DOCTOR OF PHILOSOPHY

Spoken texts coupled with moving images in the early years – effects on comprehension, language, and literacy

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SPOKEN TEXTS COUPLED WITH MOVING IMAGES IN THE EARLY YEARS - EFFECTS ON COMPREHENSION, LANGUAGE AND LITERACY

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Declaration

I hereby declare that the candidate, Rahimah Saimin is the author of the thesis presented herein; that, unless otherwise stated, all references cited have been consulted by the candidate; that the work of which the thesis is a record has been done by the candidate, and that it has not been previously accepted for a higher degree.

Signature:

All conditions stated within the Ordinance and Regulations of the University of Dundee have been strictly adhered to and fulfilled by the candidate, Rahimah Saimin.

Supervisor's Signature:

Abstract

Previous research has shown that young children can learn from educational television programmes, videos or other technological media. However, the blending of any of these with traditional printed based text appears to be omitted. Repeated viewing is an important factor in children's ability to comprehend the content or plot. The present study used spoken texts coupled with moving images requiring repeated viewing. It is original and distinctive. The theoretical framework was Mayer's multimedia learning theory combined with Vygotsky's learning theory. The first study was a pilot study to explore whether the intervention was implementable in ordinary classrooms. The second study explored whether curricular embedding of the video was important. The third study explored the effect of "dosage", i.e. whether a longer/more intense intervention had a proportionately greater effect on outcomes. Both quantitative outcomes (receptive vocabulary, letter sound knowledge, and early word recognition) and qualitative outcomes (comprehension of video content, teacher-child dialogue and drawings) were obtained. An experimental design was used with 4-5-year-old children in nursery and primary schools for the first three phases. Six links to video clips exploring non-fiction science content were provided to teachers in the first three studies. About half of each class was selected randomly for pre-post assessments (the British Picture Vocabulary Scale (BPVSIII) and the York Assessment of Reading for Comprehension (YARC) Early Reading). Different implementation fidelity measures were used - observations, teacher self-reports, attendance logs and post-programme interviews. All data gathered was triangulated. Quantitative data showed there was no significant pre-post differences in children's receptive vocabulary, letter sound knowledge, and early word recognition. A Case Study followed to explore how the teachers used the spoken texts coupled with moving images to mediate the children's learning, how children responded to the teacher's effort to support them, and what other factors were operating in the situation to promote children's comprehension on video content, language development and literacy skills. Five links to non-fiction video clips were provided. The qualitative data from the Case Study revealed that the use of spoken texts coupled with moving images can promote and support children's literacy skills, particularly in teacher-child dialogic talk, retelling stories and making meaning in drawing. The child-interview evidenced that the use of spoken texts coupled with moving images supported children to remember, to comprehend, to evaluate, and to analyse. The teacher interview showed there were deeper and more meaningful ways to support children's comprehension of video content and connect this to language and literacy. Implications for practitioners and researchers were explored.

List of Abbreviations and Acronyms

The following list illustrates the meaning of the abbreviations and acronyms used throughout the thesis. The page on which each one is defined and first used is also provided as below.

Abbreviation/Acronym	Meaning	Page
P1	Primary 1	3
ZPD	Zone Of Proximal Development	6
BPVS III	British Picture Vocabulary Scale: Third Edition	52
YARC	York Assessment of Reading Comprehension: Early Reading	53
ALD	Risk For Learning	35
SPSS	Statistical Package for Social Sciences	58

Chapter 1

INTRODUCTION

1.1 Introduction

Son: Mum, CD (VCD)?
Me: Yes, dear. Which CD(VCD) do you want to watch?
Son: Mickey Mouse

These conversations reminded me of the old days (to be specific - 12 years back) on how my eldest son started to pick up some English words from watching Mickey Mouse series on VCDs. English is not our first language. At that time, English was not our home language. When my eldest reached 18 months, my husband and I bought the Mickey Mouse VCD series for him to watch and we hoped that he would have fun and would learn English from the series. I gave him chances to sit in front of the television to watch the VCDs once or twice a week. I would make sure that I sat right next to him every time he watched the VCDs. I had to admit it that I really wanted to know how he responded to the video so I closely observed his behaviour. I could see that while watching at times he imitated the characters' pronouncing some words, there were times he sang along with the characters and imitated the actions performed by the characters and said aloud together with the action, and there were times too when he fell asleep in front of the television. He sometimes asked me questions while watching. Occasionally, we had a small talk too after watching the VCDs. After a time, I realised he managed to pick u some little English words before he could combine different chunks of words into phrases then into a simple sentence into daily conversation. This experience had made me realised that it would be valuable if I could carry a research something similar to this for my PhD.

An interesting quote from Curriculum for Excellence (hereafter CfE) factfiles 3 (2011) on *Is literacy just to do with books?* has invited and then encouraged me as a researcher to further investigate literacy in the early years in general and the use of short videos and their effects on young children's language and literacy skills specifically. The quote says:

> *Literacy doesn't involve understanding only printed texts. In the 21st century, young people experience wide range of information, so they need the skills to work with written or printed texts as well as other forms of text, such as web pages, social networking sites, films, graphs, and the spoken word. (Curriculum for Excellence factfiles 3, 2011)*

It is evident that films or videos are an integral component of the educational environments students face these days. However, from the perspective of educational psychology, the status of video as an effective learning medium has not gone undisputed, particularly in comparison to print (Merkt, Weigand, Heier, & Schwan, 2011). Clark (1983) took a position that media do not influence learning under any conditions. Rather, media are mere vehicles that deliver instruction but do not influence student achievement any more than the truck that delivers our groceries causes changes in our nutrition. However, Kozma (1994) argued that technology plays a role in providing students with tools and information that support their problem solving, communication, collaboration, and knowledge creation. Kozma contended it also provides teachers with new tools that can transform instructional roles, curricula, and practices.

Printed texts are still a prominent feature relied upon by many language teachers. Video, conversely, is not widely known and used in most classrooms. Motion, sound and familiarity of use, all serve to enrich and capture the viewer on various cognitive levels and help to increase the chances that material will be stimulating and meaningful (Huston, 1983). Video is a significant part of a child's life outside the classroom and yet there is little known about its form, the mental operations it develops, the cognitive skills it affects and the ways in which the medium might be exploited to a learner's advantage (Greenfield, 1984; Lapp, Flood, Moore, & Nichols, 2005).

Most of the research in the field is addressing television viewing and media technology. Search terms that hit the target include television, television viewing, educational television programmes, language development, literacy, comprehension, visual literacy, captioned videos, captioning, preschool, nursery, Sesame Street, Teletubbies, talking books, audio books, electronic books, multimedia, CD-ROMs and multimodal texts in the early years.

It appears that the field is swamped and dominated by the use of educational television programmes particularly Sesame Street as to promote school readiness and Teletubbies to promote learning through play. While research on the use of captioned short movies in the early years is overshadowed by the research on the impacts of the use of captioned videos on persons with hearing impairment and the use of subtitling on television programmes for general viewing as well as for learning of English as a second or foreign language.

Captioned short movies are seen as another supplemental tool that can be benefited by and helpful for nursery children specifically and primary children generally to support their literacy development (Linebarger, 2001). However, I can see that there are also some arguments about this claim and investigations grounded to multimedia learning theory are also being done. In multimedia instructional environments, learners are exposed to verbal texts and pictorial form. As a result, multimedia instructional environments appear to be certainly promising in order to support learning (Mayer & Moreno, 2002). The investigations claim that multimedia presentations which involve both words and images must not be presented using captions to accompany the images as students are claimed to learn better from animation and narration than from animation and captions i.e. on-screen text. I would agree to the justifications as captions or on-screen text can be seen as a distraction to children while watching videos or any on-screen images particularly when they are watching videos with moving pictures with audio.

This review is aimed to understand the relationship between short videos viewing in the early years and language and literacy enrichment. It also provides useful information for professionals in understanding issues surrounding educational television programmes and media technology used by nursery and P1 (Primary 1) children. However, the principal intention of the study is to investigate the effects of the use of videos on young children's language and literacy skills.

1.1.1 Ontological and Epistemological Stance

Empirical evidence suggests that the ontology or the reality is that young children could learn from technologies particularly media such as educational television programmes or videos (Flewitt, Messer & Kucirkova, 2014; Tschirner, 2010; Mayer, 2005; Doolittle, 2002; Kozma, 1991). The use of new innovative technologies (i.e. TV, videos, iPads, robotics) hold the promise of persistent learning opportunities to meet the needs of teachers and students (Baily, 2019).

The study obtained quantitative results (i.e. from the pre-post-tests in the Pilot study, Study 1, and Study 2) however the results were statistically not sufficient. Consequently, I as the researcher used the qualitative methodology (i.e. a case study) to explore the findings in a more meaningful way. The data collection was approached by using a diverse way. I changed my epistemological perspective and began to be a part of the

children's world by interacting with the small numbers of participating children in the case study through using interviews, observations and analysing the children's drawing. The study explored how the teacher used the spoken texts coupled with moving images to mediate the children's learning. The qualitative data which explored a non-statistical analysis revealed more surprising yet tremendously interesting findings than statistical analysis. I specifically made a connection between the qualitative data and Vygotsky's theory particularly on scaffolding the learning. This epistemology is associated with what Cohen, Manion & Morrison (2018) called it as social constructionist approach. That meant it supported the view that multiple realities exist and what is being researched is specific. The overall research design of the study included quantitative and qualitative methodology which focused on what worked, problem-centred, experimental, trial and error, and action oriented. Therefore, the study involved a paradigm called Pragmatism.

1.2 Research Questions

Multiphase studies were conducted in the current research project, namely a Pilot Study, Study 1, Study 2, and a Case Study. Each study addressed a set of unique research questions.

1.2.1 Pilot Study

The following research questions were addressed in the Pilot Study:

(i) Do children learn receptive vocabulary from the use of spoken texts coupled with moving images presented simultaneously followed by teacher-child dialogue with screenshots and printed texts?

(ii) Do children learn letter sound from the use of spoken texts coupled with moving images presented simultaneously followed by teacher-child dialogue with screenshots and printed texts?

(iii) Do children learn early word recognition from the use of spoken texts coupled with moving images presented simultaneously followed by teacher-child dialogue with screenshots and printed texts?

1.2.2 Study 1

These questions were addressed in Study 1:

(i) To what extent is there any additive effect on outcomes of the spoken texts coupled with moving images, compared to a traditional curriculum?

1.2.3 Study 2

Meanwhile these were the questions addressed in Study 2:

(i) To what extent has a longer intervention had a proportionately greater effect on outcomes than a shorter intervention?

1.2.4 Case Study

The following research questions were addressed in the Case Study:

(i) How do teachers support children in comprehension, language development and literacy, with particular reference to implementation of the video programme?

(ii) How do children respond to their teacher's efforts to support them in comprehension, language development and literacy, with particular reference to implementation of the video programme?

(iii) What other factors are operating within the situation, which promote children's comprehension, language development and literacy?

1.3 Rationale

Previous researches demonstrated that young children can learn from media (educational television programmes, videos or any technologies). However, the blending of any of them with traditional printed-based text appears to be omitted. Therefore, this study is needed to investigate the use spoken texts coupled with moving images, accompanied with traditional printed-based text (screenshots) as supplement materials, to stimulate children’s comprehension, language and literacy skills.

1.4 Original Contribution

This study explored the use of spoken texts coupled with moving images (videos) to stimulate children’s comprehension of videos content, language and literacy skills. Yet, this study did not completely neglect the use of text. This was the reason why screenshots, which contained traditional printed-based texts which accompanied with still images (screenshots), were accessible as supplemental materials. Having taken into consideration that repeated viewing is an important factor in children's ability to comprehend the content or plot, this study included repeated viewing for the

intervention groups. Therefore, both measured outcomes (comprehension, language and literacy skills) as well as unmeasured outcomes (engagement in reading traditional printed-based texts or/and multimodal texts) can be obtained from this study.

In the literature there is no study of the connection between exposure to videos and the traditional curriculum. This is the gap that my study is attempting to fill. From the literature, the use of video viewing with follow-up activity in class is missing. The researcher believes that the follow-up activity, which is scaffolded by the teacher and involves social interaction with the teacher, is very significant and related to Vygotsky's theory of teaching and learning. By keeping the children in the zone of proximal development (hereafter ZPD), assuming the teacher can extend the scaffolding to maintain an appropriate level of challenge, the child can perform successfully with the support of the teacher and video viewing. In the teacher-child dialogue in the research project, the class teacher acts as a skilful tutor/adult to initiate and extend discussion with the children after video-viewing.

On top of that, the research was also addressing several gaps: a content-focused gap, a research methodology gap, and a programme development gap. Based on the Pilot Study, the researcher addressed each of these gaps. For instance, the research methodology gap was considered carefully in the studies in the initial stage, but now three more empirical studies have been added (i.e. Study 1, Study 2, and a Case Study) – making the current research a multiphase research. Other than that, the programme development had also been improved by adding more measures for programme fidelity. In Study 1 and Study 2 for instance, teacher self-report, attendance logs, classroom observations, and follow-up interview were added. Meanwhile in the Case Study, non-participant observations, teacher-interview, and child-interview were added.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

This chapter presents some relevant review findings with discussions.

The rationale of systematic review is to make sense of a large body of information and keep abreast of the primary literature in the field, separating insignificant or unsound literature from studies that are worthy of further analysis and reflection. It also helps to draw up guidelines for methodology, particularly research design, measures and intervention. A specification of how the researcher did the literature review is illustrated in Figure 1.

Search terms: “visual literacy”, “video”, “technology use”, child’s language*, children vocabulary, literacy*, repeated view* and teacher-pupil talk* were used for literature searching across the entire reference. The following search combinations were also used to see what additional papers there were: (visual literacy) AND (children vocabulary or children literacy), (video or technology use) AND (child's language or children vocabulary), (visual literacy or video) AND (repeated view), (repeated view) AND (child's language or children vocabulary), (technology use) AND (repeated view), and (technology use or video) AND (repeated video or literacy). ERIC, Web of Knowledge, ScienceDirect, Taylor&Francis Online, Scopus, PsychNet, Cross Search and Google Scholar are the databases used for literature searching.

In relation to this, the researcher recorded titles, abstracts and papers screened. The researcher imported references from Database Searches into EndNote (marking the records the researcher wants to save and selecting the EndNote library to export the records), annotated records with Database details (creating a group set and adding references to groups), checked for duplicate records, and coded records for the researcher to work with.

The researcher recorded the reasons not only for inclusion but also for rejection/exclusion in a table together with a set of standard reasons for the criteria. Having this information all recorded in a table, it made it much easier when the researcher had to go back and check what has been done, and determined whether the data has been extracted correctly and/or whether the data has been described accurately.

The researcher also revisited and amended some aspects which needed to be improved by following closely the procedures of systematic review. The researcher refined the search terms, identified more relevant studies and then screened them to see if they met the inclusion and exclusion criteria in the review, described the included studies to map out the research field, appraised/critiqued the individual studies, decided which are the most important research studies and why, brought together the studies to provide an overall synthesis of research evidence to answer/address the review question, as well as communicated the review findings to a larger audience.

Items were sorted and recorded based on the inclusion and exclusion criteria. Some of these items were deemed irrelevant, for instance, they researched in the use of video with young children with a visual impairment. This was because the researcher was not interested to look at the effect of video either on children with visual impairment or on children with additional support needs.

The exclusion criteria included “inappropriate topic”, “inappropriate age group”, and “unrelated technology use”. Meanwhile, “4 to 5-year-old age group”, “English is the first language of the children”, “experimental research design”, “the use of video”, “the use of educational television programme”, “substantial data from an empirical study”, “case studies” were the inclusion criteria.

While doing a systematic review, the researcher faced some challenges: (i) in finding studies which are underpinned by a theoretical foundation, (ii) identifying and evaluating the evidence is demanding, (iii) the sampling procedure, sample size and nature of participants may not be ideal and fitting, (iv) the procedures and length of intervention are not well explicated or seem inappropriate (iv) the instruments and measures may not be adequate and fitting, (v)the form of analysis used on the data may not be the best, being either insufficiently complex or too complex, and (vi) the applicability and generality of the conclusion may not be appropriate given the evidence cited.

From the literature search, it appeared that the literature on the area of this study is not extensive - only a small set of studies were relevant. Some irrelevant studies explored the impacts of educational television programmes on children with visual impairment. Some other studies investigated the use of educational programmes on 0- to 18-month-old children. These studies were deemed not relevant on the grounds of condition and age of children as the researcher was only interested in typically developing nursery and

primary 1 children. In other studies, different kinds of media technology were used to explore the impact on different aspects of children's language and reading skills (e.g. children's comprehension skills and critical thinking skills). These seemed relatively relevant to this study.

*Search Terms:

- "visual literacy"
- "video"
- "technology use"
- "children's language"
- "children's vocabulary"
- "literacy"
- "repeated viewing"
- "educational television programme"

**Combinations:

- "video" AND "children's language"
- "video" AND "children's vocabulary"
- "video" AND "literacy"
- "visual literacy" AND "children's language"
- "visual literacy" AND "children's vocabulary"
- "technology use" AND "children's vocabulary"
- "technology use" AND "literacy"
- "repeated viewing" AND "literacy"
- "repeated viewing" AND "children's language" AND "children's vocabulary
- "educational television programme" AND "children's language" AND "literacy"
- "educational television programme" AND "repeated viewing" AND " children's vocabulary"
- "technology use" AND "repeated viewing" AND " children's vocabulary"

***Database:
ERIC, Web of Knowledge, ScienceDirect, Taylor&Francis Online, Scopus, PsychNet, Cross Search and Google Scholar

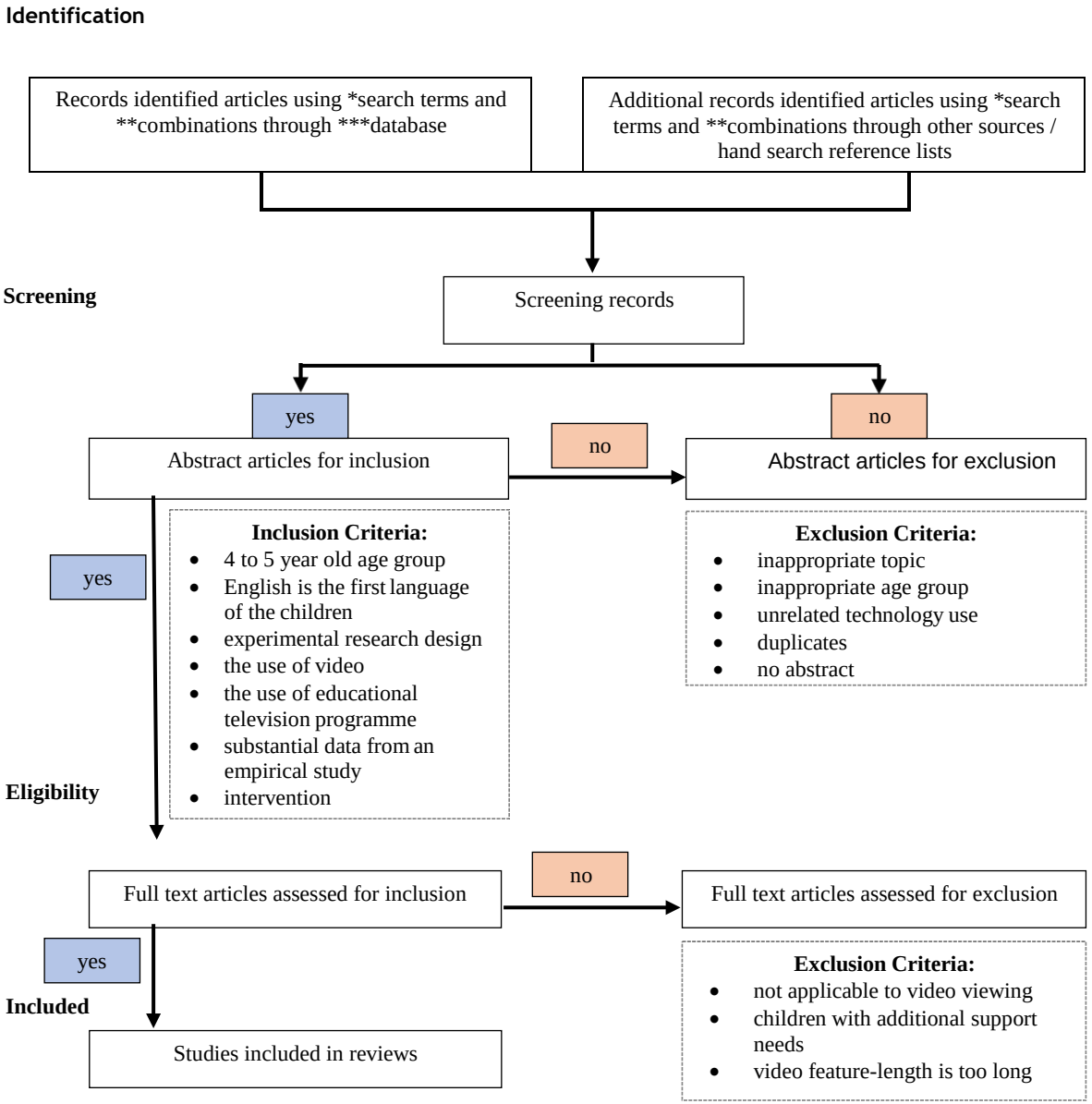


Figure 2.1 Systematic Review

2.2 Different Types of Technology Use and Their Relationship between Language and Literacy Development

Exploration of different definitions is paid attention. Different definitions on types of technology use (i.e. audio (taped) book, (digital) talking book, electronic books or e-Book, CD-ROM interactive book, multimedia learning, and captioned videos) in the early years is seen as essential. The aim of this exploration is to help the reader become aware of and understand different types of technology use, to seek clear characterisation for each type of technology use, and to discover whether or not there is distinction between them. From the reading done, the researcher learned that words or terms which were intended to demonstrate and distinguish the different types of technology use are lacking comprehensive meaning. Scholars made their own description of technology use. No argument has been found in any studies on the definition of different types of technology use but this occurs between studies. As a result, studies have no established foundation of definition. However, it is important to realise that sometimes those terms are likely to have common characteristics. In fact, some of the definitions are overlapped. Therefore, I have categorised those terms with their general features along with the discussion as follows.

2.2.1 Audio (Taped) Book / (Digital) Talking Book / Electronic Books or e-Book

In Medwell's (1998) paper, the term 'electronic book' and 'talking book' are used interchangeably. This indicated and is assumed that these two terms made no prominent difference in features to him. There were times where Medwell used another term to substitute both terms mentioned earlier – 'electronic talking stories'. In this paper, Medwell also described that when using talking book, the users were able to listen to the stories at their own pace. The use of computer appeared to be necessary for the users to listen to the stories of printed books hence it also referred as computer version books.

Wood (2005) seemed to have similar opinion in describing a talking book. He defined talking book as a term used to refer to computer-based storybooks which allow readers to hear to words of the story read out aloud.

LuísCarriço (2005) described digital talking books in greater details from the above descriptions. He illustrated digital talking books own their special features where they allow the creation of bookmarks, highlights and annotations and also allow easy skipping or reading the footnotes when desired. Other than that, storing the full text of the printed book, synchronized with the audio presentation, allowing readers to locate specific words and hear them spelled can also be done with digital talking books.

Ozgur & Gurcan (2004) added another characteristics to audio books which are also now presumed as talking books. They claimed that audio books can be duplicable in different forms such as cassette or CD ROM. Besides, audio books are accompanied with audio like music and sound effects.

In another more current paper, Engelen (2008) clearly made no distinction between audio book and talking book – they both share a similar definition. This can be clearly seen when he claimed that audio book can also be substituted for another terms like "spoken books", "talking books" or "narrated books" for their common features.

From these definitions presented in this section, I am in agreement with audio book, talking book and eBook hold some common features hence they can be classified in the same group. Apparently, they narrate texts from the printed books, allow users to hear words being read aloud, and are computer-based storybooks.

2.2.2 CD-ROM Interactive Book

Parham (1993) noted that CD-ROM storybooks may combine features like animation and effect which can be activated by clicking a pointer on illustration, captions which are read aloud while the words and phrases are highlighted, and innovative turning pages which allows the reader to do so as needed. Some features are created to enhance reading experience and others are meant to help young readers to deal with challenging words or unknown words.

In another study, DeJean, Miller, and Olson (1997) described CD-ROM as a technology that comprises children’s stories and narration presented by human voice which adds expression and emphasises meaning. Additionally, the text is accompanied by illustrations, animation and online assistance features that can be accessed easily.

CD-ROM storybooks is characterised as a form of interactive digital narration that integrates multimedia effects like on-screen text, audio text, music, sound effects, animations and other technological features to support literacy amongst users (Shamir, Korat, & Barbi, 2006).

CD-ROM books contain text and illustrations similar to traditional text. They also very often include audio and graphic animations where book characters talk and settings come alive. Some additional features are also added and available to allow readers to individualise the reading environment. Readers have the opportunity to choose to highlight a word or a phrase to hear audio pronunciation, to access its definition and to present spelling. Other than that, CD-ROM books may also allow readers to read-aloud the entire story automatically (Davis & Pearman, 2005).

In more recent paper, Pearman (2008) hold a similar definition to Davis' by claiming CD-ROM storybooks often preserve the traditional printed texts but are being added with some other multisensory features like audio support, animations or video clips. Many CD-ROM storybooks very often contain automatic moving images, sound effects, and hot spots that activate animations.

2.2.3 Multimedia Learning

The term refers to the use of several media devices which are sometimes supplemented by video, slides, or audiotape. Multimedia environments are claimed to be beneficial for learners to connect knowledge with other domains (Kozma, 1991).

Schank (1994) argued that multimedia programmes are not more than a technology which comprises 'turn page' and 'change channel'. He claimed that multimedia programmes merely add video and graphics which he called as 'page-turning architecture'.

Multimedia learning takes place when learners are exposed to materials which contain verbal and pictorial forms of presentation. Mayer and Moreno (2002) noted that verbal forms can include on-screen text or narration, while pictorial forms can include illustrations, animations or videos.

Mayer (2005), in another resource, also defined multimedia learning in a similar expression as the above - a communication containing printed or verbal texts and still

or moving images which are meant to nurture learning and can be delivered using any medium. It is defined as building mental representations from verbal and visual forms. It is therefore claimed to be a powerful learning technology.

Multimedia learning can also be referred as a presentation that involves more than one delivery media, presentation mode, and/or sensory modality (Doolittle, 2002). This means that learners could use eyes to watch and ears to listen to from different sorts of presentations delivered in different techniques.

2.2.4 Captioned Video

Anderson-Inman, Terrazas-Arellanes, and Slabin (2008) defined captions as on-screen text-based representations of what is being said in a television programme, film or educational video. Captions can provide description of background sounds. Captions can be always visible (open caption) or only be visible when selected (closed caption)

Linebarger (2001) described captions as subtitles or translations which were meant to support those who are hearing impaired. She also added that captions appear when an electronic code embedded in the regular TV signal is converted to on-screen text that a viewer can read. Captions are claimed to be appeared in a form of white text against a black background and are either placed on the screen or scroll up from the bottom of the screen. In her later study, she noted that captions were originally invented for deaf people and are typically broadcast in closed form (Linebarger, Moses, Liebeskind, & McMenamin, 2013).

In a study on students with hearing impairment, captioning is defined as a type-written version of the audio component of television which provides a visual display of the dialogue, narration and audio effects for those who cannot hear (Lewis & Jackson, 2001)

Captioning is the process of putting texts to a film, television or video image so as to provide additional information particularly to help deaf and hearing impaired people. Generally, caption can be categorised into three – open captions, closed captions, and subtitles. Open captions always appear when the programme is running. Unlike open captions, closed captions are invisibly programmed or rather encoded which means it can only be displayed by special decoding device. Meanwhile subtitles provide

translation of the audio text to the viewer's chosen language (Harrington, 2002). Studies like these are building foundational connections between technology, multimedia and literacy learning.

2.2.5 Summary

Table 1 illustrates the summary of the definition(s) of different types of technology use.

NO.	TERMS	DEFINITIONS
1.	Audio (Taped) Book / (Digital) Talking Book / Electronic Books or e-books	Wood (2005) • Talking book is a term used to refer to computer-based storybooks which allow readers to hear to words of the story LuísCarriço (2005) • Digital Talking Books allow the creation of bookmarks, highlights and annotations • store the full text of the printed book, synchronized with the audio presentation, allowing readers to locate specific words and hear them spelled; • allow easily skipping or reading the footnotes when desired Ozgur & Gurcan (2004) • can be duplicable in different environments such as cassette, CD ROM, the Internet. … supported with music and sound effects Medwell (1998) • the users were able to listen to the stories at their own pace. • the use of computer appeared to be necessary for the users to listen to the stories
2.	CD-ROM Interactive Books	Parham (1993) • may combine features like animation and effect which can be activated by clicking a pointer on illustration, captions which are read aloud while the words and phrases are highlighted, and innovative turning pages DeJean *et al.* (1997)

NO.	TERMS	DEFINITIONS
		• comprises children's stories and narration presented by human voice which adds expression and emphasises meaning Pearman (2008) • CD-ROM storybooks often preserve the familiar storygrammar of traditionally printed texts while adding multisensory features (e.g. audio support, animations & video clips): McNabb, 1998 • Many CD-ROM storybooks contain automatic animations, sound effects, and hot spots that activate cued animations Korat & Shamir (2007) • CD-ROM storybooks, also known as e-books • a form of interactive digital narrative; generally combines multimedia effects (e.g. written text, oral reading, oral discourse, music, sound, animation) • sometimes include hidden buttons/ hot spots relating to illustrations/texts (hot spots are meant to be activated by the reader) • include expressive and interactive text narration Davis (2005) • with text and illustrations similar to traditional text • include audio & graphic animations where book characters talk and settings come alive • additional features: allow readers to individualise the reading environment by choosing to highlight a word/phrase to hear audio pronunciation/access its definition/ present spelling • may also read the entire story automatically, stimulating read-aloud experience for the child
3.	Multimedia Learning	Kozma (1991) • the use of several media devices which sometimes supplemented by video, slides, or audiotape.

NO.	TERMS	DEFINITIONS
		• are claimed to be beneficial for learners to connect knowledge with other domains Schank (1994) • merely add video and graphics which he called as 'page-turning architecture' Mayer & Moreno (2002) • multimedia learning takes place when learners are exposed to materials which contain verbal and pictorial forms of presentation. Doolittle (2002) • web-based multimedia learning can be referred to the presentation that involves more than one delivery media, presentation mode, and/or sensory modality. Mayer (2005) • a communication containing printed or verbal texts and still or moving images
4.	Captioned Videos	Anderson-Inman *et al.* (2008) • on-screen text-based representation of what is being said in a television programme, film or educational video Linebarger (2001) • refers to subtitles/translations of the spoken words that were designed to permit those with hearing impaired to read what they cannot hear or hear well. • an electronic code embedded in the regular TV signal is converted to on-screen text that a viewer can read. • captions use white text against a black background and are either strategically placed on the screen so that relevant

NO.	TERMS	DEFINITIONS
		parts of the screen are not obscured/ scroll up from the bottom of the screen Lewis & Jackson (2001) • a type-written version of the audio component of television which provides a visual display of the dialogue, narration and audio effects for those who cannot hear Harrington (2002) • Captioning is the process of putting texts to a film, television or video image as to provide additional information particularly to help deaf and hearing impaired people • 3 types : open captions, closed captions and subtitles

Table 2.1 Summary of Definitions of Different Types of Technology Use

2.3 Theory

2.3.1 Piaget's and Vygotsky's Theory: With Regards to ProgrammeDevelopment and the Pedagogy of Learning and Teaching

Based on the CfE: Building Curriculum 1 (EducationScotland, 2006), children who are learning language will be able (i) to develop their ability to express and communicate their thoughts and feelings and to respond to other people, (ii)to develop higher levels of listening, talking, reading and writing skills, (iii) to use different media effectively for learning and communication, and (iv) to exercise curiosity by questioning and developing understanding and generate ideas/arguments using creative and critical thinking

Meanwhile, learning through the sciences children will be able (i) to investigate their environment by observing and exploring. (ii) to establish an understanding of the general concepts of science, (iii) to make sense of evidence collected, and (iv) to express opinions on issues based on their understanding of science. In fact, there are three core subjects which are taught across Scottish schools (Health and Wellbeing, Literacy, and Numeracy).

With regard to programme development and the pedagogy of learning and teaching, two learning theories can be compared here – Piaget's and Vygotsky's. Piaget's learning theory primarily focuses on a study of the innate development stages of children as to their acquisition of knowledge. For Piaget, cognitive development from birth to ages 15 occurred in four stages: sensor motor, preoperational, concrete operations, and formal operations (Bigge & Shermis, 1999). In other words, Piaget believed that children act on their environment to learn. Unlike Piaget, Vygotsky found that learners learn through social interactions and their culture. Vygotsky also highlighted the significance of cultural tools (which refer to any technological tool that aids in communication) in cognition (Woolfolk, 2009). It means that language, the media, television, computers, books, or any technology devices are useful for problem solving and learning. Children internalise the use of the cultural tools after receiving co-constructed help from teachers. This is the reason why the use of technology (video) which Vygotsky referred to as the 'cultural tool', is present in this research. Another Vygotskian principle of teaching is the ZPD. Vygotsky believed that given appropriate assistance, children could perform a task or solve a problem that Piaget would consider

to be out of the child's mental capabilities. The ZPD is the area where a child can perform a challenging task, given proper support.

With regard to this, this research introduces words printed on cue cards to nursery children (in follow-up activity) as an early preparation. These printed words provide help for the nursery children in early word recognition before they start primary school. It is also anticipated that with this early exposure to early word recognition, the children would be more engaged with other different types of printed texts in future. The principle of dialogue in Vygotsky's learning theory is also important, as language development can occur from dialogue. This research has the element of dialogue (teacher with children) which aims for language development. From the observation in Pilot Study 1, the researcher realised that the children were able to retell stories related to the video content, respond to questions, and ask questions of what-why-how.

Vygotsky placed more emphasis on social contributions to the process of a child's development. According to Vygotsky, a child's learning occurs through social interaction with a teacher. A child requires this collaborative interaction to understand instruction, internalise the information, and regulate performance.

The concept of ZPD for instance is an important concept to see what a child can achieve with guidance and encouragement from an adult.

Besides, Vygotsky believed that language develops from social interactions (teacher-pupil or pupil-pupil). Also Vygotsky is relevant to the instructional concept of scaffolding in which a teacher helps to structure a task so that a pupil can work on it successfully.

2.3.2 Multimodality

Introduction

Children are surrounded by on screen texts and traditional printed-based texts everywhere – at home, at school, or in the street. Words are combined with pictures and sound presented differently. This consequently offers unconventional means of communication whereby communication can be done via computer, audio or visual media (UKLA, 2010). In addition, many multimodality texts compose of movement and animation, colour and sound for creating

reading environment or activities more tempting and engaging than other traditional printed-based texts (Kress, 2003).

Having said that multimodal texts at all times include a wide range of representation or modes, it is important to look at what the elements of multimodal texts are. A report by UKLA (2010) suggested that a multimodal text can combine five elements – performance (gesture, movement, posture, facial expression), images (moving and still, photographic, drawn, painted, computer-generated), sound (spoken words, sound effect, music, silence), writing (font, graphics, layout) and duration (shot length, sequence, rhythm and transitions). It must be noted that these elements will be differently weighted in any combination of modes.

Kress (2003) discussed a vivid definition of multimodal texts. Kress noted that multimodal texts involve all aspects of forms from various modes. He further explained that information or messages can be retrieved from across modes including visual images as well as other semiotic resources. These must be treated with equal care and nothing can be disregarded for their importance to unlock meaning. This supports what Serafini (2010) discussed on multimodal texts where he claimed that multimodal texts are used comprehensively in many reading programmes to transfer meanings from written language and visual image. Based on these discussions, a connection can be made to the real world today. Wherever we look, we are now absolutely in the new era – the era of screen and multimodality. As one might expect, there is growing trend on the ways people read where readers reading more and more multimodal texts. From my own observation, regardless where readers are or how old readers are, they interact with texts that contain numerous multimodal elements. These changes impose more demands on literacy and welcome a wider range of multimodal texts. For instance, children stream and watch their favourite cartoons from YouTube or educational links/channels on iPad, boys play their favourite video games online using their personal computer or game console, parents read bedtime stories for their kids from picture books, iPad or Kindle, and shoppers do their shopping online – browsing the online brochures and placing their orders online.

Multimodal Texts & Practices

Some evidence suggests that young learners (apply to the 0-8 years range) with limited schemata or prior knowledge are better supported with multimedia than conventional materials. Having said this, multimedia offers multimodal texts where learners recognise visual (images) and auditory (spoken texts/sounds). Studies have shown that the effects of technology which provides multimodal texts on comprehension were varied. Under certain condition, children's comprehension improved when technology was offered. Meanwhile, other studies reported that comprehension was not changed in technology-based reading occasions. Again there are arguments for and against the use of multimodal texts in the early years settings.

Tancock and Segedy (2004) argued that digital texts can be perceived as a form of distraction or exciting engagement. In their action research project on the effects of technology on 15 second-grade children's responses to texts, they reported that the control group outscored the treatment group on the comprehension questions for all texts. The study also found that the control group outscored the treatment group on the response activities for every story except one. Therefore, they concluded that with enhanced-technology activities which offer multimodal texts reading activities, reading comprehension and attitudes were not affected. However, to some extent, it is unfair to make a sweeping statement from a very small scale research. The results can be well generalised with a larger sample scale. On the other hand, in a later study, Marsh (2006) noted that early years curricula are focused on traditional print-based texts. However, learning has changed and it is now becoming increasingly central to multimodal texts. She conducted a research project on 53 three-and four-year-old nursery children engaged with editing software to create short animated films. Qualitative data were collected where children were observed using field notes and video camera. The data indicated that a wide range of skills, understanding and knowledge was developed over the year.

Jweitt (2005) suggested that the multimodal facilities of new technology require a restructuring of traditional print-based concepts of literacy. She noted that young learners can be offered opportunities to make sense of symbol if they were engaging with a wide range of colours and visual images.

With regard to multimodal practise, Kenner and Kress (2003) believed that reading is affected by the different aspects of writing on the page such as the spatial organisation, shape, size, directionality and angle of a script. As a result, multimodal analysis shows how young learners can build up what is referred as 'embodied knowledge' as they develop various visual and action characters. Kenner and Kress noted that this flexibility is seen as an asset for the increment of multilingual and multimodal communication practices.

2.3.3 Mayer's Theory: Cognitive Theory of Multimedia Learning

Introduction

Cognitive theory of multimedia learning is used as one of principal foundations of this study. According to Mayer (2002), this theory is taken and drawn from these three primary assumptions recommended by cognitive research which include (1) dual-channel assumption - it is assumed that visual representations and auditory representations are processed through separate channels; (2) limited capacity assumption – it is presumed that each information processing channel is very limited in its ability to process information; and (3) active processing – it is believed that meaningful learning can only occur when the learner engages with more than one cognitive process i.e. selecting relevant information, organising it into coherent representation, and integrating it with schemata.

There have been a great number of valuable studies done by Mayer on multimedia learning. However, Mayer's investigations primarily centred on adults and none of his studies provides empirical data on young children. Previous researches demonstrated that young children can learn from media (television, video or any digital media), very little has been written by other researchers about the use of short non-fiction videos with audio only. It remains to be a serious concern that how videos with spoken text can better support young children's learning and literacy enrichment and critical thinking skills development. Therefore, it must be remembered that this research is aimed to investigate the effects of the use of moving pictures (videos) coupled with spoken texts (audio) to young children's comprehension of the videos content, their understanding of scientific explanations and their critical thinking skills development.

Figure 1 illustrates the theory. As can been seen, narration (words) enters through ears. The learner picks some words for further processing in the verbal channel, organises the selected images, and integrates them with the existing knowledge. Meanwhile, animation (pictures) enters through the eyes. The learner then depicts some of the projected images for further processing in the visual channel, organises the selected images, and integrates them with the existing knowledge.

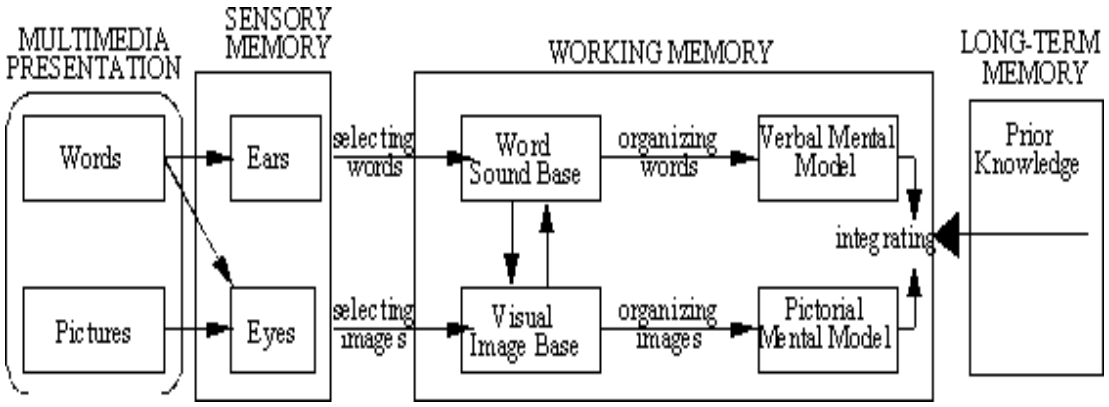


Figure 2.2 Cognitive Theory of Multimedia Learning

Seven Principles of Cognitive Theory of Multimedia Learning

Mayer (2002) and in most of his papers discussed thoroughly the principles that explain how animation should be used within multimedia presentations. Based on the multimedia principle, which is the first principle, learners learn more substantially from pictures and words from words alone. The justification behind it is that learners are better able to build mental connections between corresponding words and pictures (when these both are coupled and presented simultaneously) than when only one is presented. Experiments done by Mayer showed that learners' problem-solving transfer performance improve extensively. Therefore, Mayer firmly claimed that for the multimedia principle, words and pictures are better for promoting learner understanding than are words alone.

The second principle is spatial contiguity principle. Learners learn more significantly when on-screen text is presented right next to the animation that it describes than when on-screen text is presented far from the corresponding action/object. The rationale is

that learners are better able to build connections between words and pictures when they are placed very close on the screen. On the other hand, learners waste limited cognitive capacity in searching for an action/object that corresponds the text if it is placed at the bottom of the screen. In Mayer's study, learners who received on-screen text presented next to the corresponding event in the animation were better on problem-solving than who received on-screen text which positioned at the bottom of the screen.

The third principle (referred as temporal contiguity principle) is that learners learn more meaningfully when the narration and animation are presented at the same time than when they are separated in time. The explanation is that learners are better able to make mental connections when words and pictures are in working memory at the same time. Mayer's studies showed that learners performed better when animation and narration were presented simultaneously than when they were separated.

The fourth principle (coherence principle) spells out that learners learn better from animation and narration when extraneous words are excluded. The basis is that learners may pay attention to the irrelevant material therefore are less able to build mental connections between relevant portions of the animation and narration. Mayer's experimental comparisons indicated that there was a strong and consistent coherent effect which means students who studied animation and narration outperformed students who studied animation and narration with extraneous words.

Other than that, the modality principle also becomes the part of the discussion. The modality principle means that learners learn more substantially from animation and narration than from animation and captions. The rationale behind it is that there is a tendency of overcapacity on learner's visual channel (eyes) when both on-screen texts and on-screen images are presented visually at the same time therefore causes less cognitive capacity in building connections between them. The visual channel (eyes) is likely less overloaded when the narration is presented via auditory channel (ears) as a result learners are more feasible to build connections between visual (on-screen images) and narration (spoken words). This is supported by Mayer's previous experiments where learners were more competent to transfer their previous and existing knowledge to new problems when animation was supported by narration than by caption.

Besides, learners learn more meaningfully from animation and narration from three materials – animation, narration and on-screen texts. This is based on the redundancy

principle. In two of Mayer's studies, learners who received fewer materials (animation and narration only) better performed in the problem-solving transfer than learners who received more materials (animations accompanied by narration and/or on-screen text).

The personalisation principle is also discussed in Mayer's papers. Based on this principle, learners perform more significantly from animation and narration when conversational technique (personalisation like 'I' and 'you') is used in the conversation rather than formal manner. The underlying principle is that when learners are personally involved in a conversation, they put in extra effort to comprehend and articulate explanation given. Mayer has an evident that informal (conversational) technique resulted in better transfer performance than formal technique.

Table 2.2 summarises the seven principles discussed above.

Principles of Cognitive Theory of Multimedia Learning	**Empirical Results**
Multimedia Principle	Learners perform better from words and pictures than are words alone
Spatial Contiguity Principle	Learners perform better when on-screen text presented next to the corresponding event than at the bottom of the screen
Temporal Contiguity Principle	Learners perform better when animation (pictures) and narration (words) are presented simultaneously rather than separately
Coherence Principal	Learners perform better when extraneous words are excluded than included
Modality Principle	Learners perform better from animation and narration (spoken words) than from animation and on-screen text
Redundancy Principle	Learners perform better from animation and narration than animation, narration, and on-screen texts
Personalisation Principle	Learners perform better from conversational technique than formal technique.

Table 2.2 Seven Principles of Cognitive Theory of Multimedia Learning

2.3.4 Paivio's Theory: Theory of Dual Coding: Introduction

Theory of Dual Coding is also used as the substance of this study. Paivio hypothesised that representational units can be categorised into two different types - "logogens" for verbal entities or language and "imagens" for mental images which is sometimes referred as to representations. As can be seen from Figure 2 below, logogens are unified in terms of hierarchies while imagens are unified in terms of part-whole relationships (Clark & Paivio, 1991). In other words, dual coding takes place when one can think of a ball by thinking of the word ‘ball’ (logogens) or by forming a mental image of a ball (imagens).

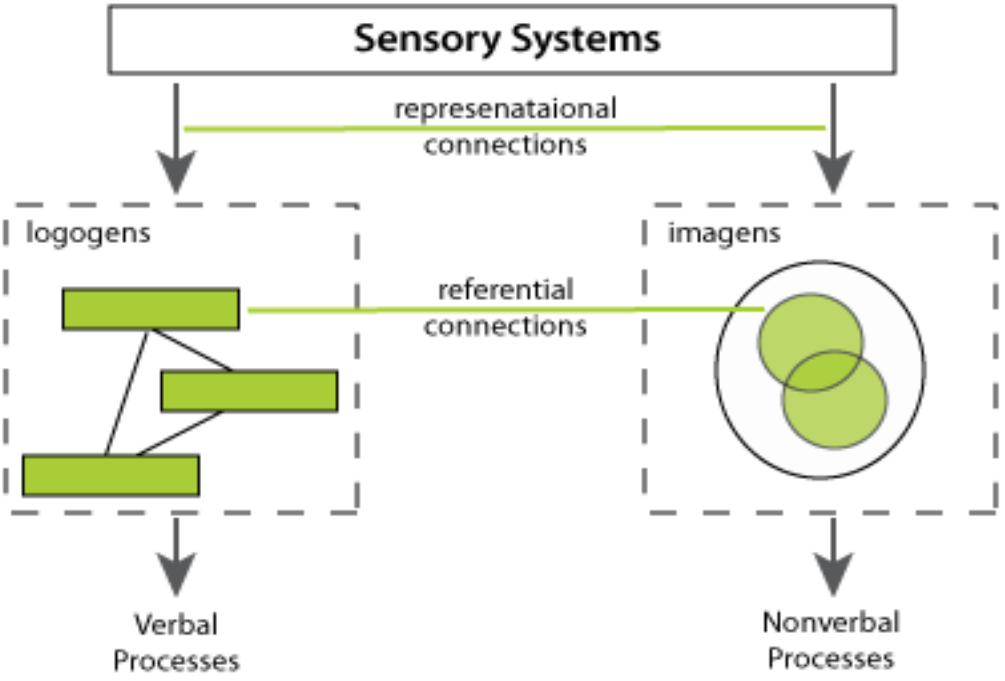


Figure 2.3 Dual Coding Theory

Theory of Dual Coding &Visual Literacy

Aanstoos (2003) investigated why the use of visuals with written text improves comprehension. According to his review, this theory clarifies that concepts or thoughts can flow effortlessly between linguistics and visual representations because the brain

involves independent structure. This theory appears to claim that improvements to visual literacy are certainly enhancing what is referred as right-left brain communication. Aanstoos further explored and noted that it must also be remembered that different individuals may get different messages or different interpretations from looking at the exactly same image based on their schemata (stored knowledge) about the relevant subject. Therefore, this dual coding theory appears to be exceptionally valuable to increase visual literacy.

In a more recent paper, Bleed (2005) listed out three definitions of visual literacy; (1) the ability to comprehend and to produce visual messages that they are interacting with correctly; (2) a group of abilities that an individual can develop a set of skills simultaneously, i.e. by seeing and at the same time integrating other sensory experiences; and (3) the ability to interpret and generate pictures for producing ideas. Looking at these definitions, they are presumably yet essentially associated to the dual coding theory – when visual information (seeing pictures/images) is required, it then moves from sensory memory to visual processors (generating pictures and producing ideas).

2.4 The Relationship between Media Viewing and Young Children's Comprehension and Literacy

This section discusses the relationship between media viewing and young children's comprehension, visual literacy, and other reading elements based on several studies.

2.4.1 Different Kinds of Media & Language Comprehension& Visual Literacy

Flewitt, Messer & Kucirkova (2014) discussed in their paper how iPads offer innovative opportunities for early literacy learning to nursery children, primary school reception children and special school children. They found variability but commonality was that iPads-based literacy activities stimulated children's motivation and concentration. They also offered opportunities for communication, collaborative interaction, and independent learning.

A quasi experimental study of a reading buddies programme targeting vocabulary and language comprehension was carried out on 16 grade 4 classrooms and 16 kindergarten classrooms (Silverman, et al, 2015). The treatment included 10 one-hour sessions for 10 weeks. Findings revealed effects of treatment on proximal measures of vocabulary for

both fourth-grade students and kindergarteners.

Tschirner (2010) looked at the potential of using DVD for language learning. The digital classroom met with the specific requirements in a learner friendly way and it marked a significant step towards making language comprehension.

A longitudinal study was carried out on four-and six-year-old children (Kendeou, van de Broek, White, & Lynch, 2009 and van de Broek et al., 2005). The same children were retested every two years until they were eight and ten years old. The design was claimed to investigate the development of language comprehension skills across media, their relation to other language skills and their contribution to later reading comprehension. The findings from this study indicated that for each group, audio and television comprehension were strongly interrelated.

Grimshaw, Dungworth, McKnight, and Morris (2007), however examined the effects of electronic books on children's reading enjoyment and reading comprehension. Two different storybooks were used in the study. The children were grouped into six – two groups read an extract, another two groups read an electronic book and the remaining two groups read a printed version. The study found that the electronic books which own the provision of narration accompanied by animation and sound effects gave greater benefits than printed books. This finding is significant to my study as the characteristics of the electronic books used here are quite similar to the characteristics of the videos where they are accompanied with animated moving pictures and audio.

Segers, Takke, and Verhoevan (2010), compared the effects of story reading read by a computer and a teacher on vocabulary learning and reading comprehension. The results presented that both native and immigrant children learnt new words both from the computer and the teacher and had better understanding on the story when the story read by the teacher. The results however showed that computer can provide children independent learning.

2.4.2 Different Kinds of Media & Elements of Reading

In a comparative study, Karemaker (2009) investigated the effectiveness of a reading intervention using the whole-word multimedia software called 'Oxford Reading Tree (ORT) for Clicker' versus using the traditional ORT Big Books on children's word recognition, written word naming, phonological awareness and attitudes towards computers. The study was done with 17 children with reading difficulties aged 5 to 6

years. Each child was given two interventions over five consecutive days. Measures were taken before and after each intervention. The results propose that whole-word multimedia software could be useful classroom aid for supporting early literacy skills in children who need more support in reading. From the findings, it is hoped that the instruments used in my study can be another form of valuable tools to better support children's (similar age group - aged five to six years) learning in different aspects - comprehension, scientific understanding and critical thinking skills.

Meanwhile, Korat and Shamir (2007) did a study on the effects of electronic books versus adult readers on children's literacy as a function of social class. They made a comparison of independent reading between e-books and adult-read story and their impacts on children's decoding skills and vocabulary. The study investigated 128 five to six years old pre-schoolers; 64 children from each socio-economic status (SES) group – low and middle. Pre- and post-intervention included vocabulary, word recognition and phonological awareness. The results revealed that there was a similar level of comprehension gained from the interventions groups and SES groups. On top of that, children's phonological awareness and word recognition from SES groups and the control group did not improve. The results of this study suggest that the researchers need to look carefully at how long the children's progress on literacy skills last from the intervention(s). Therefore, post-post-test might be helpful to measure this. Moreover, future studies should be designed to better understand the learning processes that the children are involved while using e-books. These limitations must be seriously and correctly addressed in my study.

In the previous study, a content analysis was conducted to find out how well current commercial books available on CD-ROM are suited to supporting children's literacy. A collection of 55 Dutch and 5 English e-books suited to children aged three to seven years was used in this study. The study concluded that CD-ROMs which combine oral text, pictures and text, and hotspots may support children's literacy (De Jong & Bus, 2003). I would agree to a certain extent – a combination of pictures particularly moving images with oral text can support literacy amongst young children. However, on-screen text is likely to appear as a distraction to young viewers as discussed in the previous section.

Chera and Wood (2003) on the other hand designed a talking book to provide computer-based reading support for beginners. It enabled beginning readers particularly in enhancing phonological awareness in children with reading difficulties. This study supports one of Lewin (2000) where she reported that talking book software has the

potential to better support the currently available approaches to literacy. In this study, it is noted that the basic software talking book helped improving word recognition for children with lower ability. I concluded that talking books are most likely to be accommodating to supplement reading mainly in improving phonological awareness. Therefore, the nature of this approach is different to what I am proposing – the use of videos with illustration (moving images) and narration (audio).

2.5 Technologies or Programmes that Stimulate or/and Hinder Comprehension and Vocabulary Development

This section invites the audiences' attention to the various technologies or programmes that can stimulate or/and hinder young children's comprehension and vocabulary development. The role of new technologies is controversial and the debate about it particularly in the early years settings continues. Marsh's (2006) data collected during her research project on three- and four-year-old nursery children engaged with editing software to produce short animated films indicated that an extensive series of skills, understanding and knowledge was developed. Miller (2005) on the other hand argued that new technologies appear to be a distraction for young children from natural and healthy activities. He rose up a key concern what if the young children access inappropriate high-risk content or sites. The other concern highlighted by Plowman and Stephen (2005) is a lack of confidence and competence among early childhood practitioners in relation to the use of new technologies that may impact the young children as well. This seems to well–support what was identified by Turbill (2001) in his study on perceptions of technology, literacy, and how they are connected. He claimed that there are three factors: (1) lack of time and skills to explore as well as apprehend software; (2) limited definitions of literacy; and (3) lack of understanding and confidence in the capacity of technologies.

However, some other studies indicate constructive results on the use of technologies predominantly in the early years settings. For instance,Verhallen, Bus, and De Jong (2006) found that computer-animated stories were effective in comparison to a series of images in supporting language comprehension and language development. Hyun and Davis (2005) explored the dialogue used by children aged five to six years. They noted that the children's interactions becoming progressively more exploratory over time. In Marsh's (2004) other study on children's literacy practices in their home in relation to a different type of media like books and comics, television and film, computer games and mobile phones noted an affirmative response towards the use of technologies. The

survey results indicated television is the primary source of textual pleasure for the young children in her study. Matthew (1997) made a comparison of the influence of CD-ROM storybooks and traditional print storybooks particularly on reading comprehension. She found out there was a statistically significant difference in reading comprehension as measured by story tellings between those two experimental groups. A similar study has been carried out by Doty, Popplewell, and Byers (2001). They also compared between the use of CD-ROM storybook and a conventionally printed-book and their differences in the level of 36 second-grade readers' comprehension. The results indicated there was a statistically significant difference in mean scores on the comprehension questions for the two groups (the text group and the computer group) as measured through the use or oral retelling and six comprehension questions.

2.5.1 The Use of Captions

Linebarger has done numerous studies on the literacy in early years. One of them is exploring how closed captions can supply help and support children's literacy skills at their early age. In her experimental study with second and third grade children living in poverty, she investigated the use of videos with and without closed captions. Based on this study, Linebarger (2001) concluded that captions supported children recognise and read more words, identify the meaning of words, generate inferences and transfer the skills. In another study, Linebarger (2001) investigated the effects of using captions and narration with 73 children who had just completed their second grade and 6 who were just begun their third grade. Five short sessions had been provided to the sample for across two-week period. The results indicated that the beginners recognise more words from television programmes with captions and retain them. It is also further elaborated that with repeated-viewing of words, children can retain encountered words up to 15 days. However, to me, the gains from this study appear to be short-term gains rather than long-term gains and they are not very well maintained as words can only be retained for a limited period of time.

Bowe (2001), meanwhile, conducted a national survey from 45 states to inspect teachers' views on the potential of on-screen text particularly for children with no hearing impairment. Most teachers perceived and mutually agreed that captions can facilitate learning to students particularly those with hearing impairment. However, from the survey, it was found that there was no significant finding on the potential or effect of captions for students without hearing impairment. Hence, Bowe recommended that the use of captions for learners with no hearing impairment be further investigated

in more depth. To me, the findings can be debatable as it solely relied on a survey. It can be better supported by the use of other research designs for instance interviews.

2.5.2 The Use of Television Programme: Teletubbies & Sesame Street, etc

Crawley et al. (1999) conducted a study on a single episode of the pre-school television educational programme. The study noted that Blue's Clues is designed to provide cognitive challenges and teach cognitive skills to young viewers particularly pre-schoolers while entertaining them. The episode also offers audience participation and an increase problem solving skills.

Robert and Howard (2005) investigated 20 children with equal number in gender. He investigated the responses of 18-month-old children to a television programme called Teletubbies. One of the interesting findings in his study was cognitive responses. In the House Segment, a segment which accompanied with only sound effects and visuals; without voice-over or character demonstration, it was found that there were cognitive responses from the very young children participated in the study. They were likely to be actively engaged in recognising, predicting, making inference and making sense of it. Therefore, it can be perceived that television programmes such as Teletubbies presented in a form of audio-visual mode has a potential to facilitate very young viewers' development.

In another study, the effects of Sesame Street viewing on young children were investigated. Fisch (2008) conducted a three-year longitudinal study on two categories of children age groups (two to five years old and four to seven years old children). He noted that children who watched Sesame Street engaged more on reading and performed better in letter-word knowledge, mathematics and vocabulary tests as well as school readiness test. This is an interesting study as Fisch used longitudinal study which allowed Fisch to look at the changes over time. However, the sample selection must be done very carefully based on a specific event particularly birth date.

2.5.3 The Use of Electronic Books

A few further studies explored the effects of using e-books. In the first study, Korat (2010) investigated the effect of reading an e-book on quite substantial number of kindergarten children's language and literacy. In his study, the children were randomly assigned to two groups – (1) the intervention group which was given a treatment of reading the e-book five times and (2) the control group which was managed the regular

school programme. Pre- and post-tests was carried out to assess vocabulary and word reading, story comprehension and production. The study found that children who read e-books demonstrated more significant progress in word meaning (language comprehension) and word reading than children in the control group.

Similar evidence in another study in researching e-storybooks for supporting young children suggested that the use of high-quality interactive e-books may support the development of emergent literacy, vocabulary and comprehension of the story. However, evidence also suggested with lower quality e-books, children may also be distracted by unrelated animations and sounds. The study also discovered that the use of electronic features offers potential benefits to children for them working and reading books independently (Moddy, 2009).

Moving to the remainder of the studies, Grant (2004) correspondingly did a study on the use of electronic books. She examined the effectiveness of electronic books in a reading programme. Evidence gathered from this study highlighted that there was an increase in learners' ability particularly in recognising in-context words, creating meaning of those words as well as gaining vocabulary from electronic books. On top of that, the results also drew attention to reading comprehension where children's reading comprehension was noticed to increase considerably. From Grant's study it can be seen that electronic books hold potential and can contribute to comprehension and vocabulary development. However, as clearly shown and discussed by Grant, the children can only recognise in-context words. Words recognition out of context was not significantly affected by the use of electronic books. Therefore, the limitations of this study must be properly addressed in the future studies.

Shamir and Shlafer (2011) on the other hand, carried out a study on 136 nursery children at risk for learning (ALD) and typically developing (TD). She investigated the effect of e-books on improvements in phonological awareness and concept about print. She reported that there were improvements in the participants' performance particularly in the area of concept about print. The study reported that e-book is effective particularly to children with ALD.

2.6 Repeated-Viewing

Sell, Ray and Lovelace (1995) did a study related to repeated viewing. Twenty male and 20 female four-year-old children were selected to watch a 19-minute Sesame Street. The children viewed the video tape once in a week over the period of three weeks. The findings indicated that repeated viewing of the tape was a most important factor in children's ability to comprehend the plot. Children's comprehension of video content that was presented explicitly in the film was facilitated by repeat viewing. This finding proves the degree of continuity in the show increases the comprehension of the show. Similarly, the finding that children's comprehension of implicit information was higher than that of explicit information after a single viewing was not expected (Skouteris et al., 2007). This supports Mares' (2006) findings that repeat viewing did not facilitate children's ability to make "far" inferences. However, Crawley (1999) claimed there was a growing body of literature that suggested repeat viewing can and does improve comprehension of television content. A comparative study has been carried out on three- to five-year-old children. A comparison between a single viewing and repeated viewing was made. An episode of Blue's Clues was shown once or repeated for five consecutive days. The finding indicated that comprehension increased with repetition. In another study on four to six years old children, Skouteris (2006) discovered that children who watched a movie five times had higher comprehension scores than the children who watched only once. Besides, children who had repeated-viewing on a movie were also better at character identification. Bandura's (2001) social cognitive model posits that attention is the prerequisite for comprehension and social learning. The effects of videos on children's cognitions, attitudes and behaviours may depend on how many videos they watch. Children with more viewing experience paid more attention to reflective features and linguistic codes, whereas children with less viewing experience paid more attention to perceptually salient features (Guo, 2009). Fisch (2000) found that a child's learning from viewing was enhanced by offering a diverse set of characters, representing the body of viewers ethnically and developmentally, and putting characters into situations that reflected a viewer's real life.

2.7 Teacher-Pupil Dialogic Talk

Mercer and Dawes (2008) discussed the value of exploratory talk and how educational talk is used by teachers and students. Teacher-pupil talk in classrooms served many purposes in both social and educational settings.

Alexander (2008) discusses the nature and value of a pedagogic approach named "dialogic teaching" in a book chapter that is similar to what Mercer and Dawes called as educational talk or teacher-pupil talk. This pedagogy was believed to be dominant to shape children's thinking and to secure children's engagement, learning and understanding. It also could help teachers more precisely to diagnose students' needs and assess their progress. Alexander was applying the idea of "dialogic teaching" with teachers and local authorities in different parts of the UK. Alexander also highlighted the use of scaffolded dialogue (i.e. interactions, questions, answers, feedback, contributions, exchanges, and classroom organisation, climate and relationships) which made the "dialogic teaching" possible.

According to a study on ways of helping children to learn science by Wegerif, Dawes and Sams (2004) showed that the IDRF (Initiation, Discussion, and Response) score of the students working at computer was higher when teachers encouraged discussion and it showed teachers' questions could be used effectively to stimulate students' thinking in a productive way. Another study explored the themes in the talk of two mothers and daughters as they shared a self-created story with an iPad app (Kucirkova, 2014). A thematic analysis was done and the themes suggested that Vygotsky's theory has particular relevance in exploring the learning process facilitated by the iPad app.

2.8 Intervention: Videos

This section invites the audiences to look at the characteristics that should and should not be on the intervention for this study. The discussions can offer the audiences to immediately consider some of the characteristics.

2.8.1 Characteristics that Should be and Should not be on the Intervention

Selecting the appropriate videos for this study is very challenging and time-consuming yet is an exciting ‘ride’. First, there are quite a number of concerns that must be dealt with and also numerous considerations that need to be paid more attention. Next, careful selection must be done accordingly. The participants' ages of five to six years turn out to be the most significant factor influencing the selection of the videos. The country where

the participants live in, which is in the United Kingdom, falls as the important factor in picking up the videos which only use the British English language. Table 2.3 illustrates the characteristics of the chosen videos for this study for their own reason(s).

Characteristics		Should	Should Not
Language Use	British English (*participants are Scottish children)	✓	
	American English or other languages		✓
Duration of Show Time	Short (below 5 minutes)	✓	
	Long (above 5 minutes)		✓
Use of Colours	Multicolour	✓	
	Black-and-white		✓
Content of Videos	Educational videos	✓	
	Entertainment		✓
Types of Videos	Nature videos (i.e. plants, animals) involving real children/adult(s)	✓	
	Animated videos		✓
	Movies		✓
	Tour-type videos (i.e. have a sequence of several different shots)	✓	
	Snapshot-type videos (i.e. illustrate a		✓
	single action)		
	Performance-type videos (i.e. recordings of individuals performing a song for instance)		✓
Conversation of Message(s)	Spoken conversation	✓	
	Written conversation		✓
Texts	Contains only spoken texts	✓	
	Accompanied with on screen texts/captions/subtitles		✓
Sound	Spoken words	✓	
	Sound effect	✓	
	Music	✓	
	Silence		✓
Images	Moving	✓	
	Still		✓

Table 2.3 Characteristics of the Chosen Videos

2.9 Critique of Main Papers

As discussed previously, this study is aimed to investigate how short videos can stimulate children's comprehension of videos content, language and literacy skills. This study will blend the use of new technology and traditional printed text-based and will provide repeated-viewing to the children. In relation to the area and scope of this study, three main core papers have been chosen for this section. These papers are very closely related to this study as they discuss and report data on an evaluation of moving image media literacy based on a huge scale in UKLA booklet and what recommendation can be made from it, the use of caption and how it can be debatable, and the benefits of repeated viewing and how it can be reflected in other studies.

Marsh and Bearne (2008) reported an evaluation of the BFI Lead practitioner Scheme for moving image media literacy based on case study authorities. An immense number of samples (eight local authorities) from wide range of geographical areas across the country and different demographics were included in the evaluation. The authorities were selected because of their longstanding experience in moving image media education. This study was conducted in two years. Work had been undertaken across different types of activities with authorities, teachers and children. Group discussion pertaining to films, creation of storyboards, working with a range of short films, and production of live action and animated films are among the activities done with the children. Data showed that the project had had a number of positive outcomes on children. However, this project merely examined the impacts on attainment in writing, performance in speaking and listening, motivation and knowledge, subject-knowledge in relation to moving image media education, and confidence and self-esteem. The effects on comprehension of the story, language and vocabulary development, literacy or/and reading seem to be missing from this study. Principles of multimedia learning theory and multimodality are worthwhile to consider for the benefits of the learners. Future investigation(s) must be very useful for literacy per se is fundamental to all areas of learning. It is the key to unlock the broader spectrum of curriculum and to increase opportunities for individual in all aspects of life.

In another study which is presumably associated to multimodality is the use of caption or on-screen texts. Linebarger (2001) for instance claimed that captions also offer an opportunity for young children to read while viewing television programmes. She defined captions as subtitles or translations of the spoken words. Captions were initially designed to support viewers with hearing impairments. According to her, while watching children can see the words on the screen accompanied by visual images and at

the same time hear audio text. Hence they can match what they see (captions) with what they hear (audio content) and they see (visual images). However, as can be seen here, too many processes were involved at the same time. Children have to put greater effort into dealing with a few things at one time – looking at the on-screen texts, listening or rather hearing to the audio content as well as looking at the moving images. What is more important and becomes the major concern is the cognitive processes involved - making connection between on-screen aural and visual referent to the captions or texts appeared on the screen. I believe that children would have to struggle to do all these activities simultaneously. Turning to what has been discussed before on the modality principle and redundancy principle, learners perform better from moving images and audio text than moving pictures and on-screen texts. The theoretical rationale is overloaded on learners' visual channel and as a result, learners have less cognitive ability to build connection between all of them. Meanwhile, the redundancy principle tells that learners perform better from animation and narration than animation, narration, and on-screen texts. The theoretical rationale behind it is that learners can better able building mental connections when two things are combined than from one or more than two forms of presentation (Mayer & Moreno, 2002). Putting captions with visual and audio content simultaneously is likely to be debatable. At one point, it can be perceived as a supplementary literacy tool that can stimulate young children's vocabulary development but the other side of the coin is that it can be seen as an impediment to learners.

This study offers repeated viewing to the intervention children, therefore it is worthwhile to further review one study on repeated viewing. Skouteris (2006) for instance did an experiment report on the impact of repeated viewing and co-viewing of an animated video on young children. Understanding of video content became Skouteris' main interest in this study. Therefore, Skouteris' study is particularly closely related to this study. There are four aspects which I will further discuss on Skouteris' report – sample, assessments, intervention material (the animated video) and procedure. The experimental study had a large sample scale with 77 Australian preschool-aged children. It would be better if the sample was greater than that to see if there is any significant result. In the current experimental study, the researcher tried her best to have as large a sample as possible. However, the current sample size for Pilot Study 1 was still small with only 100 children (55 children in the experimental group and 45 children in the comparison group) from four volunteered schools. However, when Study 2 and Study 3 are conducted, the overall sample size will become more substantial.

A standard vocabulary assessment (Peabody Picture Vocabulary Test-Revised) was also

used to screen children's receptive vocabulary. Apart from this assessment, comprehension questions were also used to assess children' comprehension of the video content. However, the amount of the comprehension questions was extremely large for young children aged four to five years. There were 33 questions – 26 questions on events depicted in the movie and the remaining seven questions on character identification and characteristics classification. Total assessment time was not discussed in the report. When and how these assessments were carried out were also missing from the report. The current experimental study uses the UK's leading vocabulary assessment for Standard English which is British Picture Vocabulary Scale 3 (BPVS3). BPVS3 is suitable for readers and non-readers among children aged three to 16. It is a one-to-one assessment. It requires no reading. It is used to assess each child's receptive vocabulary. On top of this, York Assessment of Reading for Comprehension (YARC): Early Reading is used to assess the children's letter sound knowledge and early word recognition. The YARC Early Reading assessments (i.e. both the Letter Sound Knowledge and the Early Word Recognition) are suitable for children aged as young as four to seven years or older children with reading difficulties. They are most sensitive to differences in ability in typically developing four- to six-year-olds. Thus, in the present research, the researcher is not relying on one measure, but will triangulate three different measures, plus interviews.

Next, the feature-length of the animated videos used in the experiment was too long. A 70-minute video is very long for children aged four to five years. Given the attention span of young children, it could be expected a decline in visual attention over repeat views occurred. It must be noted that the relationship between visual attention and comprehension of video content has been reported and discussed before. Besides, the criteria of video selection were not discussed in the report. Some parts of the procedure were also absent from the report. It was reported that parents with repeated-viewing condition were provided a take home pack. However, a crucial explanation on whether or not the procedures were explained thoroughly to the parents beforehand seems to be omitted. If this was not done, further questions must be addressed to the findings. Some suggestions can be made here for future research. First, choices or series of videos with shorter show time should be provided to the children. The issue of preference must be taken into consideration too. Second, video(s) selected must be based on specific criteria for their own rationale. In addressing this issue, the researcher also avoided having a video of extended length. Each video that the researcher chose for the intervention only lasted between two and three minutes. The criteria for video selection were not discussed in Skouteris' report. Some parts of the procedure were also absent from the

report. A crucial explanation on whether or not the procedures were explained thoroughly to the parents beforehand seems to be omitted. As for the experimental study as well as the report, the researcher includes a section on characteristics that should be and should not be in the intervention. Issues, questions and requests from the teachers during the meeting sessions were carefully addressed, responded to and solutions negotiated. Comprehensive discussion on the intervention material and supplementary materials was held before they were finalised. Training on the procedures, nature and implementation of intervention were also delivered to all the participating teachers beforehand. The history and the researcher's reflections were recorded in the researcher's research diary so as to keep a detailed record of the research process as it unfolded, to provide a context for reflecting on research and the problems it threw up and to offer a reference point for what happened. Thus, this rich information was comprehensively reported and reflected in the report. It was also learned that keeping a research diary was vital and this was retained for Study 2 and Study 3.

The findings indicated that comprehension increased with repetition. Skouteris discovered that children who watched a movie five times had higher comprehension scores than the children who watched only once. Other empirical studies (e.g. Sell, Ray & Lovelace, 1995; Crawley, 1999; Fisch 2000) also showed similar findings where young children's comprehension increased with repeated-viewing. Repeated-viewing is included in the present experimental study.

2.10 Reflection

Having done the literature review, reading and critiquing some papers, a reflection on the papers pertaining some issues could be considered.

Having said before, the field was swamped by an emphasis on the use of just new technologies solely to better support children's emergent literacy, vocabulary learning and development, and comprehension of the story. Most studies were primarily concerned with reporting "what is the best technology ever" for supporting young children.

In general, most of the studies had a relatively small sample – most with less than 100 children. It would be better to see the results on a much greater sample size scale. With bigger sample size, a statistically significant results can be seen from the studies.

Very few studies used mixed methods. These few studies used comprehension questions

and video recording. Most only used one instrument, either comprehension questions only or vocabulary assessment (i.e. Peabody Picture Vocabulary Test) only. The comprehension questions used were not explained as to whether they were a new one or a replication of the existing ones. Due to these limitations, a comparison of different instruments was difficult to make.

Studies found so far have compared control/comparison children to experimental children. However, the studies did not further elaborate how and why the group was called ‘control’ or ‘comparison’. The explanation and justification on how the control/comparison group was actually comparable and how they differed remained unclear.

It can be said that previous studies tended to focus more on the results. They missed out discussion of the significant contribution of the nature/procedure of the intervention, the use of instrument(s), the programme fidelity measures (if any), and the nature of the experimental/control/comparison groups. They were not good at identifying their own limitations. Therefore, it is hoped that more robust studies can be found in updated literature search. However, this may not be the case.

To me, rather than addressing the question of “what is the best ever technology”, it is more accommodating and valuable to young children, parents or/and early childhood practitioners to ‘blend’ the available technologies to support young children’s learning for their own specific purpose(s) and need(s). After taking considerations of numerous aspects from the previous studies, this study therefore contributed in its own manner and filled in the gap discussed. This study investigated the use of videos (spoken texts accompanied with moving images) supplemented with screenshots (printed texts accompanied with still images) to stimulate children’s language and literacy skills. As referred to one of the principles of multimedia learning theory, learners perform better from animation and narration than from animation and on-screen text. Captions or on-screen texts are perceived as distraction to young children. However, the current study did not completely exclude and entirely disregard the use of text. Captivating the idea of ‘blending’ the available technologies, screenshots posters which contain printed texts are accessible as supplemental materials. Having taken into consideration of the fact that repeated viewing is an important factor in children's ability to comprehend the plot, this study took the piece in for the intervention group. Video viewing and repeated viewing were given to the intervention children throughout a period of time. While receiving the treatment, the intervention children used their senses: hearing (listen to spoken texts from the videos and dialogue with teacher) and sight (looking at moving

images transmitted from the videos and printed texts projected from the screenshots posters). They then simultaneously depicted words and images from bringing together new technology and traditional texts through these processes to construct their comprehension on the video content, receptive vocabulary and letter naming and/or sound (measured outcomes) and engagement to reading traditional or/and multimodal texts and engagement to active discussions (unmeasured outcome). Figure 2.4 contains a model which clearly illustrates the fundamental of the study.

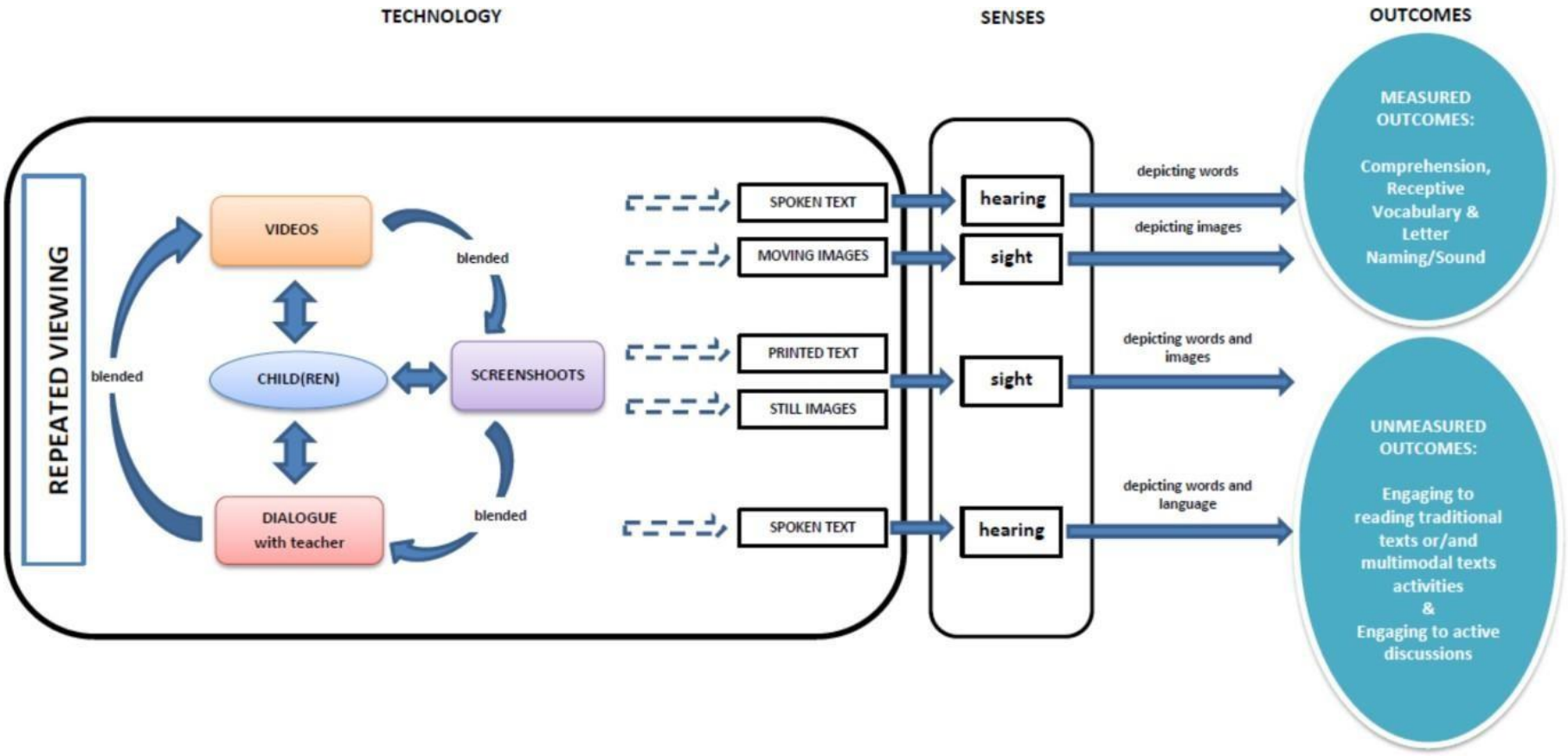


Figure 2.4 Fundamental of the Study

Based on the literature, the intervention was closely related to what Skouteris and Crawley had in their studies. In both studies, the intervention included (i) the use of videos, and (ii) repeated viewing of the video. Findings from both studies indicated that repeated viewing of the video was the significant factor in children's comprehension.

In so far, the intervention of this current study also included (1) social interaction (teacher- pupils), and (2) a high degree of challenge and scaffolding from the teacher, which linked with Vygotsky's notion of "ZPD". The concept of scaffolding helped us understand how aiming instruction within a child's ZPD can promote the child's learning and development through instructionally supportive activities and social interaction. According to Vygotsky, skills and understandings contained within a child's ZPD were the ones that have not yet emerged but could emerge if the child engaged in interactions with knowledgeable others whom are referred as 'skilful tutor' (e.g. teacher). The dialogue (teacher-child interaction in the follow-up activity) increased a child's repertoire of skills and understandings; it actually produced gains in child development.

For most children, the transition from assisted to independent learning is a gradual process. To facilitate this transition, scaffolding may involve introducing children to special tools and behaviour. Therefore, the use of cue cards consisting a printed single word and the use of teacher as a 'skilful tutor' for teacher-child dialogue in this research were seen to be beneficial to facilitate the transition.

Chapter 3

METHODOLOGY

3.1 Introduction

This chapter discusses the methodology used in the research.

3.2 Research Design (for Pilot Study, Study 1and Study 2)

An experimental design was used for this study to see the effect of non-fiction videos and teacher-child dialogue on children's comprehension, language and literacy. The researcher established a multi-phase mix method research design, which explored different specific questions. Multiphase research design "combines both sequential and concurrent strands over a period of time that the researcher implements within a program of study addressing an overall program objective. This approach is often used in program evaluation where quantitative and qualitative approaches are used over time to support the development, adaptation, and evaluation of specific a programme." (Creswell, 2005, p.72). The researcher first conducted a Pilot Study. Due to the small sample size in the Pilot Study, Study 1 and Study 2 then were added with a hope that the sample size would increase. However, the size of the sample kept on decreasing from the Pilot Study to Study 2. Using the results from the Pilot Study, Study 1 and Study 2, the researcher then conducted a Case Study to further explore the different and unique responses from the children which could not be described with statistical data. The study had quantitative and qualitative information. Both quantitative and qualitative data were triangulated to verify or reject results from quantitative data using qualitative data or vice versa.

A quasi-experimental design (pre-test-post-test design) was used for this research. This had somewhat less internal validity than a true experimental design. The downside of this pre-test–post-test design was that the researcher cannot be completely sure that a change in the dependent variable was caused by the manipulation of the independent variable. For instance, one of the threats of the internal validity in this research was in maturation. The pre-test-post-test design had therefore been augmented by adding a control group - in this case, a non-equivalent control group (another primary 1 classroom or nursery group) which was not presented with the treatment. As the teacher of the comparison class was

different from the teacher of the intervention class, this represented an additional variable which was not controlled.

The pilot examined the impact of the programmes components - experimental groups watched videos (see Appendix 9) with screenshots (see Appendix 13), cue cards (see Appendix 14) and dialogue with teachers. Meanwhile the comparison groups received a regular curriculum with no videos.

Meanwhile, for Study 1 and Study 2, different experimental conditions were dealt with. Study 1 sought to examine the relative impact of the programme components. One condition (experimental group) watched videos (see Appendix 10) with screenshots (see Appendix 11), cue cards (see Appendix 16) and dialogue with a teacher, and the other (comparison group) received a traditional curriculum with no videos. Study 2 focused on an exploration of different lengths of intervention. This study looked at if there was any different effect between a 10/12-week intervention and a 5/6-week intervention. With these studies, isolating the core ingredients of effectiveness were addressed.

Other threats to quasi-experimental design which had been identified in this research project were that variables other than the independent variable tend to co-vary with the independent variable and were plausible causes of the dependent variable. For example, what confounding variables were likely in the Pilot Study? In other words, how might children who receive the intervention differ at the outset from children who did not receive the intervention? Perhaps their teacher(s) provided a greater amount of activities on language and literacy skills development, or social factors are influencing the children's language development (i.e. language exposure – the child absorbed what she/he heard from other people including her/his parent(s), sibling(s) or caregiver(s).

Besides, external factors also had a far-reaching effect on a child's language development. For instance, the amount of screen time (not to mention the content) that the child received apart from the intervention videos influenced his/her cognitive development – this may be powerfully positive or negative. This was investigated during the post-delivery interviews with the teachers. Questions like: Was there any other video shown to the children apart from the intervention videos? If so, what was the nature of the video? How long was the screening time? How frequent did the video viewing take place? What did the children get from the video)? If there was no other video, have other kinds of novel activities been done in the classroom associated with language and literacy skills? How frequently did the video viewing take place? Was there any follow-up activity after video viewing? If so, what was the nature of the activity? From observation, how have these impacted the children?

In a reversal design experimental children are first measured without the treatment and then measured again after the treatment. In the Pilot Study, a pre-assessment was conducted before the treatment was given, followed by a post-assessment after the treatment was given (a period of 8 weeks in the spring term). If the treatment is effective and successful, then we can see the children's receptive vocabulary, letter sounds and early word recognition improve from the first segment (pre-assessment) to the second segment (post- assessment) – although children's language and literacy skills would be likely to increase overtime as a result of maturation and other language and literacy

activities in school. This pattern was seen to have the ability to increase our confidence that changes in the children's receptive vocabulary, letter sounds and early word recognition were due to the treatment and not to maturation or any other threats to validity for within subjects design.

3.3 Procedures of Data Gathering (for Pilot Study, Study 1 and Study 2)

This section presents the procedures which had been taken place before conducting the research project.

3.3.1 Enhanced Disclosure

Prior to the enhanced disclosure certificate application, a Certificate of Good Conduct was first applied and was successfully issued in January, 2013 by the Malaysian High Commission, London.

3.3.2 Certificate of Good Conduct

This research involved young children (nursery and primary school children). Therefore, the Enhanced Disclosure was first applied and then was successfully obtained in February, 2013. A copy of the enhanced disclosure certificate was received by mail.

3.3.3 Universities Research Ethics

This study was conducted according to the "Research Ethics: Code of Practice" from University of Dundee (University of Dundee, 2007). The University Research Ethics

Committee (UREC) reviewed and approved the research layout, indicating they had no concerns about the ethical implications of the study for the participants (see Appendix 1).

3.3.4 Application to Councils

An application of undertaking research in the city was forwarded to the A Local Authority's Education Department. A synopsis of the project which included the nature of the study and the intervention, the intended subjects for the study, the instruments used for measuring, the nature of the videos and supplementary materials for the intervention children, and most importantly the procedures were explained clearly. The application was then circulated around all of the state-run schools by the local authority. Approximately three months after submitting the application, the A Local Authority's Education Department informed the researcher that Primary 1 teachers and Head Teachers from two primary schools and teachers and Head Teachers from two nursery schools responded and agreed to participate in the research project. Approval then was successfully obtained by the A Local Authority's Education Department to carry out the research at four schools (i.e two nursery schools and two primary schools) in the A local authority (see Appendix 2).

The same procedures were carried out for Study 2 then. However, at this time the researcher broadens the geographical area - submitting a few applications to other authorities namely B, C, and D. The broadening of the study into other schools is rejected due to variety reasons (see Appendix 23). Some responded with reasons where the schools were: (i) already engaged with other research projects, (ii) lacking of teaching staff, (iii) fully occupied with teaching staff trainings and workload, (iv) having new staff members who were in the process of learning about the systems and methods, (v) involving in a transition period in implementing new guidelines and materials for literacy, (vi) adjusting to a new nursery timetable which had been imposed by the local authority as a result of Scottish Government legislation, (vii) waiting for a replacement for the head teacher who could make the decision whether to get involve with any research project, and (viii) the head teacher was retiring and therefore would rather not commit something which become the responsibility of the successor or acting head teacher.

3.3.5 Other Ethical Considerations

These were the ethical issues addressed in the Pilot Study, Study 1 and Study 2:

(i) Parent Consent

Parental informed consent was obtained in writing for all children engaged in the study (see Appendix 3). For children not engaged in the study where no consent had been forthcoming, no assessment measures could be implemented. The teachers had so far managed to establish alternative activities for these children when the intervention was taking place.

(ii) Child Consent

When no consent had been forthcoming the children were not included in the study. The teachers had so far managed to establish alternative activities for these children when the assessments and interventions were taking place. Before starting the assessment, each child was asked for their consent orally – "Are you happy to do this with me? (and the researcher pointing at a printed smiley face image) Or don't you want to? (and the researcher pointing at a printed sad face image)" (see Appendix 5). The child then responded by pointing to one of the images to present their agreement/disagreement. In fact, this was not a problem as all children seem very keen to participate.

The researcher had also thought about other ethical dilemmas and had explored some of them in Pilot Study 1: (i) at head teacher level (where there was concern about what the local authority would say), (ii) at class teacher level (where there was concern about practical issues in the classroom), (iii) with the parents, (iv) with the children (where parental informed consent was obtained but the child was not happy to sit with a 'stranger'), and (v) with the university ethics board.

3.3.6 Attrition

The researcher dealt with the threat of attrition by making strenuous efforts to follow up children absent on the day of assessment. In the Pilot Study, one child left the school and moved out the area. Therefore, the child was excluded from the data.

3.4 Instruments for Measuring (for Pilot Study, Study 1 and Study 2)

Two assessments were used in the Pilot Study, Study 1 and Study 2 – (i) the British Picture Vocabulary Scale: Third Edition (BPVS3) and (ii) the York Assessment of Reading for Comprehension (YARC): Early Reading.

3.4.1 British Picture Vocabulary Scale: Third Edition (BPVS III)

BPVS III was the UK's leading vocabulary assessment for Standard English (GL Assessment, 2012). BPVS III was suitable for readers and non-readers among children aged three to 16. BPVS III is a one-to-one assessment. It required no reading. BPVS3 was used to assess each child's receptive vocabulary. For each question, the researcher said aloud a word and the child responded by selecting or pointing at a picture from four choices which best illustrated the word's meaning. Each child had 10 to 15 minutes to complete this assessment. The assessment was arranged in sets of twelve items. Nursery children had three sets and Primary 1 children had four sets (that was 36 to 48 items in total). Each set was labelled for its start age(s). The set corresponding with the child's age was identified before administering the test.

The representations of the construct were reliable. The words selected were those which should be familiar in UK settings, both word and picture were relevant to the 21st century. The three distractor pictures were appropriate. A multiple-choice test was a type of type of test which generally has the highest reliability. The test items were field tested in February 2008 with 2027 pupils in 105 schools in England, Wales, Scotland and Northern Ireland. Meanwhile, the Standardisation Trial took place in February 2009 with a total of 3278 students from 147 schools. Nothing was known about the reliability from the manual, search engine or elsewhere. However, the manual provided instructions for administering and scoring the BPVS III. It also highlighted that in order to obtain reliable test results, administrators must have a good understanding of the administration instructions, the Performance Record form (how to obtain a raw score, normative scores and interpret them, and derived scores) and the plates. It mentioned clearly that the procedures set in the manual particularly in Part II should be followed precisely.

3.4.2 York Assessment of Reading for Comprehension (YARC): Early Reading.

The YARC Early Reading assessments were suitable for children aged as young as four to seven years or older children with reading difficulties. They were most sensitive to differences in ability in typically developing four- to six-year-olds. YARC: Early Reading was used to assess the children's Letter Sound Knowledge and Early Word Recognition. This assessment took about 15 minutes to administer.

The Letter Sound Knowledge was an individually administered assessment of alphabetic knowledge. It consisted two forms of the assessment – Core and Extended. The Core Assessment which was a shortened version of the Letter Sound Knowledge consisted 11 letters [s, m, p, t, I, n, a, f, h, d, j] and 6 digraphs [ee, sh, ch, th, oo, ay] which were chosen to range from easy (letters) through to gradually more difficult (digraphs) items. This Core Assessment provided an overview of the child's alphabetic knowledge. Meanwhile, the Extended Assessment used all 26 letters and 6 digraphs. This assessment was more comprehensive and it supplied the child's knowledge of the letter sounds. For this research study purpose, I chose to administer the Core Assessment to nursery children and Extended Assessment to Primary 1 children because of their age.

The Early Word Recognition assessment was an individually administered single word reading assessment comprising 30 words graded in difficulty. Half of the words were phonemically regular (e.g. cat, went) and the other half of the words were phonemically irregular (e.g. you, fire).

For YARC Early Reading reliability was assessed using a measure of internal consistency (Cronbach's alpha). YARC Early Reading assessments gave Confidence Intervals for scores. The reliabilities for the Early Reading sub-assessments were 0.95 for Letter Sound Knowledge (Core), 0.98 for Letter Sound Knowledge (Extended), and 0.98 for Early Word Recognition. In considering the validity of the assessment, a small validation was undertaken of the Phonic Phases. It showed the Phonic Phases correlated strongly with age. For younger children (Nursery and Reception in England or Nursery and Primary 1 in Scotland), Letter Sound Knowledge and Early Word Recognition appeared to be the strongest predictors of Phonic Phase at 0.84 and 0.83 respectively. Regarding gender differences, it is noted that the boys performed slightly worse than the girls on all tests. However, the size of these differences was small and unlikely to be of practical importance (Hulme et al., 2011).

3.5 Non-Fiction Videos, Cue Cards & Screenshot Posters

Six links of nonfiction videos were randomly selected from the BBC website. The researcher first struggled to find short nonfiction videos that were appropriate to young children. Most of the available videos on YouTube or other channels were fictions and they were too long. Strenuous effort was made before that - e.g. making contacts to You Tubers and video makers asking for their permission to use their videos, watching a long list of videos and matching them with the video characteristics. However, the responses were always frustrating.

When the list of the videos was finalised, the selection of words were done. Teachers' voluntarily contributed their ideas to make success of the supplementary materials. Teachers' recommendations were highly considered not only in choosing the words but also in resenting the words. The first draft of the word list was shown to the participating teachers. Most of the suggested words were accepted but with some minor amendments. The researcher acknowledged all the recommendations given by the teachers. The font and letter spacing were at big size and were readable. All the agreed words were printed in black and white and matt laminated. Then, they were individually cut out. As suggested by the teachers, Velcro tapes were pasted on each of the back side of the cue cards so they could be easily pasted on the screenshot posters.

The first draft of screenshots from the videos was also shown to the teachers and supervisors. After considering all the suggestions, some editing jobs were done to make the images clearer that the first draft. Then, the final draft of the screenshot posters was sent to the university printing unit to be printed out in A3 size. They were all printed in colours. Velcro tapes were pasted on each screenshot poster.

Mutual agreement between the researcher and the teachers on the supplementary materials was made before the finalised supplementary materials were printed out. The supplementary materials (i.e. the video links which were printed on A4 paper, the cue cards, and the screenshot posters) were all packed in a big clear folder for convenience. Each pack was then distributed to the participating teachers on the training day. All these were done before the pilot study started.

3.6 Nature & Implementation of Intervention (for Pilot Study, Study 1 and Study 2)

In the Pilot Study, Study 1, and Study 2, the researcher provided the teachers with six

links of video. At the first time of viewing, all the children watched each video in a large group in their classroom, the session led by the teacher. Subsequently there were repeated viewings of the videos, which were done in a smaller group (which could be led by a classroom assistant if one were available). The teacher/classroom assistant engaged the children in dialogue about the videos. A minimum of two repetitions and a maximum of four repetitions were given to each child.

A new video was shown to the children in every week during the first six weeks (each video link was labelled with Video 1, Video 2, Video 3, Video 4, Video 5 and Video 6). The repetitions began during the first six weeks of the Spring term, but continued into the second six weeks. The numberings of each video represented the length and difficulty of the video recording. The class teachers started with shorter video (Video 1) and went on to the longest one (Video 6). These procedures were clearly explained to the class teachers beforehand to make sure these run smoothly.

On top of this, the teacher/classroom assistant was also provided with screenshot posters and cue cards as supplementary materials. The rationale of providing these materials was that the teacher could encourage the children to participate in an active discussion related to the video content and therefore the children engaged with the discussion. The first draft of these supplementary materials was shown to the teachers before it was all finalised. Discussions were done between the teachers and the researcher and some feedback from the meetings was taken carefully into consideration to improve both the screenshot posters and cue cards for the benefit of the children before the Pilot Study started.

The videos used in the current research were educational videos and non-fiction. They focused on scientific topics. These videos matched the language and science areas of the Scottish curriculum. Non-fiction videos were chosen because they provide facts so they taught more valuable lessons particularly when it comes to science. They provided rich audio-visual materials. Language was spoken, but there was no text on the screen. These videos were knowledge and follow themes (exploration and investigation, time and place, and the living world). Currently, the video clips were available in streaming format only. It was not possible to download any of them to any machine.

These videos had been selected based on some characteristics outlined in the literature. The first characteristic was language use (English). The country where the participants lived only use British English. The second characteristic was the duration of time. The video educational content also became a major concern while selecting the videos as it matched the language and science areas of Scottish curriculum. In fact, research on the use of educational programmes (e.g. Sesame Street, Blue's Clues and Teletubbies) found

significant impact on children's language development (i.e. letter word knowledge and vocabulary) and cognitive level (i.e. problem-solving skills). The age group in these studies ranged from as young as two to seven years old.

Based on the literature, children who watched Sesame Street 19-minute-video once a week for three weeks determined that repeated-viewing was the important factor to comprehend the plot of the tape (Sell et al., 1995). Meanwhile, 3-to-5-year-old-children who viewed Blue's Clues for five consecutive days demonstrated an increase in verbal and non-verbal interaction with the programme (Crawley *et al.*, 1999). Skouteris and Kelly (2006) found that 4-to-6-year-old-children who watched a 70-minute-movie on video for five times had higher comprehension scores than children who watched it only once.

Based on the literature and the Pilot Study, this issue was addressed. The duration of intervention had been extended from 5 hours to 10 hours. It was because in the Pilot Study, the dosage given was also driven by teacher tolerance. However, in Study 1 and Study 2, the researcher managed to negotiate for longer hours after discussing some positive results from the Pilot Study.

3.7 Programme Fidelity (for Study 1 and Study 2)

Programme fidelity assessed whether the intervention was conducted according to the programme specified. However, while the teachers may start off with good intentions, they were likely to need some practice before they were fluent with the procedure. Likewise, it may be that towards the end of the intervention, they became too familiar with it and other activities began to creep in to take the place of the intervention.

The intervention programme and the development of the programme was greatly influenced by the Pilot Study. Based on the Pilot Study, concerns about implementation fidelity measures were emphasised. The researcher did informal observations during the Pilot Study period (even though it was not communicated at all on the proposal). Initially it was done simply to offer any help if there were any problems occurred during the intervention programme and to have a look at how the teachers and the children reacted to the intervention programme. During the informal visits, it was observed that (without being asked or instructed) two teachers at different schools voluntarily took their students' attendance for their own record. The attendance logs were found helpful because they can track the students' attendance. If there were any cases where a child had poor attendance, s/he would be excluded from the intervention programme. Occasionally, the researcher

spent a few minutes in having a small talk with the teachers after the intervention programme to clarify if there were any concerns about the video links, cue-cards, screenshot posters, or teacher-child dialogue session. It was found that one teacher was a little bit concerned, as that was the first time following an instruction for an intervention programme whereas some expressed their thoughts on how the intervention programme affected the learning. From the conversations that the researcher had with the teachers, it would be very useful to consider post-delivery interview in the next phases.

From the informal observations, the researcher had learned that it was very valuable to include observation, teacher written self-report, attendance logs and post-delivery interview for Study 1 and Study 2.

3.7.1 Observation

The observation was focused closely on adherence to the intervention programme. However, there was scope for the observer to record sundry other observations which strike her as important (although there was no schedule for this). So it covered both programme adherence and could be exploratory. The observation schedule was created by the researcher specifically for this programme. It was closely tied to the intervention and consequently was new. However, reliability analysis was undertaken during the pilot studies. Three observations were located at beginning, middle, towards the end of the programme. The observations lasted for 25 minutes (as long as the intervention) for each session. These observations were sought for observing whether the teacher was implementing the intervention correctly and following the procedures for the whole session. There was in any case the problem of experimenter effect, so the teacher may be trying harder to follow the programme when the researcher was observing, but not when she was not there. Early arrangements and mutual agreement had been done with all schools and teachers. There were two observers - the researcher (as the main observer) and the second observer. The second observer was a PhD (Education) student and was untrained coder. The main observer observed at beginning, middle, towards the end of the programme. However, the second observer only observed one part of the observations namely middle of the programme. The inter-rater reliability (IRR) agreement was calculated. An IRR of 0.92 indicated that 92% of the observed was due to similarities in ratings between observers and 8% was due to differences in ratings between observers. A classroom observation form was used to note the observation (see Appendix 8).

3.7.2 Self-Report

Self-report was valuable to gather data in surveys or experimental studies (Cohen *et al.*, 2011). The researcher negotiated with the experimental teachers to submit written self-reports. The form was given to teachers before the intervention started (see Appendix 19 and Appendix 20). The rationale of considering teacher written self-report was to gather teachers' description on phenomenological data (i.e. teachers' perceptions, teachers' experience, and teachers' thoughts). However, the downside of self-report was weighed carefully beforehand. First, given a routine of excessive workload of professional duties at school, teachers may be quite unhappy and hesitant to produce a written self-report on a frequent basis. Next, there were a number of potential validity problems associated with self-report.

3.7.3 Attendance Logs

Meanwhile attendance logs gave information on participation for formative purposes (i.e. allowing a quick response to improve teacher behaviour). Attendance logs were used to calculate dose response rate for each experimental child and correlate it with the outcome measures. Child(ren) with poor attendance would be excluded. This programme fidelity was not used in the Pilot Study. It was only implemented for Study 1 and Study 2 after addressing some gaps in the Pilot Study particularly in a programme development gap. Programme attendance was recorded on attendance logs by the teachers from the beginning of Study 1 and Study 2. It was emphasised to teachers that attendance logs would be regularly reviewed.

3.7.4 Post-Delivery Interviews

Post-delivery interviews with teachers in the experimental and comparison groups were conducted at the end of the intervention programme. The rationale of conducting these interviews were; (i) to further explore more extensive clarification in the self-report prepared by the experimental teachers and also (ii) to explore what was going on in the comparison group children while the experimental children were receiving the treatment for over the period of the treatment sessions. Teachers in the experimental group were asked about: (i) programme adherence all the way through the intervention period, (ii)

their feelings about the programme (i.e. did it make them feel a better teacher or a worse teacher, or just the same and why?), (iii) their observations on how the children reacted at various stages, and (iv) their views about changes for future programmes and how easy to implement they would be. As for the teachers in the comparison groups, issues explored included: (v) what was the nature of the language and literacy curriculum they implemented during the comparison period?, and (ii) was there any contamination from the experimental group, either through teachers or through the children? The comparison group teachers were also interviewed about their habitual conduct in terms of developing vocabulary, letter knowledge and word reading. Unstructured questions were used to interview the teachers. The questions appeared in Appendix 6 and Appendix 7 were used as a guideline for interviewing the teachers. During the interview sessions, most of the questions arouse spontaneously in a free-flowing conversation. Asking clarifying questions and confirming understanding to bring the focus of the interview back to the topic were also done by the interviewer.

3.8 Procedures of Assessments (for Pilot Study, Study 1 and Study 2)

The researcher conducted the pre-assessment and the post-assessment for both the experimental children and comparison children. The BPVS3 was used to assess the children's receptive vocabulary. This assessment took 10-15 minutes for each child. The assessment was always begun with all 12 items in a set in the order given. While administering the assessment, a pleasant and encouraging manner was adopted and praise was given for both correct and incorrect responses to motivate children to do their best. Each child was given up to 30 seconds to make a choice. Some other forms of assistance, for instance spelling the stimulus words or using the stimulus words in sentences were not permissible. Children were also not permissible to look at the stimulus words. When the child spontaneously changed his or her choice, the final response was recorded even if the earlier response was correct and the later response was incorrect. Abbreviation 'DK' was used for 'don't know' or 'NR' for 'no response'.

The researcher also used YARC: Early Reading in which the children were shown letters and identified the sound of the letters. These two assessments of reading took about 15 minutes, so the total assessment time for each pupil was a maximum of half an hour.

For the Letter Sound Knowledge, instructions were read aloud to the child before starting the assessment. All children started at the first letter [s], on both the Core Assessment and Extended Assessment. All nursery children stopped after item 17 – they were all given the items 1 to 17. Meanwhile all Primary 1 children stopped after the last item, item 32 -

they were all given the all the items 1 to 32. The child was shown lower case letters and digraphs, one at a time, and was required to say what sound the letters and digraphs make. When the child failed to respond, an encouragement was offered to him or her to have a try. When the pupil gave the letter name, 'LN' (letter name) was circled on the Pupil Record Form. 1 point was awarded for each correct response, 0 for each incorrect response and NR (no response) when the child failed to answer.

For the Early Word Recognition, instructions were read aloud to the child before starting the assessment. All children started at the first word [cat]. A discontinuation rule was applied when the child had made 10 consecutive reading errors. Assistance like pointing to each word was given for younger children. When the child did not recognise the word, the administrator (researcher) encouraged him or her to 'sound it out'. The child was reminded to 'put the letters together'. When the child sounded out the individual letters of a word, the child then was encouraged to blend together to give correct pronunciation. When the child made a reading error, the correct word was not supplied but the error was recorded on the Pupil Record Form and moved on to the next word. Score 1 was recorded on the Pupil Record Form for each word read correctly, Score 0 for each word read incorrectly, and NR (no response) when the child failed to answer.

Given the attention span of young children, the assessments were separated into two sessions. As these assessments were different from normal classroom activities, the written agreement of each parent was sought for their child's participation.

Given the length of time engaged in assessment, it was not possible to assess the whole class. About half of each class was selected randomly for assessment. These assessments occurred outside of classroom, in a quiet room where there was no interruption. Two chairs, one of a comfortable size of the child being assessed, and a table or a desk of the appropriate height was needed. The room was well lit and at a comfortable temperature.

The researcher also conducted a follow-up assessment, since clearly a short-term gain which then disappeared in comparison to control children was no use. This was only for experimental children, just before the end of the summer term (the original control group had become a second experimental group at this point). The researcher consulted with the teachers to determine whether they had continued using the videos after the end of the Spring term or not. If they had continued, one would expect better follow-up results than otherwise.

If this intervention was successful, (1) the researcher offered it to the control classes after the end of the Spring term (so they were effectively only a wait group) and (2) the

researcher prepared to offer a further training session for other schools and teachers, together with the teachers from the project schools. The researcher also prepared to make the video links available to other schools.

3.9 Data Analysis Techniques (for Pilot Study, Study 1 and Study 2)

The Pilot Study quantitative data went into SPSS while the qualitative data (teacher interviews) went to NVivo.

For Study 1 and Study 2, data was triangulated between outcome (pre-post) measures, implementation fidelity measures, and post-delivery interview measures. These may not say the same thing. For instance, it was possible that the outcome measures showed no effect while the implementation measures showed the teachers did the intervention reasonably well and they thought that the children benefitted. The question then was whether the outcome measures were appropriate or whether they were too distant from the nature of the actual intervention, compared with whether the teachers were deluding themselves because they put effort into the programme.

The implementation data went into SPSS where it is quantitative. Mann-Whitney U test was used to analyse quantitative data in the Pilot Study, Study 1 and Study 2. Man-Whitney U test is referred as a non-parametic statistical technique (Mann & Whitney, 1947). It was used to analyse differences between medians of two data sets (in the study the two data sets were: (i) BPVS III and (ii) YARC). The fact that all values were compared made the Mann-Whitney U test differs from the t-test which only compares only the sample means. Mann-Whitney U test was also used due to small sized data and non-normally distributed samples. The data was logged in manually.

For the qualitative part of the post-delivery interviews, the data was analysed partly by NVivo/manually and was transcribed so a bit of it or a quotation was presented in the thesis to evidence the teachers' feedback towards the intervention. Creswell (2015) stated that coding and analysing the interviews are vital. The aims of the coding process are to make sense out of the text audiotaped date, divide it into text or image segments, label the segments with codes, examine the codes for overlap and redundancy, and collapse these codes into broad themes. This is what is referred as inductive process of narrowing data into themes according to Creswell. The researcher used some specific procedures of coding and analysing the data collected from the interviews. The researcher employed the visual model of the coding process of the qualitative data adapted by Creswell (illustrated in the Figure 3.1) in coding and analysing the data.

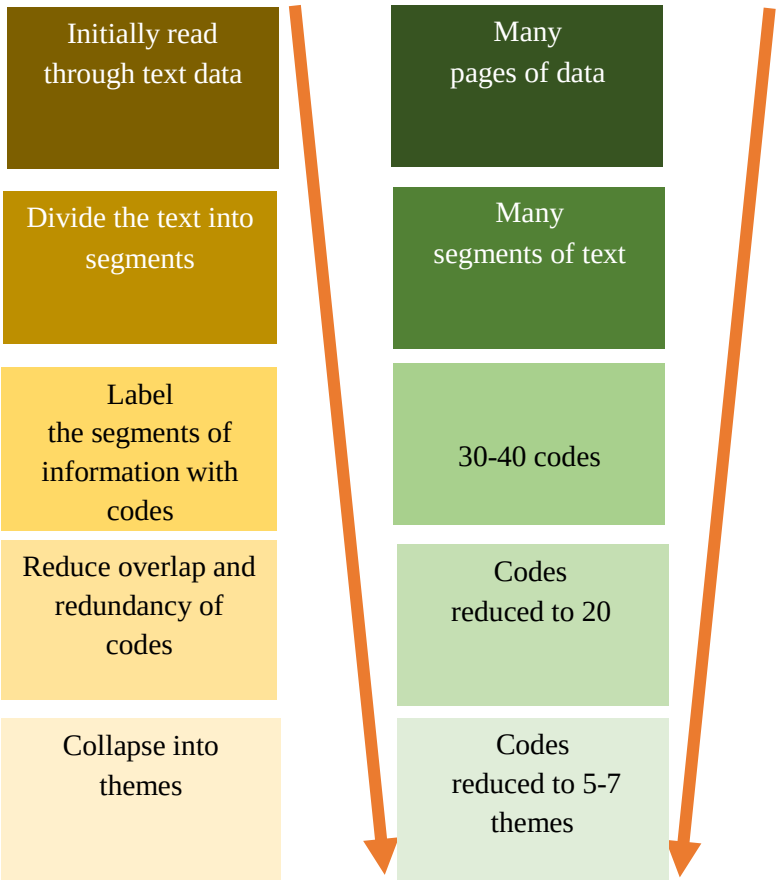


Figure 3.1 Visual Model of Coding Process in Qualitative Research (Adapted from Creswell, 2003)

3.10 Pilot Study

3.10.1 Context and Location for Research

This study was conducted in a city, which was situated on the east coast of Scotland. According to Policy and Funding Team (Name withheld, 2013) economic profile, the City was a regional employment, education and retail centre. About 300,592 persons resided within a 30-minute drive time to the City Centre and approximately 628,468 resided within a one-hour drive time. The City had a population of approximately 156,561 in mid-2012.

Two primary state schools and two nursery schools volunteered to participate in the Pilot Study. They were located in two different catchment areas. W and Y schools were in the West End area of the A City and X and Z schools were in the Central East area of the A

City. Both the nursery schools were attached to the primary schools (i.e. Y nursery school was attached to W primary school and Z nursery school was attached to X primary school). These schools were state-run schools. The schools were organised in classes by age, with a mix of boys and girls and children of all abilities. The children at these schools were experiencing the new curriculum in Scotland – Curriculum for Excellence.

3.10.2 Participants and Sampling

The W city was chosen because of the location. It was easily accessed by the researcher and thus eased the process of data collection. The subjects were selected based on convenience sampling because they were easiest to recruit for the study.

Two classes of primary 1 children and two classes of nursery children aged between four to five years old were the participants of this study.

Parental informed consent sheets were sent out and were returned to the class teachers within a week or earlier. The researcher then collected the consent letters from the School Administrator prior to a notification email or a phone call. The below table shows the number of children (with parental consent) who agreed to participate the study.

School Name	**School Type**	**Number of Children with Parental Consent**		**Number of Children who Sat for the Assessments**	
		Experimental Group	**Control Group**	**Experimental Group**	**Control Group**
W	Primary	19	15	8	8
X		7	7	3	3
Y	Nursery	17	14	7	7
Z		9	9	4	4
TOTAL		52	45	22	22
GRANT TOTAL		97		44	

Table 3.1 Number of Children Participated in the Pilot Study

The first column listed down the four (4) schools who participated in the study. Schools W and X were primary schools. Schools Y and Z were nursery schools. The second and third columns are the number of children with parental consent. There were 97 children with parental consent (i.e. 52 experimental children and 45 control children) participated in the Pilot Study. However, due to time constraint, only about half of each group was selected randomly for the assessments. The number of the selected children were 44 children (i.e. 22 children from each group) sat for the pre- and post-assessments.

The pilot study had relatively small sample numbers. The researcher tried for bigger numbers (including higher levels of parental consent) by adding another two empirical experimental studies, namely Study 1 and Study 2.

There were challenges faced in getting samples for pilot studies. An application to undertake research in the city was forwarded to the local authority. A synopsis of the project was explained clearly. The application then was circulated around all of the state-run schools by the local authority. The researcher was looking for two schools (with at least a nursery class) to take part in the research. Initially, only one primary school offered to support the research. This primary school has a nursery class. The researcher then took self-initiated steps, walking in to a primary school and a nursery school, approaching teachers and negotiating with them face-to-face. Emails requesting the school's involvement in research were then sent to Head Teachers. A copy of the synopsis of research was forwarded to the schools as requested. The schools showed their interest and agreed to support the research. Further communication occurred between the Education Department of City Council and the schools. After getting feedback from the schools, the Education Department of City Council approved the research request in two primary schools, one nursery school, and one nursery class.

The Pilot Study was done on the basis of self-selected sampling not random sampling. Participants recruited were self-selected volunteers in a convenience sample because the researcher chose the city, then the Education Department of City Council asked for schools to participate and in the Pilot Study schools only included children with parental consent.

It was identified that in the Pilot Study, there was one nursery child who started the programme and then dropped out before the post-assessment was conducted. The child attended the intervention programme for all sessions. However, the child then dropped out from the school and joined a new school. As to other attrition issues (i.e. children who were absent on the assessment day), the researcher has been making strenuous efforts to get back into school to pick such children up. Confirmation of attendance was done beforehand over the phone.

In Pilot Study, attendance logs were not used as a programme fidelity measure. However, it was discovered that one teacher took that further step, recording the experimental group children's attendance in an attendance log. It was identified that attendance logs were

valuable for Study 2 and Study 3, helping the researcher identified attrition.

The demographic information of the sample of the Pilot Study is illustrated in Table 3.2:

Gender	Female (n = 42) Male (n= 55)
Age	4 – 5 years old (n = 60) 5 – 6 years old (n = 37)
Language	English, Urdu, Arabic, Yoruba, Malayalam, Mandarin, Edo, Polish
SES (based on free school meals statistics)	Scottish School Online website (EducationScotland, 2012) reported that the City had the second highest percentage of its pupils registered for free school meals and is well above the Scottish average - with 31% for Primary. 18.5% of pupils in X schools (located in the West End area of the City) and 34.5% of pupils in Y schools (located in the Central East area of the City) registered for free school meals.30.5% of pupils registered for free school meals for this local authority and 22.1% for all of Scotland in 2011/2012.

Table 3.2 Demographic Information - Pilot Study

From observation, children participating in this research came from various ethnic groups. They are Asian, British, Asian British, Poles and Nigerian. However, ethnicity group for each child was not disclosed by the participating schools. The experimental and control groups were not evenly balanced in terms of gender. As can be seen from the bar graph below, there were more male children than female children in the experimental and comparison groups.

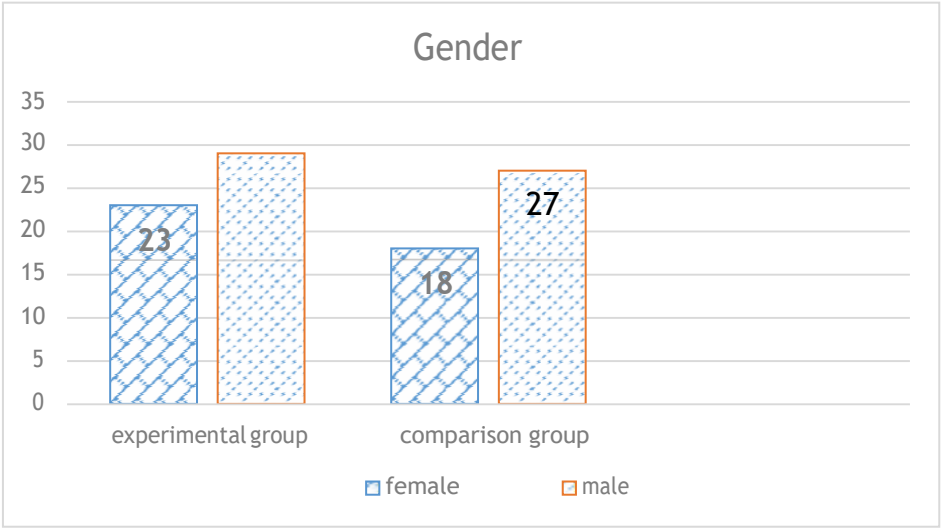


Figure 3.2 Gender

3.9.1 Time Scale for Research

This project was carried out with the children in the Spring term 2014, but there was provision of materials and videos and brief training for the teachers and classroom assistants involved during the Autumn term 2013. This project took place in schools with two-form entry (two classes in each year). One class was the experimental class and the other the comparison class. One school was enabled investigation with nursery age children, the other investigation with first year primary aged children.

3.9.2 Procedure for Data Gathering

Figure 3.2 illustrates the chronological procedures taken for the Pilot Study

Figure 3.3 Chronological Procedures Taken for the Pilot Study

3.11 Study 1

3.11.1 Context & Location for Research

Study 1 was carried out at the same city as the Pilot Study. One primary state school and one nursery schools volunteered to participate in Study 1. They were located in the same catchment area - in the West End area of the City. These schools were state-run schools. The schools were organised in classes by age, with a mix of boys and girls and children of all abilities. The children at these schools were learning through the new curriculum in Scotland – Curriculum for Excellence.

3.11.2 Participants & Sampling

The subjects were selected because they volunteered to continue participating in the research project.

Two classes of primary 1 children and two classes of nursery children aged between four to five years old participated in this study.

Parental informed consent sheets were sent out and were returned to the class teachers within a week or earlier. The researcher then collected the consent letters from the School Administrator prior to a notification email or a phone call.

The number of children with parental consent and the number of children who were randomly selected to sit for the assessments were illustrated in the table below.

School Name	**School Type**	**No. of Children with Parental Consent**		**No. of Children who Sat for the Assessments**	
		Experimental Group	**Comparison Group**	**Experimental Group**	**Comparison Group**
W	Primary	12	13	5	6
Y	Nursery	15	13	7	7
TOTAL		27	26	12	13
GRAND TOTAL		53		25	

Table 3.3 Number of Children Participated in Study 1

The total of children with parental consent was 53. Twenty-eight (28) of the children were 4-5 years old and 25 of the children were 5-6 years old. Their language use included English, Arabic, Yoruba and Mandarin. However due to the restricted period of time, only 25 were randomly selected to sit for the assessments.

Gender	Female (n = 30) Male (n= 23)
Age	4 – 5 years old (n = 28) 5 – 6 years old (n = 25)
Language	English, Arabic, Yoruba, Mandarin

Table 3.4 Demographic Information - Study 1

3.11.3 Time Scale for Measuring

Study 1 was carried out with the children in the Autmn term 2014. There was provision of research materials, videos and brief training for the teachers and classroom assistants involved beforehand. This project took place in schools with two-form entry. One class was the experimental group and the other the comparison group. One school was enabled investigation with nursery age children, the other investigation with first year primary aged children.

3.11.4 Procedures for Data Gathering

Initially a new application form to the Education Department of one local council was sent out before the Summer holiday in 2014. After the Summer holiday, the Education Department informed that from the application, no schools volunteered to participate. The Education Department then advised the researcher to put forward an extra effort by sending personal email to potential schools communicating the research project. The rationale of doing this is to increase the number of participants. The advice was taken positively. After sending out a more than 20 emails to nursery and primary schools, making phone calls and making face-to-face negotiation, only 1 primary school agreed to continue participating from Pilot Study to Study 1. The school name was then

forwarded to the Education Department of the City Council. Soon, a written justification by the authority regarding this matter were received. In the meantime, effort to make contacts with schools (sending emails and phoning) was continued but still no schools could accommodate for they had their own reasons.

A further step was taken by sending an application of undertaking a research at another local council named R Council before the Autumn holiday in 2014. However, the application has not been granted for some reasons. A written justification was also given by the authority.

An application was also sent to another local council named S Council. The application was not granted (see Appendix 21).

3.11.5 Isolating the Core Ingredient

In the Pilot Study, the researcher explored two facets: (i) effect of videos alone, and (ii) effect of comparison group with traditional curriculum with no videos. The control groups were a parallel group in the same school of the same age but taught by a different teacher. Thus, the nature of the teacher was not controlled, and that was why the term "comparison" group was better used in Study 1 and Study 2. In nurseries it was possible to compare morning and afternoon groups which may be taught by the same teacher, but it was questionable whether the morning and afternoon are equivalent in terms of the degree of benefit to children, which made this another variable to consider in this study.

3.12 Study 2

3.12.1 Context & Location for Research

Study 2 took place at the same city as the Pilot Study and Study 1. One primary state school volunteered to participate in Study 2. This primary school was in the West End area of the City. The schools were organised in classes by age, with a mix of genders and abilities. The children at this school were learning through the CfE curriculum in Scotland.

3.12.2 Participants & Sampling

Only one (1) primary school participated in Study 2. The school is located in the west end of the city.

There were 21 children with parental consent. However, only 10 of the children were randomly selected to sit for the BPVS III and YARC assessments. Five were in each experimental group and comparison group.

School Name	School Type	No. of Children with Parental Consent		No. of Children who Sat for the Assessments	
		Experimental Group	Comparison Group	Experimental Group	Comparison Group
W	Primary	11	10	5	5
TOTAL		21		10	

Table 3.5 Number of Children Participated in Study 2

Out of the 21 children, there were nine females and 12 males. These children aged between 5 to 6 years old. They used English or Arabic as their medium of instruction at home.

Gender	Female (n = 9) Male (n= 12)
Age	5 – 6 years old (n = 21)
Language	English, Arabic

Table 3.6 Demographic Information

3.12.3 Time Scale for Measuring

This study was carried out in Winter term 2014. There was a brief training for the teachers and classroom assistants involved beforehand on how to carry out the session using all the materials and supplementary materials. This Study 2 project took place in schools with two-form entry - one class was the experimental group and the other the comparison group.

3.12. 4 Procedures for Data Gathering

A new application form to the Education Department of one local council was sent out before the Winter term started. The Education Department informed that from the application, no schools volunteered to participate. In the meantime, one primary school volunteered to continuously support my research project and agreed to participate in Study 2. The school name was then forwarded to the Education Department. Soon, a written justification by the authority regarding this matter were received. Study 2 was then started.

3.12.5 Isolating the Core Ingredient

In Study 2, the researcher explored relative effects of duration of intervention. The intention of Study 2 was to explore relative effects of shorter intervention (a 6-week intervention) vs.a longer intervention (a 12-week intervention).

The experimental children received a 12-week treatment, while the comparison children received a 6-week treatment.

3.13 Case Study

3.13.1 Research Design

This study was a qualitative case study. The case study provided richer descriptive content. The data collected from the case study was of greater depth than can be found through the previous experimental studies namely the Pilot Study, Study 1 and Study 2. Through the case study, the researcher was able to go beyond the statistical results. The case study also helped the researcher to vividly explain the complexities of real-life situations that could not be captured through the quantitative studies.

This study consisted of ten class sessions. Each session will last for 30 minutes. In each session, the children watched a short video from BBC Learning Zone Broadband (Class Clips) homepage with their teacher as a part of a class lesson (see Appendix 11). The length of the videos was between two and six minutes each. Each video was viewed twice in a week, spread out over a week and be viewed over five consecutive weeks (namely Week 1, Week 2, Week 3, Week 4, and Week 5). In each session, the children watched one video. There were also be follow-up activities after the video viewing. In

order to do this, the teacher was provided with screenshot posters(see Appendix 17) and cue cards (see Appendix 18) as supplement materials. These supplementary materials were used in every session. The rationale for providing these materials was that the teacher should encourage the children to participate in an active discussion related to the video content and therefore the children engage with the discussion. There were also letter sound and word learning. A drawing activity took place after that. The children were encouraged to draw an object which they could remember from the video on a piece of A4 paper. These procedures were clearly explained to the class teachers beforehand to make sure the session ran smoothly.

Each session with the teacher was recorded using a camcorder which was placed at the corner of the room and only focused on the teacher and the children whose parents had given consent for this study. The video recordings were used for data analysis and transcribed.

In Week 6 of the research study, the children were invited to have a conversation with me about how he/she responded to the video programme. The teacher from each class was also invited to have an interview with me on how she supports the children in language development and literacy with particular reference to the implementation of the video programme. I recorded this child-interviewer and teacher-interviewer conversations using a recorder. The audio-recordings were used for data analysis. The audio recordings were transcribed.

One primary school had volunteered to participate in the case study. It is located in the west end area of a city. The Curriculum for Excellence was in place as in all Scottish state schools and the classes were of children of all abilities and a mix of boys and girls.

3.13.2 Participants and Recruitment Methods

The target classes were two classes of Primary 2 children aged between five to six years old. The participants of this study were those whose parents give consent. There were 8 children from one class and 7 children more from the other class. This made 15 children in total. Oral consent was also gained from the children. I took advice from the teachers from both classes in relation to children with additional support needs or learning difficulties or other issues. Teachers' knowledge and opinion of the children that I was looking for were taking into consideration in order to inform my data analysis.

3.13.3 Research Methods & Measurements

(i) Data Analysis

The case study contained qualitative data - the observations, teacher semi-structured interviews, children semi-structured interviews, children's pieces of drawing and writing and field notes. All data was used for data analysis. Only the researcher had access to the data. Teachers' names and children's names did not appear in the research report. All information referring to names, places or institutions was written anonymously. All data was stored in a locked filing cabinet in a secure room at the University. The Electronic data was securely stored and retrieved only through a password protected computer at the University. All data will be destroyed after two years upon completion of the researcher's study.

All data except for the drawings was transcribed by the researcher and analysed using NVivo. Quotations from the data were presented in the research report to evidence the teachers' feedback and children's response.

Content analysis was used to analyse the children's drawings. Content analysis is referred to as "a research method that uses a set of procedures to make valid inferences from text." (Weber, R. P.,1990, p.9). Weber added that the basic coding process in content analysis is to organise a huge amount of text into much fewer content categories. 'Categories' are referred to 'patterns' or 'themes' that are directly expressed in the text or are derived from them through analysis. Relationships among categories are then acknowledged. A coding scheme is a translation device that places data into categories (Poole & Folger, 1981).

There are three different approaches of content analysis: conventional, directed, and summative (Hsiu-Fang Hsieh & Shannon, 2005). Conventional content analysis is used to describe a phenomenon. Relevant theories or other research findings are also addressed in the discussion section of the study based on a conventional approach to content analysis. The researchers are usually able to gain a richer understanding of a phenomenon with this approach (Kyngas & Vanhanen, 1999). In a conventional content analysis, categories are derived from data during data analysis. Directed content analysis is used to validate or extend conceptually a theoretical framework or theory. According to Kyngas and Vanhanen (1999), the researchers use existing theory to develop the initial coding scheme prior to beginning to analyse the data. The focal strength of a directed approach to content analysis is that existing theory can be supported and then extended. Hsui-Fang and Shannon (2005) added that summative

content analysis is different from the other two approaches. Summative content analysis starts with identifying and quantifying certain words or content in text. Then, an analysis of the patterns leads to an interpretation of the contextual meaning of specific words or content.

Elo and Kyngas (2007) in their article perceived that the content analysis can be used for qualitative or quantitative data. It can also be used in an inductive or a deductive way. An inductive approach moves from the specific to the general. That means small cases are observed and then combined into a greater whole (Chinn & Kramer 1999). A deductive approach is based on an established theory and therefore it moves from the general to the specific (Burns & Grove 2005).

According to Elo and Kyngas (2007), the analysis process has been little discussed in literature. Perhaps it is because content analysis has been criticised for being an overly simple method. Hoskins and Mariano (2004) however claimed that there are no simple guidelines for data analysis. Each inquiry is distinctive, and the results depend on the skills, insights, analytic abilities and style of the researchers. Plot and Beck (2004) hold the same view - content analysis is more complex than quantitative analysis because it is less standardised.

The current study here used content analysis in an inductive way as has been discussed by Elo and Kyngas (2007). The researcher organised the qualitative data collected form the Case Study. This process included open coding, coding sheets, grouping, creating categories, and abstraction (as illustrated in Figure 3.4) The researcher collected all the drawings from the participated children, then notes were written while ‘reading’ all the drawings. Categories were freely generated at this stage. After this open coding, the lists of categories were grouped under headings. The rationale of grouping data was to reduce the number of categories by collapsing the similar and dissimilar ones. Then, abstraction was done. Each category was named by content-characteristic words.

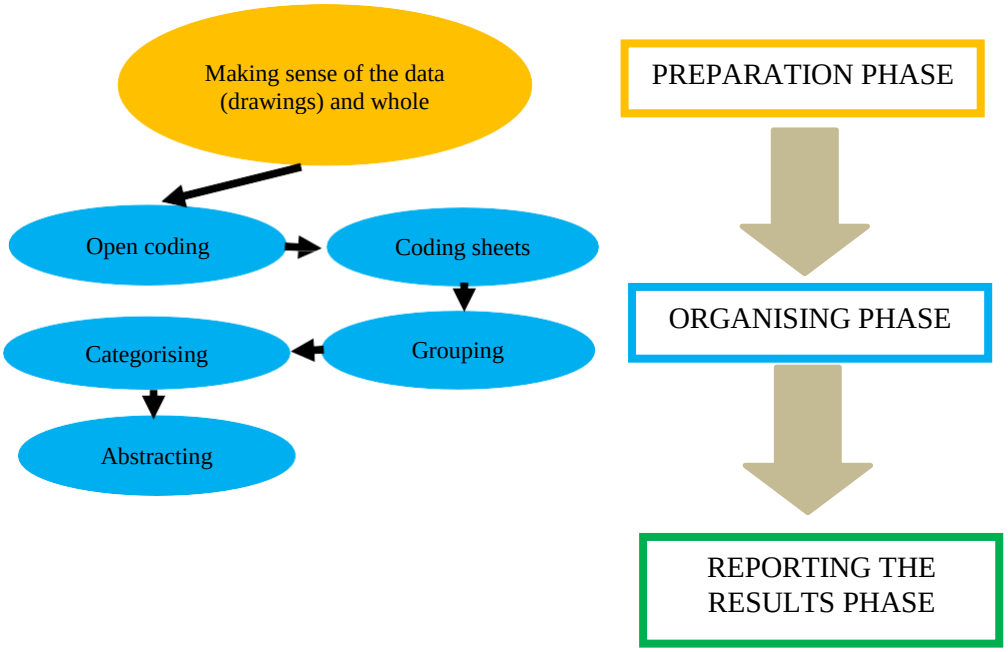


Figure 3.4 Preparation, Organising, and Resulting Phases in the Content Analysis

(ii) Measurements

Non-participant Observations

Non-participant observations of teacher showing videos and children watching videos of non-fictions using questions: (i) why do panda bears eat bamboo?, (ii) why do giraffes have long necks?, (iii) what does it take to raise a baby bird?, (iv) how are fallen leaves broken down by worms, fungi and slime mould, and (iv) how does camouflage help an animal to hide or attack?. These observations involved a process where the researcher recorded an objective and factual account of the observed child's verbal and non-verbal actions without giving any form of influence on the child's behaviour in any way. Non-participant observation allowed the observer to focus on the observational task without being distracted by other tasks and to keep precise notes. (Papatheodorou, T., Luff, P. & Gill, J. ,2013). A case study took place in the real-world setting of the case, therefore a researcher is creating an opportunity for direct observation. Observation notes, field notes and camcorder were used in this case study. The observations were conducted in the classrooms and each session lasted for approximately 30 minutes. The observations aimed to explore (i) how teacher supported their children in language development and literacy and (ii) how the children verbally and non-verbally responded to their teacher's effort to support them in language development and literacy, with particular reference to implementation of the video programme. There was no form of testing in the observations.

Semi-structured Child Interviews

One-to-one child interview was carried out for this case study. The interviews were conducted in a neutral, quiet and secure room. The researcher allowed each child to get used to the interview room and to look the room over. The rationale of allowing this was to make the child feel comfortable and secure. The researcher sat in such a way to allow eye contact with the child. To set up the interviews, two boxes were placed on a table. The boxes contained drawing tools. One box contained white A4 paper and the other box contained pencils. Each child was encouraged to draw a picture related to an object or objects shown on any of the videos. The work with the drawing aimed to build up a confidential relationship between the child and the researcher. Each child was seated on a chair with a table for his/her to draw. Before beginning the interview, the researcher greeted the child in a friendly way. The child then was told that he/she was about to have a 'conversation' (also known as interview) with the researcher. Then, the child needed to draw an object or objects shown on any of the videos that he/she could remember at that time on an A4 paper. At the beginning of the interview, the drawing was used as a stimulus which then led the 'conversation'. The researcher tried her best to use simple understandable language to the child. The researcher used phrases containing only one question or one thought, simple tenses and short sentences (see Appendix 22). Each interview session was recorded using an audio- recorder. Audiotapes provides a more accurate interpretation of an interview than taking own notes (Yin, R.K., 2014). The interviews looked for (i) how the children responded to their teacher's effort to support them in language development and literacy, with particular reference to implementation of the video programme and (ii) if there were any other factors operating within the situation which promote children's language development and literacy.

Semi-structured Teacher Interviews

An interview with the teacher from each class was conducted in week 6 in a classroom after school hours. A set of semi-structured interview questions with some prompts and clarifying questions to seek for more clarification was used for the interviews. The rationale for conducting the interview was to explore (i) how teachers supported their children in language development and literacy, with particular reference to implementation of the video programme and (ii) if there were any other factors operating within the situation which promote children's language development and literacy.

3.13.4 Ethical Considerations & Arrangements for Consent

These were the ethical considerations and arrangements made for consent:

(i) Parent Consent

Parental informed consent (i.e consent on (i) taking part in the research study, (ii) taking part in the video recording, and (iii) audio recording) was obtained in writing for all children engaged in the study before the study started. For children not engaged in the study where no consent had been forthcoming, based on an agreement reached in the researcher-teacher meeting, the teacher from each class has agreed to group all the children with parental consent together in one class and led by a class teacher. Meanwhile, the children without parental consent were grouped together in the other classroom with another class teacher. These children continued the classroom activities without the video programme sessions.

(ii) Teacher Consent

Teacher informed consent (i.e consent on (i) taking part in the research study, (ii) taking part in the video recording, and (iii) audio recording) was obtained in writing before the case study started.

(iii) Child Consent

For those children for whom there was parental consent, the researcher also tried to make sure that each child was happy to participate in the individual interview with the researcher. Before starting the conversation (also known as interview), each child was asked for their consent orally – “Are you happy to do this with me? (and the researcher pointing at a printed smiley face image) Or don’t you want to? (and the researcher pointing at a printed sad face image)”. The child then responded by pointing to one of the images to present their agreement/disagreement. It was still important to gauge the child's emotional state or willingness to continue work with just me. Therefore, the questions were asked to show their comfort with working with me. I acknowledge that informed consent would require very sophisticated methods.

3.13.5 Time Scale for Research

The project was carried out with the children in the Autumn term 2015, but there was a briefing for the teachers involved beforehand.

Chapter 4

RESULTS AND DISCUSSIONS - PILOT STUDY, STUDY 1 & STUDY 2

4.1 Introduction

This chapter presents the results and discussion of the Pilot Study, Study 1 and Study 2. The results presented in the chapter include the quantitative and qualitative analysis.

4.2 Pilot Study

4.2.1 Background of the Study

The rationale of the Pilot Study was to explore the effects of the use of videos on the children's language and literacy skills.

The experimental children received treatment in a form of video-viewing, screenshot posters, printed words on cue cards and teacher-child dialogue. Meanwhile the control group followed the CfE classroom and received no treatment.

The research questions addressed in the Pilot Study were:

(i) Do children learn receptive vocabulary from the use of moving pictures with spoken text presented simultaneously followed by discussion with screenshots and printed texts?

(ii) Do children learn letter sound from the use of moving pictures with spoken text presented simultaneously followed by discussion with screenshots and printed texts?

(iii) Do children learn early word recognition from the use of moving pictures with spoken text presented simultaneously followed by discussion with screenshots and printed texts?

4.2.2 Summary of Methodology

As mentioned in Chapter 3 (Section 3.9.2 and 3.9.3), the Pilot Study took place in the Spring term in 2014. After getting the written approval from the Education Department of the local council, four schools agreed to participate in the study. Two were primary schools and the other two were nursery schools.

The number of children with parental consent was 97. However, only 44 children (i.e. 22 from the experimental groups and 22 from the comparison groups) were randomly selected for the assessments.

4.2.3 Results and Discussions
(i) YARC: Nursery Children

The results of YARC administration to nursery children are in Table 4.1. For letter sound knowledge, the difference of score gain between experimental and comparison groups was significant, $t(20) = -2.55$, $p = .02$, which was a 2.36 increase of the test mean score from 2.00 ($SD = 2.40$) before treatment, to 4.36 ($SD = 3.91$) in the experimental group. Mean test score change for the control group was from 1.82 ($SD = 3.63$) before receiving the treatment to 1.91 ($SD = 2.70$) after treatment.

Test score results were different in the early word recognition section. In the regular version, there is no score gain in the experimental group, and only .27 ($SD = 1.27$) in the control group. The difference of gain scores was not significant, $t(20) = -.71$, $p = .49$. Similar results were also evident in the exceptional segment: no significant difference between mean scores of control and experimental group, $t(10) = 1.00$, $p = .34$; even though there was a .18 ($SD = .60$) increase of the score after treatment in the experimental group.

			Pre-test Scores Mean (SD)	Post-test Score Mean (SD)	Score Gain Mean (SD)	*t*-Test
Letter Sound Knowledge	Core	Experimental Group *N* = 11	2.00 (2.40)	4.36 (3.91)	2.36 (1.86)	*t(20)* = -2.55 *p* = .02
		Control Group *N* = 11	1.82 (3.63)	1.91 (2.70)	.09 (2.30)	
Early Word Recognition	Regular	Experimental Group *N* = 11	.00 (.00)	.00 (.00)	.00 (.00)	*t(20)* = -.71 *p* = .49
		Control Group *N* = 11	.36 (1.21)	.09 (.30)	-.27 (1.27)	
	Exceptional	Experimental Group *N* = 11	.18 (.60)	.00 (.00)	.18 (.60)	*t(10)* = 1.00 *p* = .34
		Control Group *N* = 11	.00 (.00)	.00 (.00)	.00 (.00)	

Table 4.1 Test scores of YARC for Nursery

(ii) YARC: Primary Children

Table 4.2 summarises results of YARC for primary school students. Students in the experimental group performed better in the core segment, with score gain mean of .82 (*SD* = 1.08), relative to their control group peers with score gain mean of -.09 (*SD* = 1.97). This difference, however, was not statistically significant, *t*(20) = -1.34, *p* = .20. In the extended segment, similar results were observable. Before receiving treatment, students in the experimental group performed the test with mean score of 14.00 (*SD* = .89) but worsen to 13.82 (*SD* = 1.08) in the test after the treatment. Meanwhile, students in the control group performed relatively the same in both stages: 14.09 (SD = .94) before treatment, and 14.36 (SD = .92) after treatment. With the minimal score gain, Independent Sample t-Test confirmed the difference between the two groups were not significant, *t(20)* = .94, *p* = .36.

In the early word recognition section, the test score before the treatment were 11.82 (*SD* = 2.40) and 9.64 (*SD* = 4.52) for experimental and control group, respectively. Both corresponding scores increased after the treatment to 12.09 (*SD* = 2.51) and 10.55 (*SD* = 3.17). The difference between these two groups, however, were not significant, t*(20)* = .82, *p* = .43.

Even though the treatment did not contribute to betterment of results in the regular segment, its effect on the test score was *inversely* evident in the exceptional segment of early word recognition section. While performances of students in the experimental group were relatively stable across both testing periods, i.e. 3.64 (*SD* = 4.15) before treatment, and 4.27 (*SD* = 4.63) after treatment; students in the control group, however, showed better score improvement in the after-treatment test with a big score gain, 4.36 (*SD* = 3.14). Independent Sample *t*-Test of score gain between experimental and control group revealed a significant difference, *t(20)* = 3.39, *p* = .004.

			Pre-test Scores Mean (SD)	Post-test Score Mean (SD)	Score Gain Mean (SD)	*t*-Test
Letter Sound Knowledge	Core	Experimental Group *N* = 11	14.27 (4.13)	15.09 (4.44)	.82 (1.08)	*t(20)* = -1.34 *p* = .20
		Control Group *N* = 11	14.55 (1.29)	14.45 (2.50)	-.09 (1.97)	
	Extended	Experimental Group *N* = 11	14.00 (.89)	13.82 (1.08)	-.18 (1.40)	*t(20)* = .94 *p* = .36
		Control Group *N* = 11	14.09 (.94)	14.36 (.92)	.27 (.79)	
Early Word Recognition	Regular	Experimental Group *N* = 11	11.82 (2.40)	12.09 (2.51)	.27 (1.49)	*t(20)* = .82 *p* = .43
		Control Group *N* = 11	9.64 (4.52)	10.55 (3.17)	.91 (2.12)	
	Exceptional	Experimental Group *N* = 11	3.64 (4.15)	4.27 (4.63)	.64 (1.86)	*t(20)* = 3.39 *p* = .004
		Control Group *N* = 11	2.09 (1.58)	6.45 (4.08)	4.36 (3.14)	

Table 4.2 Test scores of YARC for Primary School

(iii) BPVS III: Nursery Children

Table 4.3 entails results of BPVS III for nursery children. For nursery children, the test encompassed three sets. Results of the Set 1 revealed that difference of gain scores between experimental group and control group was not significant, $t(11.71) = -1.69$, $p = .12$. The mean of score gain for group that received treatment was -.64 (SD = 1.02), whereas the mean score gain of control group was -.09 (SD = .30). The negative signs of these scores indicated that scores after the test was lower than the baseline scores.

The results of Set 2 were similar to the first set: no significant difference of gain scores between the experimental and control group, $t(17) = -.12$, $p = .91$. The comparison group showed a bigger gain scores of .18 (SD = .98) relative to the experimental group's gain score of .13 (SD = 1.13). The last test set for the nursery children revealed also similar story. Despite having the score gain of experimental group was relative higher (M = 1.00, SD = 2.83) than the score gain of control group (M = -.14, SD = .90), the difference was not significant, $t(11) = 1.01$, $p = .33$.

		Pre-test Scores Mean (*SD*)	Post-test Score Mean (*SD*)	Score Gain Mean (*SD*)	*t*-Test
Set 1	Experimental Group *N* = 11	11.64 (0.68)	11.00 (1.27)	-.64 (1.02)	*t(11.71)* = -1.69 *p* = .12
	Control Group *N* = 11	11.82 (0.41)	11.73 (0.47)	-.09 (.30)	
Set 2	Experimental Group *N* = 8	10.30 (2.01)	10.38 (2.27)	.13 (1.13)	*t(17)* = -.12 *p* = .91
	Control Group *N* = 11	10.73 (1.49)	10.91 (1.14)	.18 (.98)	
Set 3	Experimental Group *N* = 6	9.29 (2.57)	10.17 (0.76)	1.00 (2.83)	*t(11)* = 1.01 *p* = .33
	Control Group *N* = 7	11.58 (0.79)	11.23 (0.84)	-.14 (.90)	

Table 4.3 Test scores of BPVS III for Nursery

(iv) BPVS III: Primary Children

The results of BPVS III for primary school children are in Table 4.4. For Set 2, the score gain mean of experimental group was .27 (*SD* = .47). Although the score gain mean of control group was lower than this (*M* = .09, *SD* = .70), the Independent Samples *t*-Test revealed that the difference was not significant, $t(20) = .72$, $p = .48$.

Performing the same test to Set 3 produced similar results, $t(14.52) = -.95$, $p = .36$. The mean of score gain for experimental group was -.09 (*SD* = .70), whereas the mean of score gain of control group was .36 (*SD* = 1.43). The last set of the test showed that the experimental group produced score gain mean of -.17 (*SD* = 1.72), lower than their control group counterpart. The control group score gain mean was 1.33 (*SD* = 1.21). The difference, however, was not significant, $t(10) = 1.75$, $p = .12$.

		Pre-test Scores Mean (*SD*)	Post-test Score Mean (*SD*)	Score Gain Mean (*SD*)	*t*-Test
Set 2	Experimental Group *N* = 11	11.64 (0.51)	11.91 (0.31)	.27 (.47)	*t(20)* = .72 *p* = .48
	Control Group *N* = 11	11.55 (0.69)	11.64 (0.51)	.09 (.70)	
Set 3	Experimental Group *N* = 11	10.82 (0.88)	10.73 (0.79)	-.09 (.70)	*t(14.52)* = -.95 *p* = .36
	Control Group *N* = 11	10.91 (1.05)	11.28 (0.65)	.36 (1.43)	
Set 4	Experimental Group *N* = 6	10.00 (1.27)	9.88 (1.13)	-.17 (1.72)	*t(10)* = 1.75 *p* = .12
	Control Group *N* = 6	9.86 (0.70)	10.90 (1.00)	1.33 (1.21)	

Table 4.4 Test scores of BPVS III for Primary School

(v) Some Observed Effects on the Use of Short Videos on Children's Literacy Skills

Based on the statistical results, there was no significant effects of the use of short videos on children's literacy skills. However, during the observations of the experimental group done in Pilot Study 1, both the researcher (who was the first observer) and the second observer noticed the experimental children were able to engage with the follow-up activity after the video viewing. This proved that there were some additive effects of the use of short videos on children's literacy skills.

(a) Picking up words

The children were also able to pick up some receptive vocabulary used in the video. Therefore, the use of videos, cue cards, and dialogue with the teacher were seen as beneficial to engage the children with the literacy activities.

(b) Recognising words

It was observed that the children were able to recognise words from the use of moving pictures with spoken text presented simultaneously followed by discussion with screenshots and printed texts. Obviously, not all children could recognise all words. However, they had prior knowledge of letter sounds. This helped them in blending the sounds into words. This showed that the use of cue cards, to certain extent, were useful to support children's literacy skills.

(c) Retelling stories

During the 'dialogue with teacher' activity, the children were also able to retell stories associated to the video content. Based on the field notes, the children were able to recall words used in the video including those which are not printed on the cue cards, recall main ideas of the videos. Retelling stories tell that one's comprehension as a product. Retelling is regarded as a comprehension strategy (Han, J.A., 2005). This data from the observation showed that those children who were able to retell were also able to comprehend the story that they watched from the videos.

(d) Responding to open-ended and yes-no questions

It was observed by the researcher and the second observer that the children were able to (i) respond to open-ended questions and yes/no questions given by the teacher (e.g. teacher asked questions: How many animals can you see in the videos? How many types of trees did you see?), and (ii) make connection between words use in the video and objects around them, and (iii) throw questions of what, why, and how for clarification. Buehl, M (2017) said that generating or throwing questions shows that children are literally learning with questions. When they wonder why, wonder if, wonder what, wonder what - they are essentially having questions that lead their thinking through text.

4.3 Study 1

4.3.1 Background of the Study

The aim of the study is to investigate if there were any effects on the treatments given to the experimental children compared to the comparison children who received traditional curriculum with no videos.

The treatments included the videos, screenshot posters, printed words on cue cards and the teacher-children dialogue as the follow up activity at the end of each treatment session.

The research question in Study 1 was:

(i) To what extent is there any additive effect on outcomes of the video and of the follow-up activity, compared to a traditional curriculum?

4.3.2 Summary of Methodology

As presented in Chapter 3 (Sections 3.10.2 and 3.10.3), Study 1 was carried out in Autumn 2014. Two (2) schools (i.e. one primary school and one nursery school) were interested to continue participating in the research project from Pilot Study.

There were 53 children with parental consent in Study 1. However, due to time restriction only 25 children were randomly selected to sit for the BPVS III and YARC assessments.

In Pilot Study, the term 'control' was used but the term 'comparison' was better used because the nature of the teacher was not controlled.

4.3.3 Results and Discussions

(i) BPVS III: Nursery Children

Table 5.1 includes results of BPVS III administration to nursery children. Additive effects on outcomes for all administered sets were minimal. The effect of treatment was not significant for Set 1 (U = 14.00, p = .06), as the median scores remained the same (i.e. 12.00) in both testing period for both groups. Similar results were observed for Set 2: the median scores for experimental group stayed the same at 12 during both testing period, while the median scores of comparison group showed an increment of 3.00 from 9.00 during the post-treatment measurement. These effects, however, were not significant, U = 9.50, p = .35. For Set 3, the Mann-Whitney U test revealed a non-significant result (U = 4.50, p = .56) when comparing the gain scores between experimental and comparison groups. The median scores of experimental group were continued to be the same in both testing periods. The scores for comparison group meanwhile decreased from 11.00 to 10.00.

		Pre-test Scores		Post-test Score		Score Gain		Mann-Whitney
		Mean	Median	Mean	Median	Mean	Median	
Set 1	Experimental Group *N* = 7	11.86	12.00	11.86	12.00	.00	.00	*U* = 14.00 *Z* = -1.87 *p* = .06
	Comparison Group *N* = 7	11.57	12.00	9.71	12.00	-1.86	.00	
Set 2	Experimental Group *N* = 7	11.00	12.00	11.14	12.00	.14	.00	*U* = 9.50 *Z* = -.93 *p* = .35
	Comparison Group *N* = 4	8.86	9.00	11.75	12.00	1.00	.50	
Set 3	Experimental Group *N* = 4	12.00	12.00	11.2	12.00	-.50	.00	*U* = 4.50 *Z* = -.59 *p* = .56
	Comparison Group *N* = 3	10.33	11.00	9.25	10.00	.33	.00	

Table 4.5 Test scores of BPVS III for Nursery

(ii) BPVS III: Primary Children

Table 5.2 revealed the result of the BPVS III but for primary school children. Participants of Set 2 in experimental group did not show any significant changes between their pre-test and post-test scores. The observation is also applicable for the comparison group – i.e. medians for both pre-test and post-test scores are 12.00. Mann-Whitney U test reported a non-significant difference of performances between the experimental and comparison group, $U = 13.50$, $p = .76$. Similar results are observable for Set 3. Both participants in experimental and comparison groups performed equally well (*Mdn* =

11.00 for both test periods) to result to a non-significant test of Mann-Whitney U ($U = 13.50$, $p = .78$). Results of Set 4 showed a relatively different situation when the changes between pre-test and post-test scores are more observable compared to the previous sets. Despite the increment of 2 in median before to after the test, Mann- Whitney U test did not produce any significant results ($U = 3.00$, $p = .16$).

		Pre-test Scores		Post-test Score		Score Gain		Mann-Whitney
		Mean	Median	Mean	Median	Mean	Median	
Set 2	Experimental Group *N* = 5	11.60	12.00	11.60	12.00	.00	.00	*U* = 13.50 *Z* = -.30 *p* = .76
	Comparison Group *N* = 6	11.83	12.00	12.00	12.00	.17	.00	
Set 3	Experimental Group *N* = 5	11.20	11.00	11.00	11.00	-.20	.00	*U* = 13.50 *Z* = -.29 *p* = .78
	Comparison Group *N* = 6	11.17	11.00	10.83	11.00	-.33	-.50	
Set 4	Experimental Group *N* = 3	9.75	9.50	11.00	11.00	2.00	2.00	*U* = 3.00 *Z* = -1.41 *p* = .16
	Comparison Group *N* = 5	9.80	10.00	10.00	10.00	-.20	-1.00	

Table 4.6 Test scores of BPVS III for Primary School

(iii) YARC: Nursery Children

Table 5.3 entails results of YARC assessment for nursery children. Most of the children did not respond to the test, especially on the early word recognition section. For letter sound knowledge section, the median score of experimental group increased to 7.50 after treatment as compared to 3.00 before. Similarly, the median score of control group showed an increase from 0.00 to 2.00 after the treatment. Comparing the gain of these two groups, however, was not significant, $U = 10.50$, $p = .13$.

			Pre-test Scores		Post-test Score		Score Gain		Mann-Whitney
			Mean	Median	Mean	Median	Mean	Median	
Letter Sound Knowledge	Core	Experimental Group *N* = 7	2.57	3.00	5.67[c]	7.50[c]	2.67[c]	3.00[c]	*U* = 10.50 *Z* = -1.51 *p* = .13
		Comparison Group *N* = 7	2.57	.00	2.71	2.00	.14	.00	
Early Word Recognition	Regular	Experimental Group *N* = 7	-[a]	-[a]	-[a]	-[a]	-[a]	-[a]	-
		Comparison Group *N* = 7	4.00[b]	4.00[b]	1.00[b]	1.00[b]	-[a]	-[a]	
	Exceptional	Experimental Group *N* = 7	-[a]	-[a]	-[a]	-[a]	-[a]	-[a]	-
		Comparison Group *N* = 7	-[a]	-[a]	-[a]	-[a]	-[a]	-[a]	

a: missing 7 responses

b: missing 6 responses

c: missing 1 responses

Table 4.7 Test scores of YARC for Nursery

(iv) YARC: Primary Children

The results of YARC for primary school are in Table 5.4. Unlike to its administration for nursery children, the test for primary school students entailed the core and extended segments in the letter sound knowledge sections, and the regular and exceptional segments in the early word recognition section. For the letter sounds knowledge section, the experimental group median score showed an increase of 1.00 while the comparison group score increased 1.50 in the core segment of the test. Comparison between these two groups was not significant, nevertheless (U = 13.50, p = .77). Similar results were observable in extended segment where the different between both groups was also not significant (U = 11.50, p = .50), despite a score increase of 1 in the experimental group after the treatment. For the early word recognition section, the experimental group children demonstrated an increase of test score median from 12.00 to 13.00, while the scores of comparison group remained the same in both test periods (Mdn = 11.50). Mann-Whitney U test revealed a non-significant difference between these two groups, U = 8.50, p = .23. The application of the same test on the exceptional segment, however, revealed a significant difference between experimental and comparison groups' gain scores (U = 4.00, p = .04): experimental group median score improved .20, while the comparison group median score improved 5.00 after the treatment.

			Pre-test Scores		Post-test Score		Score Gain		Mann-Whitney
			Mean	Median	Mean	Median	Mean	Median	
Letter Sound Knowledge	Core	Experimental Group *N* = 5	15.60	16.00	16.80	17.00	1.20	1.00	*U* = 13.50 *Z* = -.30 *p* = .77
		Comparison Group *N* = 6	14.83	14.50	15.50	16.00	.67	1.00	
	Extended	Experimental Group *N* = 5	14.20	14.00	14.80	15.00	.60	1.00	*U* = 11.50 *Z* = -.68 *p* = .50
		Comparison Group *N* = 6	14.17	14.00	14.33	14.00	.17	.50	
Early Word Recognition	Regular	Experimental Group *N* = 5	12.20	12.00	13.40	13.00	1.20	1.00	*U* = 8.50 *Z* = -1.20 *p* = .23
		Comparison Group *N* = 6	11.17	11.50	11.50	11.50	.33	-.50	
	Exceptional	Experimental Group *N* = 5	6.80	6.00	7.20	6.20	.40	.00	*U* = 4.00 *Z* = -2.04 *p* = .04
		Comparison Group *N* = 6	2.17	2.00	6.67	7.00	4.50	6.00	

Table 4.8 Test scores of YARC for Primary School

(v) Other Factors Affected the Results

Based on the statistical results, it can be concluded that the use of short videos has no significant effect on the primary and nursery school children's literacy with regard to Study 1 research questions (i.e. to what extent is there any additive effect on outcomes of the video and of the follow-up activity, compared to a traditional curriculum?).

However, more interesting data has been discovered during the teacher-interviews. It can be said that there were a few other factors affected the results. First, the teacher's interest, motivation, and role were lacking in making the intervention a success and therefore this lacking had affected the statistical results. A second factor was the existence of ReadWrite Inc. programme that was supplied to all children throughout the year to support their vocabulary and letter sounds.

(a) Teacher motivation

Teacher motivation has been evidenced to be a significant factor in education particularly in teaching practice, student motivation, education reform and more (Han & Yin, 2016; Richardson & Watt, 2010). This relates to what has been discovered by the researcher during the teacher-interview session, where Teacher C the experimental group teacher strongly claimed that;

> *I probably missed inputs in numeracy most of the time or perhaps shorten interdisplinary lesson. ... I didn't mind at first as I supposed once we watched the videos a couple of times. ... I really could be doing with what I wanted to get in order to achieve the targets. ... I like to do things that children are interested. Not being directed or asked to regardless of whether they need. (Teacher C)*

Teacher C disagreed with the fact that the videos could be used to support children in learning letter sounds. Teacher C firmly stated;

> *It's not. They're not something I would use for letter sounds. I don't think. But I did use it in my class with the videos because I was directed. (Teacher C)*

These statements shows that the teacher was not interested or motivated in carrying out the duties (i.e. carrying out the intervention in the classroom) assigned by the researcher.

The teacher's lack of interest affected the intervention sessions and therefore resulting in poor effects from the intervention.

Teacher C also confessed,

> *They've seen already. And I think children are now so quick. They don't view it too many times so countly three times probably be enough. ... We didn't do anything on the other two because they had nothing to do with what we're doing. (Teacher C)*

Also, when asked how much time did the intervention take up per week, Teacher C responded;

> *It probably took up maybe 15 minutes. I can't say definitely every week because of different time the week we do. But sometimes it didn't take very long. We didn't have much to see, to add. ... Sometimes we didn't say anything at all. Sometimes we were very quiet and maybe didn't have anything to say. (Teacher C)*

These responses prove that the teacher did not carefully follow the intervention instruction. This obviously gave a great impact on the outcomes of the intervention. The teacher only carried out the intervention sessions throughout the observation sessions, but stopped immediately after the observation sessions. If insufficient amount of treatment were given to the children, the results of the intervention would absolutely be very much impacted.

However, Teacher C informed that they watched a couple of videos for a couple of times extra;

> *We watched a couple of extras time. We watched the owl one because someone wanted to find...we're talking about male and female animals and we wanted to have a look at it back again. I think we looked at seeds once again. (Teacher C)*

This showed that some of the videos were useful to support children's learning in the classroom even though Teacher C first denied it earlier.

However, Teacher C seemed to be quite reluctant to recommend this type of intervention to some other teachers. Teacher C said;

> *I don't know. But if it's an extra thing, the children are actually wondering why we are looking at this? What's the reason for it? This is being slot in. Some of the children could say why we're watching this? What is it got to do with anything? It just was a random thing. I think they don't understand random because we tell them anything we're going to be doing. We teach them what you're learning, why you're learning it, how would it help you. I think it's just an extra thing, isn't it? (Teacher C)*

The response illustrated that the intervention programme was appeared to be 'a random thing' therefore was claimed to be 'an extra thing' to Teacher C.

(b) ReadWrite Inc. - Enhancing Children's Vocabulary

When the researcher interviewed Teacher G, incredibly different reactions were discovered. In contrast to Teacher C, Teacher G did not carry out the intervention programme. As instructed, Teacher G just merely focused on the normal classroom with the Scottish curriculum without the intervention programme. During the interview, Teacher G was asked on how to help children in enhancing their vocabulary. The teacher responded that ReadWrite Inc. was the tool to tackle children's vocabulary;

> *We do ReadWrite Inc. So we're using the vocabulary, the learning to blend and things like that. (Teacher G)*

Besides, the teacher also used speech bubbles to support children's vocabulary. Teacher and children would read the words displayed on the classroom wall. Then, the teacher wrote the words with the children. The teacher described;

> *Around the classroom if we have done activities, we put up displays. We put up like speech bubbles and we read them or write them with the children. (Teacher G)*

(c) ReadWrite Inc. - Helping Children with Letter Sounds

When asked on how the teacher helped children with letter sounds in the classroom, it was discovered that the children were helped formally through phonics in the ReadWrite

Inc. programme. Children were taught sound and not the name of the sound. The contrast group teacher responded;

> *We teach quite formally through the ReadWrite Inc. training. The phonic training. Initially they're coming to school we do letter every day and we only teach sounds. We don't teach the name of the sound. We use flash cards daily and we still do that daily to teach the sounds. (Teacher G)*

In addition, homework on sounds were also sent home for parents to reinforce. Teacher G described;

> *We go over the sounds every single day and the children do that for homework as well. They're given as learning sound homework every day. If they're got a new sound every day the beginning of the school, the sounds also went home for the parents to reinforce at home learning sounds. (Teacher G)*

4.4 Study 2

4.4.1 Background of the Study

The objective of Study 2 is to explore whether or not a longer intervention has proportionately greater effects on outcomes than a shorter intervention.

The experimental children received the treatment for 12 consecutive weeks before they sat for the post-test of the BPVS III and YARC assessments. Meanwhile the comparison children only received the treatment for 6 consecutive weeks before taking the post-test of BPVS III and YARC assessment.

The treatments given for both groups were the same - watching videos, screenshot posters, printed words on cue cards and teacher-children dialogue as the follow up activities.

There research question in Study 2 was:

(i) To what extent has a longer intervention had a proportionately greater effect on outcomes than a shorter intervention?

4.4.2 Summary of Methodology

As discussed in Chapter 3 Section (Sections 3.11.2 and 3.11.3), Study 2 was carried out in Winter term 2014. However, a brief training to class teachers was conducted beforehand to make sure the intervention sessions ran smoothly.

One primary school participated in the research project. There were 21 children with parental consent. Only ten children were randomly selected for the assessments.

4.4.3 Results and Discussions

(i) BPVS III: Primary Children

Results of BPVS III for primary school children are in Table 6.1 showing that the post-treatment median scores for both groups, in all sets consistent with pre-treatment median scores. Mann-Whitney U test comparing between experimental and comparison group scores further supported the observation as it did not produce any significant differences in all sets administered: $U = 8.50$, $p = .34$ for Set 2; $U = 12.00$, $p = .91$ for Set 3; and $U = 11.00$, $p = .70$ for Set 4.

.

		Pre-test Scores		Post-test Score		Score Gain		Mann-Whitney
		Mean	Median	Mean	Median	Mean	Median	
Set 2	Experimental Group *N* = 5	11.80	12.00	11.80	12.00	.00	.00	*U* = 8.50 *Z* = -.96 *p* = .34
	Comparison Group *N* = 5	11.60	12.00	12.00	12.00	.40	.00	
Set 3	Experimental Group *N* = 5	11.60	12.00	11.80	12.00	.20	.00	*U* = 12.00 *Z* = -.12 *p* = .91
	Comparison Group *N* = 5	11.60	12.00	11.80	12.00	.20	.00	
Set 4	Experimental Group *N* = 5	11.00	11.00	10.80	10.00	-.20	.00	*U* = 11.00 *Z* = -.39 *p* = .70
	Comparison Group *N* = 5	11.20	11.00	11.00	11.00	-.20	.00	

Table 4.9 Test scores of BPVS III for Primary School

(ii) YARC: Primary Children

Table 6.2 contains results of YARC for primary school children. The core segment of letter sound knowledge section showed results an increase of median scores from 16.00 before treatment to 17.00 after receiving the treatment in both experimental and comparison groups. Mann Whitney U test further showed a marginally non-significant difference between these two groups, U = 4.00, p = .06. Similarly, in the extended segment, the treatment did not produce significant effect (U = 12.50, p = .99) as the scores stayed the same change across the testing periods in both groups. For the early word recognition section, the regular scores of experimental group students showed an increase of 2.00 after receiving the treatment while the scores of comparison group counterpart remained at 10.00 in both periods. This observation was not significant nevertheless, U = 5.00, p = .33. In the exceptional segment, however, the results showed a different trend where the increment of scores were observable in both groups but the experimental students outperformed the comparison students at a bigger margin: a respective increment of 7.00 and 3.00 in the former and latter groups. This difference was significant, U = 2.50, p = .03.

			Pre-test Scores		Post-test Score		Score Gain		Mann-Whitney
			Mean	Median	Mean	Median	Mean	Median	
Letter Sound Knowledge	Core	Experimental Group $N = 5$	15.40	16.00	16.80	17.00	1.40	1.00	$U = 4.00$ $Z = -1.92$ $p = .06$
		Comparison Group $N = 5$	15.60	16.00	15.80	17.00	.20	.00	
	Extended	Experimental Group $N = 5$	14.80	15.00	14.80	15.00	.00	.00	$U = 12.50$ $Z = .00$ $p = .99$
		Comparison Group $N = 5$	14.60	15.00	14.60	15.00	.00	.00	
Early Word Recognition	Regular	Experimental Group $N = 5$	11.00	12.00	13.40	14.00	2.40	2.40	$U = 5.00$ $Z = -.97$ $p = .33$
		Comparison Group $N = 5$	8.80	10.00	10.40	10.00	1.60	1.00	
	Exceptional	Experimental Group $N = 5$	3.80	3.00	9.40	10.00	5.60	5.00	$U = 2.50$ $Z = -2.16$ $p = .03$
		Comparison Group $N = 5$	2.20	1.00	3.80	4.00	1.60	2.00	

Table 4.10 Test scores of YARC for Primary School

(iii) Some Additional Supports

The statistical results presented that there is no significant difference in all sets of assessments for the primary and nursery children with regards to whether a longer intervention had proportionately greater effects on outcomes than a shorter intervention. However, the core segment of letter sound knowledge section showed results an increase of median scores from before the intervention to after the intervention in both experimental and comparison groups. As explored in the teacher-interviews, the statistical results might be due to some additional supports given by the teachers in the classrooms.

(i) Speech Bubbles
Teacher G in the experimental group shared some classroom teaching experiences;

> *Speech bubbles and we write them with children. We look at the speech bubbles. We point out words from the visuals. (Teacher G)*

From the response, it was discovered that the teacher provided some additional supports to children's literacy skills in the classroom. The teacher made use the speech bubbles as the visual aids to support the children's literacy skills.

(ii) ReadWrite Inc. Programme
According to Teacher G, ReadWrite Inc. was also helping the children in improving their literacy skills. The teacher said,

> *We teach them quite formally with ReadWrite Inc. .We only teach them sounds not letter. We go over sounds almost every day and blend the word. We send them at home for parents to work with them." Based on this evidence, another additive element affected the intervention as a whole. There was a specific huge programme was happening at the schools to support the children's literacy skills - and that was ReadWrite Inc.. (Teacher G)*

Teacher C from the contrast group also believed that ReadWrite Inc. greatly support children's literacy skills particularly in reading. Teacher C claimed that;

> *Every morning from 9.30 to 10.30 we do ReadWrite Inc.. And that's totally concentrated on their reading. It's a reading programme. It's not writing programme. It's a reading programme. So, it's totally focused on reading with*

a baby small emphasis towards the end of writing....ReadWrite Inc. is fantastic. It's very exciting. I love ReadWrite Inc. It's working well. (Teacher C)

The teacher-interviews revealed that a specific reading programme in Scottish schools called as ReadWrite Inc. programme was the core contribution to Scottish children's literacy skills particularly in reading skills. Teachers were having the ReadWrite Inc. with the primary school children every morning - spending one hour in a day that made a total of five hours in a week. Teachers and children were having the ReadWrite Inc throughout the year. This means that children were receiving an immense 'treatment' from the ReadWrite Inc. programme to develop their literacy skills. This could be the explanation why no significant results could be seen between the longer and the shorter intervention. All children in both the experimental and contrast groups received the ReadWrite Inc programme in their classroom with the same enormous amount in comparison to the intervention programme.

(iv) So, Is The Intervention Programme Useful?

However, on top of these additive elements, which were going on at the school, Teacher G from the experimental group declared that the intervention was worthwhile. When asked, Teacher G admitted,

Yes. The children are looking forward for it. I just called it as Listening Skills in my timetable on Mondays and Fridays. They did enjoy doing it. It's a part of our timetable. It wasn't like oh we have five minutes to do this. We don't do that. No. ... I know you're looking for literacy skills but listening is a part of literacy anyway. I know you're looking for reading skills. But certainly good for listening skills as well because they were sort of factual. You know they were non- fictions where the children they don't often watch on. ... These documentary type things, children can watch them. (Teacher G)

In addition to this, Teacher G also acknowledged that the intervention sessions were used as 'a replacement of a story' in the classroom. When asked whether the teacher missed out something in the curriculum, Teacher G said the teacher did not. Teacher G responded;

> *Well, no. I used it on Monday. We did it after gym. So normally, it may be a story or something. So, it's a kind of replacement of a story. And again on Friday, it was just before lunch time. And it's a replacement of the story. (Teacher G)*

Teacher G agreed that the children enjoyed watching the videos and the videos used in the intervention programme had helped children in vocabulary, letter sounds, and word reading. Teacher G claimed;

> *They were excellent and the children really enjoyed them. ... The knowledge of the letter sounds, it's certainly help them with blending words. When I put the flash cards that's got the answer that I wanted to, I matched the flash cards. We did the letter sounds then spell out the words and blend it. ... Well, it's great to have words there because we have done it after Christmas so they all knew the sounds and a lot of the children were already sounding. They could blend words. So it was good. It's very different words and it's nice to see them tackling new unseen words and use in their literacy skills. (Teacher G)*

Teacher G also agreed that the videos had some effects on children's learning skills. Teacher G was amazed to the fact that children seemed to remember things that they watched and were able to respond to teacher' questions using the information they received from watching the videos. Teacher G said;

> *It's good because you've got visual and oral. I think that's good. They remember things they watched. I was quite surprised. Sometimes when I asked them a question, they picked up from the videos. Maybe I asked different questions that would have one of the words as the answer. And they had learned it from the video. So, yes they were good. (Teacher G)*

Chapter 5

RESULTS AND DISCUSSIONS - A CASE STUDY

5.1 Introduction

The chapter looks at the findings from a case study which took place in the primary school Autumn term.

5.2 Background of the Case Study

As mentioned in Chapter 3 Section 3.12.1, the study is a qualitative case study. A case study was used as a tool for deeper exploration of the behaviour of teacher and children during the research project. It was also used as a basis for the development of more structured tools (e.g. interviews and observations) than in the previous experimental studies. The case study offered more richness and depth than the previous experimental studies.

This case study addressed three research questions: (i) how do teachers support children in language development and literacy, with particular reference to implementation of the video programme?, (ii) how do children respond to their teacher's efforts to support them in language development and literacy, with particular reference to implementation of the video programme?, and (iii) what other factors are operating within the situation which promote children's language development and literacy?

5.3 Summary of Methodology

As discussed in Chapter 3 Section 3.12.2, the study consisted of ten class sessions. Each session lasted for 30 minutes. In each session, the children watched a short video. Each video was viewed twice in a week, spread out over a week and viewed over five consecutive weeks. In each session, the children watched one video. In Week 6, the children and the teacher were invited to have an interview on the implementation of the video programme.

The case study was conducted in a primary school. The school participated in the previous experimental studies and was very positive to continue participating in the case study. Fifteen primary 2 children aged between five to six years old participated in the study (with parental consent). The children were a mix of boys and girls with different types of ability groupings.
The study contained qualitative data - observations, teacher semi-structured interviews, children semi-structured interviews, children's pieces of drawing and field notes.

The children's drawings were analysed through the use of content analysis. Drawings were coded into three categories (i.e. 'drawing with a sentence', 'drawing with letters', and 'drawing only').

The interviews were transcribed by the researcher and analysed using a qualitative data analysis software package called NVivo. Common themes were derived and frequencies of participants supporting these themes given. Quotations from the child interviews and teacher interviews were presented in the research report to evidence the children's and teacher's responses.

5.4 Results and Discussions

This section presents the main results in the case study. Two groups participated in this case study - (i) children and (ii) teacher. Therefore, this section looks at the findings from each group separately, followed by a combined discussion thereafter.

5.4.1 Children's Response

This section is organised into two main parts: (i) child drawings and (ii) child interviews.

The first part shows children's drawings through observations and inspections of children's drawing. The second part discusses child interviews.

(i) Children's Drawings

The analysis of children's drawings in the case study was done through the use of content analysis. The children's drawings were divided into three categories: (i) drawing with a sentence, and (ii) drawing with letters, and (iii) drawing only, as illustrated in Diagram 5.1. The study named each category in a thematic way to present the drawings clearly. ‘Categories’ are referred to ‘patterns’ or ‘themes’ that are directly expressed in the text or are derived from them through analysis. Relationships among categories are then acknowledged. The current study used content analysis in an inductive way as discussed in Chapter 3. The researcher organised the qualitative data collected form the Case Study. This process included open coding, coding sheets, grouping, creating categories, and abstraction.

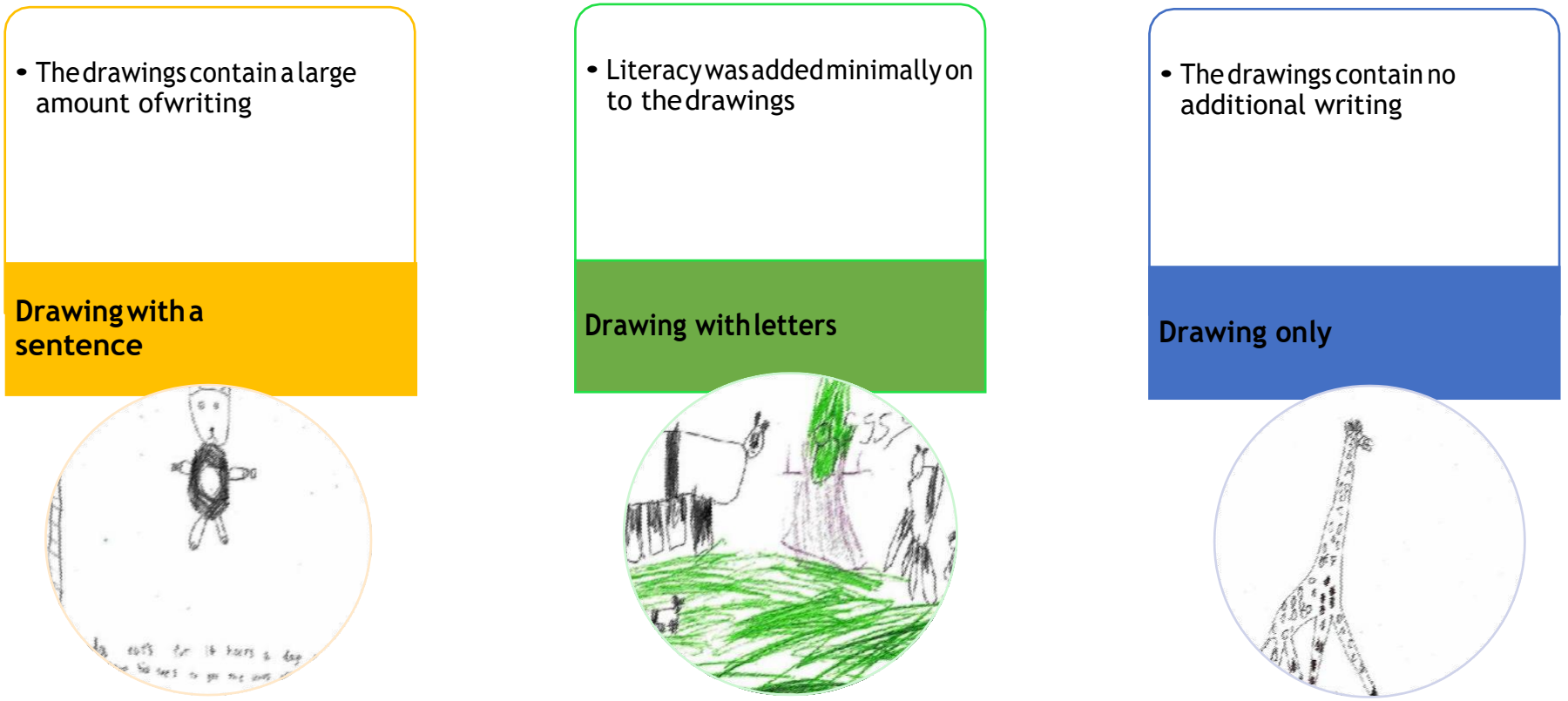


Figure 5.1 Categories of Children's Drawings

'Drawing with a sentence' category included drawings where literacy was involved in the drawing (e.g. a picture of an object from the video with a sentence/phrase which told the story of the picture). The drawings contained a large amount of writing.

'Drawing with letters' category included drawings where literacy was added minimally on to the drawings e.g. a picture of an object from the video with a letter or a sound which can be connected or associated to the pictures or words that were introduced to the children during the discussion session with their teacher or even words that they 'caught' while watching the video or/and talking with their teacher. These drawings contained a small amount of writing.

'Drawing only' category included drawings that showed an object or objects from the video without any structure of language. These drawings contain no additional writing.

Figure 5.2 shows 9% of children's drawings with a large amount of writing, only 2% of children's drawings with a small amount of writing and 89% of children's drawings without any additional writing. Because the volume of children's drawings was far too high, the analysis used only half the percentage of children's drawings. Only 4.5% or 8 drawings for the first category, 1% or 1 drawing for second category and only 44.5% or 74 drawings for the third category were included for tertiary category in the thesis.

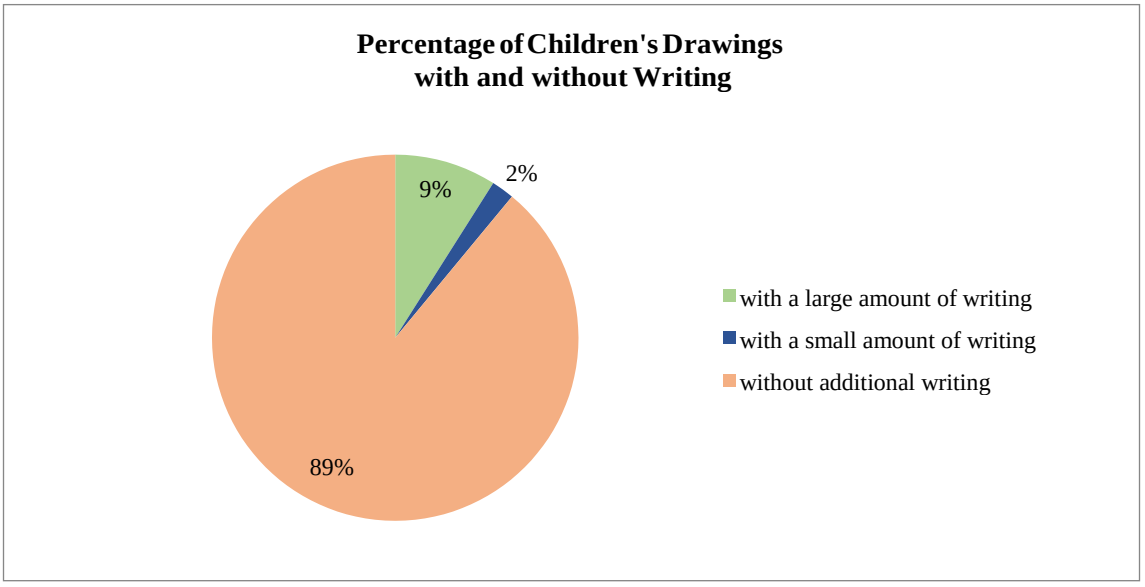


Figure 5.2 Percentage of Children's Drawings with and without Writing

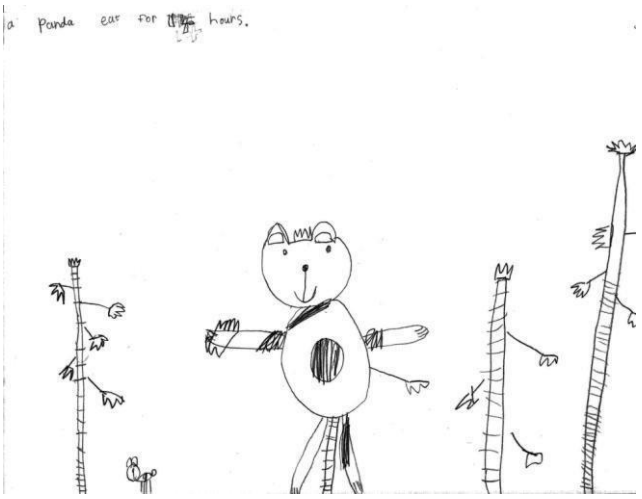
The total of children's drawing collected in the case study was 165 pieces. As seen in Table 5.1, there were 30 drawings collected from each video-viewing session. Of 165 drawings, 15 drawings were gathered from the child interviews session.

Type	**No. of Drawings**
Video 1	30
Video 2	30
Video 3	30
Video 4	30
Video 5	30
Interview	15
	165

Table 5.1 Number of Children's Drawings

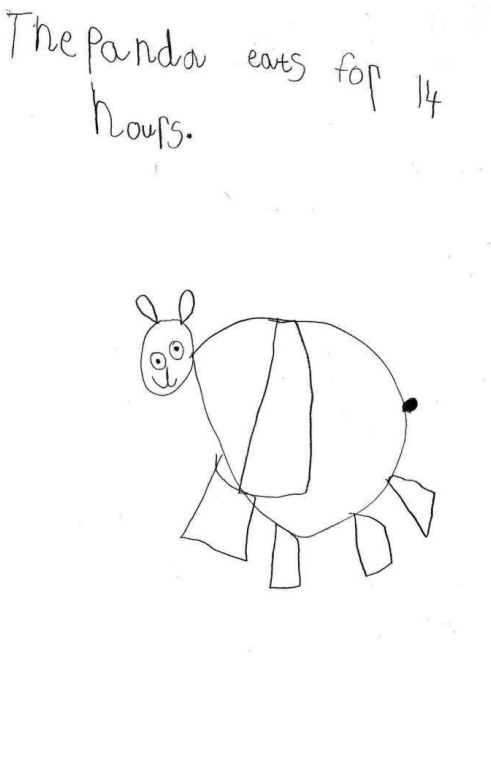
'Drawing with a sentence' category:

Drawings with this label were drawings with a large amount of writing - the children drew a picture and wrote a sentence.



Child A

Child O



Child F

Figure 5.3 Child A's, O's and F's Drawings on Video 1

After watching Video 1 and engaging with a teacher-child dialogue, Child A, Child O and Child F came out with a picture of a panda. As seen in Picture 1, they produced a similar sentence. Child A wrote: *a panda eats for 14 hours*. Child O wrote: *panda ets for 14 hours*. Child F wrote: *The panda eats for 14 hours.*

All sentences represented one of the facts informed in Video 1. The word 'panda' was used repeatedly in Video 1. It was also one of the printed words (printed on a cue-card as supplementary material) used for teacher-child dialogue. These drawings were another example of how a written and pictorial form could demonstrate children's sense of understanding and children's word learning after watching a video with follow-up activities.

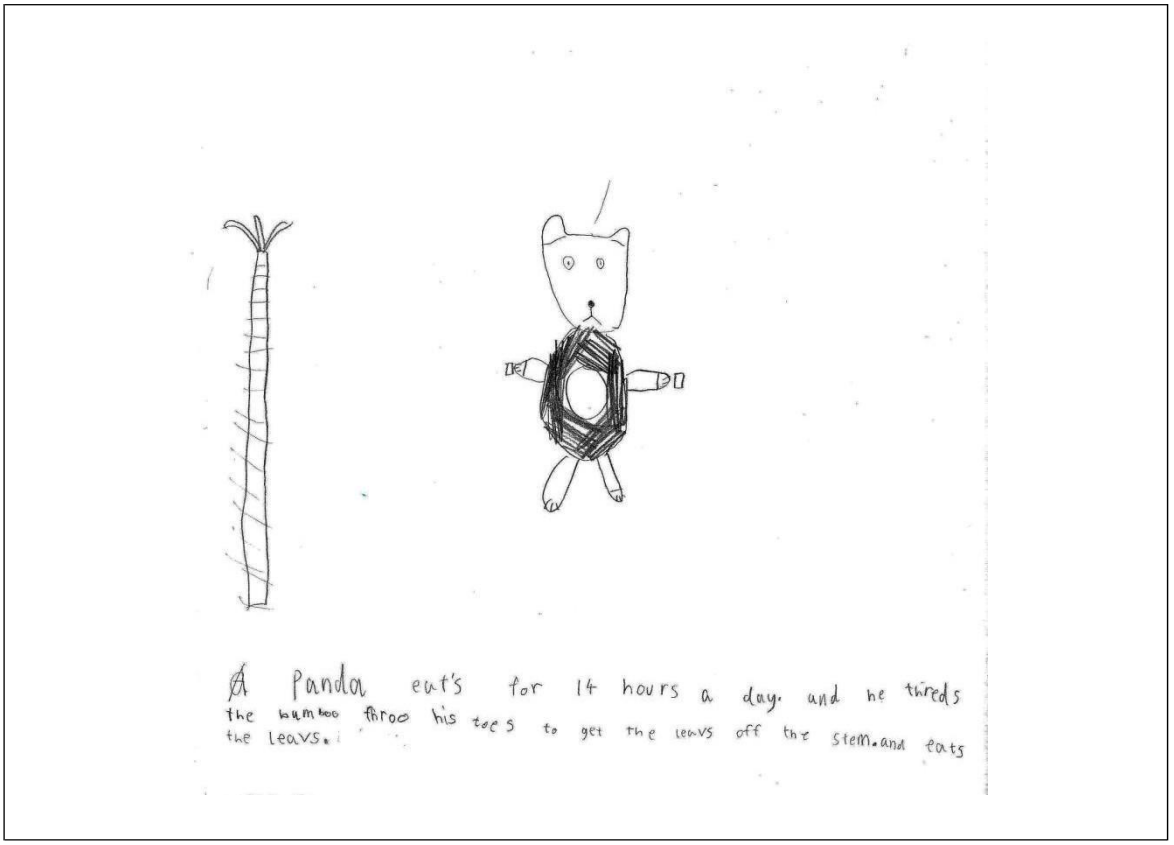


Figure 5.4 Child L's Drawing

As depicted in Figure 5.4, Child L drew a panda and a bamboo tree. Below the picture, Child L wrote:

> *Panda eats for 14 hours a day. and he threds the bamboo throo his toes to get the leavs off the stem. and eats the leavs.*

The text contained rich vocabulary, for instance words 'bamboo', 'threads', 'stem'. These words were used by the speaker on Video 1 and then were repeated and further elaborated in teacher-child dialogue. Words like 'panda', 'bamboo' and 'stem' were also re-emphasized during the teacher-child discussion using printed cue-cards. Child L effectively made use of the words introduced in Video 1 in the text to tag along the picture. Child L had made extra effort to write this extended text with multiple information and extensive facts. This text was an example of how a child could listen to the video, comprehend information, recall facts, and put information in a written and pictorial form.

From my observation, while doing this Child L asked for help from the class teacher with some spelling. In comparison to some other drawings with additional writing by other children at similar levels of actual development, Child L managed to write more extensive sentence than other children.

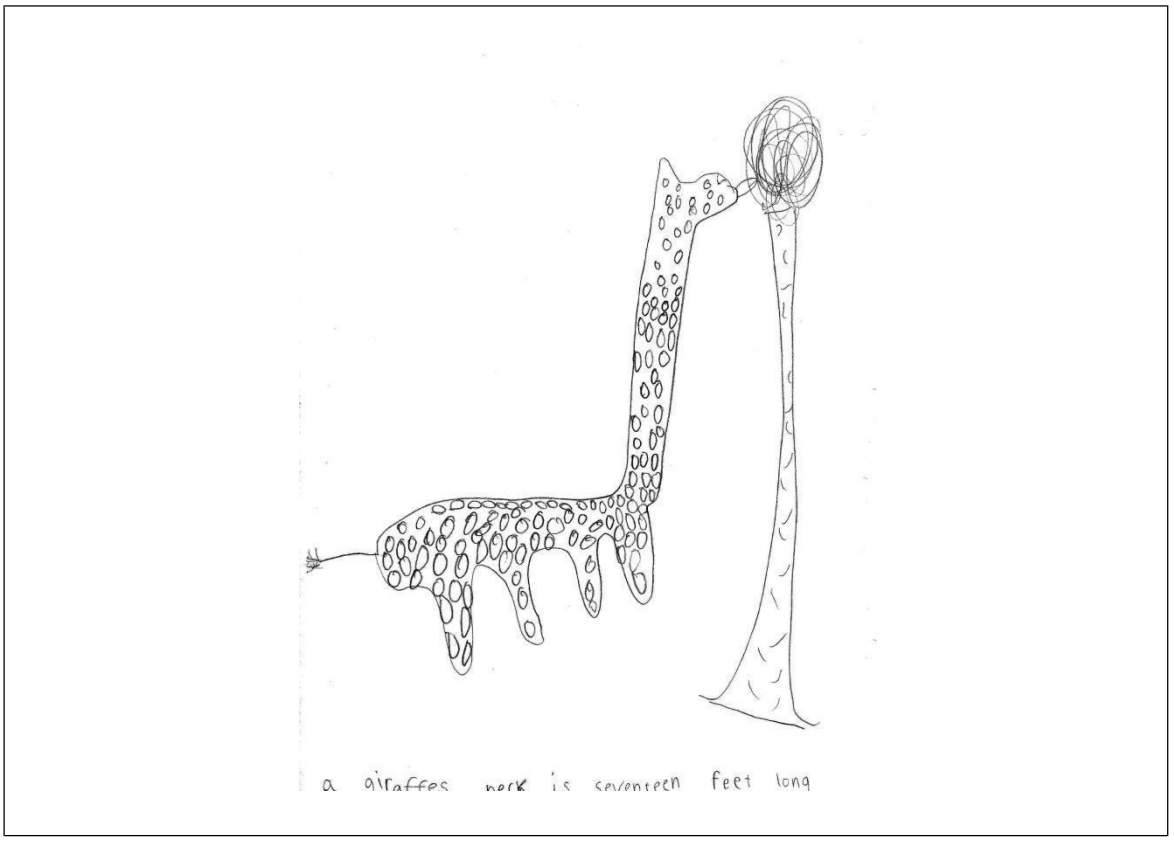


Figure 5.5 Child L's Drawing

Whoever watched Video 2 - Why do giraffes have long neck?, could easily identify this animal - a giraffe. The video told the audience some facts on giraffes. It explained that giraffes were fascinating animals which have towering legs about 6 feet and long necks that allow them to browse on leaves in treetops. Figure 5.5 shows that Child L understood the concept of a giraffe and was able to draw some main features of a giraffe.

Child L wrote: *a giraffes neck is seventeen feet long* which showed that Child L was able to recall a fact given in Video 2 and then wrote it down on the paper to describe her drawing.

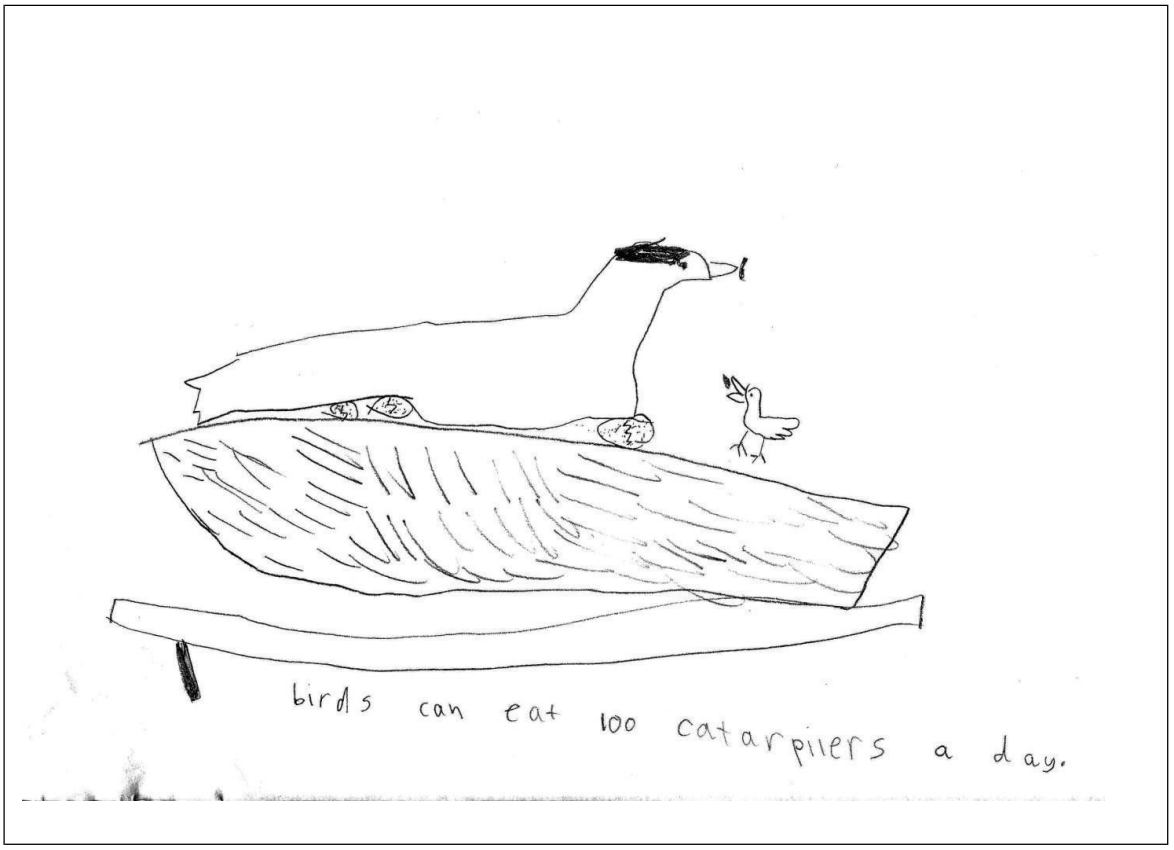


Figure 5.6 Child L's Drawing

The scene shown in Video 3 was carefully captured by Child L and put down on the drawing.

As seen in Figure 5.6, Child L wrote a sentence below the picture: *birds can eat 100 catarpillers a day*. Child L had 'caught' this fact in Video 3 and managed to write it

down with the picture. The writing illustrated that the child was able to recall a fact given in the video and then presented the fact in a written form. From my observation, Child L attentively watched the video, tried very hard to listen to the video, attempted to digest information, and tried to recall information. After watching the video, Child L engaged in an active teacher-child dialogue. Child L then returned to the seat and started drawing and writing a factual sentence down on a piece of paper. The whole activity involved a lot of complex tasks yet Child L had successfully produced a drawing with a sentence. It was the same Child L who provided text with her drawing in Picture 2 and Picture 3.

Child L had expressed ideas and thoughts visually. This drawing with additional language and writing became a mean of communication for Child L to an audience as to represent her thinking.

This child was a very capable child and had a high self-motivation in language and literacy skills.

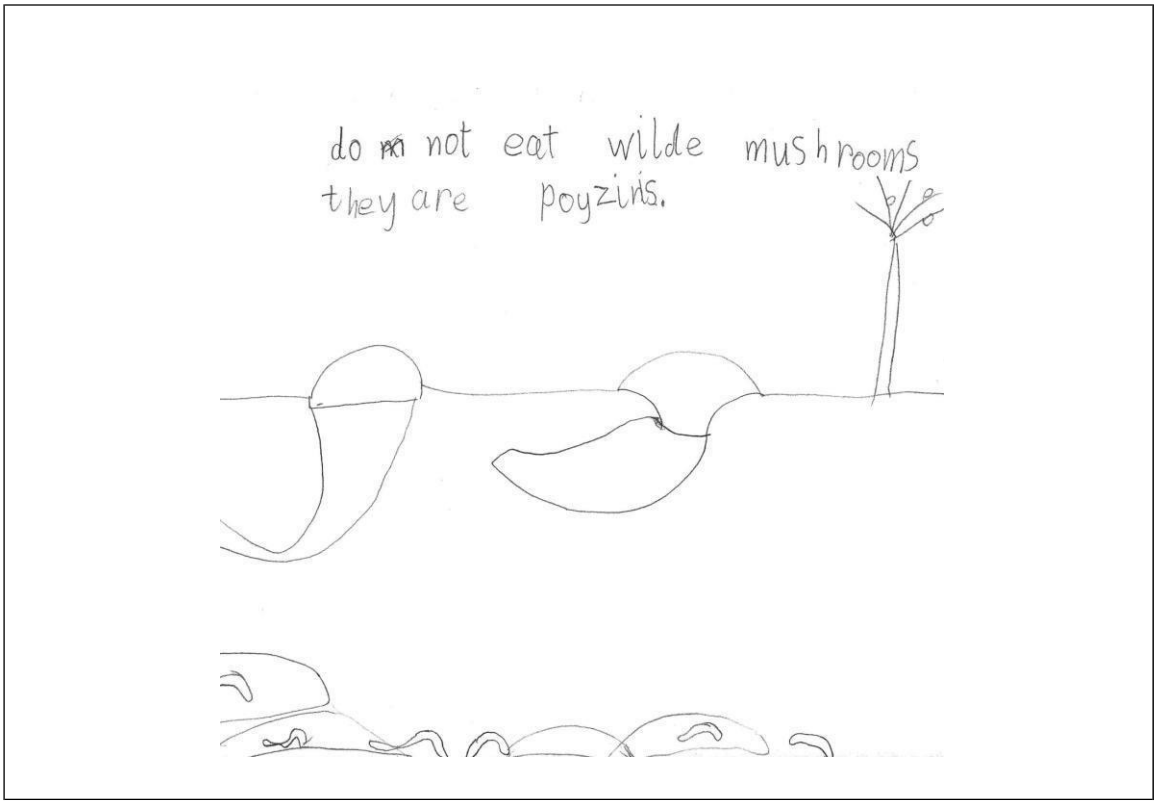
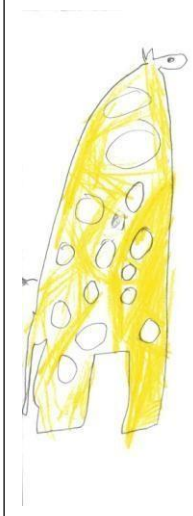


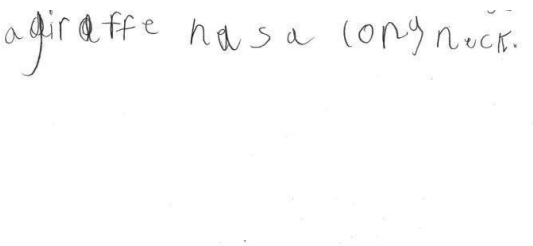
Figure 5.7 Child A's Drawing

Figure 5.7 is an example where children understood the content of the video. At this time, all the children watched Video 4 - How are fallen leaves broken down by worms, fungi and slime mould? Here, Child A drew some wild mushrooms. The drawing has some images as shown in Video 4. The drawing indicated that Child A understood the general idea of the video. Child A legibly wrote a text: *do not eat wilde mushrooms they are poyzinis*. In Video 4, Child A also learnt that wild mushrooms are poisonous. From my observation, Child A knew, understood, and remembered what the video and the teacher said during the teacher-child dialogue session - 'do not eat wild mushrooms because they are poisonous'. As a 6-year-old, Child A was very capable of writing a 'story' about the picture. Child A was actively constructing an understanding as a result of experiences, particularly in the context of the child's interactions with individuals around her, in which the teacher had helped the child and the child had developed some new language and writing to crystallise thought.

Child A had the perception of some objects from Video 4, then Child A communicated it to an audience by adding some detailed features onto the drawing and adding some writings on the drawing. Child A's drawing and writing were graphic symbols that mediated cognitive processes.



front page



back page

Figure 5.8 Child M's Drawing

As seen in Figure 5.8, Child M drew an image of a giraffe on the front page. At the back page of this picture, Child M wrote: *a giraffee has a long neck*. The text explained Child M remembered a giraffe has a long neck. Child M coloured the creature yellow which represented the colour of a giraffe. The text was helpful for the audience to understand what the creature was.

'Drawing with 'letters' category:

Drawings under 'drawings with letters category' were drawings with letters - the children drew a picture and wrote letters.

Figure 5.9 Child J's Drawing

As seen in Figure 5.9, Child J wrote 's' repeatedly on his drawing. Child J said 'stem' repeatedly while writing 's' down. Therefore, 's' represented 'stem'. Child J also drew four creatures. Each of them has black stripes on the body and on the legs. Child J

transferred his understanding of pandas and stem (which were presented in Video 1 and were discussed in teacher-child dialogue with some supplementary materials) in a pictorial form.

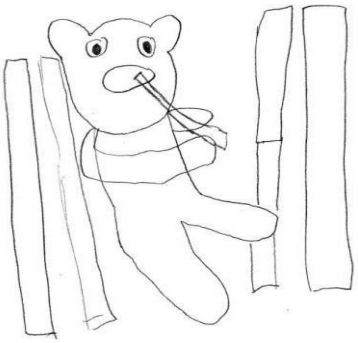
'Drawings only' category:

The category was named as 'drawings only' category because all the drawings had no additional writing. However, any audience who watched the video first would have understood each image. The drawings were not less important as the drawings in the two categories discussed before. Each of the drawing in the 'drawing only' category told an 'unwritten story' to an audience. The 'unwritten story' can be interpreted differently from one audience to another.

There were many possible reasons why some children did not write any letters or sentences to illustrate their drawings. Three of the reasons which were noted from the observations included: (i) time constraint, (ii) colouring in and (iii) extra details.

First, for most children particularly those who were less able in writing, they had less time to put some additional writing in their drawing. The time they had was just enough for drawing. Second, some children opted for colouring in their pictures rather than writing down some letters or sentences. Third, some children spent their time more putting extra details in their drawing.

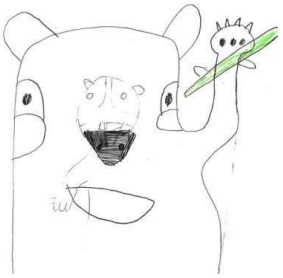
It was noted from the observations that the children were thrilled by the panda shown in Video 1. After finished watching Video 1 and doing follow-up activities, the children were excited to draw a panda. As presented in Figure 5.10, children were able to draw an image of a panda as shown in Video 1. Child D and Child R drew an image of a panda holding a cigar. Video 1 narrated that a panda makes its own cigar and then eats it. From the drawings, both Child D and Child R understood and remembered the information told. They both put the information down in a pictorial form instead of a written form.



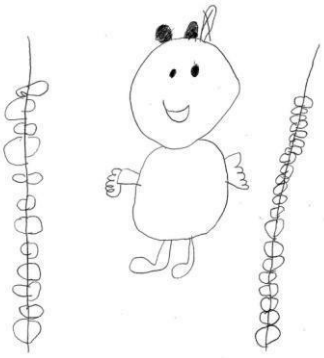
Child D

Child N

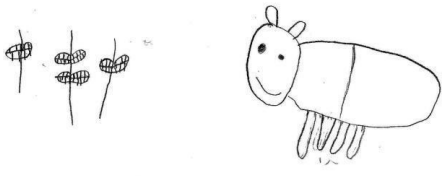
Child F



Child R



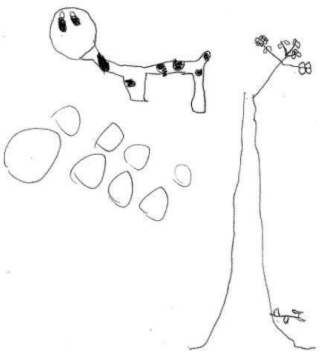
Child E



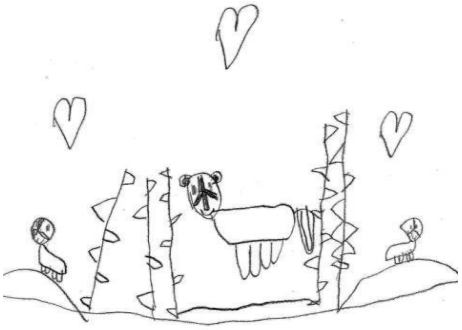
Child S

Child F

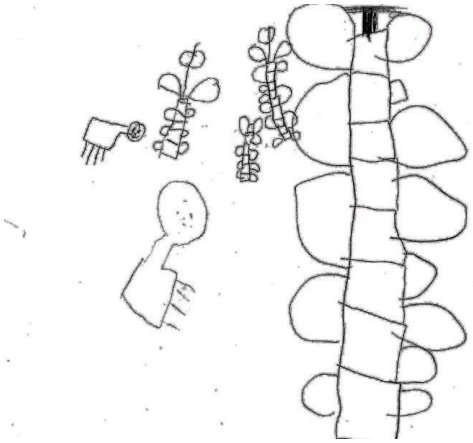
Child M



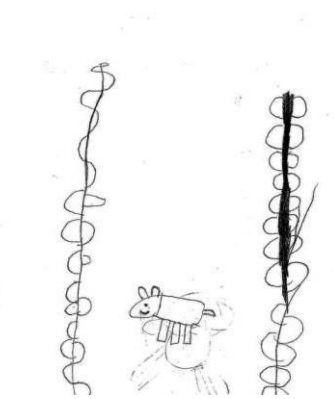
Child O



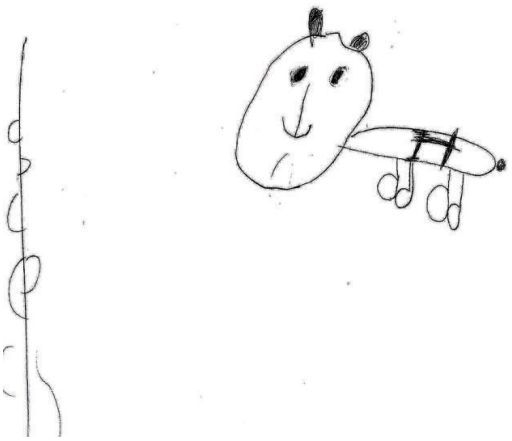
Child I



Child B



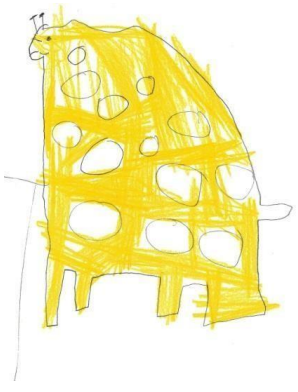
Child V



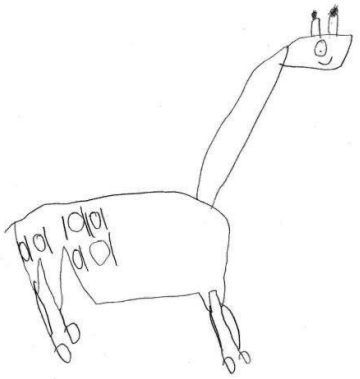
Child G

Figure 5.10 Drawings on Video1

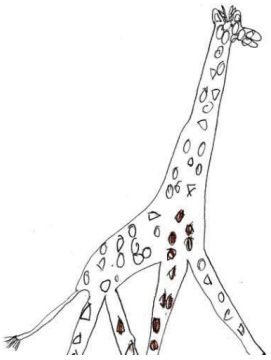
Figure 5.11 presented the children's drawings from Video 2. The drawings showed that the children were capable to draw an image from Video 2, which is a giraffe. Some children put extra effort to colour in their drawings and some put more details on it. The images presented in Picture 9 showed the children understood the features of a giraffe. Child R, Child X, Child N, Child E, Child B, Child I and Child L drew a giraffe has a long neck until it could reach leaves in treetops.



Child M



Child C

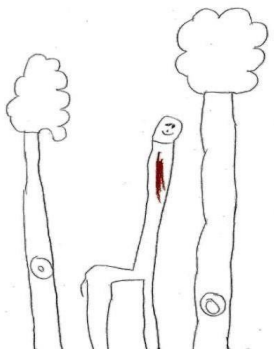


Child A

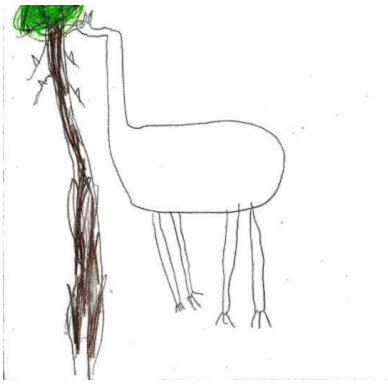
Child R

Child X

Child N

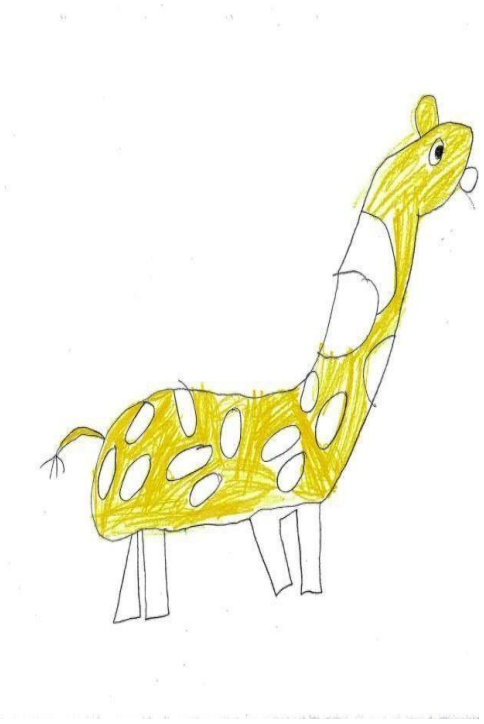


Child E

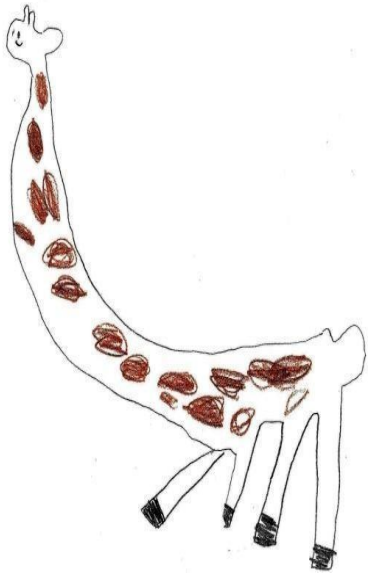


Child B

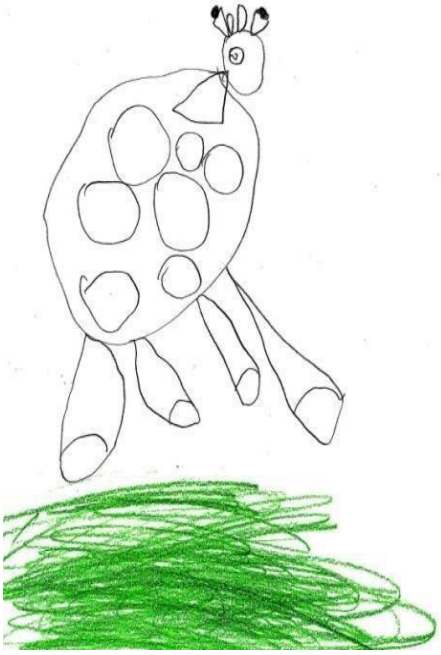
Child I



Child D



Child O

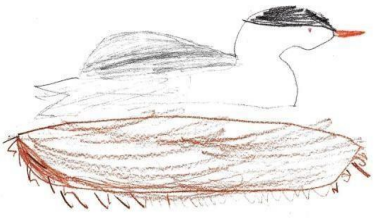


Child F

Child L

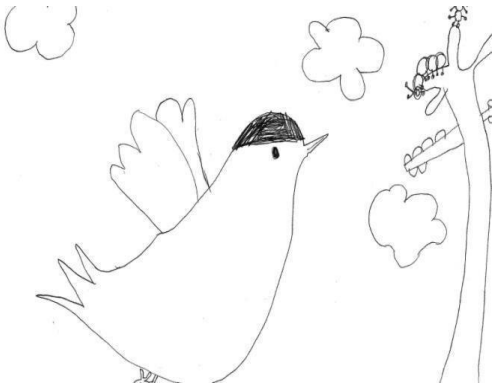
Figure 5.11 Drawings on Video 2

All images presented in Figure 5.12 were the children's drawings after watching Video 3. The children drew a bird. Child N, Child R, Child C, and Child X drew a mommy bird with her chicks. Child L, Child V, Child F drew a bird sitting in nest. Child A, Child B, Child V, and Child D drew a bird sitting on a branch. Meanwhile, Child L, Child G and Child O drew a bird and they coloured in the bird. All the drawings were drawings only, however as can be seen most children put effort to colour in their drawings. Child A's drawing for instance presented extra details - a bird, a tree, a butterfly, and clouds.

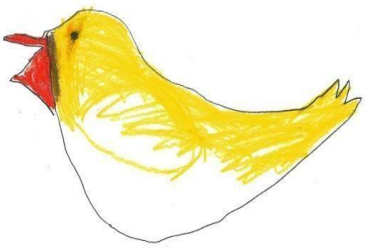


Child L

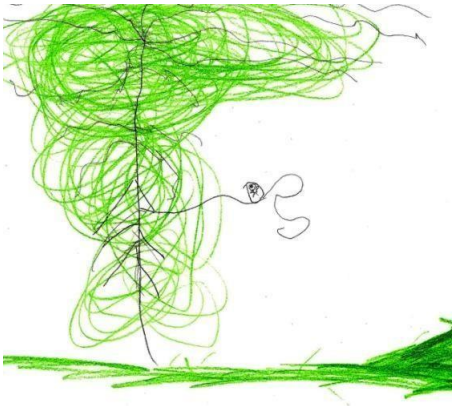
Child G



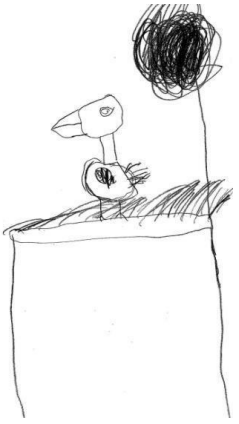
Child A



Child O



Child B



Child V

Child N

Child F

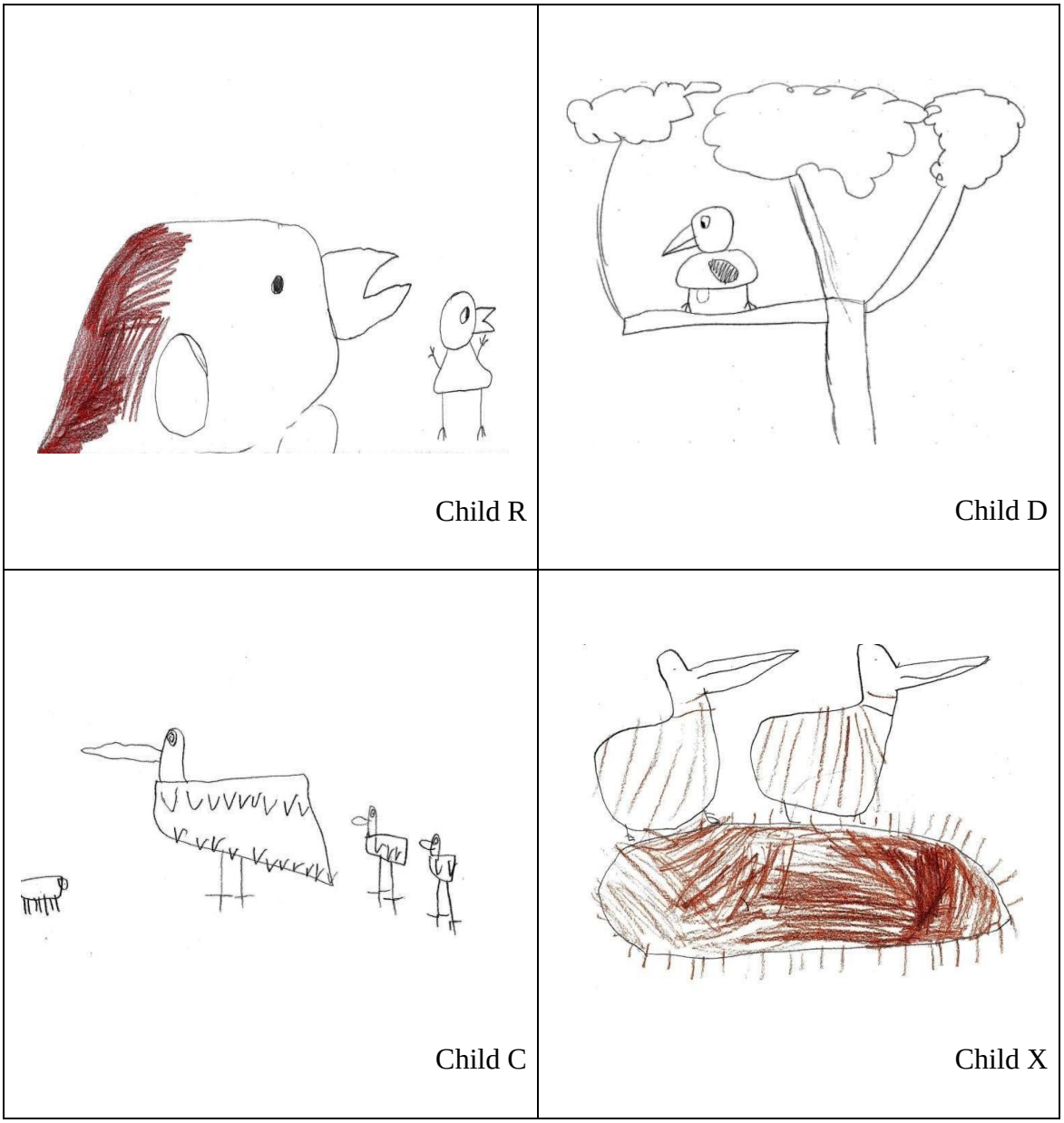
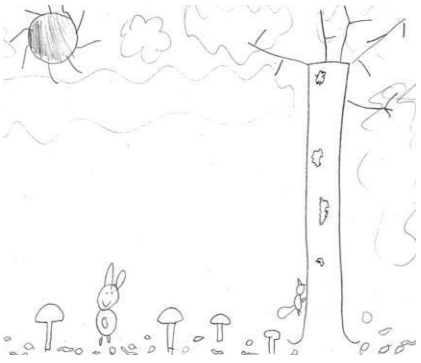


Figure 5.12 Drawings on Video 3

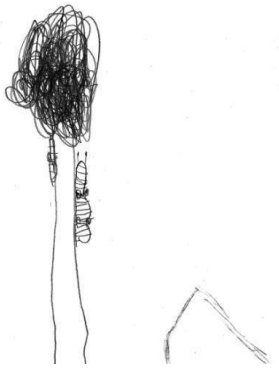
After finished watching Video 4 and doing follow-up activities, the children were enthusiastic to draw. The children were alert that they needed to draw images from Video 4. Even though the children did not write a story in their drawing, it can be understood that the 'unwritten story' was closely connected to Video 4. Some would want to tell fallen leaves, some probably wanted to tell a story about mould or wild mushroom, some would like to tell about the autumn season, or some may want to tell other stories. As seen in the other drawings presented before, drawings in Figure 5.13 also showed the children put extra effort in adding more details in their drawings.

Child X

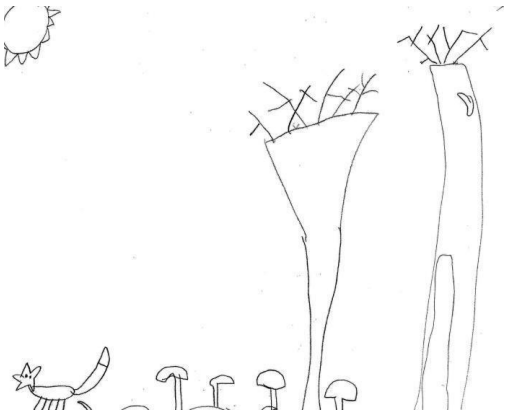
Child B



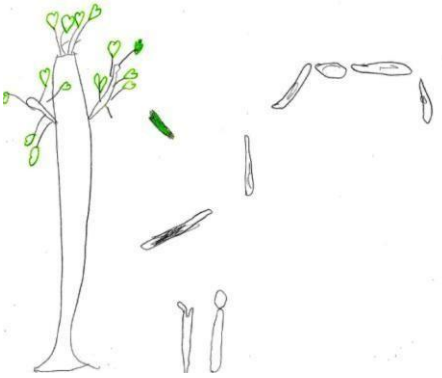
Child Z



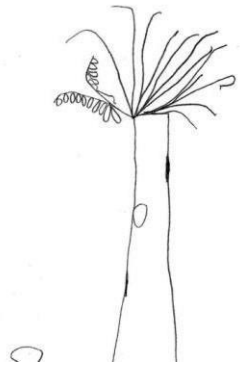
Child V



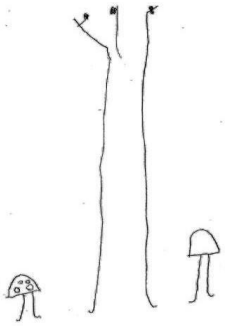
Child A



Child G

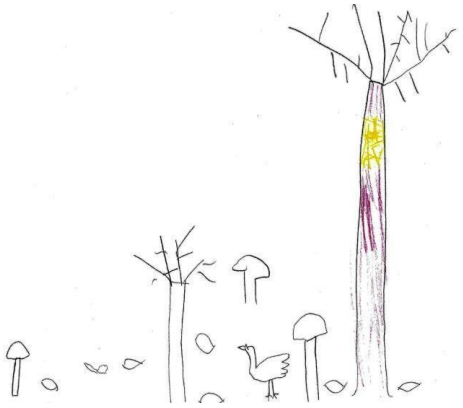


Child D

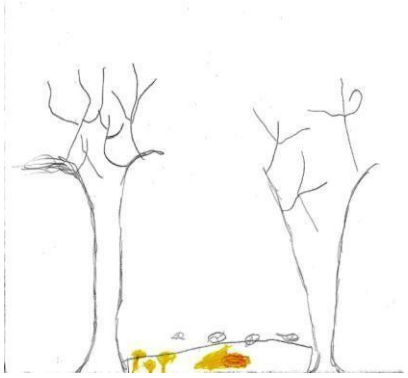


Child O

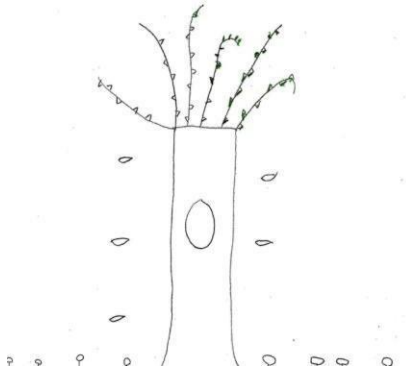
Child F



Child L



Child N



Child R

Figure 5.13 Drawings on Video 4

From the observations, the children enjoyed watching Video 5 and they were very excited to talk about a chameleon during the teacher-child dialogue session. Because this is the final video the children watched, they were already familiar and alert with what they needed to do after the video-viewing. Some of them had already decided what to draw when they saw a chameleon in Video 5. As seen in Figure 5.14, only Child B and Child S did not draw a chameleon. Child B and Child S drew a hanging bird which was also shown in Video 5.

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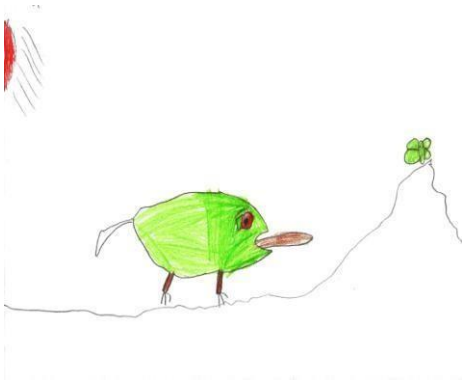
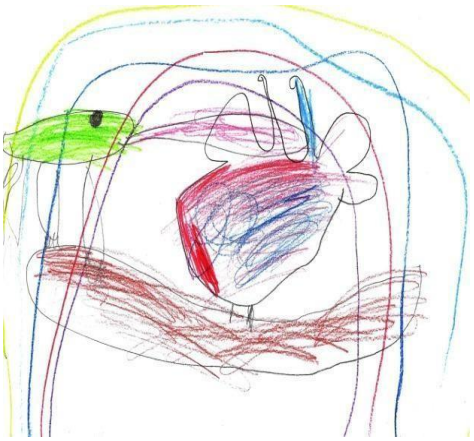
<td> 
Child D</td>
<td> 
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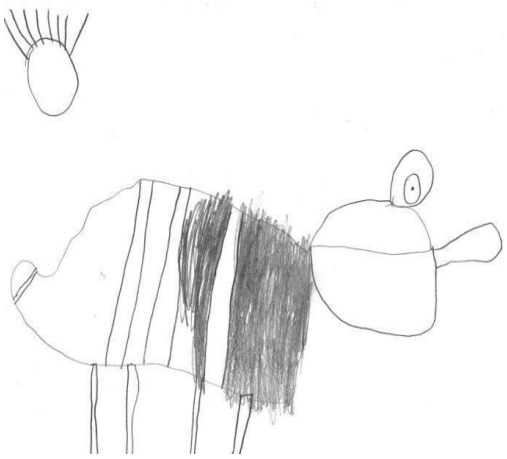
<td> 
Child F</td>
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Child X</td>
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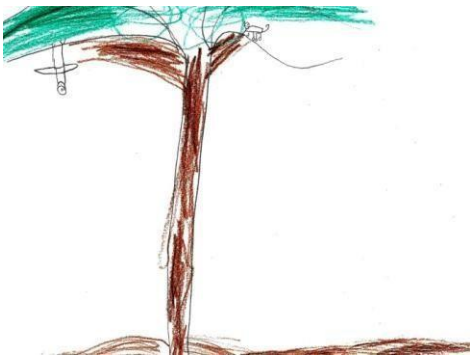
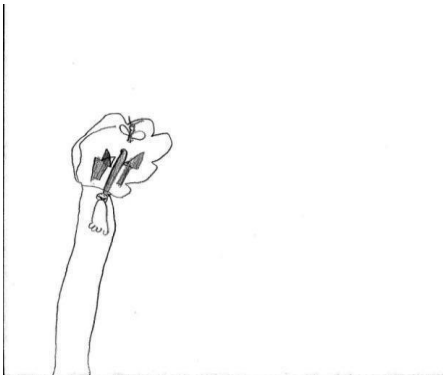
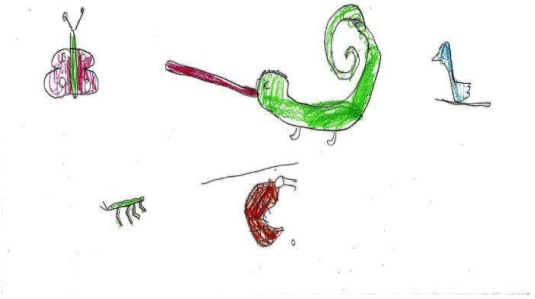


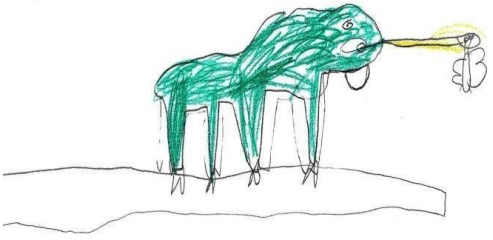
Child B



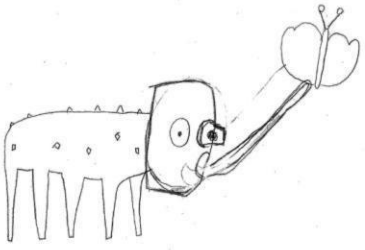
Child S



Child L



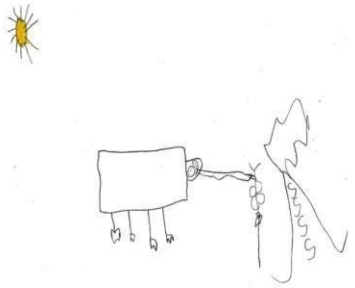
Child N



Child R

Child E

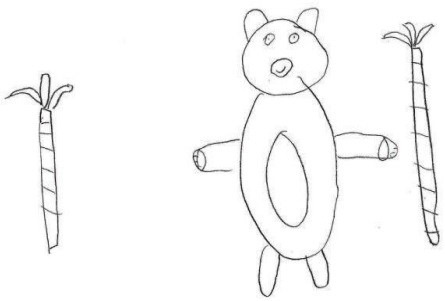
Child V



Child F

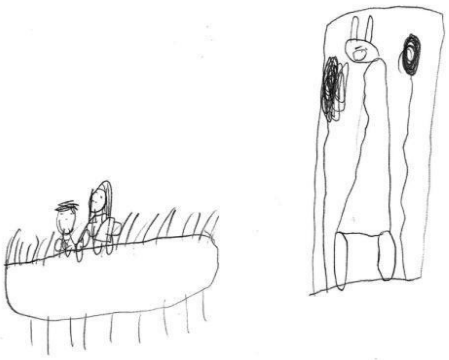
Figure 5.14 Drawings on Video 5

At the beginning of the child-interview session, each child was asked to draw a picture from any of the videos they watched. Figure 5.15 presented that different children produced different images from different videos. Child L, Child G, Child V and Child F drew a panda shown in Video 1. Child X and Child E drew a giraffe as shown in Video 2. Child N and Child I drew a bird which can be seen in Video 3. Child O drew a tree and mould - this images can be seen in Video 4. Meanwhile Child R, Child D and Child A drew a chameleon which can be seen in Video 5.

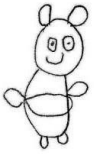


Child L

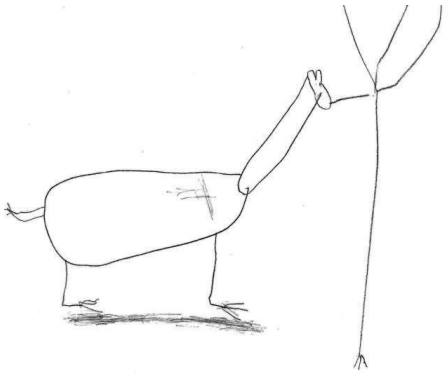
Child G



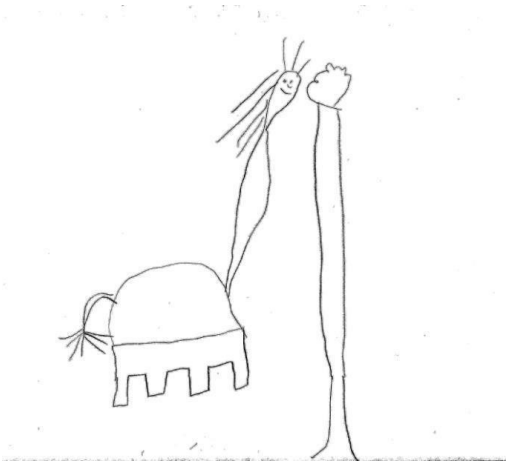
Child V



Child F

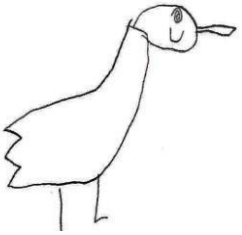


Child X



Child E

Child N



Child I

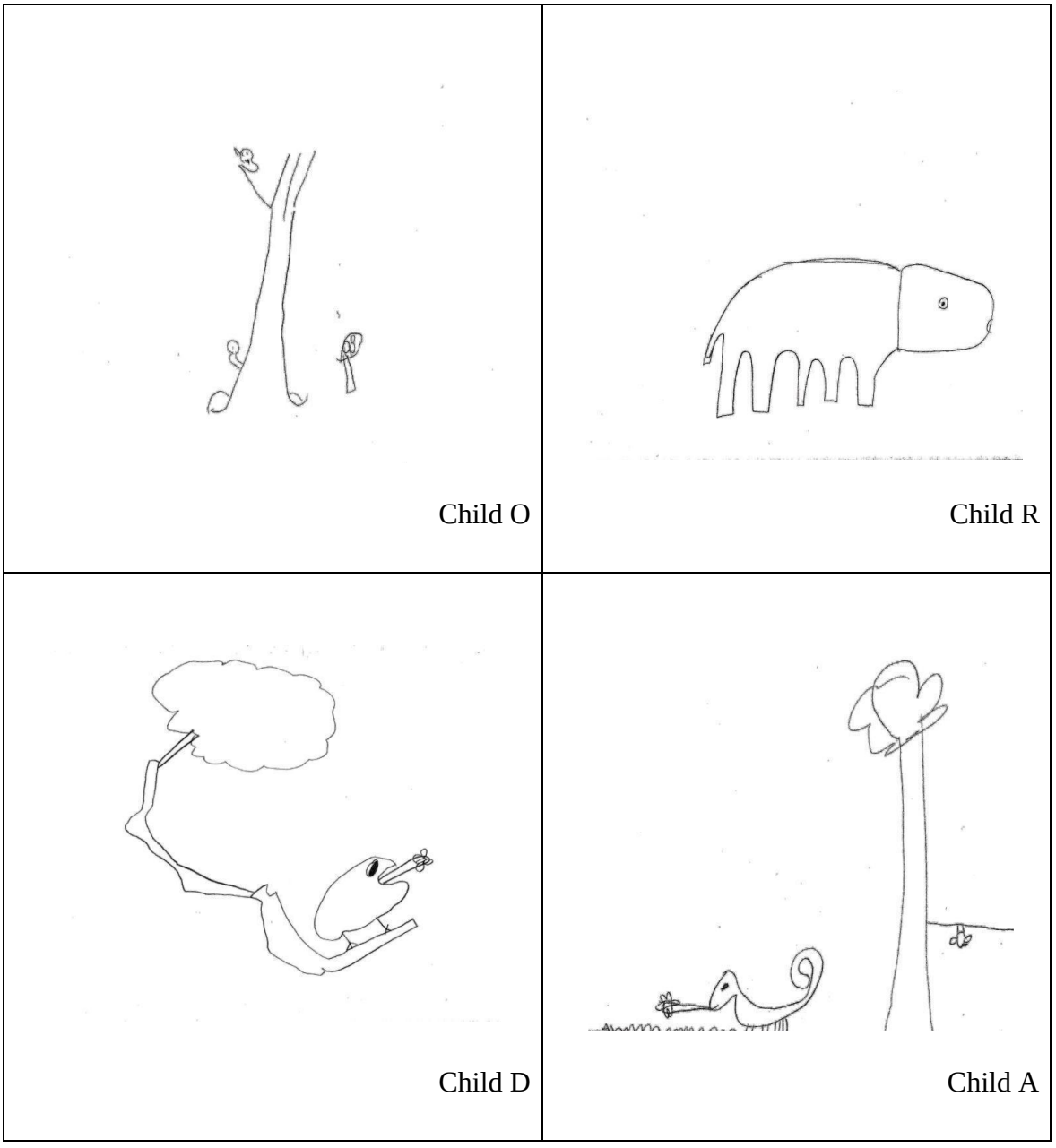


Figure 5.15 Drawings from Child Interviews

(ii) Child Interviews

Four main themes emerged from the interviews with children about the extent to which their ability was stimulated by the videos. The impacts showed that (i) children were able to remember what they watched, (ii) children were able to show their understanding, (iii) children were able to evaluate topic, and (iv) children were able to analyse subject.

Children were able to remember what they watched

All 15 children were asked about things they could remember from the videos they watched with Teacher A. The results showed 13 out of 15 children recalled all five videos they watched. The remaining two children remembered only two out of five videos. One child named one of those videos:

> *Oh like a chameleon! (Child 4)*

Three children started by re-describing one of videos they had seen when asked as seen in the following responses:

> *I remember the panda. (Child 7)*
>
> *A baby bird. (Child 10)*
>
> *Giraffe. (Child 12)*

These children also remembered the other remaining videos when asked later on.

The other children responded 'yes' or 'no' when asked. Only two out of 15 children did not remember all the videos. They remembered only two out of five videos. One reason was that they were called by a support teacher for a motor skills group when they were watching the videos. For example, one child commented:

> *But I don't know what's it all about because we started watching and then we needed to go somewhere. (Child 13)*

The other child responded 'no' when asked whether he remembered the Videos 1 and 2 and responded 'yes' when asked whether he remembered Videos 3, 4, and 5.

All 15 children could draw a picture and then verbally name the picture they drew when asked. Five of 15 children not only drew and named to show they remembered the videos, but they also talked further about the object(s) they drew by telling the researcher the 'story' of the picture, as in the following responses:

A giraffe. It's eating the leaves. (Child 1)

A chameleon ... It could it could hide at anywhere like he turned at that way and cos like..he's looking for a butterfly ... (Child 2)

A nest with some eggs in it. (Child 3)

That's a chameleon. It's trying to reach a flower...that's the butterfly, to reach. (Child 4)

Chameleon…it was...it got…the butterfly got captured by the chameleon's tongue. And he's on a tree. (Child 5)

Mushroom ... It's wild ... A bird ... These are mushrooms as well but they are not wild. (Child 6)

A panda ... A bamboo ... (Child 7)

It's a baby bird ... I like to draw baby birds ... they eat…they eat…they eat bread and they eat seeds. (Child 10)

A panda. It's a panda video...how it skins off the bamboo cane. It eats the leaves...the stems. (Child 11)

A giraffe ... the giraffe can eat the spiky bits on the tree. (Child 12)

A giraffe ... he's eating the trees ... the neck ... long ... a chair ... This is me and this is you. Like we're sitting in a room watching a movie. (Child 13)

It's like an animal that changes to colour. It's a hard name to remember ... Head and legs. (Child 15)

All 15 children successfully drew and named the picture then made further comments on the picture. They described the picture by telling some of the features of the animal when asked. These elements noticeably emerged in all children's responses as shown in the following quotes:

It's gonna be a giraffe. ... It looks like an elephant but it's not. ... I have to do the tree. ... A giraffe. It's eating leaves from the tree. It has a long tail. A long neck. (Child 8)

A panda. ... Ears. Two. Two hands and two paws. It's a little patch that is going to be black. ... White and black. (Child 9)

While drawing, one child was describing and naming his picture:

The bird. ... And I'm making the nest. ... There's a tree but I'm not to draw a tree. ... Drawing the nest. (Child 14)

Twelve children interviewed were able to retell the story which told verbally by the speakers in the videos they watched. They could do this in several of the videos. For example, Child 2 was asked what she learned from Video 1 (*Why do panda bears eat bamboo?)*, she commented:

I learn that it eats bamboo leaves. (Child 2)

Then, she was asked what she found out from Video 2 (*Why do giraffes have long necks?),* she replied:

They can eat thorns from bushes. (Child 2)

After that, she was asked what she learned from Video 3 (*What does it take to raise a baby bird?)*, she commented:

That is hard to cover the baby birds when it's raining.(Child 2)

She was also asked what she discovered from Video 4 (H*ow are fallen leaves broken down by worms, fungi and slime mold?),* she responded:

What? Mold? That they could... the mold can only move so slow. (Child 2)

Finally, she was asked what she learned from *Video 5 (How does camouflage help an animal to hide or attack?)*, she answered:

> *That the chameleon has a long tongue and it sticks that out to catch the butterfly. (Child 2)*

One child (Child 11) could retell the story of the four videos (namely Videos 1, 2, 3 and 5) as to evidence she remembered them all. She could not remember the story of Video 4. She was asked the same questions in the same way as the other children - moving from Video 1 to Video 5. She was first asked what she learned from Video 1, she replied:

> *I learned pandas could eat about 24 hours a day. And it goes and hunts for the bamboo. (Child 11)*

When she was asked about Video 2, she responded:

> *Its neck is really long and its one...is it 1 millimetre long…? It's very long...on the tree, it has spikes...giraffes eat fronds...the leaves...but the giraffe sticks his tongue out through them. (Child 11)*

Then, she was asked about Video 3, she commented:

> *Well some of them hang upside down to eat and something like a claw its name something like claw something. (Child 11)*

After that, she was asked about Video 4, she answered:

> *I didn't got that one. (Child 11)*

Finally, she was asked about Video 5, and she responded:

> *Chameleon. It changes its colour when it goes out hunting so animals can't see it. So it can quickly get its tongue out and get like its tongue around it. (Child 11)*

These responses indicated Child 2 remembered all five videos she watched with Teacher A. Meanwhile Child 11 remembered four out of five videos. Both Child 2 and Child 11 not only remembered the videos, but they also learned something from the videos. Consequently, they were able to respond properly to the questions asked by

retelling a short story of those videos using their own words.

Children were able to show their understanding

Having watched videos, all 15 children were able to describe objects and elaborate ideas that were visually presented in the video. The children spoke largely about the topic and they did not drift the subject. These abilities of describing objects and elaborating ideas indicated that the children could demonstrate their understanding of the videos content.

All 15 children described specific features of the objects they saw in the videos (e.g. giraffe, panda, chameleon, baby bird and mold) in their response. This confirmed that the children recognised the objects. They were able to describe things like the feet, the neck, the tongue, the eyes, the colour. For example, one child asked about the giraffe, responded:

> *They all got long neck. (Child 3)*

Another child described the tongue of a chameleon (i.e. the length) and what the tongue could do (i.e. for hunting food):

> *That the chameleon has a long tongue and it sticks out to catch the butterfly. (Child 2)*

A child described a scene on how a panda eats the bamboo leaves that the child watched from the video:

> *They could emm put the leaves off by putting the bamboo leaves at their feet and then they turned it and then the leaves go down. (Child 5)*

Other than describing some features of the objects they drew, the children were also capable of verbally elaborating ideas on their drawings. Three children made personal judgements on what they saw in the videos. One child just learned that the panda made its own cigar. He presumed that making a cigar with bamboo leaves could be difficult. For example, he commented:

> *I didn't know it makes its cigar. It was I guess it was pretty hard to make it with leaves. (Child 1)*

One child gave an extensive elaboration on animals (i.e. baby birds) he watched in the video. He gave a good reasoning and he emphasized too why a mother bird must look after her eggs, as seen in the following comment:

> *They could sing and the mother went the…when the baby is in the egg, we need to keep it warm the birds...the mommy bird needs to keep it warm and if it's cold it will die. And you need to keep it warm. (Child 5)*

Another child said:

> *I learned that the baby birds come out when the mommies sat on their eggs.(Child 8)*

Having a video viewing on Video 4, one child presented a sound statement on wild mushrooms. He learned and understood that no one was allowed to eat wild mushrooms. He commented:

> *Wild mushroom you are not allowed to eat them. (Child 6)*

Another child talked about the giraffe's feet:

> *It also have quite long legs so if it's quite deep water the legs don't get fly away and even if it's wet and it's even it's raining. (Child 11)*

When asked what the child learned from Video 5, the child explained how camouflage helped animals to hide, as seen in the following response:

> *When they are...like other animals, they could just hide. When they scared of something they could just hide in their shells. (Child 10)*

Children were able to evaluate

Video-viewing could facilitate children to evaluate things. All 15 children interviewed could justify what their favourite video was and why they favoured it most. Their favourite video varied from one child to another. The videos that the children liked watching most were Video 1 (*Why do panda bears eat bamboo?)*, Video 5 *(How does camouflage help an animal to hide or attack?) and Video 2* (*Why do giraffes have long*

necks?).

Table 5.2 presented six children liked watching Video 1 and five children liked watching Video 5. The remaining 4 children favoured Video 2. They preferred these videos for many reasons. Some chose the video for the animal features whereas others chose for the animal size or the excitement of learning new things from the video.

Videos	No. of Children Favoured
Video 1: Why do panda bears eat bamboo?	6
Video 2: Why do giraffes have long necks?	4
Video 3: What does it take to raise a baby bird?	0
Video 4: How are fallen leaves broken down by worms, fungi and slime mould?	0
Video 5: How does camouflage help an animal to hide or attack?	5

Table 5.2 Favourite Video

For example, one child claimed that his favourite video was Video 1. He justified his claim by expressing his anticipation to distinguish between a panda and a bear. He responded:

> *Cos the panda can be eating for a long time and if anything happened it didn't care. It just gets on eating. Cos I thought pandas were brown...oh, that's bear. I just got mixed up cos I thought bear is black and white. Cos my sister told me that bears have black and white but yeah she told she told me that some bears have black and white. (Child 14)*

Of 15 children, one justified what and why he did not like in Video 3 (*What does it take to raise a baby bird)* when asked whether he had anything he did not like in his class, he responded by saying he did not like the scene in Video 3 where the caterpillar ate banana leaves:

> *I don't like the caterpillar...he eats and lives on a banana tree cos banana trees have leaves under them and some caterpillars bite the branches so they can fall down and eat them and some they eat the bananas. No cos the caterpillar always eats leaves. (Child 4)*

The discussion was then extended - he also did not like the way seagulls hunt for food. He commented:

> *Cos they I think the birds are not healthy. Some birds eat bread like ducks. Some actually are birds. And seagulls eats squirrels sometimes. (Child 4)*

In the case study, there were speakers who narrated a 'story' in every video. The results supported that narration aided children's comprehension. All children were able to comprehend the video content by describing objects and elaborating ideas which presented in the videos.

Children were able to analyse

Of 15 children interviewed, three implied that they were able to analyse what they watched in the video. These children reasoned out why they favoured the video by drawing connections between what they watched and what they experienced outside the classroom. One child made a connection between the video he watched and his experience playing with his brother:

> *Cos my brother built a chameleon...out of Lego classics and it was very nice. (Child 5)*

Another child made a comparison between what she watched in the video with what she saw outside the classroom, as seen in the following quotes:

> *With their tongue they could eat the spiky tree so they could get it at least cos the spikes are like spiky wire that goes up over your house to stop people getting into your house but your're guarded. (Child 9)*

One child built a connection between the video and his experience at a park:

> *I saw once a baby chameleon. And a little creature but I don't know what's it called. Yeah. No. when I was going to the park. (Child 14)*

The quotes above showed that these three children were using their experience outsidetheir classroom to have a greater understanding of the video content.

5.4.2 Teacher's Response

(i) Supporting the children's language and literacy with videos programme

Five main themes emerged from the observations and the teacher interview on how the teacher supported the children's language and literacy with videos programme. The supports given included (i) using printed words, (ii) encouraging children to participate in discussion, (iii) encouraging children to draw after video-viewing, (iv) encouraging children to talk about their drawing with their peers, and (v) encouraging children to write as seen in the thematic map (Figure 5.16):

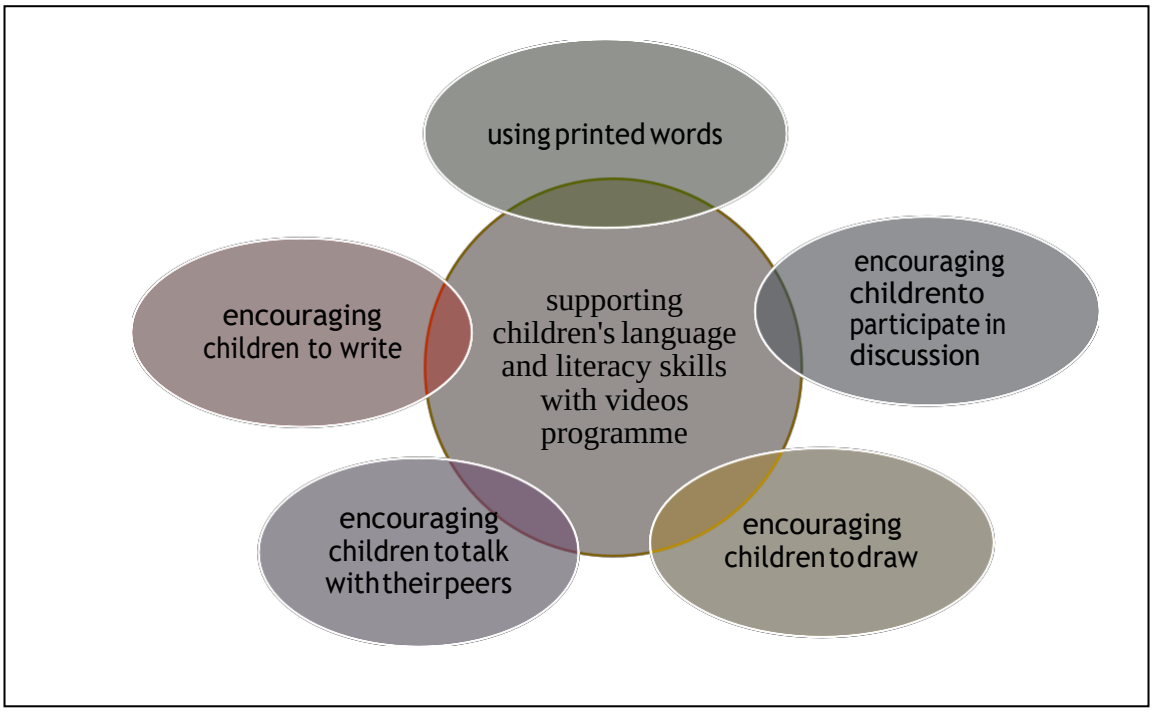


Figure 5.16 Supporting children's language and literacy skills with videos programme

Using printed words

The teacher had her own way of how to make use of the printed words (i.e. cue cards). Questioning before showing any of the printed words to the children appeared to be the chosen technique for the teacher as seen in the following response:

> *Well, I tried to you know I try to question them rather than just show them the word. I tried to question them about them film so we could get the words that were printed from them before I show them it. Yeah. Give them a question that they'll give me an answer of that word. (Teacher G)*

After introducing the printed words, the teacher also attempted to encourage the children to use the printed words learned during the discussion. This was done through reinforcement:

> *Just by maybe by referring back to them when they were talking about things and saying these are the words that we've spoken about. And just referred back to it to reinforce it. (Teacher G)*

Encouraging children to participate in discussion

Pictures (i.e. screen shot posters) were used as stimuli to encourage children to (i) recall what they remembered from the videos and the words they learned and (ii) be able to engage in the teacher-child dialogue. This can be seen in the following quote:

> *Well, just by using the pictures as a starting point and ask them what things they remembered from the film that were about the words that we were talking about. (Teacher G)*

The teacher also encouraged the quiet children to engage in the discussion by picking their name to answer questions. Responding with a positive voice tone, the teacher believed that these children very often knew the answer.

> *I tend not to pick people who put their hands all the time. Try to pick people who are just sitting quietly who don't always put their hands up but very often know the answers. (Teacher G)*

Some children could be very energetic and always wanted to answer all questions. These children could hinder and discourage the quiet children to respond to any questions. In dealing with this scenario, the teacher used positive behaviour comment:

> *Well, I usually use positive behaviour comment about 'Oh, I'm asking you cos you're sitting nicely. I'm going to ask you' or 'You have your hand up, I'm going to ask you'.. you know...they shouldn't shout out at school unless there is an appropriate time. They know if there is a listening time, they should put their hand up. (Teacher G)*

Encouraging children to draw

Encouragement was not really needed when it came to drawing activities. The teacher did not doubt that children were always keen to draw things they saw. For instance, the children had already decided what to draw when they were still watching the video.

> *Children are always keen to draw. They always keen to draw and you could hear them before like...even when they were still watching the film, you could hear they said 'I'm going to draw that. I'm going to draw the worm' or whatever. So they're always keen to draw...But they are always keen to draw things that they're seen. So I don't think I had to give them a lot of encouragement really just encouraging them to draw something that they learn about in the film. (Teacher G)*

Encouraging children to talk

The teacher commented children often talked to each other or across the table when they were doing things particularly when drawing. They were happy to tell and talk about their drawings with their peers.

> *They were talking and...'I'm drawing this'...and they were talking to each other, 'Look! I can draw this', 'I'm good at drawing this' or whatever... Children always quite happy to show off their drawings and talk about them and tell you what the details are. They do talk to each other and they talked about what they were drawing and asked 'What were you drawing?' across the table or whatever they do they do talk about that regularly when they're drawing. (Teacher G)*

However, a longer time was needed to get children discussing more their pictures with their peers, as seen in the following quote:

> *They were chatting to one another and I think if we had the time yes they would have discuss their pictures. (Teacher G)*

Encouraging children to write

The teacher believed that the children were capable of writing words and a sentence. When the children used their knowledge of sounds, most of them could have a good sentence writing:

> *Yeah. They're all capable. They're all...in that group of that age group they're all capable of writing some words....All children in that group, they're all quite capable of writing a sentence. Some of them did ask how do you write, how do you spell whatever...when you just to tell to sound them out. But using their knowledge that they have of sounds, most of them can have a good attempt anyway at writing a sentence. (Teacher G)*

These children particularly the ones who were less able in writing needed support and encouragement from the teacher. Sounding out words or saying words slowly could be very helpful for the children to produce writing.

> *You were just sound out words for them. I mean you can either sound them out for them or you can encourage them...you say the words slowly so that they would pick up the sounds. So if it was frog you would say 'f…r…o…g..' so they would pick up the sounds and write them. You would just do it really slowly. (Teacher G)*

In this case study, the teacher encouraged the children to write after they drew a picture. However, she realised only a few did it. Given sufficient time, more children would have written something to describe their drawing. The teacher said if the children were required to do two activities one after another (i.e. drawing first and then writing), children were likely to draw first and write at the end. Encouragement for them to write a sentence must also be emphasized almost at all times.

> *I did encourage them but I don't think many of them did it. I think if we had more time, because when we do things like that in school...to draw and then they write, they tend to draw and write it at the end. If out of something that you*

really wanted them to write you have to get them to write it first. Then... but with our time restraint, if they'd written in a sentence they wouldn't have drawn anything. But normally if they were doing a picture and I would say 'Oh maybe you could write a sentence and tell me about your picture'. That will come at the end, in the description of the drawing. (Teacher G)

(ii) Other ways of promoting children's language and literacy skills

Two main themes emerged from the teacher interview on other ways used by the teacher to promote children's language and literacy skills - (i) signs/labels/symbols and (ii) a reading scheme. This can be seen in the thematic map (Diagram 7.17) below:

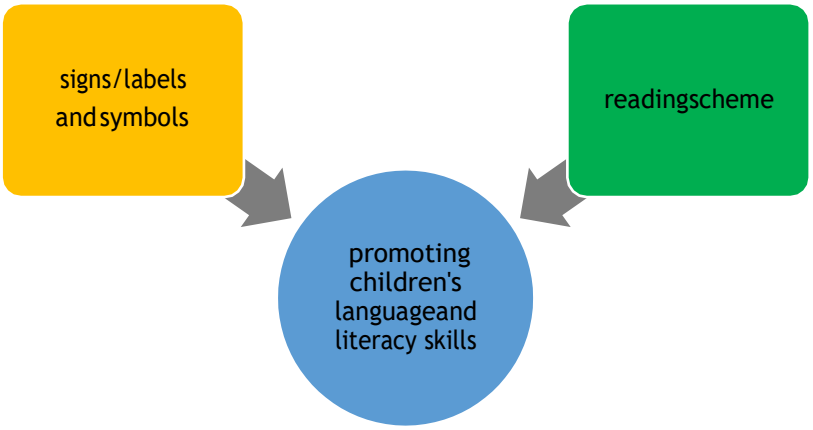


Figure 7.17 Other ways to promote children's language and literacy skills

Signs/ labels and symbols

In the teacher's response, signs and labels were used interchangeably.

The teacher was very positive on the issue of promoting language and literacy skills in the school. All teachers were always doing it. Signs or labels, for instance, helped teachers in promoting language and literacy skills in the school. Signs/labels were used to help the children picking up words without having to teach the children the words, as seen in the following response:

We're always promoting language and literacy skills in the school I mean you just need to look around the school for instance the signs. The signs are all over, the labelling we label everything so that they just pick up these words. Without

having to teach them the words they know that says computer and that says door. (Teacher G)

Labels were also useful in promoting children's language and literacy skills. Labels were presented in a form of a piece of writing which described children's work on displays in the classroom. As seen in the following response:

When we put up displays in the classroom to display children's work we always have a piece of writing beside it. Sometimes I will write that out when the children are in class as is what we are going to write beside our picture. What will we write to tell people to come to look at our picture or whatever what will we write. (Teacher G)

Encouragement was given to the children to write a sign/label their picture before putting up their picture on the classroom wall. Some teachers did the signs/labels on the computer with the children. However, Teacher A preferred handwritten signs/labels. To her, the children could copy the teacher's handwriting. While she was writing the sign/label, the children could see her writing it. The teacher and the children would initially decide what to write. Then, Teacher A encouraged the children to copy the label and they put it up.

If they had a firework picture up for instance, we have a sign. Let's say we have created this amazing firework picture or something like that. So I would probably write that with the children. I would have say 'Oh, we'll put up our picture now we are going to put up our sign. What will we write?'. And I will write it so they can see me writing it. Sometimes people do that on the computer, but it's actually nice for children to see handwritten. Things nowadays seems to be computer generated whereas in the classroom. It's nice for them to see for you to model the teacher to model nice writing and put it up or sometimes I get the children to get the sign. Once we decide what to write it out and I'll get a child to copy that and we'll put that up. So we're always promoting literacy. (Teacher G)

While responding, the teacher looked at a chart on the wall. She continued explaining an activity chart was made available on the classroom wall and the children chose their activity from this chart. Labels like 'play dough' and 'construction' were displayed on this activity chart. These labels were very useful because the children were picking up

these words from seeing the signs/labels every day without having them reading a book.

> *Even when they choosing the activities, they will choose from a chart on their wall that has play dough, construction. All these words they're picking up. They're not having them to read in a book . They're just picking them up by seeing them every day so just literacy is all around them in the school. (Teacher G)*

The signs/labels have kept the children busy looking around the classroom particularly when they moved around different classes. They were occupied with reading the signs/labels:

> *Even when they move around different classes you see children when you go in to a different classroom they can't really concentrate on what they're supposed to be there for because they're all busy looking around. And they would say, 'No, this is different from my classroom. And look!'. You can see them reading. (Teacher G)*

The teacher then turned and pointed to a timetable named as a visual timetable. A visual timetable was another material used by the teachers to promote children's language and literacy skills from primary one to primary seven. This visual timetable included both words and symbols. Words were offered to the children who can read, meanwhile symbols were aimed for children who cannot read. The same symbols were used across the classrooms from primary one to primary seven. Therefore, every child was included regardless whether s/he can or cannot read.

> *We have a daily timetable. It's a visual timetable as well as it has words on it. So it has symbols for children who can't read and it also has words for children who can read. And these are used from Primary 1 up to Primary 7. Same symbols are used throughout the school. So that every child's included even if he can't read but he can still follow the symbols. (Teacher G)*

A reading scheme

ReadWrite Inc. provides a systematic approach to teaching literacy. This is used by schools in Scotland and the programme matches the new Curriculum for Excellence.

As claimed by the teacher participated in the study, ReadWrite Inc. had helped the children with their learning to read. Each class in early years had the same reading scheme. All children moved classes for this reading scheme. Teacher A informed:

> *Each class in early years we all have the same reading scheme. The children they move classes for ReadWrite Inc. on their learning to read. They all move classes. (Teacher G)*

Every class had ReadWrite Inc. wall and every teacher had the same words on their wall. While pointing to the wall, the teacher told the words displayed on this wall were called as red words. Red words are the words that cannot be sounded out. The children could always refer to these red words on the ReadWrite Inc. wall when they were doing their writing.

> *So every class has a ReadWrite Inc wall and every teacher will have the same words on that. These are the words that they're called red words the words that you can't sound out like the, you. You can't sound them out so these are just words children need to learn to cite [sic] it. Because no matter what the knowledge of sounds is...because these are the words you can't sound out. So every class will have those on the wall...so they can see them when they're doing writing in other class. (Teacher G)*

Besides red words, power words were also promoted through this reading scheme. These power words were displayed on the wall too. The teachers and the children used the power words as much as possible throughout the day. The reason was to widen the children's vocabulary. The children would not necessarily be able to spell and write any of the power words down but they could read and say them and they know what they mean.

> *And we all have power words which are words that we promote like instead of them saying the dinosaur is big. The dinosaur is enormous. The dinosaur is gigantic. We call these power words and every teacher has them displayed in*

their room as well. And we try to use the power words as much as we can throughout the day. Again it's just extending their vocabulary. And it's amazing if you do say to the children 'Oh, give me another word for big'. They'll give you a lots of words now. It's really extending their vocabulary. They won't necessarily be able to spell it and write it down but they can read it and they can say it and they know what it means. (Teacher G)

5.5 Summary

The observations and inspections of children's drawings showed that children were able to recall information from the videos and then express their ideas and thoughts visually. It was noted that 9% of 165 children's drawings showed that the children were very competent in language and literacy skills. These 15 drawings were drawings with large amount of writing.

The child interviews showed how far the children's cognitive ability was stimulated by the videos. Meanwhile, the teacher interview revealed how the teacher supported the children's language and literacy skills with video programme. It also showed that signs/symbols and ReadWrite Inc. had helped the teacher in promoting children's language and literacy skills in many ways.

It can also be concluded that in the study, learning was mediated by a skilful facilitator (e.g. teacher) and specific materials and activities (i.e. the use of non-fiction videos with supplementary materials, the evaluative questions, teacher-child dialogue, and drawing). Vygotsky believed that the skilful facilitator can structure children's thinking through scaffolding. Other than that, the non-fiction videos and the printed supplementary materials had potential to support symbolic understanding as the printed words (cue cards) and images (screenshot posters) allowed the children to engage with symbolic representations of reality by making connection with their real-life experience inside and outside the classroom. The children shared their experience with the teacher in the teacher-child dialogue session.

From the theoretical perspective of Mayer, learning can be done effectively from words and images than from words alone. This principle explained why children in the study were able to pick up words and images from the non-fiction videos. The non-fiction videos with the verbal explanation by the narrator and the teacher helped the children to

understand and learn better. This supported what Mayer claimed that the brain installs information and processes it in multiple channels based on how the information is presented. In the study, the first channel was for visually represented material and the second was for auditory represented material. When the children were presented non-fiction videos, printed words, and screenshot posters (i.e. visual information), all information went into the visual channel and was processed. Meanwhile verbal narration by the narrator and teacher-child dialogue (i.e. auditory information) were processed in the brain separately from the visual. With these two separate channels (i.e. visual and auditory) the children were able to work with more information because the various presentations of material were processed differently. Finally, the children integrated the visual and auditory inputs together with their schemata and experiences in the teacher-child dialogue, in responding to the evaluative questions, or in their drawings.

Chapter 6

GENERAL DISCUSSIONS

6.1 Introduction

The chapter pulls together all the findings from the experimental studies (i.e. pilot study, Study 1, and Study 2) and a case study. The chapter also reflects the key findings with regard to the research questions and previous studies.

6.2 Summary of the Study

The research project consisted of a pilot study, two main studies named as Study 1 and Study 2, and a case study as illustrated in Figure 6.1 below.

Figure 6.1 The Research Project

6.3 Aims of Each Study

The aim of the pilot study was to see if the intervention worked, how it worked and to gather information about how to improve it. Also, the pilot study tested the appropriateness of the research instruments namely the British Picture Vocabulary Scale: Third Edition (hereafter BPVSIII), York Assessment of Reading for Comprehension (hereafter YARC) and the videos with supplementary materials (i.e. screenshot posters and printed words on cue cards). The pilot study was used to assess whether the research procedures were realistic and workable and to collect preliminary data.

The purpose of Study 1 was to examine the impact of the intervention programme between the experimental groups, which watched the videos with follow-up activities, and the comparison groups, which received the standard national curriculum with no intervention programme.

The objective of Study 2 was to explore the effects of (i) different lengths of the intervention programme and (ii) isolating of the core ingredients (i.e. videos and supplementary materials). Study 2 investigated any different effects between the experimental groups which had a 12-week intervention programme of watching videos with follow-up activities using screenshot posters and printed words on cue cards and the comparison groups which had a six-week intervention programme of watching videos only without follow-up activities.

The case study was used as an exploratory tool to seek in depth descriptive information on data of experimental studies carried out earlier.

6.4 Results vs Previous Studies

This section highlights on a synthesised discussion of the main findings of the study by focusing on what confirm, partially confirm, and disconfirm the previous studies. The discussion also presents some surprising findings that are completely new and how the findings contribute to the knowledge in this topic.

This section discusses the results in the study based on the research questions in each phase of the study.

6.4.1 Pilot Study

The following research questions were addressed in the Pilot Study:

(i) Do children learn receptive vocabulary from the spoken texts coupled with moving images presented simultaneously followed by discussion with screenshots and printed texts?

(ii) Do children learn letter sound from the use spoken texts coupled with moving images presented simultaneously followed by discussion with screenshots and printed texts?

(iii) Do children learn early word recognition from the use of spoken texts coupled with moving images presented simultaneously followed by discussion with screenshots and printed texts?

Chapter 4 presented both the quantitative and qualitative data of the Pilot Study. It can be concluded that based on the pre-and post-assessment results, there was no significant difference on children's performance in letter sounds and early word recognition before the treatment and after the treatment in both the experimental and comparison groups.

Conversely, the observation revealed that the experimental children were able to pick up words, recognise words, retell stories and respond to open-ended and/or yes-no questions from the use of moving pictures with spoken text presented simultaneously (i.e. video-viewing) followed by discussion (i.e. teacher-child dialogue) with screenshots and printed texts. It was noticed that, when the teacher was scaffolding the children, the children would be able to expand their social interaction. This finding concurs the underpinning theory in the study. The concept of scaffolding in the ZPD where Vygotsky strongly believed that scaffolding can promote a child's learning through supportive activity and social interaction. In this study, the supportive activity referred to the video-viewing, screen-shot posters and cue cards with printed words; meanwhile the social interaction referred to the teacher-child dialogue and child-child dialogue. Being able to retell also illustrates that the children were able to recall and sequence different visually and orally presented stimuli. It proved that the children were able to properly comprehend what they saw and listened to. They were also connected some stories with their own ones. Making connection and retelling are cognitive measures and are excellent way to ensure the children have comprehended what they saw and listened. This finding is consistent with several previous studies (Fisch, 2008; Robert & Howard, 2005; Fisch, 2005).

It can be concluded that the qualitative findings fit in with existing body of knowledge in respect to children’s language and literacy skills. Non-fiction video viewing with follow-up activity can be enriching - promoting children's literacy, enhancing children's comprehension, facilitating children's letter sounds and word learning, promoting children's language development, allowing children to experience new events, and encouraging social engagement (i.e. through teacher-child and child-child interactions).

6.4.2 Study 1

These questions were addressed in Study 1:

(i) To what extent is there any additive effect on outcomes of the spoken texts coupled with moving images, compared to a traditional curriculum?

As discussed in Chapter 4, there was no significant difference in children's performance before and after receiving the treatment between the experimental and comparison children.

Surprisingly, the traditional curriculum gave more additive effects on the children's vocabulary and letter sounds. As presented in Chapter 4, it was discovered that the ReadWrite Inc. literacy programme appeared to be the core ingredient contributing to these outcomes. The primary teachers were pleased and satisfied with the existence of the programme. They claimed that the programme had helped the primary children in raising standards in literacy - the reading and writing skills particularly. ReadWrite Inc. is used by the more than a quarter of the UK's primary schools and is intended to produce fluent readers.

One feasible factor affecting the quantitative results was discovered from the teacher-interview session - that was teacher motivation. It is undeniable that teacher motivation is a crucial factor in a successful classroom. When this core factor is missing it may lead to some other consequences or losing in the teaching-learning activities. Sustaining motivation can be an enormous challenge to some teachers. It takes a lot of commitment, passion and patience in performing tasks. Teacher's motivation can be positive that supports positive classroom outcomes or it can be negative that acts as a barrier to positive outcomes (Martin, 2009). In Study 1, it can be said that work disengagement and performance avoidance occurred during the intervention programme. As a result, tasks were not done accordingly as required and planned due to lack of motivation in the work.

6.4.3 Study 2

Meanwhile these were the questions addressed in Study 2:

(i) To what extent has a longer intervention had a proportionately greater effect on outcomes than a shorter intervention?

As presented in Chapter 4, it cannot be said that a longer intervention have proportionately greater effects on outcomes than a shorter intervention in all three phases beginning from the Pilot Study, Study 1 to Study 2. There was no significant effect between the pre- and post-assessments of both the BPVS III and YARC after children receiving the longer or shorter treatment in all three phases. This finding is consistent with several previous studies (Skouteris, 2007; and Mare, 2006). These studies claimed that repeated video-viewing did not support children's comprehension and word learning.

However, based on the class observations, the researcher and the second observer noted on the field notes that the child's interest and engagement existed. The children were attentively watching the videos during the intervention sessions. Most of the children looked very fascinated in and were engaged with the videos. The children's motivation increased when they watched longer. This was good as what Gaudin & Chalies (2015) said the most crucial benefits are increased motivation, optimised cognition and improved classroom practices. Some even were able to respond to the teacher's questions by connecting what they saw on the screen with their real-life experience (e.g. the activities/events they had with their parents/siblings/relatives over the weekends or on holidays. This illustrated what Gaudin & Chalies referred as 'optimised cognition'. The more they watched the higher possibility they saw printed words on the cue cards and listened to the words spoken by the speaker on the video. Then, they would be able to expand their vocabulary and use those words in expressing their ideas to the teacher and friends. The more they watched, the more chances for them to share their stories on what they did with their teacher and friends related to the videos that they watched.

A child, for instance, responded to the teacher;

I saw wild mushroom s at my granny's house. At the back garden. It's brownish. Some were small tiny ones. Some were big like this. (Child X)

Then it was followed by the other child responding on mould;

> *I saw this yellowish brownish thing...mould on the ground, cement ground. I saw mould at the park too. That one's greenish. (Child Y)*

These responses evidenced that the child was able to express ideas pertaining to the video content and to engage with the teacher-child dialogue after watching the video for quite a longer time. The children were telling the teacher and their peers about wild mushrooms and mould as they saw these objects on one of the videos (Video 4 - How are fallen leaves broken down by worms, fungi and slime mould?). Some printed and spoken words from the videos were also used in the responses. The more the children listened to words or saw the printed words, the more chances they remembered those words. As a result, these children were able to use those words in their conversation or story-telling.

The findings are in accordance with some previous studies conducted in some other parts of the world (Guo,2009; Skouteris, 2006; Bandura, 2001; Crawley, 1999; and Sell, 1995). These studies found that comprehension increased with repetition. Children with longer and more experience in viewing paid more attention to linguistic features and, whereas children with less experience paid less attention to linguistic features. Besides, the previous studies also found that with more viewing experience, children were able to reflect their real life.

Besides, based on the observations, it can be examined that a substantial majority (85-99%) of primary 1 children in Study 2 remembered the major events in the videos and the words that they learned from the videos. Quite a few children experienced new events when they watched the videos. This supported what Anderson & Kaveri (2017) suggested that media can be enriching, allowing children to experience new places or events beyond their typical experiences. The researcher believed that when children were exposed to new experiences, children learned new language for the new events.

Some children's responses observed by the researcher were the evidence of social engagement. The social engagement or interactivity is exceptionally significant to engaging attention and promoting word learning. The social interactivity may increase the quality of education of children's media (Nussenbaum & Amso, 2016). Also,

teacher-child conversations were positively seen as vital for accelerating children's early language development and memory (Cabell, Justice, McGinty, DeCoster, & Forston, 2015).

6.4.4 Case Study

The following research questions were addressed in the Case Study:

(i) How do teachers support children in language development and literacy, with particular reference to implementation of the video programme?

(ii)How do children respond to their teacher's efforts to support them in language development and literacy, with particular reference to implementation of the video programme?

(iii)What other factors are operating within the situation, which promote children's language development and literacy?

As discussed in Chapter 5, more fascinating data was discovered in the Case Study. It can be said that children's drawing promotes children's literacy skills. Drawing is considered as a meaning-making activity (Panpandreou, 2012; Hopperstad, 2010; Einarsdottir, Dockett & Perry, 2008; Anning, 2007). As presented in Chapter 7, a quite substantial number of children's drawings were with sentence and with letters; some others were drawings only. These drawings contained rich text. The children were capable to draw and write a little story about the picture they drew. Besides, there was also a connection between the drawing and literacy. Children who were able to make visual word representations were better placed to express their ideas and to convey their thought through art (Watts, 2009). All children are capable in expressing their ideas through drawings if they were given equal chances and space in the classroom. Drawing is a part of the literacy skills. Some children might not be able to produce written text with their drawing, but the drawing itself contains rich message to readers/viewers. While drawing, the children can expand their communication skills. This active communication session also can be done after the drawing activity. They can talk about what they intend to draw or what they have drawn. In fact, a lot more of incredible meaningful cognitive activities can take place when a child is drawing. An encouragement given by an adult is crucial to make this more meaningful and successful.

During the child interview, the researcher asked some evaluative questions like asking for opinions on what the child felt about the videos and whether s/he enjoyed the videos. The researcher noticed that the children were able to respond to the questions by giving variety answers. Some managed to make a connection between the video content with their own experience that they experienced it inside or outside the classroom or at home. There were also some children who were able to give some justification when asked for reasons. The same patterns were also identified from the videotaped observations. The teacher asked questions to the children right after they watched each of the videos. Surprisingly the children were actively involved in the session. Many of them volunteered themselves to offer their answers every time asked by their teacher. Therefore, these evaluative questions were likely to be dominant strategies for comprehension (Parker & Hurry, 2007).

6.4.5 Theoretical Perspectives of Vygotsky and Mayer

Vygotsky's theory has become well established with traditional printed books. This study therefore explored the relevance in exploring and explaining the interaction (teacher-child dialogue) with a new medium. The study focused on the key concept of ZPD. Vygotsky viewed learning as mediated by a skilful adult (e.g. teacher or parent) and specific special materials and activities (i.e. in the study the use of spoken texts coupled with moving images and supplementary materials, the evaluative questions, teacher-child dialogue, and drawing). Vygotsky also believed that the skilful adult can structure children's thinking through scaffolding. The other key concept being highlighted by Vygotsky was dual representation. In the study, the non-fiction videos and the printed supplementary materials had potential to support symbolic understanding as the printed inside and outside the classroom.

Based on Mayer's theory, learning can be done more effectively from words and images than from words alone. This basic premise might explain why children in the study were able to pick up words and images from the non-fiction videos. The spoken texts (verbal explanation by the narrator) coupled with moving images (non-fiction videos) helped the children to understand and learn better. This supported what Mayer claimed that the brain installs information and processes it in multiple channels based on how the information is presented. In the study, the first channel was for visually represented material and the second was for auditory represented material. When the

children were presented visual information (i.e. non-fiction videos, printed words, and screenshot posters), all information went into the visual channel and was processed. Meanwhile auditory information (i.e. verbal narration by the narrator and teacher-child dialogue) were processed in the brain separately from the visual. With these two separate channels (i.e. visual and auditory) the children were able to work with more information because the various presentations of material were processed differently. The children might choose relevant images to remember and they might choose relevant words to remember. Finally, the children integrated the visual and auditory inputs together with their schemata and experiences. The children might demonstrate their ability in integrating the visual and auditory inputs together with their schemata and experiences in the teacher-child dialogue, in responding to the evaluative questions, or in their drawings.

Chapter 7

CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

This chapter highlights the strengths and considers the limitations of the study, discusses some implications for practice and policy makers, and suggests some avenues for future research into the use of videos with regard to young children's comprehension, language and literacy skills.

7.2 Strengths and Limitations of the Study

7.2.1 Strengths

There are a number of strengths of the study identified in this study and this section discusses the limitations.

(i) Research Design

Mixed Method

The study was mixed methods research.

> *'The multiphase mixed methods is where researchers conduct several mixed methods projects. These projects may go back and forth between quantitative, qualitative, and mixed methods studies, but they build on each other to address a common programme objective. (Cresswell, J.W., 2014, pg. 228)*

The study contained quantitative and qualitative information. Both quantitative and qualitative data were triangulated to verify or reject results from quantitative data using qualitative data or vice versa.

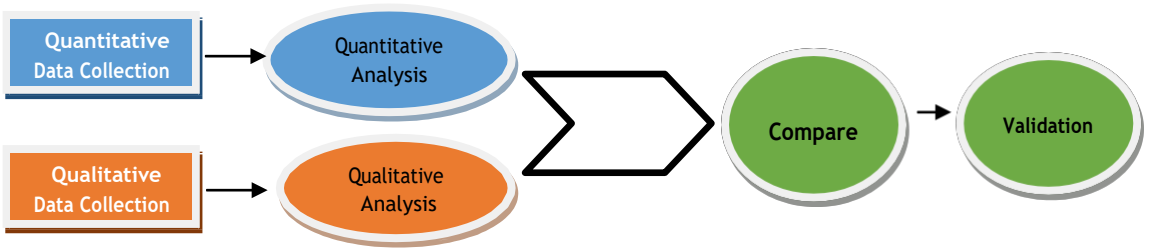


Figure 7.1 Triangulation

The quantitative phase consisted of an experiment using two groups (i.e. an experimental group and a comparison group) with two pre-post tests (i.e. BPVSIII assessment and YARC assessment). The objective of the experiment was to measure the effects of using the spoken texts coupled with moving images on young children's comprehension, language and literacy skills. The qualitative phase consisted of classroom observations during the intervention programme followed by interviews. The aim of the classroom observations was to look at whether the teacher adhered to the procedures of the intervention. At the end of the intervention programme, semi-structured teacher interviews were conducted to look at how teachers supported their children in language development and literacy, with particular reference to implementation of the video programme and if there were any other factors happened to be operating within the situation which promoted children's language development and literacy.

In the study, data triangulation consisted of comparing quantitative data from pre-post tests scores with classroom observations data and qualitative teacher interviews data was done as illustrated in the diagram below.

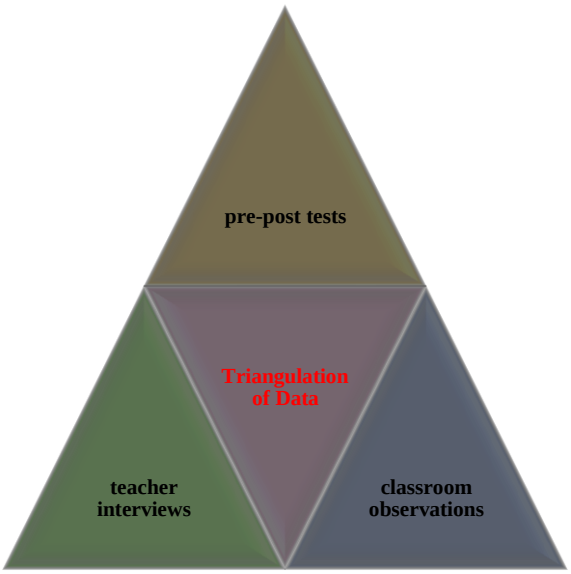


Figure 7.2 Triangulation of Data

Mixed methods used in the study collected rich and comprehensive data. Gelo et al. (2008) explain the objective of mixed methods research is to combine quantitative and qualitative research hence the advantages of each methodology are maximised and the disadvantages are minimised. Therefore, mixed methods used in the study were helpful because it allowed the researcher to have various paradigms.

(ii) Case Study

The case study provided data of greater depth than can be found through the other experimental studies in pilot study, Study 1 and Study 2.

> *A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used. (Yin, 2009, pg.13)*

The case study also provided richer and deeper descriptive content. The data collected from the case study was of greater depth than can be found through the previous experimental studies namely pilot study, Study 1 and Study 2. Through the case study, the researcher was able to go beyond the statistical results and to understand what

children comprehend from the videos and how children comprehend the video content through their actions. For instance, through the case study, the researcher was able to observe closely how children transfer their understanding of the video content they watched by engaging in teacher-child dialogue and in drawing activity. The case study also helped the researcher to explain the complexities of real-life situations that could not be captured through the previous experimental studies. Within the case study, the researcher also conducted an experiment through an intervention programme.

(iii) Programme Fidelity

Fidelity can be defined as the degree to which delivery of an intervention programme adheres to the procedure developed (Dane & Schneider, 1998; Domitrovinch & Greenberg, 2000; Mobray *et al.*, 2003). Therefore, a series of programme fidelity procedures were highly considered after the pilot study was completed. The programme fidelity was used to assess whether the intervention programme was carried out according to the programme specified. The programme fidelity measures used in the study included classroom observations, teacher written self-reports, attendance logs, and post-delivery interview.

Two types of assessment were used as programme fidelity measures: (i) direct assessment, and (ii) indirect assessment.

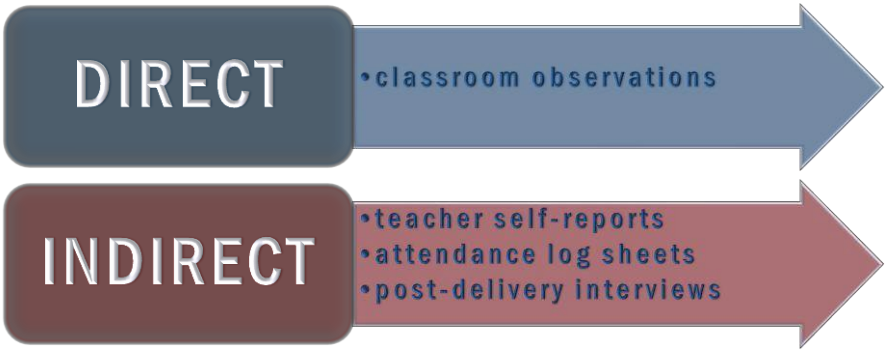


Figure 7.3 Types of Assessment

Direct assessment

The classroom observations using checklist were used as a direct assessment. The researcher observed the intervention and recorded the occurrence of the major intervention components.

Indirect assessments

In assessing fidelity, indirect assessments were also used. Teacher self-reports were completed by the participating teachers on their compliance with the intervention procedures (by completing the checklist) and on their performance (by writing down their comments).

Attendance log sheets were used as an attendance tracker for participating teachers and the researcher to keep track of children's attendance and understand the children's attendance habit during the intervention programme. The teachers completed the attendance log sheets for every session of the intervention programme.

Finally, post-delivery interviews were conducted immediately after the intervention programme ended. All participating teachers were interviewed to get feedback from them about the intervention programme. The experimental teachers were interviewed to explore how they felt about the intervention which they had carried out in their classroom helped their children's language and literacy skills. Meanwhile, the comparison teachers were interviewed to explore how the standard national curriculum had helped their children's language and literacy skills.

Researchers have described fidelity across five dimensions: adherence, exposure, quality of delivery, participant responsiveness, and programme differentiation (Dane & Schneider, 1998; Dusenbury *et al*., 2003; Fagan *et al.*, 2008)

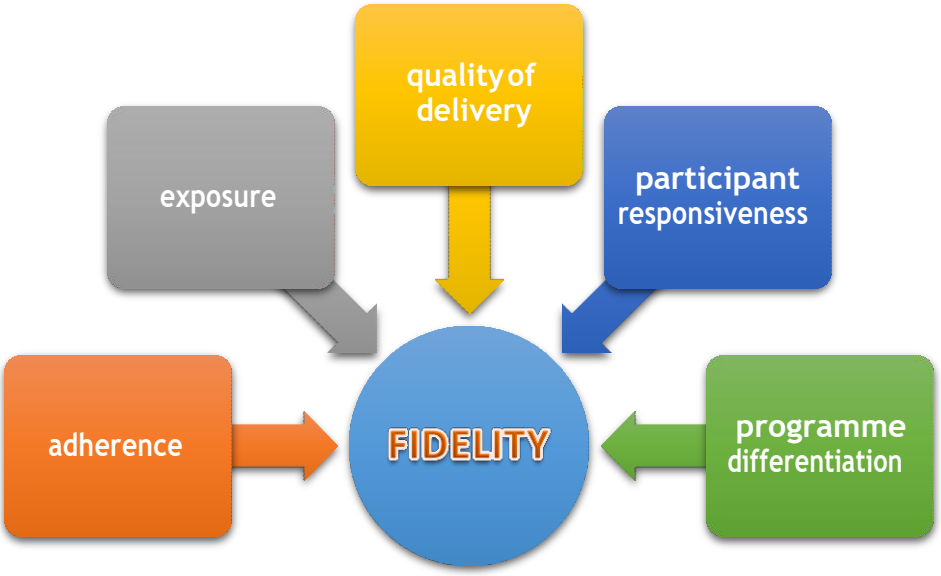


Figure 7.4 Fidelity across Five Dimensions

(iv) Adherence (i.e. how programme components were delivered as imposed by the model)

In Study 1, classroom observation sheets & teacher self-report sheets were used to examine the degree of an intervention adherence. The classroom observations focused closely on adherence to the intervention programme. Three observations took place - at beginning, middle, and towards the end of the project. The observations lasted for 25 minutes (as long as the intervention) for each session.

Exposure (i.e. the dosage/ amount of programme delivered)

Study 2 addressed the issue of duration of intervention (or "dosage"). The intention of Study 2 was to explore relative effects of shorter intervention and longer intervention vs. comparison group. A 12-week programme for the experimental group vs. a 6-week programme for the comparison group was investigated.

Quality of delivery (i.e. the manner in which a programme was delivered)

In Study 1 and Study 2, classroom observations, teacher self-reports & post-delivery interviews were used to look at how the intervention programme was delivered by the teachers to the children. Feedback was delivered to the participating teachers after each

intervention session to allow the teachers informed on what things that went well and things that needed improvement for the upcoming sessions.

Participant responsiveness (i.e. the manner in which participants engaged in the programme)

Classroom observations, teacher self-reports & post-delivery interviews were used in Study 1 and Study 2 to look at how the children engaged in the video-viewing and teacher-dialogue activity. Meanwhile teacher self-reports were used for the comparison group teachers' recordings of classroom practice and the experimental group teachers' recordings of intervention programme adherence. During the post-delivery interviews, the teachers were asked to what extent they conformed to programme and to what extent diverged.

Programme differentiation (i.e. the degree to which components of a programme differed to one another)

For example, in Study 2, the experimental groups watched the videos with required attention and follow-up activities (using the screenshot posters and printed words on cue cards) which were related to curriculum embedding. Meanwhile, the comparison group only watched the videos only with required attention. The rationale was to look at whether there was any difference between the programmes.

A number of measures (i.e. BPVS III and YARC)

Two (2) measurements were used to collect quantitative data - (i) BPVS III and (ii) YARC.

The BPVSIII is a one-to-one assessment and it is suitable for non-readers among children aged three to 16 and for progress checking. It was used to assess non-readers' language development which suited to the aim of the study. Nothing was known about the reliability from the manual, search engine, or elsewhere. However, the manual provided instructions for administering and scoring the BPVSIII. It also highlighted that in order to obtain reliable test results, administrators must have a good understanding of the administration instructions.

YARC is also a one-to-one assessment. It is suitable to assess children from age four to 11. YARC was used to assess a child's phonological skills, alphabetic knowledge and

word reading. The reliabilities for the Early Reading sub-assessments were 0.95 for Letter Sound Knowledge (Core), 0.98 for Letter Sound Knowledge (Extended), and 0.98 for Early Word Recognition.

Therefore, the BPVSIII with YARC provided a quick assessment of vocabulary and increased the reliability.

(v) Teachers Involvement

Participating teachers wanted to be well involved during the early stage of supplementary materials preparation. Teachers voluntarily contributed their ideas to make success of the materials and the intervention programme as a whole. Mutual agreement between the researcher and the teachers on the supplementary materials were made before the finalised supplementary materials were printed out and distributed to all participating teachers. All these were done before the pilot study started.

7.2.2 Limitations

A number of limitations were identified in the study and this section discusses the limitations.

(i) Data Collection Processes

Recruitment of Schools

The number of participating schools in the study was small. This is due to the difficulty in getting more schools to participate in the study. As a result, the number of schools participating decreased from four schools in the pilot study to one school in the case study.

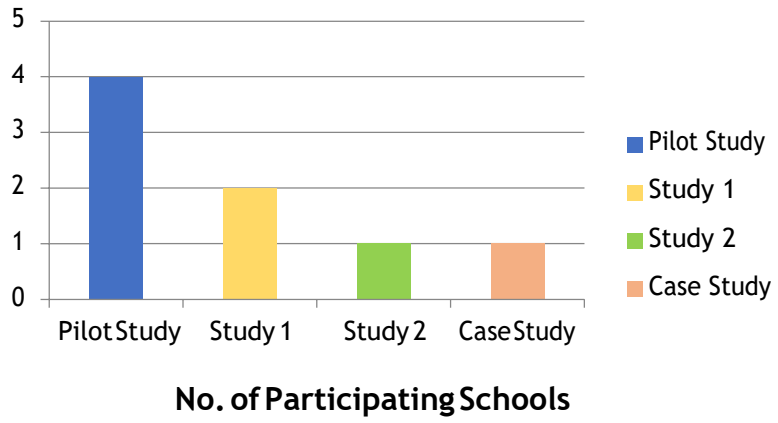


Figure 7.5 Number of Participating Schools

Study	Type of School	No. of Participating School
Pilot Study	Primary	2
	Nursery	2
Study 1	Primary	1
	Nursery	1
Study 2	Primary	1
	Nursery ***has been excluded from the study due to attrition***	1 ***has been excluded from the study due to attrition***
Case Study	Primary	1

Table 7.1 Number of Participating Schools in Each Study

Applications for undertaking a research project were first submitted to W City Council. There were only a few schools that agreed to participate in W area. The application was then expanded to X Council, Y Council and Z Council with the hope that greater samples could be obtained. However, no school from X, Y or Z areas could offer support in the research project.

Attrition

In the Pilot Study, three participating children dropped out from the school in the middle of the intervention programme. These children sat for the pre-test and were present in the intervention programme for a few weeks before leaving the school. One moved to other school and the other two went back to their home country for good.

In Study 2, four children in a private day care nursery participated in the study. However, three of them were regularly absent during the intervention programme period. These three children sat for the pre-test assessments and then went off missing and had irregular attendance. These children were excluded from the study, as they did not receive an adequate amount of treatment from the intervention programme as

scheduled. They would affect the results of the study. In this case, only one child remained in the study. It was then decided to exclude the private day care nursery from Study 2 as not much analysis can be done with one child left. As a result, the total

number of children participating in Study 2 has dropped from 14 to 10 children.

Interviews

(a) Child Interview

Some child interviews sessions were conducted at the end of their school session (i.e. just before the school ended). From the observation, even though the children were happy to participate, they looked very exhausted because it was nearly at the end of the school day. Sometimes they could not concentrate on the question asked. Some were just nodded to indicate 'yes' and shook head to indicate 'no' without any further explanation. Some children tended to give short answer or body gestures when they were tired. These kinds of responses limited the findings of the study in describing their exact experience. In the case of the study, for example, when the child simply nodded or shook head, the interviewer needed to simplify the questions, repeat some questions, and provide possible probes. The researcher also provided cues by recalling what happened during the classroom observations, then asked for a confirmation and further explanations. The condition was opposite when the interviews were conducted at the beginning of school day in the morning. The children were fresh and actively engaged in the conversation.

(b) Interviews Transcription

The teacher interviews were conducted in Study 1, Study 2 and the case study. The child interviews were only conducted in the case study. The researcher was struggling a bit with some Scottish accents used by the teacher and children. The recordings were played for a few times to get the correct words and this could lead to time consuming as odd misunderstandings and discrepancies occurred during the transcribing stage. Two transcribers who are English native speaker (i.e. the supervisors) helped the researcher with some Scottish accents.

(ii) Interpreting Children's Drawings

The researcher avoided to read too much into the children's drawing but instead allowing the children to tell what the drawing meant to them during the child interviews session.

The researcher also acknowledges that everyone has ways to decode meanings in children's drawings. Some people interpret a child's drawings by discovering a deeper layer to what s/he is thinking and feeling. This form of discovering a child's thinking and feeling was not done when the researcher interpreted the children's drawings. Instead, the researcher did a content analysis. At the beginning of the child interview, a drawing activity took place once again. Each child was asked to draw a picture that s/he could remember from any of the six videos they watched with their teacher during the intervention programme. This time, the researcher asked questions like what the objects was and what the object was doing. This was the time given to each child to tell a story about her or his drawing. These questions could sometimes reveal things that the researcher never saw herself.

7.3 Implications for Practice and Policy

There are implications for practice and policy.

7.3.1 Implications for Practice

The first implication is related to the use of more non-fiction videos than fiction videos in classrooms. All non-fiction videos narrated real-life situation that could be easily understood by the children because the children could make a connection between the narration and their real-life experience. When this happened, children would have better chances to have an extended dialogue with their peers and teacher. The narration made by the narrator through non-fiction videos could also mediate attention and make the story more interesting. When children watched the videos attentively, they could understand better and could acquire language better. Based on the feedback from the teacher interviews after the intervention programme, teachers preferred to use non-fiction videos because non-fiction videos contained facts and informational spoken texts. The teachers believed that the use of non-fiction videos could be beneficial to support children's literacy development. Therefore, non-fiction videos were more likely to help in promoting literacy particularly vocabulary acquisition and comprehension.

Empirical evidence, through observations in the current case study, showed that some children had strong motivation to write sentences or phrases or words next to their drawing when encouraged by their teacher. Meanwhile, the reluctant ‘writers’ were finding other ways to demonstrate their literacy levels - through drawing and verbalisation (teacher-child dialogue and child-child dialogue). From the findings,

teachers and other practitioners may use non-fiction videos as a key resource in the delivery of visual literacy. However, teachers and practitioners must use videos with purpose in relation to a task. For example, in Study 2 the teacher was surprised at how the videos affected children's learning.

Besides, the findings also gave encouragement to teachers and other practitioners to see the video as a tool that could be used in a multitude of ways and not just as a 'house winner treat' or 'school trip treat' or an 'end of term treat' or a 'remaining 10 minutes before the school ends treat'. Spoken texts coupled with moving images with follow-up activities (i.e. using printed words on cards, screenshot posters, and teacher-child dialogue) would add extra value of promoting children's language and literacy than just watching videos without follow-up activities. The follow up activities after the video-viewing appeared to be significant because it allowed an extended active interaction between the teacher and children. The printed words and screenshot posters were found helpful as stimuli to the teacher-child dialogue. Encouraging children to draw after the teacher-dialogue (as what had been done in the current case study) would also benefit the children. Through teacher-dialogue and drawing, comprehension could be 'articulated' in different ways - spoken and visual forms. For example, after watching videos, children could discuss what they watched in the teacher-dialogue session. Some children would be able to make a connection between what they watched and what they experienced inside and outside the classroom. If a drawing activity was added, the children could engage and communicate with their peers before, while and after drawing even longer using the new vocabulary they learned through video-viewing and printed words. If the teacher takes the child a step further by encouraging the children to write, some children could write a sentence or a phrase or a word below their drawing. This would allow comprehension, language development, and literacy to increase.

7.3.2 Implications for Policy Makers

The implication for policy makers is related to the encouragement to nursery and primary teachers to use non-fiction videos as well as fiction videos. Most of the time, literacy experiences in nursery and primary classrooms have traditionally been provided through fiction genres. For example, young children mostly watch and sing nursery rhymes with animations.

Continuing professional development training needs to be provided to teachers. This training would allow teachers to explore the benefits of teaching with informational texts through non-fiction videos. Teachers must be well informed on how non-fiction genres can be beneficial to young children particularly in literacy development. Effective professional development could enrich teaching-learning approach and improve teacher's behaviour in a way that they use new materials and incorporate new instructional practice in classroom. In conjunction with effective professional development, activities related to the language and literacy skills can be focused and prioritised. Teachers may learn to schedule blocks of time to make good use of non-fiction videos to aid children's language and literacy skills.

Children's voice is the most important of all and should not be ignored. Children are the ones who experience the learning process in all curriculum areas including literacy. Their voice must be heard before any implementation in a classroom takes place, because any decisions made would greatly affect them. Children must be given more of a voice to participate in decision-making affecting their learning. For example, the child-interviews in the current study discovered that when asked, not only were children able to inform adults about what they enjoyed and did not enjoy in the classroom, but also to give reasons why they enjoyed and did not enjoy such activities. This finding suggested that even young children should have a 'voice' to increase equity in a learning partnership in literacy.

Audio visual-mediated learning environments could act as a 'mediating tool' to language learning and literacy skills. It may increase opportunity for language learning if it was integrated with classroom instruction. Although spoken and written forms seemed to be important communicative modes in the computer-assisted learning or IT classrooms, they were not the primary representational modes on screen. Audio visual-mediated learning offered images as well. Through video-viewing with follow-up activities, for instance, children had a greater opportunity to do a range of activities. For example, they could listen (listening to videos/ listening to peers/ listening to teacher), speak (expressing idea/ justifying comment/ retelling stories), write (writing a sentence, a phrase or a word), read (reading printed words on the cue-cards/ reading friends' written

'story'), draw, and colour in too. All these activities would allow children to articulate their understanding of what they watched and to develop language and improve literacy skills. In the current research, for instance, audio-visual presentations (i.e. the use of videos with follow-up activities) led to better recall and more accurate retelling.

Having a 'literacy rich environment' in the home is essential to support child's language development and literacy skills. Based on the current research, non-fiction videos were found to be potential resources to aid children's language and literacy skills. However, most low-income families could not afford electronic devices like desktop, laptop, tablet, or smart phones at their home. There are some possible recommendations can be made to support low-income families to support their children's language and literacy skills using non-fiction videos: (i) increasing the access of non-fiction videos, (ii) conducting outreach literacy programmes, and (iii) implementing a community collaborative partnership. One possible treatment to the socio-economic gap in multimodal literacy is to increase the access of non-fiction videos that could mediate children's language and literacy skills in the classrooms. Many families from low socio-economic status are not sure of their role as a parent in supporting their children's language and literacy skills. Outreach literacy programmes that focus on audio visual-mediated learning could be conducted by public libraries, schools, or non-profit organisations to help low-income families. This seems to be a positive way to introduce low-income children and parents how audio-visual resources help in promoting literacy skills. Children must be offered with audio visual and printed resources so they could have the opportunity to respond to listening, speaking, reading, and writing. Outreach literacy programmes have a potential to offer parents learn to value the importance of language development and literacy skills. Besides, a community collaborative partnership could also be successful in increasing children's literacy skills because it provides community support to families. Schools and community such as local public libraries, local universities and colleges, recreational centres, and community centres could provide in-service and resource support. For instance, family literacy evening, library audio-visual nights, donations and materials or resources could help families to support their children's language and literacy skills. Having community supports and putting programmes in place may increase parents' involvement and thereby increase their awareness on their children's language and literacy skills.

7.4 Implications and Recommendations for Future Research

The study has its limitations in some areas that could be addressed in future research. A similar study could be done in other schools in different parts in the UK, with bigger samples. The probability of finding a statically significant result could be done with a larger sample size. The current study was done only in one part of Scotland. Therefore, it is difficult to generalise to other schools across Scotland or England. Further investigation of whether there were any different or similar effects on children's language and literacy skills with the support of video-viewing is desirable.

Besides, it would be interesting to explore the use of non-fiction videos vs. fiction videos and compare the effects on children's language and literacy development. For instance, the study could look at to what extent the non-fiction videos and fiction videos were helpful to support young children's language and literacy skills. As mentioned by the one of participating teachers in the current study, most of the children watched non-fiction videos either at school or at home. However, the teacher was delighted and positive with the use of non-fiction videos in the intervention programme. The teacher found non-fiction videos were stimulating and could be new supplementary tools to support children's learning. Non-fiction videos have their own advantages that can accommodate children's learning. Of course, non-fiction videos may be subject to a Hawthorne Effect. This means some children might work harder when they realised that they were being observed by the researcher.

It could be interesting to conduct a further research on the use of spoken texts coupled with moving images and their effects on male and female children. The current study did not look at any difference between genders. This was essentially because there was always an unequal number of male and female participating children between the experimental and comparison groups in all participating schools. Also, the research could investigate: (i) how male and female children comprehend video content, (ii) how male and female children participated in the teacher-dialogue session (i.e. do male or female children tend to interact more or is there any particular type of video that would allow male and female children to interact more than other videos?), (iii) what particular words were typically and frequently used by male and female children with the support of spoken texts coupled with moving images (i.e are there any specific words easily picked up or commonly used by

male and female children?), and (iv) how male and female children transfer their understanding of video content to a drawing (i.e. is there any dissimilarity in picture or sentence or phrase length written by male and female children?).

A further study would be valuable to investigate the effects of spoken texts coupled with moving images on children who come from low, moderate, and high socio-economic status families. With the small sample, the current study had no possibility of making a comparison between children from different categories of socio-economic status. If this could be done in the future, more support that is practical and constructive could be offered as needed to a specific group of children. Film club which focused video-viewing with follow-up activities could be made available to children in school clubs on top of the LEGO club, football club, or violin club. This could be a valuable resource to develop language and literacy skills. Multimodal literacy could also be promoted through a film club if it was cooperated with a clear objective that is improving children's literacy skills.

The current study also carried out multiphase experimental studies and a case study in classroom settings. It would be beneficial if future research, particularly case studies, could explore the use of videos more in different settings both in classrooms and at home and the effect on young children's language and literacy skills. Besides, the intervention programme can be extended from child's classroom to the child's home. The number of treatments can be increased and thereby different effects on children's comprehension, language and literacy skills may be seen. This research could be fascinating because the current study only provided the treatment to experimental children in their classroom.

More research is also needed to support the anecdotal evidence of bilingual children who found that learning English as a second language was challenging, but could be motivated through engagement with video. Worldwide, rates of immigration are increasing, hence the number of children who are exposed to one language at home and then another language at school is growing. It would be worthwhile to investigate if the use of videos could support bilingual children's language development and to examine the relationship of the video use with the bilingual children's motivation in learning the second language.

Another research that could be interesting to explore is a study that compared results between monolingual children (i.e. where English is their first language) and bilingual children (i.e. where English is their second language). This study may raise a series of question. For instance, how non-fiction videos support monolingual and bilingual children's language development and literacy skills?. is there any difference between monolingual and bilingual children to comprehend non-fiction videos content within the intervention period?, is there any difference between monolingual and bilingual to learn new vocabulary introduced in non-fiction videos?, or how different monolingual and bilingual children express their understanding of non-fiction videos in spoken and written forms?. The current study did not have an equal number of children whose first language was English or not. Therefore, the current had no possibility of making a comparison between these two groups of children.

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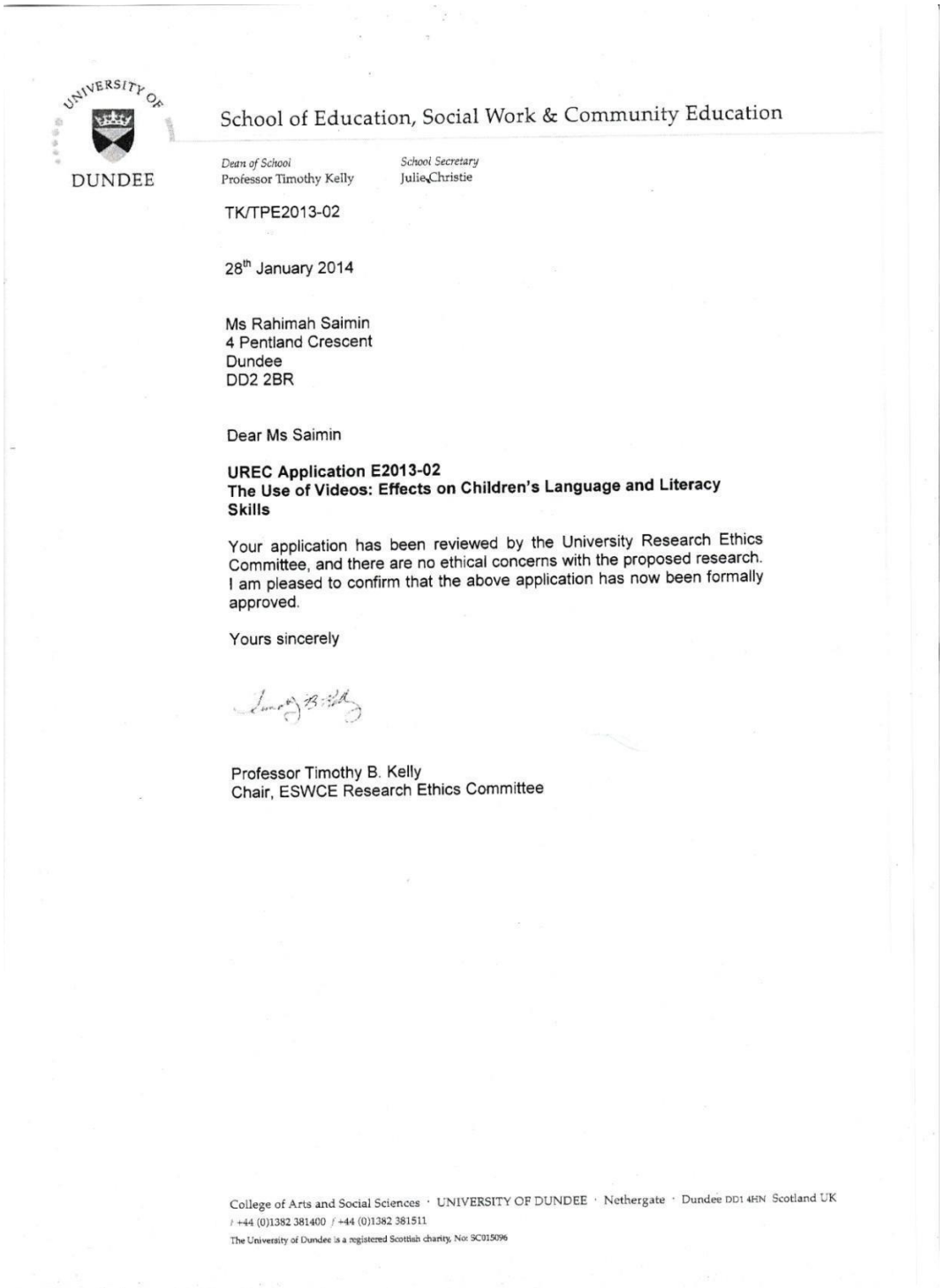
Appendix 1 Approval of the University of Dundee Research Ethics Committee



UNIVERSITY OF DUNDEE

School of Education, Social Work & Community Education

Dean of School
Professor Timothy Kelly

School Secretary
Julie Christie

TK/TPE2013-02

28th January 2014

Ms Rahimah Saimin
4 Pentland Crescent
Dundee
DD2 2BR

Dear Ms Saimin

UREC Application E2013-02
The Use of Videos: Effects on Children's Language and Literacy Skills

Your application has been reviewed by the University Research Ethics Committee, and there are no ethical concerns with the proposed research. I am pleased to confirm that the above application has now been formally approved.

Yours sincerely

Professor Timothy B. Kelly
Chair, ESWCE Research Ethics Committee

College of Arts and Social Sciences · UNIVERSITY OF DUNDEE · Nethergate · Dundee DD1 4HN Scotland UK
/ +44 (0)1382 381400 / +44 (0)1382 381511
The University of Dundee is a registered Scottish charity, No: SC015096

Appendix 2 Approval from the Local Authority's Education Department

1 Title of Research Project:

The Use of Videos: Effects on Children's Language and Literacy Skills

2 Name and Address of corporate body you represent (if appropriate)

School of Education, Social Work & Community Education,
University of Dundee, Nethergate, Dundee

Tel: **01382 381407**
Fax: **01382 381511**

Postcode **DD1 4HN**

3 Name(s) and designation(s) of individual(s) conducting the research (first name should be head of project)

Rahimah Saimin

4 Address and telephone number of research base (if different to 2 above)

Mobile Phone: 07442100800

5 Details of funding granted/applied for (delete as appropriate)

None

6 Please list all other agencies involved in the project, the nature of their involvement and a contact name. (This may be attached on a typewritten sheet).

None

7 Anticipated timescale of project Start **September 2013** Finish **June 2014**

8 Synopsis of project (including methodology) (*This may be attached in typewritten form*)

Kindly refer to the attachment.

21/03/2013 5:18 PM
form.doc

9 Describe the output of the project in terms of reports/theses/articles/books etc.

This project is for my PhD research purpose. The findings will be reported, discussed and written in my PhD theses and presented at the viva session. I will publish articles. On top of that, I will give seminars to teachers in Dundee regarding my results and provide teachers who cannot attend with written summary of the project.

10 Are you an undergraduate/postgraduate? **Postgraduate** (delete as appropriate)

If so what course are you studying? **PhD in Education**

what stage are you at? **Initial stage (5th month in the programme)**

11 Are you an employee of NO (*delete as appropriate*)

If YES, please give your work address if different from 4 above.

_____ Tel: _____

_____ Fax: _____

_____

_____ Postcode: _____

12 Please list the access and facilities you require from _ (describe data; names of establishments and categories of personnel as appropriate)

I will need two schools, both with two forms of entry. I want to work with nursery pupils in one school and with P1 pupils in the other. I want the teachers to volunteer to participate in this project. I want the teachers (and the classroom assistant where available) to work with the children during the Spring term 2014, at least once per week for about 15 minutes. I will provide materials and videos and brief training during the Autumn term 2013.

13 Any other relevant information (including any likely benefit to the Education Authority)

A copy of the findings will be sent to the Education Authority and the participated schools on the completion of the report. If the intervention is successful, I am happy to share it with the other schools which are interested.

14 Criminal Convictions

Please give details of any prosecutions for which you, or any of the research team, have been found guilty. If NONE, please state "NONE".

Date	Details of Offence	Sentence
NONE	NONE	NONE

Rehabilitation of Offenders Act 1974 - Please read Note 5 in the Notes of Guidance.

15 Declaration by Applicant/Corporate Body

I certify that the information given in this application is accurate and complete and that I and all research staff working with young people in schools and educational establishments have been cleared through the Criminal Records system.

Signature _____ Date 21/03/2013

Signature and name of officer of corporate body

Signature _____

Name DR IAN BARRON Date 22/03/2013

To be completed by Dundee City Council

16 Approval of research request

(a)	Approved without conditions *	☑	(b)	Approved with conditions	☐
(c)	Undecided	☐	(d)	Refused	☐

Please tick the appropriate box and give further details/reasons below for categories (b), (c) and (d).

Signature of Authorised Officer Date 23/5/13

Revised 24/6/13

Appendix 3 Parent Consent

UNIVERSITY OF DUNDEE

School of Education, Social Work & Community Education

Acting Dean of School Professor Timothy Kelly

School Secretary Julie Christie

Participant Information Sheet

THE USE OF VIDEOS: EFFECTS ON CHILDREN'S LANGUAGEAND LITERACY SKILLS

I am RahimahSaimin, a Ph.Dstudent of School of Education, University of Dundee. I am investigating the use of short videos and looking at their effects on children's language and literacy skills.

The study will require your child to complete the whole session of the research study in the Autumn term 2014 and Spring term 2015. This research study has a pre-assessment, post-assessment and follow-up assessment. I will use the British Picture Vocabulary Scale Third Edition (BPVS3) to assess the children's receptive vocabulary. The York Assessment of Reading for Comprehension (YARC): Early Reading will also beused to assess the children's letter sound knowledge and early word recognition.

If your child is in the intervention group, she/he will watch six short videos from BBC Learning Zone Broadband (Class Clips) homepage.

You may decide to stop your child being a part of the research study at any time without explanation and there will be no penalty. There are no known risks for you and your child in this study.Your child's participation in this study is voluntary.

Your child will receive a reward sticker after completion each of the assessments.

The Performance Record forms and the Pupil Record forms which I will use do contain personal information about you and your child. However, no one will link the data you provide to your identity and name and therefore will remain confidential and will not be used by anyone other than me. In the research report, your child's name will not appear and all information referring to names, places or institutions will be written anonymously.

I would be glad to answer your questions about this study at any time. If you want to find out about the final results of this study, you should contact me at r.saimin@dundee.ac.uk

Best Wishes,

RahimahSaimin

Ph.D Student,

School of Education, University of Dundee

.....

Parent Consent Letter

I have read and understood the Participant Information Sheet and that I agree to allow ..... (your child's name) from ..... (your child's class or group name) to take part in this research study.

....

Parent's/ Carer's Signature Date

.....

Parent's/ Carer's Name

Appendix 4 Teacher Consent

Participant Information Sheet

THE USE OF VIDEOS: EFFECTS ON CHILDREN'S LANGUAGE AND LITERACY SKILLS

I am Rahimah Saimin, a PhD. student of School of Education, University of Dundee. I am investigating the use of short videos and looking at their effects on children's language and literacy skills.

The study will require you to complete the whole session of the research study in the Spring term 2014. This research study has a pre-assessment, post-assessment and follow-up assessment.

If you are teaching the control group, you (or rather your children) are only participating in the pre-, post- and follow-up assessments. If the intervention is successful, the researcher will offer it to the control class after the end of the Spring term (so you and your children are effectively only a wait group).

If you are teaching the intervention group, you will need to let your children to watch six short videos from BBC Learning Zone Broadband (Class Clips) homepage. There will be repeated viewing (i.e. a minimum of two repetitions and a maximum of four repetitions) of each of the videos. You are also provided with screenshot posters and cue cards as supplementary materials so that you could encourage the children to participate in an active discussion related to the video content and therefore the children engage with the discussion. Six sample lesson plans are also given to you as your guideline on how to carry out the activities.

Besides, you and your intervention children will be observed by the researcher on an agreed date. The researcher will sit at the back or at the corner of the classroom and will only observe the practice involved in the intervention group from the beginning until the end of a lesson. Some notes and comments will be recorded in a Classroom Observation Form.

You may decide to stop being a part of the research study at any time without explanation and there will be no penalty. There are no known risks for you in this study. Your participation in this study is voluntary.

No one will link the data you provide. Your identity and name will remain confidential and will not be used neither by other people nor parties. In the research report, all information referring to names, places or institutions will be written anonymously.

I would be glad to answer your questions about this study at any time. If you want to find out about the final results of this study, you should contact me at r.saimin@dundee.ac.uk

Best Wishes,

Rahimah Saimin
Ph.D Student
School of Education, University of Dundee

……

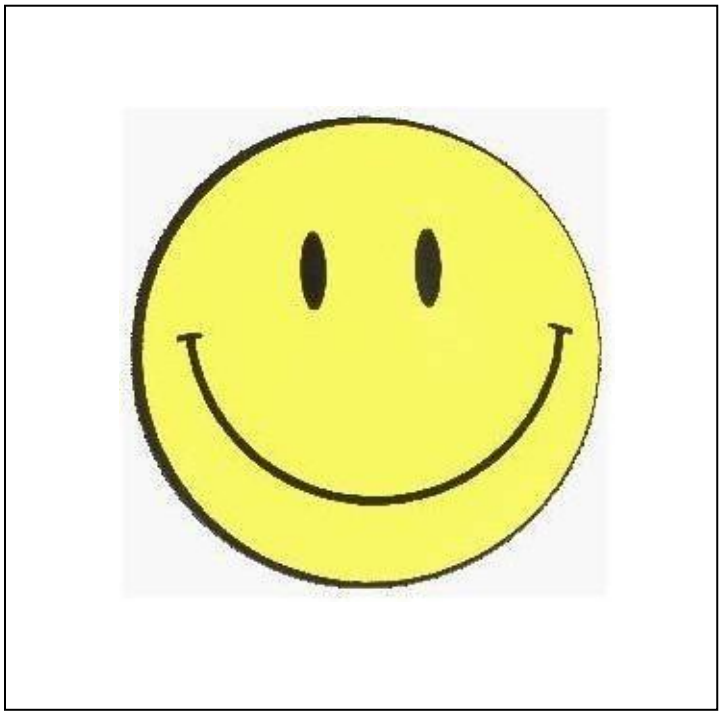
Teacher Consent Letter

By signing below you as a teacher are agreeing that you have read and understood the Participant Information Sheet and that you agree to take part in this research study.

…….. ……

Teacher's Signature Date

Appendix 5 Child Consent



Appendix 6 Post-delivery interview questions for experimental teachers

POST-DELIVERY INTERVIEW

Experimental Teacher

1) How much time did this intervention take up per week?
2) What part of the process took up most time?
3) What did you have to NOT do in order to do the intervention? How did you feel about this?
4) How easy or hard the intervention was to do?
5) What did you think of the use of videos to help children's vocabulary?
6) What did you think of the use of videos to help children's letter sound?
7) And what did you think of the use of videos to help children's word reading?
8) What do you think the effect of the videos on the children's learning in general was?
9) Did you continue using the materials given after completing the 24 expected sessions or did you stop immediately after that? Whichever you did, why?
10) Do you think this experiment was worthwhile?
11) Would you recommend this experiment to other teachers?
12) Do you have any other views about changes for future programmes using video to enhance children's language and literacy and how easy to implement would they be?
13) Was there any other video shown to the children apart from the intervention videos?

If YES proceed to questions 14-18, if NO go to question 19

14) What was the nature of the video?
15) How long was the screening time?
16) How frequently did the video viewing take place?
17) What did the children get from the video?
18) Was there any follow-up activity after video viewing? If so, what was the nature of the activity?
    .....
    .....
19) Have other kinds of novel activities been done in the classroom associated with language and literacy skills?

Appendix 7 Post-delivery interview questions for comparison teachers

POST-DELIVERY INTERVIEW

Comparison Teachers

1) How did you help your children enhancing their vocabulary?
2) What about letter sound? How did you help your children?
3) How did you help your children in word reading?
4) What additional activities and supplementary materials (if any) did you use to help children with their vocabulary, letter knowledge or word reading?
5) Can you say how these additional activities/supplementary materials helped the children?
6) Was there any other video shown to the children?

****If YES proceed to questions 7-11, if NO go to question 12****

7) What was the nature of the video?
8) How long was the screening time?
9) How frequent did the video viewing take place?
10) What did the children get from the video?
11) Was there any follow-up activity after video viewing? If so, what was the nature of the activity?
12) Have other kinds of novel activities been done in the classroom associated with language and literacy skills?

Appendix 8 Classroom Observation Form

School: …… Group: ……

Begin at/ End at: ……/…… Date: …… Observer: ……

	PRACTICE	YES	NO	COMMENTS
1.	Teacher gathers all children sit in a group right in front of the computer before the video showing session starts.			
2.	Teacher shows the video to children before showing and using the screenshots poster and cue cards.			
3.	Teacher uses screenshots poster and cue cards to initiate and develop discussion.			
4.	Teacher ensures all children have a chance to respond.			
5.	Teacher encourages longer responses and responses using the keywords.			

6.	Teacher uses the cue cards to help vocabulary.			HOW?
7.	Teacher uses the cue cards to help letter sound.			HOW?
8.	Teacher starts with the easy words and progress to the harder ones.			
9.	Teacher praises children for their efforts.			
10.	Teacher concludes the activity.			

Appendix 9 Videos (Pilot Study)

NO.	VIDEO CLIP	FEATURELENGTH
1.	Oyster and Shell	2:40
2.	Baby Animals	2:36
3.	Different Types of Seeds	2:41
4.	Frogs	2:45
5.	Seals	2:46
6.	Barn Owls	3:00

Appendix 10 Videos (Pilot Study, Study 1 and Study 2)

NO.	VIDEO CLIP	FEATURE LENGTH	LINK
1.	Blackberries	2:19	http://www.bbc.co.uk/learningzone/clips/blackberries/9461.html
2.	Daffodils	2:06	http://www.bbc.co.uk/learningzone/clips/daffodils/9466.html
3.	Winter Vegetables on the Allotment	2:46	http://www.bbc.co.uk/learningzone/clips/winter-vegetables-on-the-allotment/10260.html
4.	Barn Owls	3:00	http://www.bbc.co.uk/learningzone/clips/barn-owls/9454.html
5.	Different Types of Seeds	2:41	http://www.bbc.co.uk/learningzone/clips/different-types-of-seeds/10261.html
6.	Oyster and Shell	2:20	http://www.bbc.co.uk/learningzone/clips/oysters-and-shells/10633.html

Appendix 11 Videos (Case Study)

NO.	VIDEO CLIP
1.	Why do panda bears eat bamboo?
2.	Why do giraffes have long necks?
3.	What does it take to raise a baby bird?
4.	How are fallen leaves broken down by worms, fungi and slime mould?
5.	How does camouflage help an animal to hide or attack?

Appendix 12 Sample of a Lesson Plan (distributed to the teacher - Case Study)

VIDEO	:	Video 1 – Baby Animals
TOPIC/THEME	:	Knowledge & Understanding: The Living World
KEYWORDS	:	sheep, baby, noisy, lamb, playful, duck, ducklings, fluffy
OBJECTIVES	:	Following this activity children will be able to: • comprehend the video content; • engage with a discussion on the video content; • learn receptive vocabulary • learn letter sound
MATERIALS	:	computer, video link, screenshot posters, cue cards, A4 papers, pencils, rubber
PROCEDURES	:	1. Get a computer switched on and the video link ready. 2. Have all children sit in a large group right in front of the computer. 3. Then, start playing the video to the children. 4. Next, show the screenshot posters and start a discussion on the video content/images using the screenshot poster. Ensure all children have an equal chance to respond. Encourage longer responses and responses using the keywords. 5. Use the cue cards are needed to help vocabulary and letter sound. 6. Have children to get back to their seats. Then, encourage each child to draw an object from the video that she/he could remember. 7. Conclude the activity. Praise the children for their efforts.

Appendix 13 Screenshot Posters (Pilot Study)

Appendix 14 Word List (Pilot Study)

owl	huge
barn	sheep
claws	playful
heart-shaped	face
beautiful	duck
big	baby
sharp	white

leaves	bark
long	frogspawn
spiky	chestnut
oak	round
tree	acorn
case	frog
nut	jumpy
slimy	toad

seal	bumpy	oyster
dive	shell	gold
smooth	whiskers	noisy
brown	flippers	duckling
snout	pups	
rough	pale	
inside	lamb	
bubbly	fluffy	

Appendix 15 Screenshot posters (Study 1 and Study 2)

Appendix 16 Word list (Study 1 and Study 2)

leaves	bark
long	frogspawn
spiky	chestnut
oak	round
tree	acorn
case	frog
nut	jumpy
slimy	toad

flower	daffodils	petals
trumpet	spring	blackberries
yellow	bramble	sharp
jam	thorns	leeks
allotment	crinkly	cabbage
vegetables	sheep	playful
duckling	lamb	fluffy

Appendix 17 Screenshot posters (Case Study)


BBC


BBC

Appendix 18 Word List (Case Study)

bamboo

panda

stem

hunt

tongue

eye

giraffe

hatch

pattern

neck

moist

soil

mould

nest

chick

Appendix 19 Teacher Self-Report (for Study 2: Comparison Teacher)

TEACHER SELF REPORT		Name:									
These are rated from 1 to 3: *ALWAYS - SOMETIMES - NEVER* *3 2 1*		I gather all children to sit in a group right in front of the computer before the video showing session starts.	I show the video to children before using the screenshots poster and cue cards.	I use screenshots, poster and cue cards to initiate and develop discussion.	I ensure all children have a chance to respond.	I encourage longer responses and responses using the keywords.	I use the cue cards to help vocabulary.	I use the cue cards to help letter sounds.	I start with the easy words and progress to the harder ones.	I praise children for their efforts.	I conclude the activity.
VIDEO 1	1st show										
	2nd show										
VIDEO	1st show										

2	2nd show										
VIDEO 3	1st show										
	2nd show										
VIDEO 4	1st show										
	2nd show										
VIDEO 5	1st show										
	2nd show										
VIDEO 6	1st show										
	2nd show										

Appendix 20 Teacher Self Report (Study 1: both Experimental and Comparison teachers and Study 2: Experimental Teacher only)

TEACHER SELF REPORT

Name:

These are rated from 1 to 3: *ALWAYS - SOMETIMES - NEVER* 3 2 1		I gather all children to sit in a group right in front of the computer before the video showing session starts.	I show the video to children before using the screenshots poster and cue cards.	I use screenshots, poster and cue cards to initiate and develop discussion.	I ensure all children have a chance to respond.	I encourage longer responses and responses using the keywords.	I use the cue cards to help vocabulary.	I use the cue cards to help letter sounds.	I start with the easy words and progress to the harder ones.	I praise children for their efforts.	I conclude the activity.
VIDEO 1	1st show										
	2nd show										
	3rd show										
	4th show										

VIDEO 2	1st show										
	2nd show										
	3rd show										
	4th show										
VIDEO 3	1st show										
	2nd show										
	3rd show										
	4th show										
VIDEO	1st show										
	2nd show										
	3rd show										

4	4th show										
VIDEO	1st show										
5	2nd show										
	3rd show										
	4th show										
VIDEO	1st show										
6	2nd show										
	3rd show										
	4th show										

Appendix 21 Application for Undertaking Research - Refused

1 Title of research project:

The Use of Videos – Effect on Children's Language and Literacy Skills

2 Name and address of corporate body you represent (if appropriate):

School of Education, Social Work & Community Tel: 01382 381521

Education, Fax:

University of Dundee

Nethergate Postcode:

3 Name(s) and designation(s) of individual(s) conducting the research (first name should be head of project)

Rahimah Saimin PhD Student

4 Address and telephone number of research base (if different to 2 above)

Tel: 07442100800

Fax:

Postcode:

5 Details of funding granted / applied for (delete as appropriate)

None

6 Please list all other agencies involved in this project, the nature of their involvement and a contact name. (This may be attached on a typewritten sheet)

None

7 Anticipated timescale of project:

Start October 2014

Finish June 2015

8 Synopsis of project (including methodology)
(This may be attached in typewritten form)

Kindly refer to the attachment – Synopsis of Project

9 Describe the output of the project in terms of reports / thesis / articles / books etc

This project is for my PhD research purpose. The findings will be reported, discussed and written in my PhD theses and presented at the viva session. I will publish articles. On top of that, I will give seminars to teachers in Angus and other areas regarding my results and provide teachers who cannot attend with written summary of the project.

10 Are you an ~~undergraduate~~ / postgraduate? (Delete as appropriate)

If so, what course are you studying? PhD in Education

What stage are you at? Year 3

11 Are you an employee of ?

No Tel:

Fax:

Postcode:

12 Please list the access and facilities you require from (describe data, names of establishments and categories of personnel as appropriate)

I want to work with nursery pupils and P1 pupils. Therefore, I will need three schools, both with at least two form of entry (three form of entry would be better). I want to work with three nursery schools too. I want the teachers to volunteer to participate in this project. I want the teachers (and the classroom assistant where available) to work with the children during the Autumn term 2014 and Spring term 2015 for 24 sessions with 25 minutes each session. I will provide a teaching resource pack containing six video links, list of words, a set of cue-card (with a single word printed on each),12 screenshot posters, 6 samples of lesson plan, and my email address. A brief training will be delivered beforehand and procedures will be explained clearly to make sure these run smoothly.

13 Any other relevant information (including any likely benefit to the Education Authority)

A copy of the findings will be sent to the Education Authority and the participated schools on the completion of the report. If the intervention is successful, I am happy to share it with the other schools which are interested.

14 DECLARATION by Applicant

I certify that the information given in this application is accurate and complete.

Signature Tajmapuri

Date 16th October 2014

Signature and name of officer of corporate body

Signature _____

Name _____

Date _____

To be completed by

15 Approval of research request

a)	**Approved without conditions**	☐
b)	**Approved with conditions**	☐
c)	**Undecided**	☐
d)	**Refused**	☑

Please tick the appropriate box and give further details / reasons below for categories (b), (c) and (d).
The only condition is that any work undertaken is with the full agreement of the schools involved and that they are made aware in advance that they can, at their discretion, decline to participate.

Unfortunately not able to support this at this time.

Signature of establishment head _____ **Date** _____

Signature of authorised officer _____ **Date** 22/10/14

Appendix 22 Child Interview Sheet

1. Can you tell me about your drawing here. Tell me more about it.
2. You have watched videos on panda, giraffe, baby bird, mould and animal hiding with Mrs. ../ Ms. ... . Tell me what you learn from these videos?
3. What do you like most about the videos? Is it watching the videos, learning sounds, learning new words, talking or drawing? Why do you like it most?
4. What is your favourite video? Tell me why you like that one best?
5. Tell me what your favourite video is about? What else? Tell me more about it.
6. Did you talk about the video when the teacher asked you? A lot or not much?
7. You did a lot of things with Mrs. .../ Ms. ... in your class. What is your favourite one? Tell me more about it. Why do you like it most?
8. What do you not like it most? Tell me more about it. Why do you not like it most.
9. Do you watch videos at home? What videos do you watch? Tell me more about it.