writing is a complex and effortful activity and for many children who struggle with literacy, it is a very challenging task. However, all of the teachers in this study regarded the use of iPads as beneficial in engaging all ranges of ability including reluctant writers, and male reluctant writers were mentioned in particular. The particular affordances of the iPads which were perceived by the teachers in this regard were the opportunities for predictive text and autocorrect features to assist with spelling and to therefore relieve transcriptional challenges. The opportunities to use multiple modes, such as verbal, visual and print to express their stories were also seen as beneficial for engaging reluctant writers to allow them to experience success in producing texts.

The use of the iPad in any aspect of the writing process was also a benefit highlighted by the teachers in the study. In some lessons, the iPad was a useful tool in planning work where they could talk about their ideas and consider the structure for their text. In other lessons, the iPad was valuable in composing a text whether it included print, such as in Book Creator,

or whether it included only visual and verbal modes such as Puppet Pals. Encouraging children to edit their texts was perceived to be much easier and quicker to do in a multimodal text and the opportunities for presenting to an audience were much more authentic, creative and immediate.

Challenges

Pupil competency and familiarity in using iPads were highlighted by all teachers and whilst these may be perceived as benefits in the classroom, they may also be challenges for some teachers. Teachers have traditionally been considered the expert in the classroom, with the greater knowledge. However, when it comes to technology, children are the digital natives, the app generation, the digitods, who are not constrained by the conventions of writing, as many adults are, but who are much more adept at using technology for their own purposes. The teachers in the study reported they had taken longer than the children to develop their skills and confidence with technology, and in particular, to develop their confidence in its use for teaching and learning. Yet, rather than feeling disempowered and anxious by the use of technology, the teachers recognised the children's expertise in using technology and their ability to know about the functions and potential of particular apps. This is new pedagogic territory for some teachers, but this willingness to adopt the position of being less knowledgeable and learning from children is essential in developing multimodal teaching in the early years classroom.

Many of the teachers in the study mentioned the importance of a balanced approach between the use of iPads and engaging children in paper-based linear written texts. Therefore, it is clear that whilst many teachers recognise the importance of using digital technology to enhance teaching and learning and to provide relevance in young children's learning, there is still an awareness of the privileging of print in the early years classroom and the print-centric nature of assessment which can have a potentially negative backwash in limiting the possibilities for children's multimodal learning opportunities.

The views of children on their use of iPads for writing activities in the classroom

The children in this study highlighted the fun and enjoyment they had when using iPads in the classroom and the children selected 'the iPad helps me to enjoy writing in school' as their most important statement in the sorting exercise. Closely linked to enjoyment, was

the opportunity to have more choice over their texts. They liked the opportunity for them to choose colours, backgrounds and aspects of text such as font style, colour and size. This sense of agency appeared to have a motivating and engaging effect.

The opportunity to type their writing rather than write with a pencil was a welcome one for many children who talked about how their hands would get sore from writing. They also recognised that the iPad afforded help with spelling. This was an aspect mentioned by the teachers but the children talked about spelling issues in greater depth than their teachers. All of the children were unanimous in the sorting activity that the statement 'The iPad helps me with my spelling' was true. Most of the children recognised that spelling was very important and felt that the iPad helped them with spelling. They mentioned the red lines that would appear under misspelled words and the opportunity for predictive text to help them with words. They did not appear to suggest that these functions were an easy way round spelling challenges; rather, they saw them as enabling mechanisms to help them develop their spelling skills.

The possibilities of multimodal learning opportunities within texts appeared to be really important for the young children in this study. Teachers mentioned the importance of multimodal texts in allowing success for all children and in motivating children in their learning but for the children, multimodal opportunities were discussed in greater length and appeared to have great significance for them. The potential for visual communication was central for children. Images and drawings were not just embellishments to go along with written text, rather they were integral to the text. Photographs, drawings, stickers and emojis all played a complementary role to the written text in the eyes of the children. Similarly, verbal communication was crucial for children. Children did not appear to privilege print over visual and verbal communication. Rather, the modes all appeared to have equal potential in conveying the messages children wanted to communicate in their multimodal texts.

However, it was interesting to note children's awareness of a balanced approach to the use of digital technology in the classroom. Whilst, this would be expected from teachers who are much more aware of standards and high stakes assessment, it was perhaps more surprising to see in young children. Some children expressed their view of how it was important to develop handwriting skills on paper. These views may have been influenced by

the importance that teachers and parents place on handwriting skills. It was also interesting to note how some children expressed their desire to use both iPads and paper when creating texts. Therefore, it is important not to assume that all children are technophiles and want to utilise technology for educational purposes. Rather, the children appeared to see that all modes had equal potential, each had its own affordances and some were beneficial in particular times and places.

Conclusions

In the face of falling numbers of children engaging in writing outside of school contexts and a lack of enjoyment of writing by many children, set against government policy to raise standards in all aspects of literacy including writing, there is a clear need to consider how digital technology might address both of these challenges and be utilised in authentic learning spaces.

Teachers' perspectives on digital technology use in writing lessons will ultimately shape the experiences and opportunities for children to use digital technology in literacy learning in the classroom. Whilst all of the teachers in this study were very positive about the potential of the use of iPads in writing lessons to engage and motivate children, including reluctant learners, and the benefits of the multimodal nature of the created texts in allowing all children to experience success in 'writing' stories through visual, verbal and print modes, they were ultimately still constrained by print-centric expectations of a primary classroom. As many children are more confident users of technology, this also raises questions around a repositioning of the 'teacher as expert' role to a more fluid role where the teacher may learn alongside the child when using technology. This requires a new perspective on the teacher role.

Children's perspective are also crucial as digital technology and writing are fundamental aspects of their education for their future and they are the experts in what it means to be a child and to learn in a contemporary classroom at this point in time. Taking account of their views is essential to ensure their 'access to an education which will develop their personality, talents and abilities to their fullest potential' (DENI, 2016, p55). The possibilities of multimodal learning opportunities were very important for the young children in this study in communicating in ways which were meaningful and enabling. Yet,

caution must be exercised when assuming that all children are technophiles and want to learn with digital technology as this is not always the case. Children are also aware of the traditional expectations of handwriting and spelling yet they see the use of iPads as being a tool to enhance their spelling skills rather than circumnavigate the need to learn to spell.

Therefore, there is a need for a *rebalancing* in the teaching of writing and for multimodal writing to be more prominent in every classroom if children are going to be motivated and engaged and learning in ways that are meaningful and creative which allow them agency in developing texts which resonate with their everyday technoliteracy practices.

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Appendix 1

WiPEY: Teacher interview

(Tell the teachers that when you are talking about compositional writing you mean writing in the different genres i.e. narrative/recount/report/persuasive/explanation/discussion etc.)

1. When did you begin using the iPad as part of compositional writing lessons in your class?

2. How did you first start using them as part of these lessons?

3. How long has it taken to build up your skills/confidence in using the iPad as part of compositional writing lessons?

4. How quickly do you think children build up their skills/confidence in using the iPads as part of compositional writing lessons?

5. You used the app XX/the iPad in the observed writing lesson.   Can you tell me how you think this app/use of the iPad helps the children in their learning about compositional writing?

6. What other apps/ways do you use the iPad when doing compositional writing with the children?

7. What is your favourite app/way to use the iPad for compositional writing? Why?

8. Would you use the iPad during:

    a. Pre-writing (talking/researching/planning the writing)? If so, how?

    b. Composing (writing the ideas/sentences)? If so, how?

    c. Editing (making changes to improve the writing)? If so, how?

    d. Presenting the story to an audience? If so, how?

9. What is different about compositional writing using the iPad compared to writing lessons without the iPad?

10. In your opinion, what are the most important benefits for children's learning about compositional writing when using the iPad?

11. Do you think the iPad has any effect on children's engagement/motivation with writing?

12. Are there any drawbacks to using iPads in writing lessons?

13. Do you think that the use of the iPad to teach writing has any impact on children engaging in writing outside of school?

14. Do you share how the iPads are used in writing with parents?

15. Do you feel that parents are interested in how to help their child with compositional writing and does the iPad impact on this at all?

16. How important do you think the iPad is as a tool in the teaching of writing in the future?

Thank you for your time

Appendix 2

<div align="center">

WiPEY: Children's focus group

(Tell the children when you are talking about writing you mean story writing, writing reports or recounts, persuasive writing, explanations and discussions)

</div>

1. Do you enjoy writing stories/reports/recounts in class with your teacher? Why?

2. Tell me about some of the things you have been writing about recently.

3. I watched a lesson where you used the iPad and the app (name of app) in your writing lesson? Tell me a bit about what you were writing about in this lesson.

4. How did you use the iPad in this lesson?

5. Did you like using the iPad in this lesson? Why?

6. Tell me about some other lessons with writing where you have used the iPad.

7. Do you think the iPad helps you when you use them in story writing lessons?

8. If so, how does it help you?

9. I have some sentences in this envelope about how the iPad might help you with writing stories and I want you to look at these with your partner and sort them under true and false and put them on the table in front of you. There are no right and wrong answers. This is just what you think (take a photo of each pair's sorted sentences).

10. Now I want you to look at the sentences again and pick out the **most important** way the iPad helps you with your story writing and put it on the table in front of you and put the others back in the envelope (take a photo of the selected sentences).

11. Tell me why you picked this one (ask each pair).

12. Which apps do you like using when it comes to writing stories? Why?

13. What is different about story writing where you don't use iPads and story writing using iPads?

14. You all have a little picture with an iPad on each side. But one side has a tick and one has a cross. I want you to think which you prefer. Do you prefer story writing lessons which use the iPads (picture with a tick) or story writing lessons without the iPads (picture with a cross)? Show me on the table now (take a photo of the pictures).

15. Why did you pick that picture? (ask each child)

   Boys and girls, thank you very much for helping me with my questions today

Appendix 3

Pupil virtual tour

(Use puppet/toy to encourage the child to show how they use the iPad for different story writing lessons in class)

(Explain to the child that you are interested in how they use the iPad when they are doing writing lessons. These writing lessons might be about stories, or reports or recounts of things they have done. All different types of writing. In the writing lesson, they might use the iPad as part of the talking/planning time, or they might use it for actually writing their story or they might write their story on a page and then use the iPad to present the story)

1. I wonder could you show 'Bobby' an app you sometimes use in class as part of a writing lesson.

2. Can you tell 'Bobby' how you have used that app and what you were writing about?

3. How do you think this app helps you when you are writing your story/report/recount etc.

4. What is different about writing when you use this app rather than writing without the iPad?

5. Can you show 'Bobby' another app you sometimes use in class in writing lessons.

6. And how did you use that app and what were you writing about?

7. How do you think this app helps you to learn about writing stories/reports/recounts?

8. Are there any other apps you use when writing stories/reports/recounts etc.?

9. Can you tell 'Bobby' what your favourite app is to use when you are doing writing lessons? Why?

10. Which do you prefer – using the iPads or not using the iPads when writing stories? Why?

Thank you telling 'Bobby' and me all about the iPad and writing stories

Appendix 4

WiPEY: Observation schedule for writing lesson

Name of school…………………………………………………………………

Class/Age of children…………………………………………………..

Genre of writing being taught during lesson

 (narrative, report, recount, procedural, persuasive, explanation, discussion, poetry, play script)

Learning intentions for the writing lesson

Apps/other features of the iPad being used during the writing lesson

Does the teacher use the iPad during the lesson and if so, how?

Are the children using the app on their own, in pairs, in groups or a combination of these?

How the app is being used

Stage of lesson	app/iPad feature being used	Briefly explain how it is used by the children
Pre-writing (talking/researching/ planning)		
Composing (writing the ideas/ sentences)		
Editing (making changes to the writing)		
Presenting the story to an audience		

Is there opportunity for children to have choice as part of their writing when using the app? (E.g. can they choose how they present their writing through design/colour/inclusion of pictures? Do they have much choice over content?) Give examples from the lesson.

Are the children working independently whilst using the app/iPad or are they relying on adult/peer support?

Are children enjoying using iPads as part of the lesson? Provide evidence for this (including comments from the children as they engage in the lesson)

How is the use of the app/iPad allowing for differentiation within the lesson?

55

Any other comments/observations

Appendix 5

Sorting sentences

The iPad does not help me with my writing.
I have more ideas what to write when I use the iPad.
I think the iPad is difficult to use.
I like to have choices when I am writing.
I prefer to use the iPad when writing stories.
I really like writing stories in school.
The iPad helps me to enjoy writing in school.
The iPad helps me with my spelling.

True and false headings for sorting sentences

True	False

Pictures for children to hold up to indicate preferences for use in writing lessons