A Case Study to Evaluate the Effectiveness of Digital Storytelling as a Narrative Writing Tool

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<td>Centre for Digital Storytelling</td>
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<td>DEIS</td>
<td>Delivering Equality of Opportunity in Schools</td>
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<td>DES</td>
<td>Department of Education and Skills</td>
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<tr>
<td>DVD</td>
<td>Digital Versatile Disc</td>
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<td>EAL</td>
<td>English as an Additional Language</td>
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<td>ICT</td>
<td>Information and Communications Technology</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>NCCA</td>
<td>National Council for Curriculum and Assessment</td>
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Declaration

I hereby declare that this is entirely my own work and that it has not been submitted for the award of any other degree at any other grade.

__________________________________

Doireann Garrard
Abstract

This study aims to evaluate the effectiveness of digital storytelling as a narrative writing tool. The case study was conducted with a sixth class group in a primary school in the south west of Ireland. The study also looks at digital storytelling as an example of good practice in the use of Information and Communications Technology.

Both qualitative and quantitative methods of research were employed for the purpose of this study. An evaluation rubric was designed in order to assess the quality of digital stories. Timed observations and focus-group interviews were conducted in order to evaluate the impact of digital storytelling on the children in sixth class.

The findings of the study suggest that the digital storytelling approach can have a positive effect on students, particularly students with Special Needs and English as an Additional Language. In addition, the results indicate that digital storytelling can be used as an effective method of delivering the Curriculum of Ireland. However, the outcomes of the study also suggest that digital storytelling can be a time-consuming activity. The success of the approach can depend on the experience of the teacher in the use of Information and Communications Technology.
Chapter 1: Introduction

1.1 Background to the Study

21st century Ireland is a rapidly changing country and ICT is an integral part of the social, educational, commercial and industrial life of its people (DES, 2010). The European Union have recommended that digital competence is one of the eight key competences for lifelong learning (Council Directive 2006/962/EC). As a result, the Department of Education and Skills have aimed to ensure that all citizens are capable of participating in the digital world (DES, 2010).

The Schools IT 2000 project was launched over a decade ago in order to develop a technology infrastructure in primary and secondary schools. The IT 2000 project succeeded in decreasing the average ratio of computers to pupils to 20:1 (NPADC, 2001). In addition, the internet was installed in 98% of schools (NPADC, 2001). Following the implementation of the IT 2000 project, a further €107.92 million was made available by the DES between 2001 and 2003 to further extend the provision of ICT in schools (DES, 2001).

In a recent report entitled “Investing Effectively in Information and Communication Technology in Schools, 2008-2013”, the DES point out that technology provision is no longer the key priority for investment. Instead, the Government have recognised the need to take advantage of the potential offered by the successful integration of ICT into learning and teaching (DES, 2008). ICT can “invigorate classroom activities and is a powerful motivational tool
that encourages learners to progress in more personalised and self-directed ways” (DES, 2008, p.1).

Between October 2009 and October 2010, incidental inspections were carried out by the DES in order to evaluate the quality of teaching in Literacy and Numeracy in Irish schools. A report was issued in November 2010 and the findings show that ICT is an “underutilised tool in the teaching and learning of English in Irish primary schools” (DES, 2010, p.5). The use of ICT was evident in only 29.6% of English lessons (DES, 2010). As a result, it may be necessary that further opportunities to integrate technology into English lessons are identified.

1.2 Research Topic

1.2.1 Research Question
The purpose of the case study was to examine the use of digital storytelling in the teaching of narrative writing in a primary school. The study aims to investigate the following:

- How effective is digital storytelling in the teaching of narrative writing?
- Is digital storytelling an example of good practice in the use of Information and Communications Technology?
- Does a digital storytelling approach support children with English as an Additional Language?
1.2.2 Research Context

The target population for this project was a sixth class group in an inner-city primary school in the south west of Ireland. There were 22 boys in the class. The research participants were chosen as the researcher is a sixth class teacher in the school and the group were easy to access within the school setting. In addition, the research setting was suitable as the school had an excellent ICT infrastructure and the target population had regular access to a digital media laboratory.

The group was varied and contained pupils with Special Educational Needs and English as an Additional Language. As a result, the researcher could look at the performance of various ability groups and ethnic minorities in the case study.

1.3 Relevance of the Study

According to a survey carried out by the Organisation for Economic Co-operation and Development (OECD), Ireland has slipped down the international rankings in literacy from fifth place in 2000 to seventeenth place in 2009 (Faller, 2011). The sharpest decline among the 39 countries surveyed. In addition, the survey found that 23 per cent of males had achieved an average score in reading which is deemed to be below the standard of literacy needed to participate fully in society (Flynn, 2010). The DES also acknowledge that the literacy skills of Irish students in primary schools have not improved in over
thirty years and as a result, it is necessary to re-examine current practices in order to raise achievement (DES, 2010).

It is important to consider the setting of this case study. The school is classed as Urban Band 1 under the DEIS initiative that was introduced by the Department of Education and Skills in 2005 to tackle educational disadvantage. Standardised Micra-T examinations show that 22.3% of 247 pupils in the school are below the 15th percentile in English reading in comparison to other pupils of the same age in Ireland. A further 8.9% of boys are between the 15th and 25th percentile. All of the 22 participants in this study came from socially-deprived areas where problems such as unemployment, substance abuse and crime are common (Fitzgerald, 2007). In addition, the majority of the target population do not receive academic support from parents and would rarely read at home. As a result, the teaching of English in the research setting is a constant challenge.

Speaking at a forum on “Transforming Education in Ireland”, the Taoiseach, Enda Kenny explained that “new thinking, new ideas and new ways of doing things” could invigorate the education system (Flynn, 2011). This case study was carried out in order to look at digital storytelling as a new approach to narrative writing in the research setting.
1.4 Research Methodology
A case study approach was adapted for the purpose of this study. The researcher chose to undertake a single-case study as the group represented a typical case in an educational setting (Morra Imes, 2009). Qualitative and quantitative methods were used when collecting data. Each participant in the study was required to create a digital story in the style of a personal narrative. A scoring rubric was then completed by a panel of reviewers in order to assess the quality of the digital stories. In addition, observations and focus-group interviews were carried out in order to evaluate the digital storytelling method. The data was then analysed and the triangulation approach was adopted in order to validate the findings.

1.5 Structure of the Research Study
Chapter 1 introduces the research topic and outlines the background to the research. In addition, the relevance and scope of the study is explained.

Chapter 2 outlines the relevant literature in the areas of narrative writing, digital storytelling, technology integration, new media composition and story writing in the Curriculum of Ireland.

Chapter 3 outlines the case study approach that was taken for the purpose of this study. In addition, the benefits and limitations of a case study are outlined.
The research methods that were chosen are also explained. The issues of validity, reliability and triangulation are discussed in relation to this study.

Chapter 4 presents the findings of the case study. The results of the study are outlined in three sections and are based on the research questions. The first part looks at the use of digital storytelling as an effective method of teaching narrative writing. The second part looks at the use of digital storytelling as a technological tool. The final part of the findings looks at the use of digital storytelling to support students with English as an Additional Language.

Chapter 5 outlines the key findings of the study. In addition, the findings are compared and contrasted to the relevant literature. The research questions provide a structure for the chapter. Problems that arose during the study are also identified.

Chapter 6 provides a conclusion to the thesis. The research questions are answered and recommendations for further research in the area of literacy and ICT are identified.
Chapter 2: Literature Review

2.1 Introduction

This case study will aim to evaluate the effectiveness of digital storytelling as a narrative writing tool. In this chapter, a literature review will be carried out in order to analyse the topic and understand the viewpoints of researchers in the area. The literature review will be based around the areas of narrative writing, digital storytelling, technology integration, new media composition and story writing in the Curriculum of Ireland.

2.2 Narrative Writing

According to Chambers, storytelling has been used in the past to create fruitful experiences in learning:

Jesus used it, as did Plato, Confucius, and other great philosophers and teachers... The modern teacher who employs this technique as a teaching tool is using a technique of teaching that has stood the test of time.

(Chambers, 1970, p.43)

Bruner (1990) defines a story, or narrative, as a unique sequence of events or mental states involving human beings as characters. Ricoeur (1981) argues that a story can be real or imaginary where characters are represented in situations where a change or reaction occurs. Changes can:

Reveal hidden aspects of the situations and the characters, giving rise to a new predicament which calls for thought or action or both. The response to this predicament brings the story to its conclusion.

(Ricoeur, 1981, p.277)
Narrative stories are generally driven by the goals of characters. Mc Adams (1997) explains that conflict will typically occur in a story when different characters possess different goals. The author of *All the King’s Men*, Robert Penn Warren, bluntly states: “no conflict, no story” (p.1). He also argues that conflict is at the centre of fiction as it is at the centre of life (Warren, 1986).

2.2.1 The Structure of Narrative Writing

Stein and Policastro (1984) explore the structural elements of the story genre. Their research was carried out on 38 teachers and 42 primary school students in Chicago. A selection of 31 stories was prepared and participants were asked to comment on the organisation and quality of each story. Responses from participants concluded that a story is not considered a story if it does not conform to a set of rules called a ‘story grammar’ (Stein and Policastro, 1984). The story grammar contains six elements: setting, initiating event, internal response, the attempt, consequence and reaction (Stein and Glenn, 1979).

2.2.2 What Makes a Good Story?

Bruner (1990) explains that a ‘good’ story must contain uncertainties and be open to various interpretations by the reader. He also notes that successful stories are “subjunctive” and can be:

Tried on for psychological size, accepted if they fit, rejected if they pinch identity or compete with established commitments (Bruner, 1990, p.54)
A ‘good’ story is a vicarious experience that allows the reader to enter into the world of the story. Lucariello (1990) explains that a good story depends on a departure from conventionality. According to Labov and Waletzky (1967), events included in a story must be unique, strange or unexpected in order to be ‘tellable’. Van Dijk (1976) adds that ‘remarkable events’ are required in a narrative in order to maintain the interest of an audience. He proposes that a ‘tellable’ story must contain one of the following four criteria:

1. Actions performed are difficult.

2. To begin, a predicament is posed where the character has no obvious choice to take between his possible actions.

3. In an otherwise normal sequence of events, unexpected events or unforeseen circumstances occur.

4. The observer becomes exposed to an unusual or strange object, character or event.

(Van Dijk, 1976, p.312)

However, Van Dijk (1976) notes that a story can only be ‘remarkable’ when the author and audience share the same norms of experience and reality.

The ‘tellable’ elements are often evaluated as the point of the story (Ulatowska, 2004). According to Polanyi (1989), narratives:

are told to make a point, to transmit a message—often some sort of moral evaluation or implied critical judgment—about the world that the teller shares with other people (p.12).
The point of a story can seek to instruct, advise, inform or warn the audience about the ways of the world (Hall, 2002).

In addition, the use of humour in a story can be classified as a remarkable experience. Robinson (1981) points out that little consideration is placed on the use of humour in narratives. However, he argues that:

Novelty is important in mitigating the boredom which arises from the predictability of daily life. Stories about certain kinds of remarkable experiences are diverting because they provide vicarious relief from predictability in a way that amuses but does not threaten one's sense of control over daily affairs.

(Robinson, 1981, p.60)

However, a good story does not solely depend on the inclusion of ‘tellable’ events. According to Ulatowska (2004), certain linguistic devices can also be used to maintain the interest of the reader.

2.2.3 The Use of Stylistic Devices in Narrative Writing

The use of direct speech in a narrative can create an involvement between the character and the audience (Tannen, 1989). Details contained in constructed dialogue can allow the reader to create images and imagine a scene (Tannen, 1989). In addition, rhetorical questions can be posed by a character in order to have a persuasive effect on the audience (Black, 1992). According to Chafe (1994), dialogue can add authenticity to a story by the use of exclamations, repetitions and colloquial vocabulary. The reader recognises the significance of speech marks and understands that direct speech is the character’s ‘own’ language (Chatman, 1978). On the other hand, indirect speech is delivered by
the narrator and is used to convey the gist of an event or conversation (Chafe, 1994). Chatman (1978) points out the significance of the narrator in a story as the person or presence actually telling the story to an audience. The author is responsible for creating a narrative that contains a credible balance between dialogue and narration.

In order to create heightened vividness in a text, a shift in tenses may occur in the narrative (Longacre, 1996). In A Tale of Two Cities by Charles Dickens, Sydney Carton takes the place of Charles Darnay in jail. Darnay then flees to Paris with his family. In order to engage the audience at the climax of the story, the narrative suddenly switches from past to present tense thus increasing the vividness and immediacy of the story (Longacre, 1996). The use of repetition in narrative writing can also focus the attention of the listener (Labov, 1972; Merritt, 1994; Johnstone, 1994). When a word or phrase is repeated effectively in a story, the listener is allowed more time to construct meaning, especially if it is reformulated or paraphrased (Merritt, 1994). In the opening paragraph of ‘In Another Country’, Ernest Hemingway uses repetition and juxtaposition of the words ‘cold’, ‘fall’ and ‘wind’ to create a sense of foreboding in the short story based on World War One (Lamb: 2010). Stylistic devices such as repetition and juxtaposition, a shift in tenses, the use of direct and indirect speech can add to the quality of a narrative.
2.2.4 Arguments Against Narratives

Literary theorists such as Bruner, Palmer and Turner place enormous emphasis on the importance of narratives in human lives. For example, Bruner suggests that the narrative form is a method of constituting reality (Bruner, 1991). In addition, Turner proposes that the narrative, or story, is our central instrument of thought. Palmer claims that life-plans are based on the patterns of fairy-tales and that “in a sense we are all novelists” (Palmer, 2004, p.186). Lamarque (2004) also recognises the prominence of narratives in society. However, he argues that narratives are overrated and that theorists are naïve to suggest that all stories succeed in making sense of complex events and are presented in the form of a coherent beginning, middle and end. Tammi (2006) dismisses Bruner’s notion that every story is a representation of life itself. He adds that such broad definitions could stretch the notion of a narrative until it snaps and lead to the loss of its differentiating characteristics.

Lamarque (2006) argues that not every person is capable of writing an interesting narrative. He explains that there “is intrinsic interest in some narratives” (p.393) as they are great literary works that warrant detailed study of plot and structure. However, interest is not created from the fact that these works are mere narratives but that they are literary narratives. Bruner (1994) suggests that life is a ‘spontaneous autobiography’ but not every person possesses the literary skills to create an interesting narrative.
According to Lamarque, the suggestion that ‘we are all novelists’ is not acceptable as:

A narrative must earn the right to be an object of attention; most narratives are ephemeral, insignificant, and in the long term without interest or value.

(p.407)

Therefore, in attempting to write about ourselves and create a good story, it is important to include events that are ‘tellable’ and that an attempt is made to emulate the stylistic devices used by acclaimed novelists such as Hemingway and Dickens.

2.3 Digital Storytelling

Digital storytelling is a modern method of creating and presenting a story using technological tools. Robin (2008) explains that digital storytelling allows computer users to become creative storytellers through the traditional processes of choosing a topic, conducting research and developing an interesting story. The material is then combined with various forms of multimedia, including recorded audio, video clips, computer-generated text and music so that it can be played on a computer, uploaded or burned on a DVD (Robin, 2008).

Various non-linear applications such as Animoto, Photo Peach and Picasa, have become available in recent years to facilitate the creation of digital stories in the classroom (Sadik, 2008). Microsoft Photo Story 3 for Windows is available as a free download of five megabytes. To create a story, children can capture their own photos using a digital camera or downloaded images from a
scanner or the web. Using Microsoft Photo Story 3, students can then import and edit their photos, insert titles, record narration and add background music. In addition, children can choose to use the editing technique called ‘the Ken Burns effect’ to pan and zoom across an image. The filmmaker, Ken Burns, believes the photograph is the essential building block at the core of visual storytelling and conveys a moment that was once alive (Mc Combs, 2003). By adding movement to a photograph, the eye is being guided towards the meaning. Burns explains that:

At times you want to move in a slow and deliberate way that reveals something new — that’s telling a story, right? (Mc Combs, 2003, [online])

Ohler (2006) explains that digital stories can often become weak and overpowered if the power of technology becomes more important than the power of the story.

2.3.1 Digital Storytelling: A Background

The digital storytelling movement began at the University of California in 1994 when a small group of visual artists, performers, designers and videographers became interested in fostering the production of personal stories on the World Wide Web (Fletcher and Cambre, 2009). The Centre for Digital Storytelling (CDS) was then established by members of this group, with Joe Lambert and Dana Atchey as co-founders. Since its foundation, the CDS has provided training workshops and seminars to those interested in creating and sharing their personal narratives (Robin, 2008). Lambert and Atchey believed that the
‘digital story’ could give ordinary people the opportunity “to capture their story in a relatively short amount of time for a relatively small amount of money” (Tucker, 2006, p.3). To begin, the digital story was primarily used to create personal narratives that document significant events in the life of the author. However, Robin (2008) points out that digital storytelling can also be used as a powerful tool in the classroom to produce historical documentaries as well as instructional presentations that inform viewers about a concept or practice.

2.3.2 The Seven Steps of Digital Storytelling

In his CDS training workshops, Lambert explains to participants that a digital story should be a focussed and meaningful piece of personal writing. He points out that storytellers should be aware of “what makes a story a digital story and what makes a digital story a good digital story” (Lambert, 2010, p.29). Lambert outlines the process of creating a digital story in seven steps:

- **Step 1: Owning Your Insights**

  To start the process, the storyteller is encouraged to think about the subject of their story. A period of self-reflection is required in order to think about significant events from the past. Storytellers are encouraged to think about their deepest insights and the following questions are asked: Why this story? What makes it your version of the story? Who is your audience? How does the story show who you are?
Step 2: Owning Your Emotions

Storytellers are then required to identify the emotional content of the story and are asked: As you shared your story idea, what emotions did you experience and at what point in the story? How can the emotional content be conveyed to the audience? However, Lambert (2010) warns that a story should not be loaded with emotion as it is read as dishonesty. Likewise, a story that lacks emotion or conflict will struggle to connect with the audience.

Step 3: Finding the Moment

The digital story should focus on a single moment of change in the life of the storyteller. To identify this moment, storytellers are asked: What was the moment when things changed? Were you aware of it at the time? Is there more than one moment to choose from? Lambert (2010) explains that a compelling storyteller will build a scene to share their insight with the audience. However, brevity is a feature of the digital story where stories are expected to be between three and five minutes in length (Sadik, 2008; Hiver, 2009; Lambert, 2010). As a result, storytellers are encouraged to select a scene that is ‘tellable’ and will contribute to the overall effectiveness of the story.

Step 4: Seeing Your Story

Digital storytelling allows the author to express ideas using visual images. Storytellers are encouraged to “see” their story and to choose images to accompany the narrative. According to Lambert (2010), explicit imagery can be
used to convey important details or to set the scene of a story. In contrast, *visual metaphors* can be used to create additional layers of meaning for the audience.

The digital storyteller can choose to use internet images, photographs and drawings to create a visual narrative. However, Lambert (2010) points out that the integrity of the story can be compromised when “images grabbed from an internet search” (p.39) are used as a quick solution.

- *Step 5: Hearing Your Story*

The recorded voice can be used to convey the emotional quality of the story. The narrator can create a connection with the audience through the effective use of pitch, inflection and timbre in the voice (Sylvestre and Greenidge, 2009). Additional layers of ambient sound and music can then be added to the voiceover. However, Lambert (2010) notes that the recorded voice as the only audio track can be extremely effective. As a result, storytellers are asked to consider if the use of music as background is enhancing or detracting from the story.

- *Step 6: Assembling Your Story*

It is necessary for the storyteller to create a storyboard in order to achieve the correct balance between the audio, visual and narrative layers of the story. In addition, the storyteller will need to decide on the structure of the story and consider the placing of the *moment of change* in the narrative. Lambert (2010)
advises that only relevant pieces of information are included in a good digital story and that “the joy of storytelling comes in determining how much to tell them and at what point” (p.42).

The presentation of information in a digital story should be economical and allow the audience to make their own connections without being overloaded with content (Sylvester and Greenidge, 2009; Robin, 2008; Lambert, 2010). In a good digital story, the script will complement the audio-visual elements of the story and will have a word count of only 250-375 words. It is also recommended that fewer than twenty images are used. Lambert (2010) explains that this “creative limitation” (p.44) will encourage the storyteller to be succinct and to focus specifically on relevant details when assembling the story.

• **Step 7: Sharing Your Story**

Before the digital story is shared, it is necessary for the storyteller to consider the audience: *Who is the audience? How will your presentation be viewed? Will the story be presented online or to a group of people?* (Lambert, 2010). In considering the audience, the creator of the digital story may need to contextualise the information contained in the story in order to engage the audience (Hull and Katz, 2006; Lambert, 2010). In their research based in a socially disadvantaged neighbourhood in California, Hull and Katz (2006) outline the perceptiveness of a 13-year-old girl called Dara who was aware of the needs and knowledge of her adult audience. As a result, she realises that the
phrase, “to cut an album” may not be understood and changes it to “made their first album” in order to facilitate understanding (Hull and Katz, 2006).

The CDS model of digital storytelling also provides an opportunity for storytellers to speak before the story is screened in order to provide a background to the narrative (Lambert, 2010). Digital stories that are shared online by the Centre for Digital Storytelling (http://www.storycenter.org/stories) are accompanied by a short description of the story and the following questions: Tell us a little about yourself. Why did you choose this story to tell? Have you changed as a result of telling this story? [online]. The Seven Steps outlined above provide a practical outline for the creation of a good digital story. Robin (2008) and Ohler (2006) have also produced similar models. In order to evaluate the use of digital storytelling as a learning tool, it is necessary to examine the theoretical framework that surrounds the genre.

2.3.3 Digital Storytelling in the Classroom

According to Sadik (2008), the use of digital storytelling in the classroom is an example of “meaningful technology integration” (Sadik, 2008, p.488). Jonassen et al (1999) explain that the use of technology can be meaningful when tasks are designed to help learners to construct their own meanings and think about their experiences. This allows for more interdisciplinary project-based instruction (Jonassen et al, 1999). Harris (2005) adds that technology can be
used effectively when students are given the opportunity to select technology tools in order to obtain information, analyse and synthesise the information and present it professionally. According to Hull, Katz (2006) and Sadik (2008), digital storytelling allows students to make use of multimedia tools in order to create a personal narrative and become active participants in their learning.

2.3.4 Digital Storytelling: A Theoretical Framework

The use of digital storytelling in the classroom can facilitate a constructivist approach to learning. Constructivists, such as Piaget, Baldwin and Niesser, believe that the student is an “active” organism and is always “engaging, grappling and seeking to make sense of things” (Duffy and Jonassen, 1992, p.49). In contrast to the principles of behaviourism, students are not just absorbing ideas spoken at them by teachers (Strommen and Lincoln, 1992). Philips (1995) points out that there are a wide variety of sects within constructivism. Piaget and Vygotsky are concerned with how the individual learner goes about the construction of knowledge in his or her own cognitive processes (Philips, 1995). On the other hand, Nelson (1993) believes that the senses are the basis of intellectual development and the social interactions of the child are essential to the construction of knowledge.

Cunningham and Duffy (1996) recognise the diversity of thought within constructivist theory. However, they summarise the two main ideas:
1. Learning is an active process of constructing rather than acquiring knowledge.

2. Instruction is a process of supporting that construction rather than communicating knowledge.
   
   (Cunningham and Duffy, 1996, [online])

According to the principles of constructivism, the teacher serves as a facilitator of learning rather than the sole giver of knowledge (Schulz-Zander et al, 2002). Jonassen and Duffy (1992) add that typical constructivist instruction asks learners to manage their own tasks. However, they explain that students can often struggle to perform in a constructivist learning situation if a task is highly complex or the learner is unused to working independently. As a result, it is necessary for the constructivist teacher to hold the learner in the “zone of proximal development” (ZPD). Vygotsky (1978) defines the concept of the ZPD as:

   the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers.
   
   (Vygotsky, 1978, p.86)

According to Vygotsky (1978), the teacher is responsible for providing an appropriate amount of help and guidance called “scaffolding” in order to assist the learner. However, in order to ensure that technology is used effectively in a constructivist environment, it is necessary that the teacher possesses the expertise to organise and support the learning process (Duffy and Jonassen, 1992).
2.3.5 Technological Pedagogical Content Knowledge (TPCK)

Research has indicated the need for a theoretical framework to evaluate the effectiveness of technology in the classroom (Robin, 2008). The idea of pedagogical content knowledge (PCK) was first introduced by Shulman (1987). He proposed that content knowledge and knowledge of pedagogy could no longer exist as separate entities. Shulman (1987) defines pedagogical content knowledge as:

the blending of content and pedagogy into an understanding of how particular topics, problems or issues are organised, represented and adapted to diverse interests and abilities of learners, and presented for instruction.

(Shulman, 1987, p.8)

Mishra and Koehler (2006) expand on the notion of PCK to the idea of technological pedagogical content knowledge as illustrated below:

![Figure 2.1: The TPCK Framework (Mishra and Koehler, 2006)]
The framework outlines the interconnectivity between content, pedagogy and technology (Robin, 2008). Mishra and Koehler (2006) explain that TPCK is the basis of good teaching with technology. It requires an:

an understanding of the representation of concepts using technologies; pedagogical techniques that use technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face.

(Mishra and Koehler, 2006, p.1029)

However, Mishra and Koehler (2006) acknowledge that the TPCK framework is just a starting point and will require further investigation and testing.

2.3.6 Implications of TPCK and Digital Storytelling

The TPCK framework encourages educators to reflect on new technologies and consider their influence on existing classroom practice (Hicks, 2006). Sylvester and Greenidge (2009) explain that digital storytelling can allow the teacher to promote the use of a range of new literacies in the classroom. Hull (2003) adds that there is an urgent need for educators to expand their conceptions of what it means to be literate in the twenty-first century. Students are learning and living in a digital world and are expected to use multiliteracies (Sylvester and Greenidge, 2009). In creating a digital story, students are learning to employ new literacy skills such as:

- Digital Literacy – the ability to communicate with a web community, gather information and seek help.
- Global Literacy – the capacity to read, interpret and respond to messages in a global context.
• Technology Literacy – the ability to use computers and other technologies to improve learning and productivity.
• Visual Literacy – the capacity to understand, produce and communicate through visual images.
• Information Literacy – the ability to find, evaluate and synthesise information.

(Robin, 2008, p.224)

Hull (2003) suggests that the digital story is a new form of writing for the digital age that allows students to become familiar with a range of communicative tools, modes and media.

2.4 Evolving Conceptions of Writing

Swenson et al (2006) argue that the essay is the only form of writing that is traditionally recognised or “counts” in the classroom. Heilker (1996) adds that the formulaic structure of the essay can encourage students not to think creatively or innovatively as they are learning to write in a clear, linear and orderly fashion. According to Swenson et al (2006), children are asked to write in the form of an essay more often than newer genres such as a blog. As a result, educators are encouraging students towards a specific type of rhetoric that may not be useful beyond school settings (Berlin, 1988). Kress (2003) points out that in the age of technology, some fundamental changes are inevitable as far as the functions and uses of writing are concerned. He argues that the screen has replaced the paper and pen as the dominant mode of
communication and as a result, multimodality has become more prevalent in
society (Kress, 2003).

2.4.1 Using Newer Technologies to Compose

Vasudevan et al (2010) point out that students are creating social networking
profiles, designing virtual world avatars and producing and sharing multimedia
texts outside of school (Vasudevan et al, 2010). As a result, pupils do not need
to be ‘invited’ to compose using newer technologies as they are already doing

Young people today live media-saturated lives, spending an average of nearly 6.5
hours a day with media. Across the seven days of the week, that amount is the
equivalent of a full-time job, with a few hours thrown in for overtime (44.5 hours a
week).

(p.6)

They add that young people are proficient in multitasking:

Indeed, given that a quarter (26%) of the time young people are using media, they’re
using more than one medium at a time (reading and listening to music, for example),
they are actually exposed to the equivalent of 8.5 hours a day of media content, even
though they pack that into less than 6.5 hours of time.

(Roberts, Foehr and Rideout, 2005, p.6)

Prensky (2001) maintains that a new generation of students called ‘digital
natives’ are entering the educational system. These pupils have been immersed
in technology all their lives and he suggests that our current educational system
must fundamentally change in order to accommodate the skills and interests of
the ‘digital natives’ (Prensky, 2001; Tapscott, 1998). However, Bennett et al
(2008) argue that claims made by Prensky regarding ‘digital natives’ are
dramatic and have been subjected to “little critical scrutiny, are undertheorised,
and lack a sound empirical basis” (p.776). In addition, Bennett et al (2008) point out there is little evidence to support the notion that children are disengaged (Prensky, 2005) or disappointed (Oblinger and Oblinger, 2003) in our current educational system. It is certain that ‘digital natives’ may do things differently and that technology can support effective learning but there are no grounds to suggest that schools are becoming out-dated and obsolete institutions for learners (Bennett et al, 2008).

2.4.2 Digital Storytelling: Evolution or Revolution?

Research indicates that is necessary for children to be experienced in a new range of literacy skills in order to fully participate in the globalized world (Hull, 2003; Sylvester and Greenidge, 2009). Nonetheless, Myers (2006) explains that children cannot become proficient in newer genres such as the digital story, blog or wiki without prior knowledge of older forms of writing. New literacies are in a “synergistic, reciprocal and constantly evolving relationship with older literacies” (Swenson et al, 2006). According to Ohler (2006), digital storytelling is an evolution of narrative writing where multimedia tools are used to enhance a story. As an acclaimed teacher of digital storytelling, Ohler (2006) points out that the writing process is the most important element of a good digital story. However, he adds that students can often focus on creating a technical event at the expense of the story (Ohler, 2006). It is the responsibility of the teacher to ensure that students will focus on the story first and the digital medium later (Bull and Kajder, 2004).
2.4.3 Why Are Students Engaged by New Media Composition?

New technologies can motivate students to become more fully engaged in literary practices (Vasudevan et al., 2010). In a qualitative study carried out in two Egyptian schools, it was observed that students were increasingly motivated when using technology to compose and had enjoyed using digital cameras, web resources and editing tools to create stories (Sadik, 2008). In addition, it was reported that *Photo Story 3* had been easy to navigate and had allowed students to become active participants in their own learning (Sadik, 2008). Research indicates that new media composition can also facilitate the range of talents that students bring with them into the classroom, talents often associated with Gardner’s (1983) “multiple intelligences” (Swenson et al., 2006). Ohler (2006) points out that digital storytelling can utilise skills in art, media production, storytelling and project management that may otherwise lie dormant within many students. According to Wheeler *et al.* (2002), the use of technology can enable children to have a ‘hands-on’ facility where they can feel active in their learning. In addition, they add that motivation is a key factor for stimulating creative performance (Wheeler *et al.*, 2002; Passey *et al.*, 2003).

Students with Special Educational Needs can be further encouraged to write through the use of digital stories. In their research based in a primary school, Sylvester and Greenidge (2009) report that digital storytelling has the capacity to motivate and support struggling writers. They outline the cases of Kyle, Ray and Colleen who are between nine and ten years old. Kyle is very artistic and
does not hesitate to begin a writing task but finds it difficult to edit and improve his work. Ray finds it difficult to generate ideas in order to begin writing and rarely completes his work. Colleen is an expressive reader and has creative ideas but struggles to present her ideas in a logical sequence. In addition, her illegible handwriting effects the presentation of her stories. Sylvester and Greenidge (2009) point out that learners like Kyle can employ their artistic ability in creating illustrations for digital story. In addition, children like Kyle are motivated to improve and edit their writing as the digital story would be viewed by classmates. Students like Ray and Colleen can benefit from the process of creating a storyboard in order to visualise their stories and support plot development. Also, for students like Colleen, the digital story removes the handwriting obstacle and as a result, children are given the opportunity to share their story using their own voice (Sylvester and Greenidge, 2009).

In addition, children with English as an Additional Language can be given further opportunities to participate in class using new technologies. Research carried out by Columbia University in a multiracial urban school in New York indicates that recent immigrants would rarely contribute in class. However, the introduction of digital storytelling as a composing tool gave children who were relatively new to learning English the opportunity to publically share their stories (Vasudevan et al, 2010). In the same school, it was reported that the use of the personal narrative in the digital story had allowed unmotivated students to become more deeply engaged in the writing process as they were drawing on
their knowledge and experience of their home communities to tell new stories (Vasudevan et al., 2010). As a result, the introduction of new composing tools can instil confidence in struggling writers and increase their literate identity within the class (Sylvester and Greenidge, 2009; Vasudevan et al., 2010; Ohler, 2006).

2.4.4 Concerns Regarding the Use of Digital Storytelling in the Classroom

Current research indicates that students like to compose using multimedia and that digital storytelling can cause students to further engage in literary practices (Hull and Katz, 2006; Vasudevan et al., 2010). Yet, there is little academic research to prove that digital storytelling can improve standards of literacy in the classroom. Through their research in Canada, Fletcher and Cambre (2009) acknowledge the widespread use of digital storytelling in a number of schools. However, they suggest that in the absence of critical assessment, there is a possibility that digital storytelling could be “a technological gimmick destined for oblivion” (p.114). Similarly, a major study was carried out in 2007 by the Department of Education in the United States. 9400 children were surveyed in 132 primary schools. The study focussed on the impact of educational technology on the academic achievement of children in Literacy and Mathematics. The report concluded that there were “no significant differences in student achievement between the classrooms that used technology and classrooms that did not” (US Department of Education, 2007, p.1). However, Robin (2008) points out that many teachers involved in the study were using
drill-and-practice software instead of constructivist tools such as digital storytelling. As a result, Robin (2008) suggests that further research is needed to assess the benefits of multimedia and digital storytelling in particular.

Snyder (2002) explains that there are risks associated with new media writing in the classroom. Newer forms of composition can often link sound, graphics and text and are often referred to as superficial or *pastiche* (Snyder, 2002). In addition, Johnson-Eilola (1997) explains that multimedia writing can often lack depth and reflection and as a result, students are encouraged to engage in “surface living”. According to Johnson-Eilola (1997):

> We experience things not at depth but on the surface; not a slow accretion, but an everything all-at-once shout. We do not pass tales linearly, but experience them multiply, simultaneously, across global communication networks.  
>  
> (p.185)

Swenson *et al* (2006) point out that it is a risk to encourage teachers towards new media composition when subjects can be treated superficially or dismissively. They add that good “writing” is not a matter of laying down tracks to a popular song and allowing a program to add pictures and transitions (Swenson *et al*, 2006). As a result, Kress (2003) explains that tools like digital storytelling can only be used effectively in the classroom when educators are trained to understand the “grammars” of new media.
2.5 Development of Story Writing in Children

Stories allow people to make sense of themselves and the world (Shannon, 1995). According to Brown (1977), stories are used “to make an entity of experience; to give our experience form and balance; to make generalizations about the world” (p.357). Through her widely recognised study of language development, Ruth Weir suggests that children can begin to develop a sense of story at the age of two and a half (Weir, 1962). In his study of story development in children, Applebee (1973) found that children become increasingly aware of formal story structures as they get older. At the age of two, a child begins to use the past tense and by the age of five, most children can use story beginnings such as ‘once upon a time’. (Applebee, 1973). By the age of five, children can also recognise that a story is a sequence of events that is linked together by a central character (Brown, 1977). Between the ages of five and nine, children begin to develop a firm sense of ‘fact’ or ‘fiction’ in stories and can explain their expectations of characters like lions, witches and fairies (Applebee, 1973). By the end of primary school, most children have developed the ability to:

- Purposefully impose a structure on events
- Compose a language entity with a theme which makes some evaluation of experience
- Finish a story with a suitable sense of completion.

(Brown, 1977, p.358)
However, research suggests that there is a correlation between reading and writing ability (Fitzgerald and Shanahan, 2000). In his research based in a socially disadvantaged school, Juel (1988) points out that poor readers who have had little experience of reading at home will struggle to generate ideas and write a good story. On the other hand, good readers will read more frequently and have experienced more ideas and vocabulary that can be included in their writing (Juel, 1988).

2.5.1 The Development of Story Writing Skills in the Curriculum of Ireland (1999)

In order to examine the development of story writing in Irish children, it is necessary to refer to the curriculum document. The revised Primary School Curriculum was introduced in 1999 by the National Council for Curriculum and Assessment (NCCA). According to the Education Act (1998), schools are required to deliver the curriculum in order to fulfil the educational needs of all children. The revised curriculum was designed in order to incorporate current educational thinking and the most effective pedagogical practices (Department of Education and Science, 1999). In the document, particular emphasis is placed on the acquisition of literacy skills in the classroom, as language learning is highlighted as a central factor in the development of the child (DES, 1999). As a result, the English language programme aims to enhance the ability of a child to use language as a speaker, reader or writer. On the other hand, the English curriculum is also designed to develop cognitive abilities and the
capacity of a child to express emotion and imagination through language (DES, 1999).

The curriculum recognises the importance of reading, writing and oral language in the development of literacy skills. In addition, the acquisition of language is described as an “integrated process” (DES, 1999, [online]) where the close connection between competence in reading and proficiency in writing is acknowledged. According to the document, writing can play a crucial role in a child’s language development:

The ability to write clearly and expressively provides him/her with a skill that can greatly enhance personal, social and vocational experience. Furthermore, through the process of expressing thoughts and feelings he/she can clarify concepts and emotions. (DES, 1999, [online])

In the curriculum, consistent experience of writing stories is recommended for every child (DES, 1999). The document also ensures that children learn to write a story in various stages. First, infant classes are required to “draw and write stories” (DES, 1999, [online]) while first and second classes are taught to create a story using words, phrases and sentences. By third and fourth class, children are expected to “give sequence to ideas and events in stories” (DES, 1999, [online]) and are also encouraged to redraft a piece of writing in order to make improvements. Finally, students at the end of primary school should be able to write independently and create a well-structured story that contains imagination and elaborate description.
2.5.2 Digital Storytelling and the Curriculum

In 2004, a review of the Primary School Curriculum was carried out on 719 teachers by the NCCA. The review indicated that 75% of teachers were using Information and Communications Technologies (ICT) to support the English Curriculum (NCCA, 2005). However, the findings of the report indicated that the use of ICT in English was generally restricted to “typing up or transcribing children’s written work” (NCCA, 2005, [online]). In addition, ICT was rarely used for research purposes or to enhance creativity (NCCA, 2005). As a result, the NCCA recommended that the potential of ICT to support the aims and objectives of the English curriculum should be further developed in schools (NCCA, 2005). Newer technologies, such as digital storytelling, could be used to “invigorate classroom activities” across the English curriculum (DES, 2008). In creating a digital story, the curriculum states that a child in fifth or sixth class has the opportunity to:

- See his/her writing valued
- Choose a form and quality of presentation appropriate to the audience
- Develop skills in the use of ICT
- Analyse in writing his/her reactions to personal experiences
- Write for a particular purpose and audience
- Develop individuality as a reader by experiencing success
- Write independently through a process of drafting, revising, editing and publishing.

(DES, 1995, [online])
In a report entitled “Investing Effectively in Information and Communication Technology in Schools, 2008-2013”, the Department of Education and Science point out that technology provision in schools is no longer the key priority for investment. Instead, the DES is promoting the integration of ICT across the curriculum. As a result, €17.7 million will be provided for teacher training and €7.7 million will be made available to fund innovative practice and research by 2013 (DES, 2008).

2.5.3 Concerns with Current Practice in Schools

According to a survey carried out by the Organisation for Economic Co-operation and Development (OECD), Ireland has slipped down the international rankings in literacy from fifth place in 2000 to seventeenth place in 2009 (Faller, 2011). The sharpest decline among the 39 countries surveyed. In addition, the survey found that 23 per cent of males had achieved an average score in reading which is deemed to be below the standard of literacy needed to participate fully in society (Flynn, 2010). In response to the survey, the DES indicated that the increase in migrant children and the greater inclusion of children with special needs could explain the rapid decline in literacy standards (Flynn, 2010). However, the DES also acknowledge that the literacy skills of Irish students in primary schools have not improved in over thirty years and as a result, it is necessary to re-examine current practices in order to raise achievement (DES, 2010). Speaking at a forum on “Transforming Education in Ireland”, the Taoiseach, Enda Kenny highlighted the need for curricular reforms.
and explained that “new thinking, new ideas and new ways of doing things” could invigorate the education system (Flynn, 2011).

2.6 Conclusion

A number of themes have been highlighted by the findings of the literature review. Research suggests that:

- A good story is well-structured and contains a story grammar.
- The digital storytelling approach can satisfy the requirements of the curriculum.
- Digital storytelling can support struggling writers and students with EAL.
- The TPCK model is a theoretical framework that could be used to evaluate the effectiveness of technology in the classroom.
- Digital storytelling could be an example of good technology integration.
- Digital storytelling could be a technological gimmick.

The themes identified in the literature review will provide an assessment focus for this research.
Chapter 3: Methodology

3.1 Introduction

Chapter three will outline the purpose of the study and the research problem that is used as a focus of the study. Silverman (2000) explains that an effective methodology chapter will describe the following:

- The data that was studied.
- How the data was obtained?
- What claims are made about the data? (for example, a case study or representative of population)
- The methods that were used to gather the data.
- Why the research methods were chosen?
- How the data was analysed?
- The advantages and limitations of the methods of data analysis.

Having reviewed the advice of Bassey (1999) and Ormond and Leedy (2001), the researcher has opted to use the guidelines created by Silverman (2000) in order to outline the research strategy, design and methods.

3.2 Research Problem/Question

The purpose of the study is to examine the use of digital storytelling in the teaching of narrative writing in a primary school. Having completed a review of the relevant literature, the study aimed to investigate the following:
• How effective is digital storytelling in the teaching of narrative writing?
• Is digital storytelling an example of good practice in the use of Information and Communications Technology?
• Does a digital storytelling approach support children with English as an Additional Language?

3.3 Research Setting

3.3.1 Physical Setting

The physical setting for a part of the study was the classroom of the researcher. The classroom is brightly painted and is rectangular in shape. The classroom has a DELL laptop that is used in conjunction with the Inter Write interactive whiteboard which was installed in 2009. A broadband connection is available in the classroom.

The language laboratory was also used during the course of the study. The facility was established in 2008 in order to support senior classes in the school. It contains thirteen computers that are arranged around the walls of the room. Students are facing the walls. Headsets are attached to each computer. In addition, an Inter Write interactive whiteboard is also present in the room.
3.3.2 Target Population

The target population for this project was a sixth class group in an inner-city primary school in the south west of Ireland. There are 22 boys in the class. The school is classed as Urban Band 1 under the DEIS (Delivering Equality of Opportunity in Schools) initiative. The majority of children are from socially deprived backgrounds and do not have access to computers at home. However, frequent access and support in ICT is provided for students at school. The target population was chosen as the researcher is a sixth class teacher in the school and the group were easy to access within the school setting.

3.4 Research Approach

3.4.1 Historical Background of Research Approaches

The term ‘action research’ originated in the United States where, from the 1920s onwards, there was a growing interest in the study of social and educational problems (Wallace, 1987). The social psychologist, Kurt Lewin is credited with devising the action research method in 1946. Lewin believed that action research could be carried out using a spiral approach, where a hypothetical solution to a problem is formulated and tested, its level of success is observed and the proposed solution is reformulated as a result of this (Hammersley, 2004).

Action research became evident in the field of education in the middle of the twentieth century. However, the principles of action research were quickly
rejected by the positivistic culture that dominated social sciences in the 1940s (Carr, 2006). According to the principles of positivism, action research could not be used as a legitimate form of social research as quantitative methods were not employed for the collection and analysis of data (Carr, 2006). As a result, action research went into rapid decline by the end of the 1950s (Hammersley, 2004).

However, the notion of action research in the field of education was reinvented by Lawrence Stenhouse, John Elliott and others in Britain in the early 1970s (Carr, 2006). On this occasion, the concept of ‘teacher as researcher’ was promoted (Stenhouse, 1975; Elliot, 1991). According to Elliott (1998), a reformulated version of Lewin’s action research method would allow teachers to test curriculum policies and developments in their own classroom in order to improve pedagogical practice. The Classroom Action Research Network (CARN) was established by Stenhouse and Elliot in 1976 in order to encourage action research and create a global network of classroom researchers (CARN, 2007).

The case study method was introduced by Frederic Le Play in France at the beginning of the nineteenth century (Gerring, 2007). At the beginning of the twentieth century in the United States, the ‘Chicago School’ was formed by scholars like Anderson and Burgess in order to carry out case study research on groups of immigrants in the city of Chicago (Gerring, 2007). However, in 1935,
a public dispute began and a group of professors from Columbia University began to discredit the work of the Chicago School as their research approaches seemed less rigorous and not scientific (Lichtman, 2006). Consequently, the Columbia view became predominant among researchers and a decline occurred in the use of case study research (Tellis, 1997). However, in the 1960s, researchers became concerned with the limitations of quantitative methods (Tellis, 1997). As a result, publications like the ‘Discovery of Grounded Theory’ by Strauss and Glaser caused a renewed interest in the case study as a research approach (Tellis, 1997).

3.4.2  Action Research: A Definition

Action research is defined as a type of applied research that “focuses on finding a solution to a local problem in a local setting” (Leedy and Ormrod, 2001, p.114). According to Waters-Adam (2006), action research is a form of enquiry that is undertaken by participants who are “carrying out their professional actions from day to day” [online]. Carr and Kemmis (1986) explain that this type of research is undertaken by participants in order to improve the rationality and understanding of their own practices and the settings in which the practices are carried out. The aim of the action research approach is to generate knowledge about a project and as a result of this, to adjust or change the project on an ongoing basis (May, 2001).
3.4.3 Case Study Research: A Definition

Cohen and Manion (1989) explain that a case study is typically used to observe the characteristics of an individual unit – a child, a clique, a school or a community. They add that the purpose of a case study is to thoroughly analyse the different phenomena that operate within the life-cycle of a unit with a view to making generalisations about the wider population to which that unit belongs (Cohen and Manion, 1989).

Yin (2009) points out that there are variations within the case study method. According to Stenhouse (1988), there are four styles of case study: ethnographic, evaluative, educational and action research case studies. In addition, researchers can often focus on a single or multiple case studies (Leedy and Ormrod, 2001). Creswell (2007) categorises the case study method as a form of qualitative research. However, both Sturman (1994) and Yin (2009) argue that a case study can be carried out using both qualitative and quantitative methods.

As the leading exponent in case study research, Yin (2009) argues that a case study should be defined in two parts. The first part deals with the scope of a case study:

1. A case study is an empirical enquiry that:
   - investigates a contemporary phenomenon in depth and within its real-life context, especially when
Yin (2009) explains that a case study method can be used because the researcher wants to understand a real-life situation but such understanding includes significant contextual conditions. In the second part of the definition, Yin (2009) highlights the importance of the technical aspects of a case study:

2. The case study enquiry:
   - copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result
   - relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result
   - benefits from the prior development of theoretical propositions to guide data collection and analysis.

Yin (2009) explains that the two-part definition shows how the practice of case study research is an “all-compassing method” covering the logic of design, data collection methods and particular approaches to data analysis (p.18).

In his definition of a case study, Kemmis (1980) outlines the role of the researcher in the research. He points out that “s/he is not an automaton shorn of human interests and programmed to execute a design devoid of socio-political
consequences” (p.119-120). The researcher is involved in creating a research problem, conducting the investigation and the interpretation of the study. As a result, Kemmis (1980) explains that knowledge can only be achieved if the researcher is objective and can carry out the study with “caution, rigour and compassion” (p.119-120). Therefore, the success of a case study depends on the researcher being able to justify his/her actions in terms of truth and social accountability (Kemmis, 1980). The unique characteristic of a case study is in proving to others that the researcher is a “knowledgeable observer-participant who tells what he/she sees” (p.119-120).

3.4.4 Justifying a Case Study Research

Having reviewed the relevant literature, the researcher has chosen to conduct a case study in order to investigate the topic. Yin (2009) explains that is necessary for the researcher to appreciate the advantages and disadvantages of different research methods before a case study approach is deemed appropriate. The five major research methods in the social sciences are experiments, surveys, archival analyses, histories and case studies (Yin, 2009). Each method aims to explain, explore or describe a topic. However, case study research is most suitable when:

- A “how” or “why” question is being asked about
- a contemporary set of events,
- over which the investigator has little or no control.

(Yin, 2009, p.14)
In addition, the researcher may be predisposed to favour a particular method. If so, it is important to create the form of research questions that match the preferred method (Yin, 2009).

A case study approach was chosen for the purpose of this study as the research questions were mainly focussed on “how” and “why” (Morra Imes, 2009). For example, “how effective is digital storytelling in the teaching of narrative writing?” In addition, a case study was conducted as the research examines contemporary events in a primary school. In comparison to the history method of research, a case study can include interviews of the people involved and direct observation of events (Yin, 2009). Experiments are done when a researcher can manipulate behaviour “directly, precisely and systemically” (Yin, 2009, p.11). In contrast, a case study is carried out in order to retain the holistic and meaningful characteristics of real-life events (Morra Imes, 2009).

The target population for this study was a group of sixth class students in a primary school. The researcher chose to undertake a single-case study as the group represented a typical case in an educational setting (Morra Imes, 2009). In addition, time constraints can apply to research in a school setting. As a result, it is advantageous that the target population are familiar to the researcher and are easily accessible.
3.4.5 Limitations of Case Study Research

Case study research can be an effective method of social science research however it is important to understand its limitations. Stake (1995) argues that a case study can seem a “poor basis for generalisation” (p.7) and that “the real business of case study is particularization”. As a result, Stake (1995) suggests that the term petites généralisations is used for general statements that are made within the study. He also introduced the term grandes généralisations that could be used to describe general statements about issues of which the case is one example. Stake (1995) points out that instead of making grande généralisations, case study researchers can draw their own conclusions in the form of assertions. According to Stake (1995), assertions can be drawn from deep within us and may be a hidden mix of personal experience, scholarship and the views of other researchers. As a result, he explains that case study researchers can often fail to make clear the speculative nature of their assertion and can overstate their findings.

3.5 Data Collection Tools

3.5.1 Introduction to Research Methods

There are three types of approaches used when collecting data: qualitative, quantitative and mixed methods.

Qualitative research is a means of “exploring and understanding the meaning individuals or groups ascribe to a social or human problem” (Creswell, 2007,
The qualitative approach is influenced by the philosophical beliefs of constructivism and interpretivism. The process of research involves emerging questions and procedures and the data is typically collected in the participant’s setting (Creswell, 2007). Qualitative researchers use an inductive style of reasoning that allows the researcher to make specific observations in order to gain a deeper understanding of social phenomena (Silverman, 2000). Qualitative data can be collected using approaches such as in-depth interviews, observations and the analysis of material such as diaries, letters, film and photographs (Merriam, 1998; Quinn Patton 2002; Creswell, 2007).

Quantitative research is used to “answer questions about relationships among measured variables with the purpose of explaining, predicting and controlling phenomena” (Leedy and Ormrod, 2001, p.101). This type of research represents the positivist or scientific tradition. Quantitative research is a means of testing a specific hypothesis (Leedy and Ormrod, 2001). The researcher will isolate the variables to be tested and will use a standardised procedure to collect the data. Statistical procedures are then used to analyse and draw conclusions from the data (Creswell, 2007). Quantitative researchers tend to rely on deductive reasoning and will simply aim to produce a set of cumulative generalisations (Silverman, 2000). Experiments, official statistics, structured observations and social surveys can be used to collect to quantitative data (Bryman, 1998, p.11)
According to Yin (2009), increasing attention is being given to mixed methods research within the social sciences. Mixed methods research is:

a class of research where the researcher mixes or combines the quantitative and qualitative research techniques, methods, approaches, concepts or language in a single study.

(Johnson and Onwuegbuzie, p.17)

Pragmatism provides a philosophical underpinning for mixed methods research. Pragmatists such as Rorty, Murphy and Patton believe that instead of focusing on methods, researchers emphasise the research problem and use all approaches to solve the problem (Creswell, 2007). According to Yin (2009), mixed methods research can allow the researcher to address broader research questions and collect a richer array of evidence than can be achieved by any single method.

3.5.2 Evaluation Rubric

The purpose of the study is to evaluate the effectiveness of digital storytelling in the teaching of narrative writing. According to Sadik (2008), it is appropriate to use an assessment instrument, such as a scoring rubric, in order to evaluate ICT-based learning projects. A scoring rubric is a quantitative method of research and is defined as:

type of matrix that provides scaled levels of achievement or understanding for a set of criteria or dimensions of quality for a given type of performance.

(Allen, D. and Tanner, K., 2006, p197)

There are two types of scoring rubric: holistic and analytic. A holistic rubric is designed to score the overall process or product as a whole, without judging each component separately (Nitko, 2001). In contrast, the analytic rubric is
designed to assess a project under a number of specific criteria (Moskal, 2003). Allen and Tanner (2006) explain that an analytic rubric can produce extensive assessment data and can measure the success of a project on a number of levels. Having examined various models, scoring rubrics created by Sadik (2008) and the University of Houston [online] were chosen as a guideline for this project. The Sadik (2008) rubric had been approved by a panel of reviewers and was used as part of an Egyptian study to evaluate the effectiveness of digital storytelling in the classroom. However, it was necessary to make changes to the Sadik model in order to ensure that it was fit for the purpose of this study. Moskal (2003) and Mertler (2001) outline a similar step-by-step procedure for designing holistic and analytics rubrics.

The recommendations of Moskal (2003) and Mertler (2001) were considered when developing a scoring rubric for this project. In addition, it was important to analyse the relevant literature in order to identify the essential attributes of a good digital story. Consequently, the researcher proposed that the following criteria be included in a rubric to assess the quality of a digital story:

1. Purpose of Story
2. Point of View
3. Main Event
4. Choice of Content
5. Clarity of Voice
6. Pacing of Narrative
7. Suitable Audio Track
8. Quality of Images
9. Economy of Story Detail
10. Use of Grammar/Language

The scoring rubric was then designed using ten attributes and a five-point scale: Poor = 0, Average = 1, Good = 2, Very Good = 3, Excellent = 4. For the purpose of this study, four reviewers were chosen to evaluate the quality of the digital stories. Three of the reviewers were teachers at the school and were chosen as a result of their experience in teaching and using digital media. Also, an additional reviewer was approached from a neighbouring school as a result of her expertise in digital storytelling. In order to ensure that the digital stories were evaluated correctly, a training meeting was held with the reviewers. The meeting gave the researcher the opportunity to explain the scoring rubric and to clarify the meaning of the ten criteria. In addition, samples of digital stories were assessed using the rubric in order to improve consistency between reviewers (Sadik, 2008). Twenty two digital stories were then evaluated by each reviewer for the purpose of this study.

3.5.3 Observation

The findings of the literature review suggest that the use of digital storytelling in the classroom is an example of good practice in ICT. In order to measure the impact of digital storytelling on the participants in this study, it was necessary to carry out multiple observations. Yin (2009) explains that observational evidence is useful in providing additional information about a topic being
studied. He adds that if a case study is about a new technology, observations of
the new technology in action can provide important information about the
actual uses of the technology and any potential problems being encountered
(Yin, 2009).

Both qualitative and quantitative observations were carried out for the purpose
of this study. Field notes were gathered as a method of qualitative observation
and were used to record the behaviours and activities of children in a classroom
setting (Creswell, 2009). According to Creswell (2009), it is advisable to be
systematic and to use an observational protocol for recording information while
observing.

It is also important to consider the role of the researcher in an observation. For
the purpose of this study, the ‘observer as participant’ technique was employed.
Yin (2009) explains that it is a unique mode of observation that allows the
researcher to take part in the study. It gives the researcher the opportunity to
gain access to events or groups that may be otherwise inaccessible to a project
(Yin, 2009). However, there are limitations to this type of observation.
According to Leedy and Ormrod (2001):

By his or her own presence, the researcher may alter what people say and do and how
significant events unfold.

(p.158)

The participation-observation method was employed for this study because the
researcher was teaching in the research setting. As a participant, the researcher
could teach the class and offer support in the use of digital storytelling. In addition, the researcher could make observations and record information as it occurs (Creswell, 2009).

An observation instrument was used to assess the quality of student engagement in digital storytelling. According to Leedy and Ormrod (2001), an observation instrument is a quantitative method of research and can help the researcher to focus on a particular aspect of behaviour. The occurrence of the behaviour is then counted to determine its overall frequency and the behaviour is quantified (Leedy and Ormrod, 2001). According to Painter (2001), it is difficult to measure the impact of new technologies in the classroom as there is no standardised test. However, it is suggested that a good observation instrument can provide quantitative data about the quality of new technologies (Painter, 2001).

Having examined various models, an observational tool created by the research organisation, West Ed, was chosen for the purpose of this project. The observational tool had been used in a number of government studies in the United States and had been tested for reliability and consistency. The tool contained the following areas for assessment:

- Class Organisation
- Cognitive Activity
- Classroom Interaction
• Student Role
• Student Engagement
• Technology Integration
• Teacher’s Use of Technology
• Student’s Use of Technology

A similar instrument was not available to match the curriculum of Ireland. As a result, it was necessary to make changes to the West Ed model in order to ensure that it was fit for the purpose of this study. Yin (2009) recommends that the reliability of observational evidence can be increased when there is more than a single observer. As a result, a resource teacher in the school was trained in the use of the instrument and was asked to complete the observation during two sessions. The instrument was marked at timed intervals of five minutes.

3.5.4 Interview

This study aims to evaluate the impact of the digital storytelling approach on children with English as an Additional Language (EAL). According to Creswell (2009), it is appropriate to carry out a qualitative interview in order to “elicit views and opinions from the participants” (p.181). The researcher can choose to conduct a face-to-face or telephone interview with participants (Creswell, 2009). In addition, a focus group interview can be carried out, with six to eight interviewees in each group (Leedy and Ormrod, 2001; Creswell, 2009). In a focus group, the interviewer becomes the group leader who facilitates the discussion, asks questions and listens to the feedback of the
Focus groups are particularly useful when:

- Time is limited
- People feel more comfortable talking in a group than alone
- Interaction among participants may be more informative than individually conducted interviews
- The researcher is having difficulty interpreting what he or she has observed.

(Leedy and Ormrod, 2001, p.157)

In addition, a focus group can be used to bring together a group of people who have experienced a similar situation or problem (Rubin and Rubin, 1995).

A focus group was assembled for the purpose of this project. The group consisted of eight children from sixth class with English as an Additional Language (EAL). The researcher would assume the role of moderator and would introduce the issues to be discussed and also ensure that the participants remained focussed on the topic (Leedy and Ormrod, 2001). Having considered a number of interview methods, it was decided to conduct a focus-group interview as the researcher would not have had sufficient time or resources to interview each participant individually. In addition, the researcher was familiar with the participants in the focus group and the majority of the group would be hesitant to conduct a one-to-one interview through English. It is also common practice in the research setting that the EAL group would provide support for
each other in speaking English. As a result, the researcher chose to interview the participants simultaneously (Leedy and Ormrod, 2001).

Research suggests that interviews are an essential source of evidence and can often provide important insights into events (Yin, 2009). Nevertheless, it is noted that interviews should always be considered as “verbal reports only” as the responses of interviewees are subject to bias, poor memory and poor articulation (Yin, 2009, p.108). As a result, it is suggested that interview data is used in collaboration with other sources of evidence (Yin, 2009). Creswell (2009) also points out that interviews can provide “indirect information filtered through the views of interviewees” (p.179). However, he explains that the advantage of an interview is that the researcher is given the opportunity to control the line of questioning. Creswell (2009) proposes that an interview protocol is used to ensure that the researcher has planned their approach to asking questions and recording information. The protocol recommends that a qualitative interview is semi-structured and that four or five questions are prepared in a research plan (Creswell, 2009). In addition, it is vital that the researcher considers the method of recording information (Yin, 2009; Creswell, 2009). In this study, the participants gave permission for the researcher to carry out an audio recording.
3.6 Validity, Reliability and Triangulation

3.6.1 Validity

Validity refers to the accuracy, credibility and meaningfulness of a research project (Yin, 2009; Leedy and Ormrod, 2001). A qualitative researcher has in-depth access to a single case and there is often a tendency towards an anecdotal approach to the use of data (Bryman, 1988). As a result, it is essential that a qualitative researcher can:

convince themselves (and their audience) that their findings are genuinely based on critical investigation of all their data and do not depend on a few well-chosen ‘examples’.

(Silverman, 2000, p.176)

In order to establish the validity of a research project, the following tests are widely used:

- **Construct Validity**: identifying the correct operational measures for the concepts being studied.
- **Internal Validity**: looking to draw accurate conclusions about cause-and-effect and other relationships within the data.
- **External Validity**: defining the domain to which a study’s findings can be generalised.

(Leedy and Ormrod, 2001; Yin, 2009, p.41)

To establish construct validity in a case study is particularly challenging (Yin, 2009). As a result, it is necessary that several tactics are employed through the course of the study to deal with the issue of validity.
To increase the construct validity of a research project, it is important that multiple sources of evidence are used in order to encourage convergent lines of enquiry (Yin, 2009). For the purpose of this study, an evaluation rubric was used to assess the quality of digital stories. In addition, interviews and observations were carried out in order to ensure that several sources of evidence had been considered. Consequently, the evidence from different sources of information was examined and common themes were established. According to Creswell (2009):

> If themes are established based on converging several sources of data or perspectives from participants, then this process can be claimed to be adding to the validity of the study. (p.191)

Construct validity can also be increased by ensuring that the researcher has established a *chain of evidence* in the study. As a result, it is essential that the research process is carried out methodically and that no original evidence has been lost, through negligence or bias (Yin, 2009).

Internal validity is a concern when the researcher attempts to make inferences about the results of a study (Yin, 2009). In order to convince the reader that inferences are correct, it is important that any possible threats to internal validity have been considered in the research design. Creswell (2009) recommends that internal validity can be increased if the researcher can:

- Use *member checking* to determine the accuracy of findings with participants.
- Use *rich, thick descriptions* to convey the findings and add authenticity to the study.
• Clarify the bias the researcher brings to the study. This creates an open narrative with the reader.
• Present negative or discrepant information that runs counter to the themes.

(p.192)

The external validity of a study is the extent to which the findings can be generalised to other contexts (Leedy and Ormrod, 2001). According to the educational researcher, Michael Bassey, it is unrealistic to say: ‘do x instead of y and your pupils will learn more’ (1999, p.51). Bassey (1999) explains that such a statement is contrary to the ethics of research as it omits the details of context and setting. In addition, the statement contains a “certainty and absoluteness” which is never the case in educational research (p.51). As a result, Bassey (1999) proposes that the researcher uses statements such as ‘do y instead of x and your pupils may learn more’. According to Bassey (1999), it is not an admission of weakness in the way the research was carried out. Instead, it is a reminder that there are many factors to consider when learning is taking place (Bassey, 1999). Consequently, Bassey (1999) explains that a “fuzzy generalisation” is more appropriate in educational research. It reports that:

Something has happened in one place and that it may also happen elsewhere. There is also a possibility but no surety.

(p.52)

In addition, it encourages teachers to enter into a discourse about it: to read about it, discuss it with colleagues and try it out in their own classroom (Bassey, 1999).
3.6.2 Reliability

Reliability refers to the “degree of consistency with which instances are assigned to the same category by different observers or by the same observer on different occasions” (Hammersley, 1992, p.67). Qualitative reliability indicates that another investigator could follow the same procedures as the researcher and should arrive at the same findings and conclusions (Yin, 2009). Construct validity and qualitative reliability procedures are closely linked, as the researcher is always aiming to ensure that a study is correctly documented.

For the purpose of this study, it was also necessary to test the reliability of the measurement instruments. First, the researcher chose to use a standardised observation sheet as part of this study (Appendix F). The observation instrument had been approved and widely used by researchers to assess the quality of student engagement in ICT. In addition, an evaluation rubric was designed to assess the quality of digital stories. Every effort was made by the researcher to ensure that the evaluators were correctly trained in the use of the rubric. Four reviewers were then asked to evaluate twenty-two digital stories. As a result, it was necessary to consider the ‘intrarater reliability’ (Leedy and Ormrod, 2001). The researcher chose a random sample of four stories that were evaluated by the reviewers. The scores that were assigned by the evaluators were then compared and the total marks of reviewers A, B and C showed consistency and were within a range of +/- 8 marks of each other. Reviewer D seems to have used either very high or very low marks to evaluate the stories.
However, the scores of reviewer D were still relatively reliable and were within +/- 9 marks of the average scores of reviewers A, B and C. As a result, the sample of stories that were examined by the researcher tended to suggest that the reviewers were reliable.

3.6.3 Triangulation

Triangulation is defined as “the use of two or more methods of data collection in the study of some aspect of human behaviour” (Cohen et al, 2000, p.112). The aim of triangulation is to “overcome the intrinsic bias that comes from single-method, single-observer and single-theory studies” (Denzin, 1989, p.313). Yin (2009) explains that the process of triangulation allows the researcher to use multiple sources of evidence in order to develop converging lines of enquiry. Thus, triangulation can add to the validity of a case study as the findings are based on several sources of information (Yin, 2009). Denzin (1970) identifies four types of triangulation: methodological triangulation, investigator triangulation, theoretical triangulation and data triangulation. For the purpose of this study, methodological triangulation is used in order to validate the findings.

Denzin (1970) made a distinction between within-method and between-methods triangulation. The term within-methods refers to the use of either multiple qualitative or multiple quantitative approaches. Between-methods triangulation involves the use of both qualitative and quantitative methods of research.
(Johnson et al., 2007). The between-methods approach was used in this study. Quantitative instruments, such as an analytic rubric and observation checklist, were used to assess the quality of the digital storytelling approach. In addition, qualitative methods such as a focus group and field notes were used to observe human behaviour. Therefore, qualitative and quantitative methods were combined in order to triangulate the findings.

3.6.4 Critical Friend

A critical friend is “a trusted person, who asks provocative questions, provides data to be examined through another lens and offers criticism of a person’s work as a friend” (Costa and Kallick, 1993). Creswell (2009) uses the term ‘peer debriefer’ to describe the same concept. A good critical friend will have the following attributes:

- Compatibility and shared values
- Interest or involvement in the research
- Ability to provide challenging but critical feedback
- Availability

(Mc Niff et al., 1996, p.86)

In addition, a critical friend can also offer moral support and encouragement to the researcher (Mc Niff et al., 1996).

During the course of this study, a critical friend was of great benefit to the researcher. This person was chosen as a result of her experience in the
education sector and her expertise in the area of ICT. The critical friend was available to discuss the project at regular intervals and offer advice about the research design. In addition, this person was able to check that the data collection process had been carried out correctly.

3.7 Criteria

Action research is a form of ‘new scholarship’ (Mc Niff, 2000). As a result, scholars have argued that it is difficult to assess the quality of practitioner research, especially if it being critically evaluated (Furlong and Oancea, 2005). As a result, Whitehead and Mc Niff (2006) propose that an action research is judged in terms of its own appropriate criteria. A ‘good’ action research will show that:

- The researcher has followed a systematic process of data gathering, analysis and interpretation.
- The researcher has made judgements or claims that were based on pieces of evidence.
- The researcher can be held accountable for any claims to knowledge.
- The researcher has learned from the study and will use it to inform future practice.

(Mc Niff, 2000).

For this purpose of this study, the researcher was able to use the above criteria to guide the research process and create a project that was fair and accurate.
3.8 Ethics

It is important that the researcher can anticipate the ethical issues that may arise during the course of a study (Creswell, 2009). It is the responsibility of the researcher to:

- Protect their research participants; develop a trust with them; promote the integrity of research; [and] guard against misconduct and impropriety that might reflect on their organisations or institution.

(Israel and Hay, 2006, cited in Creswell, 2009, p.87)

Leedy and Ormrod (2001) suggest that there are four ethical principles to consider in a research project:

- Protection from harm
- Informed consent
- Right to privacy
- Honesty with professional colleagues

However, Creswell (2009) explains that ethical practices are much more than a set of static guidelines. Instead, writers need to be able to understand and address any ethical dilemmas that may arise in the research (Creswell, 2009).

It is also necessary that research participants have been told about the nature of the study and have been given a choice to participate. In addition, it should be clear to participants that they have the right to withdraw from the study at any time (Leedy and Ormrod, 2001). It is common practice that an informed consent form is signed by the participants before they engage in the research (Creswell, 2009) The form acknowledges that the rights of participants will be
protected during the collection of data (Creswell, 2009). In addition, it is necessary that individuals in authority, such as a board of management, are in agreement about providing access to participants at a research site (Creswell, 2009).

A researcher must respect the right to privacy of an individual. It is recommended that research should not be presented in a way that allows others to become aware of how a participant has behaved (Leedy and Ormrod, 2001). It is common practice that the anonymity of a participant is protected by assigning a code or pseudonym to the name of each person (Leedy and Ormrod, 2001). It is also necessary that the researcher shows respect towards the professional colleagues. There should be no attempt to suppress, falsify or invent findings in order to meet the needs of the researcher (Creswell, 2009).

For the purpose of this study, the researcher has taken the following steps to ensure that the guidelines of Leedy and Ormrod (2001) were followed:

• An informed consent letter was sent to parents to explain the purpose of the digital storytelling project. (Appendix A)

• The nature of the study was explained to children.

• A letter was sent to the Board and Management to apply for permission to conduct research at the school. (Appendix B)

• Signed letters of consent were returned by parents and the Board of Management
• Code numbers and initials were used to protect the privacy of children in the study.

• Validity and reliability procedures were followed in order to ensure that the findings of the research were reported accurately and truthfully.

3.9 Conclusion

In Chapter 3, the researcher has attempted to follow the guidelines that were created by Silverman (2000) in order to create an effective methodology chapter. Having reviewed a number of research methods and approaches, it was decided that a case study would be carried out for the purpose of this project. In addition, mixed methods would be used to collect the data. The findings of the research study will be presented in Chapter 4.
Chapter 4: Findings

4.1 Introduction

4.1.1 Overview

For the purpose of this study, a case study approach was used to investigate the use of digital storytelling as a narrative writing tool. In this chapter, the findings of the case study will be reported. Data was collected from the results of the evaluation rubric, the observation instrument and a focus-group interview. Multiple sources of data collection were used in order to triangulate the findings and increase the validity of the study.

The findings of the study will be divided into three parts and will be based on the research questions outlined in the previous chapter:

- Part 1 will look at the use of digital storytelling as an effective way of teaching narrative writing in sixth class.
- Part 2 will look at the use of digital storytelling as an example of good practice in the use of ICT.
- Part 3 will look at the use of the digital storytelling approach to support children with English as an Additional Language.

The researcher has analysed the data and has identified emerging themes. As a result, the findings will be presented thematically in order to give the chapter a coherent structure.
4.1.2 The Participants

The participants in this study were a sixth class group in an inner-city primary school in the south-west of Ireland. There were 22 boys in the class. Ten of the pupils were receiving additional language support in school. For the purpose of this study, each child was asked to create a digital story that was based on their memories of primary school. The digital storytelling models of Lambert (2010) and Robin (2008) were used to guide the process. A panel of reviewers were then appointed in order to evaluate the quality of the digital stories.

4.2 How effective is Digital Storytelling in the Teaching of Narrative Writing?

4.2.1 The Elements of a Good Story

An analytic rubric was used for the purpose of this study (see Appendix H). A panel of four reviewers were asked to complete the rubric in order to evaluate the quality of each digital story. Twenty two digital stories were assessed by each reviewer. The scores of each reviewer were then processed and each student was given an overall average score out of forty marks.

Figure 4.1 shows that students generally performed well in the task. The majority of students were placed in the range of 20-30 marks. No student scored below 10 marks. 6 of the 22 students were placed in the range of 10-20 marks. Students 1 and 20 scored the lowest marks and had Special Educational
Needs. 4 of the 22 students scored in the highest range of 30-40 marks. Two of the highest scores were pupils with EAL. Consequently, the results of the rubric could suggest that majority of children had understood the concept of digital storytelling and had learned to create a good digital story.

![Overall Average Story Score](image)

**Figure 4.1: Overall Average Score**

For the purpose of this study, ten assessment criteria were included in the analytic rubric (see Appendix H). Five of the ten criteria were used to evaluate
the quality of narrative writing in a digital story. The remainder were used to assess the technical attributes of the story.

The following five criteria were included in the rubric in order to assess the “story grammar” of a digital story (Stein and Policastro, 1984).

- Criteria 1: Purpose of Story
- Criteria 2: Point of View
- Criteria 3: Main Event
- Criteria 6: Pacing of Narrative
- Criteria 10: Use of Grammar/Language

Figure 4.2: Overall Performance of Students in Narrative Writing Criteria
Figure 4.2 shows the results of the five narrative writing criteria. The results indicate that students performed best in the ‘Point of View’ criteria and scored an average of 2.68 out of 4. In addition, the results show that pupils had scored an average of 2.44 out of 4 and had generally used suitable vocabulary and correct grammar in the digital story. However, students did not perform as effectively in the criteria called ‘Main Event’ and ‘Pacing of Narrative’.

It may be important to consider the performance of students in the criteria called ‘Main Event’. Figure 4.3 shows that only 15 out of 22 participants scored in the range of 2-4 marks. However, a third of participants scored below 2 marks and did not include a main event in the story.

Figure 4.3: ‘Main Event’ Results
A similar trend is evident in the criteria called ‘Pacing of Narrative’. Figure 4.4 shows that nearly a third of participants scored below 2 marks and did not create a good story structure.

Figure 4.4: ‘Pacing of Narrative’ Results

Approximately a third of participants scored 2 marks, or below, in the ‘Main Event’ and ‘Pacing of Narrative’ criteria. The findings may indicate that a number of students may have focused on creating a technical event in the place of a good story. For example, Student 4 scored in the range of 1-2 marks in the ‘Main Event’ criteria. On the other hand, he was placed between 3-4 marks in the ‘Quality of Images’ criteria. However, it is necessary to note that Students 1 and 20 were SEN pupils and scored below 2 marks in all criteria.
4.2.2 Digital Storytelling to Promote Creativity

ICT tools can be used to enhance creativity in English lessons (DES, 2010). The following five criteria were included in the rubric in order to assess the use of ICT in the digital stories:

- Criteria 4: Choice of Content
- Criteria 5: Clarity of Voice
- Criteria 7: Suitable Audio Track
- Criteria 8: Quality of Images
- Criteria 9: Economy of Story Detail

![Figure 4.5: Overall Performance of Students in Technical Criteria](image-url)

Figure 4.5: Overall Performance of Students in Technical Criteria
Figure 4.5 shows that students had performed well in the technical criteria, particularly in the ‘Choice of Content’. However, a significant drop is evident in the ‘Suitable Audio Track’ criteria. Students scored an average mark of 1.92 out of 4. As a result, it may be interesting to look at the performance of each child in the ‘Suitable Audio Track’ criteria (see Figure 4.6).

![Figure 4.6: ‘Suitable Audio Track’ Results](image)

Only 9 students out of 22 scored above 2 marks. It is also important to note that Student 9 scored the highest mark in the ‘Suitable Audio Track’ criteria and did not use an audio track to accompany his digital story. As a result, the findings may indicate that students performed poorly in this criterion as they did not
have access to a suitable range of audio tracks during the digital storytelling project.

4.2.3 Digital Storytelling and Students with Special Educational Needs

4.2.3.1 Struggling Writers

The findings of the study suggest that digital storytelling could support struggling writers. It is necessary to look at the performance of Students 12, 14 and 22 in the digital storytelling task. All three students scored below 5 marks out of 10 in a handwriting test conducted by the teacher in June 2011.

Student 12 and 14 were withdrawn for resource teaching. Yet, they were animated readers and talented actors. The researcher observed that both students showed an increased interest in editing and improving their digital stories as their voices could be used to create a vocal narrative. As a result, the digital story gave both students the opportunity to perform the narrative and score their highest marks in the ‘Clarity of Voice’ criteria.

Student 22 is a capable student who scored a standard score of 99 in the Micra-T examination. However, the researcher observed that he would always struggle to finish a writing task as his fine motor skills were poor and he often became frustrated. In the digital storytelling task, this student showed an excellent ability to work with multimedia. His highest score was in the ‘Quality of
Images’ criteria (see Appendix I). The findings may suggest that struggling writers can perform better when the handwriting obstacle is removed.

4.2.3.2 Language Learning Difficulties

Two students in this study scored extremely low scores in the Micra-T and Cambridge University Intelligence Tests. Student 3 had an IQ score of below 70 and scored a standard score of below 70 in the Micra-T test. Similarly, Student 8 scored 78 in the IQ test and 74 in the Micra-T examination. As a result, both students were well below average for sixth class. However, the results of the rubric suggest that both students performed at a level that was well above their ability in the digital storytelling task. Student 3 scored 25.75 and student 8 scored 21.75 out of 40 marks. The researcher observed that Student 3 and 8 had shown commitment to the task and had displayed good storytelling skills. However, it is important to note that both students needed support from the teacher during the initial stages of the project as they found it difficult to formulate ideas.

The results of the rubric show that Student 1 scored a significantly low mark of 11 out of 40 in the digital storytelling task. This student scored below 70 in the Cambridge University Intelligence Tests and Micra-T exam. However, Student 1 has severe emotional difficulties and will never speak to students or staff. Although Student 1 scored the lowest mark in the rubric, it is necessary to consider his achievement in using his voice to create a digital story.
4.2.4 Digital Storytelling and the Curriculum

The findings of the study indicate that the digital storytelling approach can support the objectives of the Curriculum. The results of the rubric indicate that the majority of children were able to:

- Choose a form of presentation appropriate to the audience.
- Develop skills in ICT
- Develop individuality as a reader by experiencing success
- Write for a particular purpose.

(DES, 1995, [online])

However, the findings of this study may suggest that digital storytelling is a time-consuming method of fulfilling the objectives of the curriculum. One student indicated that he preferred to write a “normal story” as digital stories can take a lot of time and it was necessary to “add pictures and that”. In addition, the researcher noted that children were not given the opportunity to “see his/her writing valued” by an audience as the timescale of the study was too short (DES, 1995). The digital storytelling workshop consisted of ten sessions that were delivered on a daily basis. However, the majority of the research participants had struggled to complete the task over a period of two weeks.
4.2.5 A New Form of Writing

The results of the research indicate that digital storytelling is an evolution of older forms of writing. The findings show that good narrative writing skills are needed to create a digital story. Students 9, 11, 17 and 21 scored in the range of 30-40 marks in the task and were consistently placed in the first quartile for the narrative writing elements of the story. However, the researcher notes that the excellent performance of Student 21 is inconsistent with the poor academic ability he displays in the class.

4.2.6 Reliability of Reviewers

In order to test the reliability of the reviewers, the researcher chose a random sample of four stories that were evaluated by the reviewers. The scores that were assigned by the evaluators were then compared and the total marks of reviewers A, B and C showed consistency and were within a range of +/- 8 marks of each other. Reviewer D seems to have used either very high or very low marks to evaluate the stories. However, the scores of reviewer D were still relatively reliable and were within +/- 9 marks of the average scores of reviewers A, B and C. As a result, the sample of stories that were examined by the researcher tended to suggest that the reviewers were reliable.

Nonetheless, various discrepancies have been highlighted during the course of the study. Table 4.1 shows that Students 2, 4 and 6 were given a significantly lower score by Reviewer C than the other three reviewers. It may be important
to note that Reviewer C was the only reviewer who was not working in the research setting. Even though the names of students were not attached to the digital stories, it may have been the case that reviewers A, B and C were familiar with the voices of the students. The findings may indicate that reviewers were biased towards certain participants.

<table>
<thead>
<tr>
<th></th>
<th>Reviewer A</th>
<th>Reviewer B</th>
<th>Reviewer C</th>
<th>Reviewer D</th>
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</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>39</td>
<td>36</td>
<td>15</td>
<td>26</td>
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<td>Student 4</td>
<td>21</td>
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<td>13</td>
<td>25</td>
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<tr>
<td>Student 6</td>
<td>10</td>
<td>23</td>
<td>6</td>
<td>29</td>
</tr>
</tbody>
</table>

Table 4.1: Reliability of Reviewers

Another inconsistency is evident in the performance of Student 18 in the rubric. Reviewers C and D scored the student between 23 and 24 marks. On the other hand, Reviewer A awarded the student a mark of 13 and Reviewer B gave the pupil a maximum score of 40 marks. The reason for this discrepancy is unclear. However, the evaluation of the digital stories is a subjective process that depends on the individual opinion of each reviewer.
4.3 Is Digital Storytelling an Example of Good Practice in the Use of ICT?

4.3.1 A Constructivist Approach to Learning

An observation instrument was used to assess the type of learning that took place during two observations. The completed checklists show that students were engaged in a constructivist approach to learning for the duration of two sessions. According to the checklist, students were displaying a high level of cognitive activity and were:

- Using skills such as problem-solving, organising and revising to construct knowledge
- Interacting with other students
- Initiating dialogue with fellow students and the teacher in order to carry out the activity.

The classroom observations show that children were “interacting” and “initiating dialogue”. But, the instrument does not indicate the nature of the conservations. The findings of the research tend to suggest that digital storytelling can facilitate collaborative learning. However, only two observations were carried out for the purpose of this study.

4.3.2 The Role of the Teacher

The observation checklist shows that the teacher was assisting students in the use of technology for the duration of the two sessions. The observer specified
that the teacher was using software such as *Photo Story 3*, *Picture Manager*, *Mozilla Firefox* and *Windows Media Player* during both observations. In addition, a laptop, InterWrite board, external hard drive and printer were used to support the sessions. The observer also noted that the teacher was required to repair microphones, monitors and corrupted documents. The results of the classroom observations could indicate that the teacher needs to be confident in the use of ICT in order to guide a digital storytelling session.

### 4.3.3 Student Engagement

The observation instrument was used to measure student engagement. Table 4.2 shows the results of Observation 1. The table shows that students were:

- Highly engaged between 0 and 15 minutes.
- Moderately engaged between 15 and 30 minutes.
- Highly engaged between 30 and 45 minutes.

<table>
<thead>
<tr>
<th>Start time:</th>
<th>5</th>
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<th>15</th>
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<th>25</th>
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<th>35</th>
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<td>Minutes &lt;=</td>
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<td>0-15</td>
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<td>15-30</td>
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**Table 4.2: Student Engagement - Observation 1**

Therefore, the checklist indicates that children were “highly engaged” at the beginning and end of the activity. The participants were only “moderately engaged” in the mid-section of each session. An identical pattern of
engagement was evident in Observation 2. The findings may suggest that children were ‘off-task’ in the middle section of the lesson as the teacher was providing support to Students 1 and 20 and was not in a position to fully facilitate the session.

Participants in the focus-group interview talk about their level of engagement in digital storytelling (Appendix G). Student AF explained that he liked the use of the voice in a digital story:

It makes it more interesting because you are listening to who wrote the story; you are listening to how he is reading it….expression.  

Student AF

Student AK explains that:

[Digital Storytelling] is more interesting. With pictures. With essays, you just need to read.

In addition NM adds that:

There can be music in the background…..make it more interesting.

Students AA and JE also use the word ‘interesting’ to describe the digital storytelling process. But, it is important to note the limitations of a focus-group interview. Students may have been copying the comments of other participants in the focus group.

There were indications in the research to suggest that particular pupils were not engaged by the digital storytelling approach. It is necessary to look at the performance of Student 6 in the digital storytelling task. In comparison to his classmates, this student has very good ability in English and was ranked second
in the Micra-T examinations. Nevertheless, this student scored a low mark of 17 out of 40 in the digital story. In addition, the researcher noted that this student was disinterested and did not wish to edit or improve his digital story.

### 4.3.4 Technological Integration

Table 4.3 displays the level of technology integration during two classroom observations. Technology was:

- Fully integrated between 0 and 15 minutes.
- Partially integrated between 15 and 30 minutes.
- Fully integrated between 30 and 45 minutes.

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<thead>
<tr>
<th>Start time:</th>
<th>Minutes</th>
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<th>25</th>
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<th>35</th>
<th>40</th>
<th>45</th>
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<tbody>
<tr>
<td>Technology Integration</td>
<td>Not used</td>
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<td></td>
<td>Add-on</td>
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<td></td>
<td>Partially integrated</td>
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<td>Fully integrated</td>
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**Table 4.3: Technology Integration - Observation 1**

Observation 2 shows a similar level of integration, where technology is ‘fully integrated’ for two thirds of the session. This trend is identical to the level of student engagement that was highlighted in 4.3.3.
4.3.5 Technical Vocabulary

The researcher observed that technical vocabulary was frequently used by the EAL students in the focus-group. Words such as ‘storyboarding’, ‘editing’, ‘importing’, ‘images’ and ‘digital story’ were used to describe the process of digital storytelling. In addition, students could also describe any technical difficulties that occurred during the project. Student AF talked about a problem with the microphones:

When you put in the microphone, sometimes the computer didn’t recognise it, so you couldn’t talk into it.

Student EH also indicated his knowledge of the recording equipment:

When you’re done, you have to go and check it over because there might be squeaks and there might be people talking in the background.

Student NM also talked about his difficulty with saving the digital story. He commented:

I had a problem with saving. It said that the data was corrupted somehow.

However, it is not possible to conclude that the technical terminology of EAL students had improved as a result of the study. The students may have had prior knowledge of the technical vocabulary.
4.4 Does Digital Storytelling Support Children with English as an Additional Language?

4.4.1 New Learners versus Intermediate Learners

In this case study, new learners are classified as students who have been learning English for less than two years. The group of new learners showed excellent progress in the digital storytelling task. Student 13 scored a standard score of 77 in the Micra-T examination and succeeded in scoring 22.75 out of 40 in the digital story. Similarly, Student 21 scored below 70 in the Micra-T examination and was awarded the second highest mark of 33.25 out of 40 in the digital story. Student 19 showed similar improvement.

For the purpose of this research, intermediate learners are students who have been learning English for more than two years. The intermediate learners did not show the same level of progress in the digital storytelling project. Student 5 underperformed in the digital storytelling task in comparison to his performance in the IQ tests. Student 5 had an IQ level of 97 and scored a standard score of 80 in the Micra-T examination. He scored 19.5 out of 40 in the digital story. The researcher noted that Student 5 is a capable student and has been in the country for over 4 years. However, he shows little interest in literacy activities and would speak in his home language at any opportunity.
Student 18 is also an intermediate learner. The results of the rubric show that the reviewers had various opinions on his digital story. Reviewers A awarded this student a mark of 13 out of 40. In contrast, this student received a grade of 40 out of 40 from Reviewer B. This discrepancy in the data does not allow the researcher to comment on the performance of Student 18 in the task.

Students 2 and 9 are also intermediate learners of English and have been in the school for over 4 years. Student 2 scored a standard score of 93 in the Micra-T. Student 9 scored a standard score of 101. The researcher noted that both students had difficulty with elements of the Micra-T examination as they are not yet fully proficient in English. However, both students scored in the top third of the class in the Micra-T examinations. The results of the rubric show a similar trend. Student 2 scored a high mark of 29 out of 40. Student 9 scored 34.75 out of 40 and it was the highest mark in the class. As a result, both did not progress in the digital storytelling task. Instead, they showed a similar pattern of high achievement. The researcher noted that both students display an excellent work ethic and are high achievers in all areas of the curriculum.

In the focus group, Student 9 discusses the fact that his parents speak Albanian at home. However, his father makes an effort to speak English. In addition, he adds that he enjoys English writing as his parents help him to understand difficult vocabulary.
He comments:

I’m used to the words and my parents….like….make me….like….do work at home….so I can get better at English.

(Student 9 – EH)

There is not enough evidence in the findings to suggest that parental support can influence EAL students. However, it is a point of interest in the research.

The poor performance of Student 6 was highlighted in 4.3.3. He was the only EAL student to show a significant drop in achievement in the task. The researcher noted that Student 6 showed a complacent attitude to the digital storytelling project. He did not take time to edit his story and was one of the first students to finish. However, he was happy to discuss the project in the focus group. He comments:

You shouldn’t talk too fast. You should give a lot of expression because you never know who could be listening to it.

(Student 6 – JE)

The remainder of the intermediate learners showed the same level of performance in the digital story as the Micra-T examinations.

4.4.2 Language Barriers

All participants in the EAL focus group indicated that they preferred digital storytelling to essay writing. The findings of the study indicate that EAL learners experience frustration with narrative writing.
Student 13 discussed the fact that he was only capable of writing a story that was short in length:

I like never wrote a story like two or three pages….sometimes just half a page.  
(Student 13 – AF)

In addition, he told the researcher that he did not understand the vocabulary sheet that was supplied by the teacher:

…we have good words on a sheet. I don’t know what they mean. So, I cannot put good words in a story.  
(Student 13- AF)

Student 13 indicated that essay writing was difficult in sixth class as he was often withdrawn in the previous year when his classmates were writing stories. He commented:

….in Mr.C’s class, I was always in my English class…when they were writing stories.  
(Student 13 – AF)

Student 13 refers to EAL support as his ‘English class’ which took place every day.

Student 19 also talked about the fact that the digital storytelling approach helped him to write a good story as he often felt frustrated when writing an English story:

Maths is the same in Slovakia but English is…..I don’t know good words.  
(Student 19 – AK)

A number of pupils in the focus group have suggested that essay writing is a difficult activity for EAL learners as a good level of English vocabulary is needed to create a story.
4.4.3 Visual Support

A number of EAL students in the study have talked about the visual aspects of digital storytelling. Student KP explains that he often has problems with essay writing as he knows a word in Polish but does not know it in English. However, he points out that the digital story helps him as he can “describe it by a picture” (KP). Student AF outlines the benefits of digital storytelling to new learners:

..like, if you are still a new boy…like, for example, a window….they would now know what it is….but if you type it in to Google, the image comes up and they would know it straight away.

(Student 13 – AF)

In addition, Students AF, AA and KP explain that they would recommend Photo Story 3 to new learners as the pictures help to describe the story.

4.5 Conclusion

The findings of the research have been presented in Chapter 4. The findings were formulated from the results of the analytic rubric, interviews and observations. In Chapter 5, the findings of the study will be analysed and links will be made to the literature review in Chapter 2.
Chapter 5: Discussion

5.1 Introduction

5.1.1 Outline of the Chapter

In Chapter 3, the findings of the research were presented. In this chapter, the findings will be discussed in reference to the literature review in Chapter 2.

5.1.2 Outline of the Research Undertaken

In order to assess the benefits of the digital storytelling method, each participant was asked to create a digital story in the form of a personal narrative. The research took place in the form of a digital storytelling workshop. Following the completion of the case study, a panel of four reviewers were then asked to evaluate each story using an analytic rubric. The researcher was also the teacher of the class and was able to make notes about the project. In addition, a research assistant was appointed in order to complete two classroom observations. Following the completion of the study, a focus group was established in order to elicit the views of the EAL students regarding the process of digital storytelling.

5.1.3 Key Findings

The key findings of the case study indicate that:

- Digital storytelling can be a practical method of allowing students to write a good story.
• Digital storytelling can provide visual support to pupils with Special Educational Needs or English as an Additional Language.
• Pupils can be highly engaged by the process of digital storytelling.
• Digital storytelling can support a constructivist approach to learning.
• Digital storytelling can allow students to effectively demonstrate a range of new literacy skills.
• Digital storytelling can be an effective method of using ICT in the classroom.

In this chapter, the discussion will be structured around the research questions outlined in the previous chapter. In addition, problems that were encountered during the study will also be addressed.

5.2 How effective is Digital Storytelling in the Teaching of Narrative Writing?

5.2.1 Introduction

In order to assess the effectiveness of digital storytelling as a narrative writing tool, it was necessary to look at the use of this approach to:

• Allow students to write a ‘good’ story.
• Promote creativity.
• Support children with SEN.
• Fulfil the requirements of the 1999 English Curriculum.
• Promote a new form of writing for the digital age.
The above points will be discussed in order to consider the value of digital storytelling as a good method of story writing.

5.2.2 The Elements of a Good Story

The characteristics of a ‘good’ story are outlined in Chapter 2. According to Stein and Policastro (1984), a story cannot be considered a story if it does not contain a set of rules called a ‘story grammar’. In addition, Van Dijk (1976) explains that ‘remarkable events’ are required in a narrative in order to maintain the interest of the audience. Ulatowska (2004) adds that certain linguistic devices, such as repetition and juxtaposition, can also be used to create an involvement between the writer and audience. The elements of a ‘good’ story were highlighted in the literature review and were consequently used to assess the quality of narrative writing in this study.

The findings of the research indicate that students performed best in the ‘Point of View’ criteria and scored an average of 2.68 out of 4. In addition, the results show that pupils had scored an average of 2.44 out of 4 and had generally used suitable vocabulary and correct grammar in the digital story. However, students did not perform as effectively in the criteria called ‘Main Event’ and ‘Pacing of Narrative’. Approximately a third of participants scored below 2 marks out of 4 in both criteria.
Labov and Waletsky (1967) explain that the events included in a story must be unique, strange or unexpected. Polanyi (1989) adds that stories are told to make a point or transmit a message. However, the findings of this study indicate that a third of students did not include a ‘Main Event’ in the digital story. As a result, it is necessary to consider the opinion of Ohler (2006). As an acclaimed teacher of digital storytelling, he states that students can often focus on creating a technical event at the expense of the story (Ohler, 2006). In addition, a third of students did not succeed in creating a well-structured narrative. Lambert (2010) advises that a good story will depend on “how much to tell them and at what point” (p.42).

Consequently, the results of the case study could indicate that the majority of students were able to include the elements of a ‘good’ story in a digital story. However, a number of pupils may have focussed on the digital medium first and the story later. For example, Student 4 scored below 2 marks out of 4 in the ‘Main Event’ criteria. On the other hand, he was placed between ‘Very Good’ and ‘Excellent’ in the ‘Quality of Images’ criteria. A similar pattern was evident with Students 3 and 15.

5.2.3 Creativity

A review of the Primary School Curriculum was carried out on 719 teachers by the NCCA. The review indicated that 75% of teachers were using ICT to support the English Curriculum (NCCA, 2005). However, the findings
indicated that the use of ICT was generally restricted to “typing up or transcribing children’s written work” (NCCA, 2005). In addition, ICT was rarely used to enhance creativity in English (NCCA, 2005). The findings of this study suggest that digital storytelling is a technological tool that can allow children to be more creative.

Lambert (2010) explains that digital storytelling can allow the author to express ideas using visual images. Students are encouraged to “see” their story and to choose images to accompany the narrative. In addition, Sylvester and Greenidge (2009) point out that the recorded voice can be used to create an emotional connection with the audience. The participants in the focus group frequently refer to the use of multimedia tools to enhance the quality of a story. Student AK, JE and NM explain that they like to create digital stories as pictures and sound can be used to make the narrative more interesting.

In the Seven Steps of Digital Storytelling, Lambert (2010) explains that creativity can often be compromised when “images grabbed from an internet search” are used to accompany the story. In agreeing with Lambert (2010), the researcher noted that artistic creativity could have been further utilised in this study by encouraging students to draw and create images. However, the timing of the research would only allow pupils to use internet images and class photographs. In addition, the results of the rubric show a significant drop in the performance of the students in the ‘Suitable Audio Track’ criteria (see Figure
4.6). Only 9 students scored over 50%. The results could indicate that pupils performed poorly due to the unavailability of audio tracks. Due to copyright legislation, the students were instructed to choose from a selection of royalty-free music. The researcher noted that the musical creativity of pupils was affected by the limited range of tracks. For the purpose of this study, it may have been appropriate to consider the advice of Lambert (2010). He notes that the recorded voice as the only audio track can be extremely effective as inappropriate music can often detract from the story.

5.2.4 Children with Special Educational Needs

5.2.4.1 Low Literacy Levels

This study took place in an inner-city primary school in the south west of Ireland. All of the participants in this study came from socially-deprived areas where problems such as unemployment, substance abuse and crime are common (Fitzgerald, 2007). In addition, the majority of the target population do not receive academic support from parents and would rarely read at home. As a result, the standardised Micra-T examinations that were carried out in June 2011 show that 20 students in the class are below the national average in English reading. Fitzgerald and Shanahan (2000) suggest that there is a correlation between English reading and writing. In his research based in a socially disadvantaged school, Juel (1988) points out that poor readers who have little experience of reading at home will struggle to generate ideas and write a good story.
The findings of this case study mirror the viewpoint of Juel, (1988). The researcher observed that a significant number of the participants required intensive support to formulate ideas during the planning stage of the digital story. However, the storyboarding process provided students with the “scaffolding” required to organise ideas in a logical sequence and visualise their stories (Vygotsky, 1978). Consequently, the children were well-prepared and were confident to work independently for the duration of the sessions in the media laboratory.

5.2.4.2 Struggling Writers

Sylvester and Greenidge (2009) outline the case of an SEN pupil named Colleen who is an expressive reader and has creative ideas. However, she struggles to organise her ideas and her handwriting is illegible. The study indicates that students like Colleen have benefitted from the digital storytelling approach as the handwriting obstacle is removed. In addition, pupils can share their story using their own voice. Students similar to Colleen are highlighted in this study. For example, Student 14 scored a very low mark of 2 out 10 in a handwriting task conducted by the teacher in June 2011. In addition, this student was withdrawn for resource teaching. Yet, he was an animated reader and talented actor. The researcher observed that Student 14 showed an increased interest in editing and improving his digital story as his voice could be used to present the story to his classmates. As a result, the digital story gave
Student 14 the opportunity to perform the narrative and score his highest mark in the ‘Clarity of Voice’ criteria.

5.2.4.3 Language Learning Difficulties

The findings of the study indicate that digital storytelling can support students with language learning difficulties. Two students in this study scored extremely low scores in the Micra-T and Cambridge University Intelligence Tests. Student 3 had an IQ score of below 70 and scored a standard score of below 70 in the Micra-T test. Similarly, Student 8 scored 78 in the IQ test and 74 in the Micra-T examination. As a result, both students were well below average for sixth class. However, the results of the rubric suggest that both students performed at a level that was well above their ability in the digital storytelling task. Student 3 scored 25.75 and student 8 scored 21.75 out of 40 marks.

Swenson et al (2006) suggest that new media composition can facilitate the range of talents that students bring with them into the classroom. Talents that are often associated with Gardner’s (1983) “multiple intelligences”. The researcher observed that Student 3 and 8 had shown commitment to the task and had displayed good storytelling skills. As a result, the findings of this study could indicate that the digital storytelling approach can allow low achievers to utilise other intelligences. Ohler (2006) points out that digital storytelling can utilise skills in art, drama, media production and project management that may lie dormant within many students.
5.2.5 The Curriculum

The 1999 Primary School Curriculum was designed in order to incorporate current educational thinking and the most effective pedagogical practices (DES, 1999). In the document, language learning is highlighted as a crucial factor in the development of a child (DES, 1999). As a result, the English programme aims to enhance the ability of a student to use language as a speaker, reader and writer. In addition, the acquisition of language is described as an “integrated process” where the correlation between reading and proficiency in writing is acknowledged. According to the document, writing can play a crucial role in a child’s language development as “the ability to write clearly and expressively provides him/her with a skill that can greatly enhance personal, social and vocational experience”. In addition, the process of writing can allow the child to express thoughts and feelings (DES, 1999).

The NCCA recommend that ICT is used to support the aims and objectives of the English curriculum (NCCA, 2005). In creating a digital story, the curriculum states that a child in fifth or sixth class has the opportunity to:

- See his/her writing valued
- Develop skills in the use of ICT
- Write for a particular purpose and audience
- Write independently through a process of drafting, revising and editing.
The findings of this study suggest that children had learned to use a range of multimedia tools during the digital storytelling project. In addition, the majority of the participants had understood the purpose of the writing task and had attempted to edit and improve their digital story. However, the participants in this study were not given the opportunity to “see his/her writing valued” (DES, 1999). According to Lambert (2010) and Hull and Katz (2006), it is important that an author is given the opportunity to share the digital story with an audience. One student in this study indicated that he tried to read his story with “lots of expression” as he did not know who could be listening to it. However, the students struggled to finish the digital stories in the research timeframe of two weeks. As a result, there was no additional time available for participants to share the stories with other staff or students. The findings of this study may suggest that digital storytelling is a time-consuming method of fulfilling the objectives of the curriculum. One student indicated that he preferred to write a “normal story” as digital stories can take a lot of time and it was necessary to “add pictures and that”.

5.2.6 A New Form of Writing

Kress (2003) explains that the screen has replaced the paper and pen as the dominant mode of communication and as a result, multimodality has become more prevalent in society. In addition, research indicates that it is necessary for children to be experienced in a new range of literacy skills in order to fully participate in the globalised world (Hull, 2003; Sylvester and Greenidge, 2003).
However, Myers (2006) maintains that children cannot become proficient in newer genres such as the digital story, blog or wiki without prior knowledge of older forms of writing. In addition, Ohler (2006) points out that digital storytelling is an evolution of narrative writing where multimedia tools are used to enhance the story. Similarly, the results of this study show that the students who scored over 75% in the digital storytelling task were consistently placed in the first quartile for the narrative writing elements of the story.

5.2.6 Concerns

Research indicates that students like to compose using digital media and that digital storytelling can cause students to further engage in literary practices (Hull and Katz, 2006; Vasudevan et al, 2010). There is a lack of academic research to indicate that digital storytelling can improve standards of literacy in the classroom. Fletcher and Cambre (2009) suggest that in the absence of critical assessment, digital storytelling could be “a technological gimmick destined for oblivion” (p.114). In addition, Swenson et al (2006) point out that good “writing” is not a matter of laying down tracks to a popular song and allowing a program to add pictures and transitions. In this study, there is no evidence to suggest that digital storytelling is a “technological gimmick”. However, the researcher was experienced in multimedia composition and the process of digital storytelling. As a result, the students were encouraged to use a range of digital literacy skills and were guided towards creating a good
narrative. But it may the case that a teacher with less experience would allow pupils to create a digital story that lacked depth and substance.

It is beyond the scope of this study to measure the effect of digital storytelling on standards of literacy. However, the findings of the research indicate that pupils were engaged by the digital storytelling process, in particular students with SEN, struggling writers and new learners of English. Recent statistics published by the OECD indicate that Ireland has slipped down the international rankings in literacy (Faller, 2011). In addition, the DES acknowledges that the literacy skills of Irish students have not improved in over thirty years (DES, 2010). Therefore, the DES highlights the need to re-examine current practices in order to raise achievement (DES, 2010). The results of this study suggest that the digital storytelling method could not replace existing literacy practices. However, digital storytelling could be used as one of a number of ways to invigorate writing activities and engage learners in literacy practices.

5.3 Is Digital Storytelling an Example of Good Practice in the Use of ICT?

5.3.1 Introduction

In order to assess the effectiveness of digital storytelling as a technological tool, it was necessary to look at the use of this approach to:

- Support a constructivist approach to learning
• Change the role of the teacher
• Engage students
• Integrate new technologies

The above points will be discussed in order to consider the use of digital storytelling to support good teaching with technology.

5.3.2 Constructivist Approach to Learning

The Primary School Curriculum 1999 recommends that teachers should adopt a collaborative or constructivist approach to learning. However, a recent report published by the DES indicates that this approach is being underutilised in the classroom (DES, 2010). The findings of this study show that digital storytelling can fully facilitate a constructivist approach to learning. For the duration of two classroom observations, the participants were engaged in a high level of cognitive activity and were using skills such as problem-solving, organising and revising to construct knowledge. In addition, classroom observations indicated that children were interacting with each other during the sessions. Nielsen (1993) believes that social interactions are essential to the construction of knowledge. However, the observational instrument does not specify if the participants were involved in constructive dialogue that was related to the activity.
5.3.3 Role of the Teacher

According to constructivist theory, the teacher serves as a facilitator of learning rather than the sole giver of knowledge (Schulz-Zander et al., 2002). Jonassen and Duffy (1992) add that typical constructivist instruction asks learners to manage their own tasks. However, students can often struggle to perform in a constructivist learning situation if a task is highly complex or the learner is unused to working independently. According to Vygotsky (1978), it is necessary for the teacher to provide an appropriate amount of help and guidance called “scaffolding” in order to assist the learner. The researcher noted that the storyboarding process provided students with the “scaffolding” that was required in order to work independently. As a result, the observational instrument shows that classroom interactions were “student-led” for the duration of the sessions. However, Duffy and Jonassen (1992) explain that technology cannot be used effectively in a constructivist environment unless the teacher possesses the expertise to organise and support the learning process. The researcher in this study was highly skilled in the use of digital media. Yet, it may the case that a teacher who is inexperienced or nervous about the use of ICT would find it more difficult to facilitate a digital storytelling session.

5.3.4 Student Engagement

New technologies can motivate students to become more fully engaged in literary practices (Vasudevan et al., 2010). For the purpose of this study, two observations were carried out by an external observer in order to measure
student engagement. The findings of the research indicate that students were “highly engaged” at the beginning and the end of the sessions. The participants were only “moderately engaged” in the mid-section of each session. The researcher noted that the teacher was providing individual support to Students 1 and 17 during the mid-section of each session. It may have been the case that certain participants were not ‘on-task’ when the teacher was not always available to guide the group.

Between October 2009 and October 2010, incidental inspections were carried out by the DES in order to evaluate the quality of teaching in Literacy and Numeracy in Irish schools. A report was issued in November 2010 and the findings show that “appropriate learning activities” (p.5) were not provided for the pupils in 16.2% of 803 English lessons as a collaborative approach to learning was not encouraged (DES, 2010). The findings of this case study indicate that students are moderately to highly-engaged by the digital storytelling approach. In addition, the focus-group participants frequently describe the approach as “interesting” and prefer it to essay writing. Maybe activities such as digital storytelling could be used to enhance literacy activities. However, there was also evidence in the research to suggest that particular pupils were not engaged by the digital storytelling approach. The very poor performance by Student 6 in the digital storytelling task is a concern. In comparison to his classmates, this student has very good ability in English and was ranked second in the Micra-T examinations. Nevertheless, this student
scored a mark of 17 out of 40 in the digital story. It was the third lowest mark in the class. In addition, the researcher noted that this student was disinterested and did not wish to edit or improve his digital story. Reviewer C pointed out that his digital story was inaudible. Maybe participants become disengaged, like Student 20, when a tool like digital storytelling is used on a regular basis.

5.3.5 Technological Integration

The TPCK framework is outlined in the literature review (see Figure 2.1). It highlights the interconnectivity between content, pedagogy and technology. Mishra and Koehler (2006) explain that TPCK is the basis of good teaching with technology. According to Hicks (2006), the TPCK framework encourages educators to consider the influence of newer technologies on existing classroom practice. In addition, technology integration is highlighted as a key priority of the DES in the report entitled “Investing Effectively in Information and Communications Technology in Schools, 2008-2013”. The report indicates that €252 million will be made available to facilitate ICT training and successful integration by 2013 (DES, 2010). However, the economic recession and recent spending cuts in education could affect the future payment of ICT grants to schools.

The findings of this research indicate that technology can be integrated successfully in a digital storytelling session. In addition, technology was “fully integrated” at the beginning and at the end of a digital storytelling session.
However, technology was only “partially integrated” during the mid-section of the session. This trend is identical to the levels of student engagement that were discussed in 5.3.4. Consequently, the results of the observational checklist could indicate that ICT is used most effectively when students are highly engaged by the activity.

5.4 Does Digital Storytelling Support Children with English as an Additional Language?

5.4.1 Introduction

In order to assess the impact of digital storytelling on students with English as an Additional Language, it was necessary to look at the use of this approach to:

- Support new learners versus intermediate learners of English
- Provide visual support to EAL students

The above points will be discussed in relation to the relevant literature and the EAL students that were identified as part of this study.

5.4.2 New Learners versus Intermediate Learners

The findings of the research suggest that the digital storytelling approach can be of greater benefit to new learners of English. The group of new learners showed excellent progress in the digital storytelling task. Student 13 scored a standard score of 77 in the Micra-T examination and succeeded in scoring 22.75 out of 40 in the digital story. Similarly, Student 21 scored below 70 in the Micra-T
examination and was awarded the second highest mark of 33.25 out of 40 in the digital story. Student 19 showed similar improvement.

The intermediate learners did not show the same level of progress. Students 5 and 6 underperformed in the digital storytelling task in comparison to their performance in the IQ and Micra-T tests. Both students showed little interest in the activity. However, Students 5 and 6 show excellent ability in all other areas of the curriculum and are talented in music and sport. As a result, the digital storytelling approach did not further encourage these students to engage in a literacy activity.

Students 2 and 9 are also intermediate learners of English and have been in the school for over 4 years. Both students scored in the top third of the class in the Micra-T examinations. The results of the rubric show a similar trend. Student 2 scored a high mark of 29 out of 40. Student 9 scored 34.75 out of 40 and it was the highest mark in the class. As a result, both did not progress in the digital storytelling task. Instead, they showed a similar pattern of high achievement. The researcher noted that both students display an excellent work ethic and are high achievers in all areas of the curriculum.

Research carried out by Columbia University in a multiracial urban school in New York indicates that digital storytelling can instil confidence into children who are relatively new to learning English (Vasudevan et al, 2010). It was
reported that the use of the personal narrative in the digital story can allow EAL students to become more deeply engaged in the writing process as they were drawing on the knowledge and experience of their home communities to tell new stories (Vasudevan et al., 2010). In this study, Student 20 produced an excellent digital story about his experiences as a Somalian student in a new school.

Ohler (2006) also suggests that the introduction of new composing tools can increase the literate identity of EAL students in the class. The excellent performance of Student 13, 19 and 21 could indicate that new learners are motivated by the digital storytelling approach. However, the sample of new learners in this study is too small to definitively support the viewpoint of Ohler (2006).

The findings of the case study suggest that intermediate learners did not show the same level of progress as new learners in the digital storytelling task. However, Student 6 was the only student to show a significant drop in achievement in the task. The remainder of the intermediate learners showed the same level of performance in the digital story as the Micra-T examinations. Vasudevan et al. (2010) suggest that digital storytelling can instil confidence in EAL students. However, it is important to note that the intermediate learners in this study are already the most confident group in the class and are the highest achievers in sport, music and all areas of the curriculum. It may be the case that
Vasudevan et al (2010) had based their research on students who were only in the school for a short period of time.

5.4.3 Visual Support

For the purpose of this study, a focus group was established in order to elicit the views of EAL students on the process of storytelling. In the group, one student talked about his frustrations with narrative writing as he was only capable of writing a story that was short in length. In addition, he did not understand the “good words” that were used on the vocabulary sheet supplied by the teacher (Student AF). Another student points out that when he writes an essay, he has “loads of ideas but cannot write them in English” (Student AK). In addition, the same student suggests that he missed a number of story writing sessions as he was always withdrawn for EAL support. The researcher noted that all participants in the focus-group, except Student EH, had talked about their frustrations with essay writing.

Student EH did not speak about his difficulty with essay writing. Instead, he indicated that he often liked to write an essay as “you can be yourself in it” (EH). It is interesting to note that Student EH also commented on the support that he receives from his Albanian parents as they would like him to “get better at English”. The researcher observed that the parents of Student EH provide regular assistance with homework and are interested in his progress at school. In addition, Student EH scored the highest mark in the digital storytelling task.
It may be the case that parental support can have a positive impact on the performance of EAL students.

Lambert (2010) explains that digital storytelling can allow the author to create a visual narrative. A number of EAL students in the focus group talk about the visual aspects of digital storytelling. Student KP explains that he often has problems with essay writing as he knows a word in Polish but does not know it in English. However, he points out that the digital story helps him as he can “describe it by a picture” (KP). Another student points out that if you “type it into Google, the image comes up and you would know it straight away” (AF).

5.5 Problems Arising During the Study

5.5.1 Technical Issues

The findings of this study show that a number of technologies are integrated into the process of digital storytelling. As a result, technical difficulties can arise on a regular basis. The media laboratory that was used in this study was accessible to all classes in the school. Consequently, it was difficult to ensure that equipment had not been broken or misplaced before the start of a digital storytelling session. In addition, there was no technical support available in the research setting and it was the responsibility of the teacher to repair faults and solve issues. As a result, it is important to note that the process of digital storytelling cannot be facilitated by a teacher who is inexperienced in ICT.
5.5.2 Timescale

The timing of the study did not allow the researcher to complete the digital storytelling project. The research was conducted over a two-week period in June 2011. The study took place at the end of the school year and students were involved in activities such as school productions and sports fixtures during the course of the school day. As a result, the researcher was unable to find a suitable time for students to share their stories and celebrate their achievements. In addition, it was difficult for the researcher to conduct an in-depth evaluation of the digital storytelling method over a period of two weeks. However, a longer timeframe was not available to the researcher as the research participants were preparing for assessment tests and the sacrament of Confirmation.

5.5.3 Case Study Research

Case study research can be an effective method of social science research however it is important to understand its limitations. Cohen and Manion (1989) point out that a case study is typically used to observe the characteristics of an individual unit – a child, a school or community. As a result, Stake (1995) explains that a case study can seem a “poor basis for generalisation” (p.7). Consequently, Bassey (1999) explains that a “fuzzy generalisation” is more appropriate in educational research. It reports that:

> Something has happened in one place and that it may also happen elsewhere. There is also a possibility but no surety. (p.52)

As a result, “fuzzy generalisations” were used to discuss this study as the findings could not be applied to a different target population or setting.
5.6 Conclusion

The findings of the study suggest that the digital storytelling approach can have a positive effect on students, particularly pupils with Special Needs and English as an Additional Language. In addition, the results indicate that digital storytelling can be used as an effective practical method of delivering the Curriculum of Ireland. However, the outcomes of the study also suggest that digital storytelling can be a time-consuming activity. The success of the approach can depend on the experience of the teacher in the use of Information and Communications Technology. In Chapter 6, the outcomes of the case study will be summarised and recommendations will be made for future research in the area of digital storytelling.
Chapter 6: Conclusions and Recommendations

6.1 Introduction

This study aimed to evaluate the effectiveness of digital storytelling as a narrative writing tool. The case study was conducted with a Sixth class group in a primary school in the south west of Ireland. This chapter will provide a brief summary of the findings. In addition, methodological and practical recommendations will be made.

6.2 Outcomes of the Research

The findings of the case study will be presented in relation to the research questions that were used as a focus of the case study.

6.2.1 How effective is digital storytelling in the teaching of narrative writing?

- The digital storytelling approach can have a positive effect on students, particularly pupils with Special Education Needs and English as an Additional Language.
- Digital storytelling is a technological tool that can allow children be more creative. The findings indicate that multimedia tools can be used to enhance the quality of a story.
• Digital storytelling can motivate struggling writers as the handwriting obstacle is removed. Struggling writers performed well in the digital storytelling task as their voice could be used to perform the story.

• Digital storytelling can support children with language learning difficulties. The findings of the research indicate that the approach can allow low achievers to use multiple intelligences.

• Digital storytelling can be used as an effective practical method of delivering the Curriculum of Ireland. However, the outcomes of the study also suggest that digital storytelling can be a time-consuming activity.

• The findings of the study suggest that digital storytelling is an evolution of older forms of writing. In addition, the results of the research indicate that good narrative skills are needed to create an effective digital story.

6.2.2 Is digital storytelling an example of good practice in the use of Information and Communications Technology?

• The digital storytelling method can facilitate a constructivist approach to learning. Children have the opportunity to manage their own learning. Digital storytelling sessions are student-led and the teacher provides an appropriate amount of scaffolding to assist the learner.

• The findings of the study suggest that students are engaged by the digital storytelling approach, particularly when a number of technologies are integrated into the session.
The outcomes of the case study tend to indicate that digital storytelling can satisfy the requirements of the TPCK framework. As a result, it is a good method of teaching with technology. However, the process of digital storytelling could be difficult to deliver if the teacher is inexperienced in the use of ICT.

6.2.3 Does a digital storytelling approach support children with English as an Additional Language?

- The results of the research show that digital storytelling could be of greater benefit to new learners of English than intermediate learners. However, the sample of students in this study was too small to definitively support this conclusion.

- The findings suggest that narrative writing is a difficult activity for EAL students as they struggle to formulate ideas and use vocabulary in a different language. However, the visual aspect of digital storytelling can provide scaffolding to children with English as an Additional Language.
6.3 Recommendations

The researcher noted that the following recommendations could be made in order to inform further research in the area of digital storytelling.

6.3.1 Methodological Recommendations

- The findings of the case study tend to suggest that a longer timeframe could be beneficial as the participants could be given the opportunity to share their stories and celebrate achievements. In addition, an extended timeframe would allow the researcher a longer period to evaluate the impact of digital storytelling.
- This case study focussed on the perceptions and behaviours of children. Further research could be carried out in order to elicit the views of teachers on the process of digital storytelling and the integration of ICT. This data could allow the researcher to assess the factors that inhibit the integration of ICT in the classroom. It could be beneficial to compare the viewpoints and practices of teachers who are confident in the use of technology with teachers who lack competence in ICT.

6.3.2 Practical Recommendations

- The findings of the case study indicate that digital storytelling is a time-consuming method of delivering the story writing objectives of the English programme. However, the digital storytelling approach can be
used across the curriculum to link subjects such as History, Geography and the Visual Arts.

- The results of the research show that children could have been offered further opportunities to enhance creativity. Future digital storytelling projects could allow children to use their artistic ability to draw and create images. In addition, music could be composed for the purpose of the project.

- The findings of the study suggest that digital storytelling can be of benefit to pupils with Special Educational Needs and new learners of English. Digital storytelling could be integrated into the language support setting where the children are taught in a smaller group.

- The digital storytelling approach could be used to create a project in the Summer Term of sixth class. Opportunities could be given to research a cross-curricular topic, create images, record the narration and present the digital story at the end of the year. This project-based approach to technology could be included in the yearly school plan for ICT.
6.4 Conclusion

This study has evaluated the effectiveness of digital storytelling as a narrative writing tool. The findings indicate that digital storytelling had a positive impact on participants and is a good method of teaching with technology. However, this case study focused on a small sample of participants and the research took place over a short period of time. In addition, the digital storytelling approach was evaluated in relation to a specific element of the English curriculum. As a result, it is necessary to consider the opinion of the educational researcher, Michael Bassey. He explains that the findings of an educational research cannot be applied to another context or setting as there are a number of factors to consider when learning is taking place (Bassey, 1999). However, it is hoped that this study could encourage teachers to enter into a discourse about digital storytelling: to read about it, discuss it with colleagues and try it out in their own classroom (Bassey, 1999).
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Appendices

Appendix A: Letter to Parents

Dear Parents,

I am currently studying for my Masters in Digital Media at the University of Limerick. As part of this course, I hope to carry out a case study with the aim of evaluating the effect of digital storytelling as a creative writing tool. During my research, I wish to observe the children working alone and in pairs. This forms a part of the normal English/IT lesson. From time to time, I also hope to interview children, these interviews will be recorded.

I am really looking forward to carrying out this research. I believe it will be an interesting and beneficial process for both your child and I. I would be grateful if you could detach the permission slip and return it indicating whether or not your child can take part in this project. I would also be grateful if your child could also complete a permission slip below. If you have any questions, please call to me before or after school.

Thanking You,

____________________________________
Doireann Garrard
Class teacher

Parent
Circle as appropriate
I do/do not give permission for ________________ to be part of this project.
Signed: ________________________

Child
Circle as appropriate
I _________________________ wish/do not wish to take part in this project.
Signed: ________________________
Appendix B: Letter to the Board of Management

Dear Board Members,

I am currently studying for my Masters in Digital Media Development in Education at the University of Limerick and I am requesting permission to undertake a study with the pupils in the sixth class in which I am class teacher.

The aim of the study is to evaluate the use of digital storytelling as a creative writing tool in sixth class. During lessons, the children will be observed as they work independently and in pairs. From time to time, interviews may be conducted to seek the viewpoints of children.

The relevant ethics of educational research will be carefully followed and no individual or institution will be identified in the writing up of the results of this study. Please feel free to contact me if you have any questions or queries. I look forward to your reply.

Yours Sincerely,

____________________________
Doireann Garrard.
Appendix C: Examples of Storyboards

One day one my tenth birthday I got the nicest, hottest jacket. The day after that I went to school with my new jacket. On the yard, my friends asked me if I would play soccer with them. I did and I put the jacket in the goals.

When the bell went, I ran for my jacket and it was gone. I checked every corner and it was gone. I went to the class to ask the teacher and I asked to go and check if the boys had my jacket. I went from class to class and still did not find it. I knew if I did not find it, my mam would kill me! The school was over and I walked home with my friend. I was opening the door of my house and the blood rushed through my body. My friend just started to laugh beside me. He did not tell me why. After like two minutes, he pulled my new jacket from his bag. I was the happiest person ever. Finally, I asked him would it be good if I did that to him.
When I was ten years old my class and I were doing an experiment with our student teacher, Miss Salmon. We were making a replica of a volcano. We were using vinegar and washing up liquid as part of the experiment. The teacher was showing us the effect that the two objects had when combined together. We put the vinegar into the bottle first. Then the washing up liquid and last of all, we added baking soda. The student teacher told us, not to shake the bottle after we added the baking soda. Suddenly the only things we heard were BANG POW and a WALLOP!

Three of my classmates had shaken their bottles vigorously. The whole class had a smell of vinegar like chips from Donkey Fords. And the classroom was a mess. Also my teacher was out sick and no one knew the way she would react when she came back the next day. We were all so nervous.

Green liquid covered the tables and all of the floor. But worst of all was that the ceiling was covered in green liquid. Our student teacher thought she was in big trouble and was terrified. She was crying like a baby. However, we told her not to worry because we would clean the classroom for her.

I think this was a bad move by the student teacher. Why would a teacher tell students not to shake a bottle? Because they would obviously shake it. Also I doubt that the student teacher or I will ever forget what happened that day in 11C. The funniest day of my school life.
Appendix D: Screenshots of Digital Stories
Appendix E: Examples of Completed Rubrics

Results of Reviewer A – Students 1, 3, 9 and 12

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**Class organization**
- Individual students working alone
- Pairs of students
- Small groups (3-4 students)
- Whole class
- Student presentations

- Receipt of knowledge
- Application and procedural knowledge
- Knowledge construction
- Other (specify)

**Teacher role**
- Teacher led
- Student-led

**Student role**
- Passive/Active response
- Active response
- Co-construct meaning
- Low engagement
- Moderate engagement
- High engagement

**Technology integration**
- Not used
- Partially integrated
- Fully integrated

**Teacher's Technology use**
- Not used
- Presentation
- Demonstration
- Assisting students

**Student's Technology use**
- Not used
- Single application used
- 2 or 3 applications used
- 4+ applications used

**Number of students using technology**

- [Check all that were used]: Software, Web, CD-ROM, printer, camera, scanner, other (specify)
Appendix G: Focus Group Interview

Participants: NM, AK, EH, AF, AA, KP, HW, JE.

Interviewer: Off you go, AF, just introduce yourself briefly.
AF: My name is AF, and I am from Slovakia. From Rimaska-Sobota.
Interviewer: Ok
AF: I came here in 2008….in May.
Interviewer: Ok. And aaammm…do you speak other languages at home?
AF: Yeah, I speak Hungarian, Slovakian and Czech.
Interviewer: Ok, very good. KP, can you tell us a bit about yourself?
KP: Yeah….I am KP. I am from Poland and I am in Ireland since 2006….eh, June.
Interviewer: Ok…2006…am I right in saying that both of your parents speak Polish most of the time at home?
KP: Most….
Interviewer: Most of the time….ok. Were you learning English before you came here?
KP: No
Interviewer: You weren’t….ok. Right JE, just a little bit about yourself.
JE: My name is JE. I came to Ireland in 2000…on February.
Interviewer: Ok
JE: And at home, I speak….aaammm….Ebo.
Interviewer: Ok
JE: I am from Africa…in Nigeria.
Interviewer: Ok….Nigeria in Africa….ok EH. Thank you.

EH: My name is EH and I am….have been in Ireland for six years and I am from Albania.

Interviewer: Ok. And are both your parents Albanian, EH?

EH: Yeah.

Interviewer: They are….ok….and do both your parents speak Albanian at home?

EH: Aaammm….my Dad sometimes speaks English.

Interviewer: Your Dad sometimes speaks English….ok HW?

HW: My name is HW. I came to Ireland in 2006….in June.

Interviewer: Ok. And aaammm….when did you join Scoil I [the school], HW?

HW: Aaaammm….I joined Scoil I in second class.

Interviewer: Ok…in second class, right. AK?

AK: My name is AK. I’m from Slovakia and I am here two years.

Interviewer: Ok….you’re here two years…and what languages do you speak at home?

AK: Hungarian and Slovakian

Interviewer: Ok….Hungarian and Slovakian, AA?

AA: My name is AA. I live….aahh….and I….aahhh….I come here….aaahhh…in 2009.

Interviewer: So, you’re here sort of a short time, AA, aren’t you? Ok. And am….where did you come from in Somalia?


Interviewer: Ok, north of Somalia. Right..and NM?
NM: My name is NM. I came to Ireland in 2008. I lived in Deerjanoff.

Interviewer: Ok, very good, very good. So, we have a big group of…aaamm…students from different countries here. Aaamm…many languages really when you think about it. Aaammmm….so, what we’re just going to discuss is….as I said to you already, I’m focussing in on the children who have English as another language. Ok…which is a great gift that all of you have…that you can speak in a different language. Am…and I’m just focussing in on this particular group…now…as I said to you, we are going to focus in again then on our digital storytelling project, ok? Now, aammm…..would anyone, kind of, like to tell me…aaahhh… the different steps that were involved in that project? Would anyone like to volunteer and tell me, how did we start off? What did we start off with?

Interviewer: Am, JE?

JE: We started off just talking about it.

Interviewer: Ok, so JE what was the subject of our digital story?

JE: Uuummm….just like, our memories.

Interviewer: Of?

JE: CBS? Scoil I.

Interviewer: Of Scoil I…..ok.

Interviewer: So, we started off and we had….a good chat about it. How did you find that, AF?

AK: Mmmm….good.

Interviewer: Did you find that difficult…a little bit difficult.

AK: Yes…

Interviewer: Why would you find that difficult, Alex?

AK: [quite shy] Because….I never used Publisher.

Interviewer: You have never used Photo Story, wasn’t it? You have never used Photo Story before. Think back now to when we were doing our project.
Ok…and we were talking about…our first ideas. Right, did you find that difficult?

AK: Mmmm…yes.

Interviewer: Why was that? Think about when you came to the country first?

AK: I just came here two years….and I don’t know nothing in English…and I don’t really have stories.

Interviewer: Ok, so you didn’t have many stories from Scoil I. So, that was a big thing. Did anybody else find that a little bit difficult…considering you have only been…some of you have only been here a short time. AF? Did you find that difficult?

AF: Yeah…cos I nearly…I like never wrote a story like two or three pages…sometimes just a half a page.

Interviewer: Ok

AF: Because in Mr.C’s class, I was always in my English class.

Interviewer: Ok

AF: ….when they were writing stories.

Interviewer: So, you found that a little bit difficult….and as well as that…as I said….you are here….a short amount of time…ok. So, we talked about our first ideas…what was the next step that we took, does anyone remember? In our digital story….what was the next step we took? So, we discussed it, we wrote down a few ideas…didn’t we? [all nodding] Of different…classes….what was the next step we took? Yes, NM?

NM: We wrote, we wrote stories on paper.

Interviewer: Ok, so we wrote down our stories on paper…ok. What different types of things did the teacher tell you to include in your story? Does anyone remember?

HW?

HW: We had to include good adjectives…and good describing words…

Interviewer: Describing words….ok…how did the teacher tell you to start off the story…can you remember, we looked at a few examples, how did we start off the story?
KP: For example, it was... 'when I am nine years old'.

Interviewer: Ok, so giving you an age and all that... grand. So, then we put various things into the story... what did the teacher tell you was important to add into the story? AA?

AA: Pictures

Interviewer: Ok. Now, remember, we are only still writing though. What was important?

JE: Highlights... like... a main event.

Interviewer: Yes... so you have to have a main event... why?

JE: Because it wouldn’t be interesting then.

Interviewer: Ok... so you need to make the story interesting. Why do you need to make a digital story interesting?

NM: To make some people watch it.

Interviewer: Because at the end of the day in a digital story... where would you hope it would go? When your story is finished... what would you hope happens to it?

JE: It goes on a CD?

Interviewer: And then?

HW: You could print it out.

Interviewer: Would you print out a digital story?

HW: No.....[laughs]

Interviewer: What would you hope might happen to it? Would it just stay on the computer?

KP: So, I would put it into shelf and check it in about two years time.

Interviewer: Ok. Where else could it go?

AK: On the internet.
Interviewer: It could go on the internet. Yes…in the school. Where could it go?

JE: Uuuummm….it could go to the principal.

Interviewer: So, it could to the principal and he could watch it. Right, cool. Now, the next thing was…we talked about adjectives…we talked about adverbs…we talked about, as you said JE, putting in a main event into the story. Ok, that’s very important. And then, we talked about a good beginning and a good ending as well, didn’t we? And then, we took our idea, and do you remember what we did then? To take our idea from paper and pen and to take it to the next step…what was the next day about? KP?

KP: [puts his hand up] We go on computers….yeah.

Interviewer: Now, remember before we came to computers, there was a day in between. What did we do?

AF: We took our idea from paper….and then there was like…highlight your story…and say where you want to put a picture or….uumm….a heading.

JE: Called storyboarding.

Interviewer: So, we were storyboarding, weren’t we? We took our ideas from our paper and pen essay…and we did what’s called a storyboard. So, we storyboarded then and….sorry to interrupt, AF, can you tell me more?

AF: We….we…wrote there what type of pictures we would like to search on the internet.

Interviewer: Ok….and also, what other type of photos or pictures were available to some of you?

AF: We had some pictures from our sixth class....on the computers.

Interviewer: So, we could use them as well. What other things did we need to plan there?

NM: The type of music.

Interviewer: You needed to plan the background music. What other things between photographs did we need to plan?

HW: The narration.
Interviewer: Sorry? The narration. Right…the narration as well. We planned that too. We did our storyboarding. So, what was the next step of the process. You are all mad to get to this bit. What was the next step of the process? We took our storyboards…and what was the next day that we did with our digital story? Can you help me out there NM?

NM: We go to computers and started doing it.

Interviewer: Tell me please, a little bit about the software that we were to use, EH.

EH: We were using Photo Story 3…and [hesitates]….we were using the pictures that we were getting off the internet. We were…like…importing them…and when we had those…like….we had to narrate what we highlighted with the picture.

Interviewer: Ok….give me a few handy tips or hints, please about narration? If you were telling somebody to do it, what handy tips would you remember about narration, please?

JE: You shouldn’t talk too fast. You should give a lot of expression because you never know who could be listening to it.

Interviewer: Ok. Very good.

AF: And to keep quiet around you.

Interviewer: Ok, other people need to keep quiet around you…and what about the headset?

NM: You can’t keep the microphones too close to your mouth.

Interviewer: Ok, microphone not too close too close to your mouth. So, we spent about two days getting our finished products. Any problems along the way, guys? There are always things with computers. What different kind of things went wrong…and something goes wrong all the time…so, what little glitches would you suggest to somebody if you were doing this project again? What little things went wrong?

NM: When I narrated, it was….the whole story actually went too short.

Interviewer: So, what did you need to do then?
NM: I needed to slow down. Go slower.

Interviewer: Ok…yourself?

EH: And aamm…because when you’re narrating…like when you’re done, you have to go and check it over because there might be squeaks and there might be people talking in the background.

Interviewer: AF, you were one of the assistants on the project, what different things did you find that went wrong?

AF: The microphones on the computers….when you put in the microphones, sometimes the computer didn’t recognise it, so you couldn’t talk in it.

Interviewer: That was one thing…the microphone wasn’t recognised…we had a few sound problems…didn’t we? Before our sound checks. How about when we were finishing the projects? Right at the end, what different projects might we have had? KP?

KP: We had problems with music.

Interviewer: What happened?

KP: I could not hear the narration.

Interviewer: You couldn’t hear the narration?

NM: I had a problem with saving. It said that the data was corrupted somehow.

Interviewer: Did anybody else have problems with saving the data?

EH: Yes.

Interviewer: What happened with yours, EH?

EH: Mine wasn’t saved properly. When you clicked ‘play’ on the story…it only came up on that….it didn’t come up on the file.

Interviewer: Ok. So, that was another thing. Saving the information. Now, then we move onto a little bit about our digital storytelling. Is there anything that you think is really good about digital storytelling? Obviously, you don’t have to answer this question. Is there anything you think that makes it enjoyable? Anything at all? HW?
HW: You don’t really have to read.

Interviewer: What is it?

HW: You don’t really have to read.

Interviewer: [Need to clarify the question again] We’re talking about, I suppose, writing. Because at the end of the day, you wrote a story and then you made it into a digital story. So, we’re talking about writing, ok? Comparing it to your normal writing. What kind of advantages is there to digital storytelling?

JE: In digital storytelling, there’s pictures….but then if you’re writing, there won’t be any pictures. Just words and words on the page.

Interviewer: Ok, so you like the fact that….there’s visuals. Is that right?

JE: Yeah, there’s visuals to go with the story.

Interviewer: Anything else?

NM: There can be music in the background…make it more interesting.

Interviewer: You think there is music in the background to make it more interesting. Is there anything else, AA? How about yourself? What did you like about digital storytelling?

AA: Uuuummm…. The music.

Interviewer: Do you like sitting down and writing a story with a paper and pen or do you like a digital story? [needs clarification] Which one do you prefer? Doing a normal essay or doing a digital essay?

AA: A normal essay.

Interviewer: You prefer doing a normal essay, so you don’t like using computers

AA: No.

Interviewer: Is there anybody who would agree with him there? [all disagree] Is there anybody that would prefer to do…just an English essay and write that down?
EH: Ah, sometimes because in digital stories, it takes you more time and you have to take pictures...and that. You have to put the music. But in a normal story, you to write it and be yourself in it.

Interviewer: So, you just write it and then it’s done. End product then? So, when the whole thing is done....finished, do you prefer to have an essay in your copy or do you prefer to have made a digital story? Which one do you prefer? As I said, I’m not telling you the answers here! It’s your opinion.

AK: I would prefer a digital story.

Interviewer: Why would you prefer a digital story?

AK: Because it is more interesting. With pictures. With essays, you just need to read.

Interviewer: So, being from a different country...we’re talking about this group who you all have parents from different countries...you all speak a different language...do you find English writing...English, in general...do you find it difficult in school? AA, would you find it difficult?

AA: Yeah.

Interviewer: So, what type of things would you find difficult about it?

AA: English.

Interviewer: Writing...reading?

AA: Writing.

Interviewer: You find writing difficult, ok. Would you think that you did a better story...just normal writing...or would you say you did a better story as a digital story?

AA: My digital story.

Interviewer: Your digital story was better. Why was that, do you think?

AA: Because you can have pictures for the digital story.

Interviewer: How many people here would think that their digital story was better than what they would just write on a page? [all put their hands up and agree] Can you think of any reasons for that, AF?
AF: It makes it more interesting because you are listening to who wrote the story; you are listening to how he is reading it…expression.

Interviewer: Do you think there is anything being from a different country? Do you think it is difficult to sit down and write an English essay?

AF: Yeah.

Interviewer: Why is that?

AF: Because, you know, you can spell some words wrong...you do have some ideas already.

Interviewer: What advantage...being from a different country...what advantage does digital storytelling give you? Over writing an English essay? Just to explain that...a digital story is a lot different to an English essay, would you think that your essays are better or worse...being a digital story? What advantages does a digital story give you? Because you said, AA said he finds it difficult to sit down and write an English essay. But you said that the digital story gives you what?

[Pause here...children distracted by person entering the room]

Interviewer: [clarify again] Are you saying that because it gives you pictures, does it let you explain yourself a little bit more?

KP: Yeah...yeah...

Interviewer: What type of problems do you come across when you are writing an English essay?

KP: I actually have sometimes problems when I know a word in Polish but I don’t know it in...English.

Interviewer: How would a digital story help you there, KP?

KP: I just could describe it by a picture.

Interviewer: Ok. So, you could describe it by a picture. Alright. And you were saying there...that’s very good KP...that’s definitely the case. Does anybody think of their own language...if they are writing a story...does anybody often get frustrated...

KP: Yeah.
Interviewer: Do you know what ‘frustrated’ means? A little bit annoyed when they are writing an English essay. Why would you get a little bit frustrated? Because I know sometimes, some of you here are brilliant mathematicians…but sometimes when it comes to English, you get a little bit frustrated. Why would that be, JE?

JE: When English isn’t your first language, you wouldn’t know most of the words in the dictionary. And then you wouldn’t know, like, any ideas then too.

Interviewer: Ok, would you say that, EH, even though you have been here quite a while.

EH: No, because I’m used to the words and my parents…like…make me…like…do work at home….so I can get better at English.

Interviewer: Ok, so you don’t really get frustrated with English writing, but AK, you do a little bit. [AK is nodding his head] Why is that, AK?

AK: Maths is the same as in Slovakia but English is….I don’t know good words.

Interviewer: Did the digital storytelling project help you a little bit with that?

AK: It did.

Interviewer: And how about you, AA? Do you get a little bit frustrated sometimes when you are writing an English essay? [AA is nodding] Why is that?

AA: Because I don’t know the long words.

Interviewer: Did the digital story help you a little bit?

AA: You can, like KP said…you can type in the word and the image comes up.

Interviewer: The image goes with it. How about you, NM? Do you get a little bit frustrated sometimes?

NM: Yeah, because when I write English essay, I have loads of idea but cannot write them in English.

Interviewer: So, would you say that the computer project helped you or not?
NM: Not…

Interviewer: Your computer story was not better than a normal story you would write?

NM: Yeah, my computer story was worse.

Interviewer: It was worse…why was that?

NM: Because when I was writing it in English essay, it was actually longer than the digital story.

Interviewer: So, are we saying that the best English essays are the long ones?

EH/HW/JE: No

EH: The ones that have interesting things in it.

JE: Yeah, interesting…description.

Interviewer: So, AF, what would you say? Do you often get frustrated when it comes to English writing?

AF: Yeah, because we have the good words on a sheet. I don’t know what they mean. So, I cannot put in any good words into my story.

Interviewer: So, did the digital story help you a little bit there?

AF: Yeah.

Interviewer: Just a general question. Do we like using computers in school? How many people would agree? [all hands are raised] What different things do we like about using computers then?

KP: When we are finished before everybody, we can have free time.

Interviewer: Ok, you like a bit of free time on the computers. Apart from the free time, are there any other pieces of software..that you like to use on the computers?

JE: Yeah, Publisher…

Interviewer: You liked using Publisher. What did you use it for this year?
JE: We used it to make safety leaflets….and a leaflet for our graduation.

Interviewer: Would you ‘recommend’….do you know what that means?

JE: Yeah.

Interviewer: Would you recommend Photo Story for children who are learning English? [all agreeing] You would. Why would you? HW, would you?

HW: Yeah.

Interviewer: Why is that? Now, HW, I know that you are not very new to this country, so it’s a little bit different. Would you consider yourself fluent in English?

HW: Almost.

Interviewer: So, why would you recommend Photo Story?

HW: It’s just…..[long pause]

Interviewer: Anybody help him out there? [KP has his hand raised]

KP: I would recommend it….just…if you are in the right age group…if you are eight, you would not understand how to do it.

Interviewer: So, you reckon twelve and thirteen years old. How would it help somebody learning English though?

KP: Because, they don’t know how to describe….as I said before…just put a picture.

Interviewer: Very good. Well done, KP. And yourself [AF has his hand raised]

AF: And sometimes….like, if you are still a new boy…like, for example, a window….they would not know what is it….but if you type it into Google, the image comes up and they would know it straight away.

Interviewer: Just for a second, think back to….maybe….the English exam we do in sixth class….Sigma T. Sorry, Micra T. Do you reckon the standard….you know what ‘standard’ means? [all agree] Do you reckon that your digital stories would be judged as being better…..or would your Micra T results be better?
All: Micra T.

Interviewer: You reckon the Micra T would be better. Why is that?

KP: I couldn’t do it with Photo Story. I just couldn’t do it. I am just used to it. …used to the Micra T. If I started off with Photo Story, I might be good at it but I didn’t.

Interviewer: Ok, next question. How many people think that their English essays…in the copy…would be better than what they did in Photo Story? So, for instance, if I ask you, AA? Oh, I asked you before! So, would your English essays in your copy be better than Photo Story, Alex?

AF: No. Because in my copy…like…it’s just reading….you don’t know, like….how to imagine the story.

Interviewer: Ok.

AF: You don’t know anything about it, but in the Photo Story, the pictures describe it for you.

Interviewer: The pictures describe it for you. What would you think, JE?

JE: I would say that in our essays…like…since we are new here….we are not used to the words….and in Photo Story then, we can put pictures and music to help the people understand it more.

Interviewer: What would you say, EH?

EH: I prefer my Photo Story….because the photos help you describe the things better….like if you have English as your second language….the photos help….like, describe the thing better.

Interviewer: Great. Everybody, we are finished our photo stories today. We are going to have a little presentation of certificates for completing your digital story. Just to ‘sum up’…you know what that means? [all agree] Just to finish up….what educational [rephrases]….what is good about Photo Story in school?

NM: I would say that the children might like more Photo Story than writing essays. It’s like more interesting to do stuff on the computer.

Interviewer: Ok, do you know what ‘motivate’ means? [NM nods] I just picked on that from you, NM?

EH: Does it mean ‘encourage’?
Interviewer: Yes...does it ‘encourage’ you to do something if you are going to do it on the computer? [all agree] Or...would you be more encouraged to just write your essay, teacher corrects it, maybe type it in Microsoft Word? What would you think, JE?

JE: I would say that we should use Photo Story more because it’s interesting. If you’re just writing it, you get bored.

Interviewer: So, if you were writing, you might get bored. Would you say that it encourages you a little bit, AA?

AA: Yes...because I like digital story on the computer.

Interviewer: You like using computers. How many people here would definitely say that they would like using computers at school? [All hands are raised]...that’s a good thing!...[the group are laughing]...and Alex has legs up at this very moment...he obviously absolutely loves it...[the group laughs again]...just to say thank you guys for your feedback today. That was a brilliant little interview...got lots of good tips there about what you think.....do you think that maybe Photo Story isn’t as useful for the children who have got good English as it is for the children who are only new learners? HW, EH, KP, you are here quite a while, what do you think?

KP: I think Photo Story would be good for everyone like...because, people who speak English sometimes do not know good describing words...and they could do with pictures.

Interviewer: So, they could do with it as well. Ok, so thank you everybody...sorry JE, have you got something to add?

JE: Yeah, the English language...people are messing it up with words...like they don’t use proper English when they are talking.

Interviewer: Ok, so you reckon when you are doing it on the computer, are you a little bit more careful?

JE: Yeah.

Interviewer: Because your voice is going to be on that microphone. Ok, thank you very much for your interview and I will see you tomorrow.
Appendix H: Analytic Rubric Used to Assess the Quality of a Digital Story

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<thead>
<tr>
<th>Criteria</th>
<th>Final Score</th>
<th>Rating of Students’ Stories</th>
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<tr>
<td>1. Purpose of Story</td>
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<td>2. Point of View</td>
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<td>4. Choice of Content</td>
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<td>7. Suitable Audio Track</td>
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<td>10. Use of Grammar/Language</td>
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Rating Scale:

- Poor = 0
- Average = 1
- Good = 2
- Very Good = 3
- Excellent = 4

Student Number: 
Reviewer: 

161
Appendix I: Results of Analytic Rubric: Overall Average Score in Each Criterion
Appendix J: Standard Scores of Students in Micra-T Examination

![Bar graph showing standard scores for different student numbers. Each bar represents a student's score, with scores ranging from 102 to 70.]