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DEVELOPING MULTIMODAL DIGITAL LITERACY: THE APPLICATION OF DIGITAL STORYTELLING AS A NEW AVENUE FOR EFFECTIVE ENGLISH LEARNING WITH EFL ELEMENTARY SCHOOL STUDENTS IN KOREA

Tecnam Yoon

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A Dissertation Presented

by

TECNAM YOON

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DEDICATION

To my grandfather, 윤흥준 who sacrificed himself for my family,

and encouraged me to have a dream

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ABSTRACT

DEVELOPING MULTIMODAL DIGITAL LITERACY: THE APPLICATION OF DIGITAL STORYTELLING AS A NEW AVENUE FOR EFFECTIVE ENGLISH LEARNING WITH EFL ELEMENTARY SCHOOL STUDENTS IN KOREA

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The purpose of this mixed method research study is to investigate the educational effects of digital storytelling as a communicative language learning strategy in an EFL elementary school class in Korea. In order to find out the benefits and challenges of digital storytelling in EFL class, this study was conducted for 12 weeks in a rural elementary school. Digital storytelling was selected and utilized in the after-school English class, as main teaching and learning tool. Guiding research questions were 1) what are the potential benefits and challenges of digital storytelling for young EFL learners when it is employed in a rural context as a language learning activity? i. e.) the change of motivation, reading, writing, listening, speaking ability, and 2) What does the English teacher find to be benefits and challenges of using a digital storytelling as pedagogical strategies in Korean EFL classroom?.

In order to answer those questions, a survey questionnaire on students' learning attitude was distributed, and pre- and post-test were employed to investigate the difference in terms of the ability of reading, writing, listening and speaking over time. In

addition, student's reflective self-evaluation log, teacher's lecture report, classroom observation and in/formal interviews with focal students and the teacher were also collected to figure out the factors which gave an influence to students and the teacher. Both quantitative and qualitative data were collected and analyzed based on the characteristics of each data set.

The quantitative data results indicated that students show overall improvement in academic performance in terms of reading, writing, listening and speaking. In addition to English proficiency, the learning attitude and motivation toward English learning was elevated, followed by the increase of their critical, creative thinking, and digital literacy skills. The other results of qualitative data highlighted that the English teacher and students were satisfied with the learning experience with digital storytelling in that it played a key role in motivating the learning process and was an effective tool for active learning.

To sum up, it seems clear that the digital storytelling activity, as integrated instructional strategy has the potential to shed light on helping EFL learners in a rural school to develop English skills as well as to change their learning attitude toward studying English. In addition, digital storytelling also increased skills other than academic skills related to learning English, and it also helped to improve students' communicative ability, encouraging their collaboration, motivation and creativity to be heightened.

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CHAPTER 1

BACKGROUND OF THE STUDY

Introduction

Currently, as information communication and technology (ICT) has dramatically transformed our society into a virtually digital space in which digital tools and devices are ubiquitous, it is no longer surprising in our daily life to see people using their electronic devices such as smartphones to acquire new information and knowledge. Because of the rapid development of ICT, the form in which information is delivered to us also has undergone profound changes from paper format to a digital one. The area of foreign language teaching and learning is not an exception. Today's students who are called 'Digital Natives' (Pyrensky, 2001a, 2001b) have a keen interest in using such digital multimedia devices, and school teachers also recognize the potential of converting and expanding their traditional teaching strategy into the ubiquitous environment where students can be constantly exposed (Burmark, 2004; Burn & Reed, 1999; Chu, 1995; Cradler et al., 2002; Pierson, 2001; Pritchard, 2004).

In fact, young students in the digital era are constantly immersing themselves in up-to-date digital electronic devices such as smartphones, tablet PCs, e-book readers and many more. As they take a great interest in such tools, school teachers are also encouraged to teach utilizing multimedia in the classroom (Byrnes & Wasik, 2009; Vincent, 2006). The reality of this phenomenon encourages particularly non-native English teachers in ESL/EFL situations to use the computer- and digital-assisted tools

and devices as a way of stimulating students' attitudes toward authentic English language learning.

In English language classrooms, for example, many of the teachers today are using PowerPoint Presentations in their class, and a variety of educational software applications, CDs, DVDs and more are utilized in order to facilitate their lessons. In the age of digital environment, as Tsou et al. (2006) stressed, integrating computer technology with foreign language teaching and learning is remarkably useful and necessary to preparing ELL students to function in a rapidly-changing world.

Background of the Study

For many years since English became a required subject in public schools in Korea, a variety of teaching approaches and methodologies have been adopted, including Audio-Lingual Method (ALM), Direct Method (DM), Grammar Translation Method (GTM), or Total Physical Response (TPR) to enhance students' English proficiency.

Although a demand for communicative language ability has been increasing, English teaching still focuses on grammatical structure patterns and vocabulary through the repetition and memorization of expressions or dialogues. To follow the trend of global English instruction, therefore, the Department of Education (DOE) revised the National English Curriculum in 2004.

According to the DOE (2004), the subject of English at school should be taught based on the communicative approach; (1) fostering the ability to use English, (2) utilizing task-based learning, (3) devising instructional techniques appropriate for open education, (4) cultivating a patriotic sentiment and a view of the world, and (5) the realization of learning and teaching English, according to proficiency levels. Literally, the

DOE put a strong emphasis on a method of communicative language teaching in delivering English lessons.

Against all expectations, the objective of the seventh National English Curriculum in Korea encountered several problems when it was applied into traditional classroom instruction. For example, the unitary teacher-centered pattern of English instruction remained the same as before, still placing great stress on the development of linguistic competence. To improve speaking and listening competence, an average 40-minute class with a Korean-speaking English teacher was still insufficient for EFL students to have authentic English exposure (Kim, 2008; Lee & Chang, 2012). In addition to insufficient class time, students did not have any physical places to use English to interact with their peers or others for communicating. Consequently, the effective learner-centered learning and teaching was not realized, and their purpose of learning English was not transferred nor reflected on their everyday life.

As a result, the awareness of improving students' communicative language ability became more emergent among English teachers, school administrators, education officers and even students. English teachers at schools started to provide students with various opportunities to practice English, as the seventh National English Curriculum stated above. One of them was the integration of the educational technology into English curriculum.

As current technology in language education continuously developed and made steady progress, it created a new medium of communication. Named 'CALL' (Computer Assisted Language Learning) or 'MALL' (Multimedia Assisted Language

Learning) model was introduced in English teaching in order to cover weaknesses of traditional English education, and to promote students' communicative ability.

CALL is regarded as a wide range of ICT applications and approaches to teaching and learning foreign languages. The traditional patterned drill practice CALL program was popular in the 1960s and 1970s, and today recent CALL features include learning in an online/virtual learning environment, and web-based distance learning. Due to the development of ICT, it has become an important new medium in a second and foreign language classroom.

The role of CALL/MALL was intended to maximize the effects of English teaching and learning through computer or multimedia. As one of strategies to CALL/MALL, digital storytelling first emerged in 1995 by Joe Lambert who was a founder of the Center for Digital Storytelling.

Digital storytelling, as it is defined in the work of Banaszewski (2005) is "the practice of combining personal narrative with multimedia (images, audio and text) to produce a short autobiographical movie." It can be shared electronically all over the world by means of computer and the Internet. Many previous research studies (Blas et al., 2012; Hathorn, 2005; Heo, 2009; Huffaker, 2004; McLellan, 2007) have already revealed that digital storytelling has distinctive features that develop skills of English language as well as improve other areas such as digital literacy skill, a part or interconnection of other subjects. In terms of English learning, Hull (2003) and Lathem (2005) pointed out it improves students' communicative skills, encourages their creative/critical thinking, and increases their motivation and interest, as well.

Definition of Digital Storytelling

Digital storytelling simply refers to the telling of stories in electronic form. It is made of two or more components which include sound, audio, text, image or video. In other words, it is an aspect of multimedia, or a form of UGC (User-Generated Contents). It has become popular as an educational application in second/foreign language classrooms due to the fact that it can provide student-centered learning and help to improve overall English skills.

According to the previous studies of Lambert (2009) and Leneway et al. (2002), digital storytelling is known for several educational purposes. First of all, it is said to have been successfully applied not only for content instruction in art and social science classrooms (Gakhar & Thompson, 2007; Rudnicki et al., 2006), but also for the improvement of reading and writing proficiency in language art class and after school programs (Banaszewski, 2002; Ballast et al., 2008; Figg, Ward & Guillory, 2006; Robin et al., 2009).

There is other research viewing digital storytelling as a self-efficacy aid in EFL setting. Barrett (2006) emphasized that the process of creating a digital story can enhance the learners' skills of creative thinking, personal reflection and digital literacy skills. Similar to Barrett's study, Turner (2008) found out that students could build confidence about their ability to think and to speak, since teachers and peers provided them with recognition and validation after the students successfully created a digital story. He also stressed that creating multimodal production played an important role in promoting motivation as it offered students an opportunity to create an authentic product. In 2012, Yoon argued that digital storytelling served to elevate students' interest and motivation,

and advocated that it also helps improve students' productive skills such as speaking and writing.

Application of Digital Storytelling in English Class

As explained above, there are benefits of digital storytelling in educational settings. In L2 learning, digital storytelling can indeed be a good vehicle to increasing language performance in that it has potential to provide motivation to students by engaging in reflective learning. This is because the up-to-date ICT technologies and multimedia functions can appeal to young generations. In particular, using visual and audio effects can be the biggest difference between digital storytelling and traditional storytelling (Banaszewski, 2002; Lowenthal, 2008; Ohler, 2006; Sylvester & Greenidge, 2010).

For instance, in reading/writing sessions, ELL learners can have more creative opportunities if provided with sounds, music, graphics, images and animations which allow them to express their creativity. Besides, students can share their own stories through digital storytelling in ways other than just plain text, and they can think more creatively and critically by looking at peer's different stories.

In addition, students are expected to have more chances for collaboration and cooperation work with each other through a creating process, which helps them gain social and cognitive development through sharing experiences. In English class, students are also expected to develop their listening and speaking skills as well as enhance their vocabulary with a continuous interaction with others (Kajder & Swenson, 2004; Marsh, 2006; Ware, 2006).

It is quite clear that digital storytelling can also be very effective as a computer assisted language learning tool for English language learners, because it provides students with various types of learning styles. In a traditional English classroom setting, a plain textbook has been the sole material to study with, along with a Korean-speaking English teacher. It never considered students' learning modalities which include auditory, visual and kinesthetic skills (Barbe & Swassing, 1988). Depending on each individual, although learning styles are all different, a traditional way of teaching and learning overlooked those differences. However, digital storytelling can offer meaning to learning through the combination of students' auditory, visual and kinesthetic skills.

15 Principles of Digital Storytelling

There are a lot of factors that can affect the learning process of students in an ESL/EFL setting, such as teaching or learning styles, motivation, interaction, and many more. One of the most significant factors to be considered is the choice of proper learning material, which may directly impact the learning outcomes. As explained above, digital storytelling as a learning material has shown its positive effects in many research studies. Thus, when adopting and using digital storytelling in the classroom, teachers are asked to keep in mind how and why digital storytelling can contribute in students' learning in ESL/EFL context.

Basically, there fifteen principles exist in the use of digital storytelling in class, which was adapted and developed from Yoon (2012)'s definition. They can be simply called '*I AM GOING TO A CAMP'* which literally stands for '**I**nteractive, **A**uthentic, **M**eaningful, **G**raphical, **O**riginative, **I**nnovative, **N**arrative, **G**oal-directed, **T**echnological, **O**rganizing, **A**ssociative, **C**ollaborative, **A**ppealing, **M**otivating, and

Productive'. Following are the detailed explanations of each item on how digital storytelling can make students in a class feel like having a camp.

- Interactive: as digital story is shared with each other, it is possible for student(s)-student(s), student(s)-teacher, the whole class-teacher to have continuous interaction during the learning process.
- Authentic: students can create and share their real, personal, meaningful story with others.
- Meaningful: digital story encourages students to become more conscious of the ability to tell their real story which catches the attention of the audience.
- Graphical: digital story is made up using a computer program which contains visual display elements.
- Originative: digital story includes from students' previous experience, thought and idea to any topic related to their life.
- Innovative: digital story offers an alternative path to language learning and disseminates simulation and storytelling approaches to language teaching and learning.
- Narrative: digital story is also a genre of narrative which shows a series of facts or events.
- Goal-directed: digital story as project-based learning makes students set a learning goal and become more persistent learners.
- Technological: students can gain experience with dealing with digital devices and become more proficient at the technical aspects of making their own story.

- Organizing: computer programs help students to organize their digital stories by creating, editing, add and deleting.
- Associative: students can link their ideas and experiences in creating digital storytelling and this helps students to enhance the learning process.
- Collaborative: by sharing with each other, digital story helps students to work collaboratively as a team or group.
- Appealing: digital story provides the pleasure of learning more than any other factor. Students are expected to gain high academic motivation, engagement, and achievement for further learning.
- Motivating: digital story allows students to gain personalization of the learning experience by increasing motivation.
- Productive: students can make their own voice, and produce their desired outcome, through their juxtaposition with visuals, recorded narratives and sounds which deliver their intended message.

Rationale of the Study

Some research studies conducted previously have proved that the use of digital storytelling in the ESL/EFL classroom showed two distinctive features after its intervention (Behmer et al., 2006; Yang & Wu, 2012). One of the features that digital storytelling produced effect on the English class was the change of the learning environment. It was found to be successful in changing students' degree of confidence, interaction, and motivation. Partially influenced by digital storytelling, students in the ESL/EFL class came to gain a positive attitude toward learning English (Yoon, 2012), as

well as self-confidence and motivation toward using English inside and outside the classroom (Burgess, 2006; Gravestock & Jenkins, 2009; Li & Morehead, 2006).

The other distinctive feature was that digital storytelling had an influence on the development of students' learning progress. Research results from Daminco (2006), Di Blas et al. (2009), and Ohler (2008) indicated that students' academic development in English proficiency was identified through learning with digital storytelling. Hull & Katz (2006) valued that digital storytelling functioned as an alternative learning material in ESL/EFL class to promote students' overall English ability. In addition to increasing English skills, some studies also concluded that students viewed digital storytelling as a useful resource in learning English, since it provided an authentic personal learning experience and various technology mediums in which young digital natives today are interested (Felix, 2008; Sadik, 2008; Sanchez-Laws, 2010; Thesen & Kara-Soteriou, 2011).

There have been a few research studies on the effects of digital storytelling in Korean EFL context. Xu (2010) examined whether the activity of writing for digital storytelling in virtual worlds could affect learners' writing self-efficacy, and compared two groups which consisted of an online and offline group. The results showed that the overall score of writing self-efficacy in online group was significantly higher than that of offline group. Therefore, she concluded that writing for digital storytelling in virtual worlds was more effective in improving writing self-efficacy.

Another study by Lee (2008) indicated that digital storytelling was a powerful educational tool when it was used appropriately. She found digital storytelling had

provided a strong motivation to impact students' learning, and directly contributed to learning objectives related to competition, cooperation, and group work.

Jung (2010) explored how digital storytelling and face-to-face storytelling instruction could be integrated in the classroom and produce educational effects for the change of EFL learners' comprehensibility and affective domain. The results revealed that the instruction using digital storytelling showed a significant difference in terms of affective factors, interest and learning behavior in English, and displayed a positive effect to elementary students, leading their active participation in class.

To sum up the results of the studies above, the application of digital storytelling encouraged students to improve their English ability and to develop their motivation and interest toward English learning. Thus, utilizing digital storytelling was recommended as an effective learning strategy in teaching EFL students.

English Education at Elementary School in Korea

Korea is basically a monolingual country, speaking the Korean language. Like many other countries in an EFL setting, Korea has made efforts with continuous changes in English education policy in response to the need following the international trend and demand. However, it was not until 2000 that the teaching and learning of English was included in the elementary school curriculum in Korea. Educational reform to make English a compulsory subject in the elementary school came into existence based on the flow of globalization. The Department of Education adopted an eye catching slogan for elementary English learning, which symbolized 'the-earlier-the-better'. Since 2000, students have begun learning English at the third year of the elementary school in the long run.

However, the unready reform was not made scrupulously, which brought about several problems. First, there was a shortage of experienced English teachers who had taught young EFL learners. Because English was taught from grade seven in middle school before 2000, there were no experienced teaching personnel of English in elementary school. In an attempt to resolve the problem, the DOE created a nationwide English test to recruit prospective English teachers. Those who were selected by competitive examination were required to complete 120 hours of in-service training to become a full-time English teacher. Besides, the DOE also hired a large number of native English teachers as a team-teacher to maximize the English instruction.

The second problem in elementary English curriculum was the frequency and length of English lessons. Students in grades 3-6 received only 1-2 hours of instruction per week. Allotting 2 hours per week was not substantial enough for students to learn basic words, let alone to develop communicative skills.

The last issue that policy makers and school administrators had was the use of English by Korean English teacher in the class. As all English teachers working in elementary school have been using a Korean language as a native language, their productive skills, such as speaking and writing were a lot weaker, than their receptive skills, listening and reading. In other words, as their overall English productive skills were intermediate-low level, they have been confronted with a problem in terms of teaching English through English (TETE). In the long run, students could not help studying English, relying on Korean teacher who used a Korean language, and many studies proved that such problems prevented students from developing communication skills (Cha, 1995; Kim & Yi, 2008; Kim, 2008; Lee & Chang, 2012).

Statement of the Problems

In a traditional English class in Korea, students are used to learning English, mainly focusing on the grammar skills through the textbook and the exercise books, since English teacher managed to spend most of the time delivering a lecture. As a result, having linguistic competence-centered learning, students got naturally disconnected from developing their verbal competence. What was worse, they barely had time and opportunities to adequately train and improve their communicative competence either inside the English class, or outside the school.

In other words, educational approaches in the English curriculum in Korea have resulted in a huge gap between what is being taught to the students and what is needed to teach to the students. This gap has made many students lack in creativity, communications skills, analytical and critical thinking, and problem-solving skills (Teo & Wong, 2000; Tan, 2000)

As a result, public schools have had to struggle to narrow such gaps by adapting a concept of project-based learning. Project-based learning (PBL) is a student-centered pedagogy in which students learn about a subject through the experience of problem solving, and it became popular as a tool to address the inadequacies of traditional teaching (Bell, 2010; Chu, et al., 2011). As a way of active learning, project-based learning was expected to help students to identify what they have already known, what they need to know, and how and where to use new information which can lead to solution of the problem. For instance, teachers tried to initiate multimedia-oriented learning as one of the counterproposals.

In terms of learning English, particularly, there has been an inevitable demand for the English curriculum be changed and reformed to meet its realistic learning purpose. Thus, teachers and the DOE started to have a deep interest in using computer and multimedia to develop the students' abilities and to make them become creative and critical learners, as well as project-solvers within this multimedia-mediated projected-based learning (PBL) environment (Bell, 2010; Chang & Lee, 2010; Gültekin, 2005; Hung et al., 2012; Lee, 2001; Levine, 2004; Xu & Liu, 2010).

In Korea, however, the concept of learning using computer or multimedia has been generally considered just a fun activity. To study with and to use multimedia in class were viewed as two totally different concepts, because it was treated as an interactive computer entertainment. Therefore, it has been regarded as literally useless in learning. Although students could access the Internet, which brought enjoyment and excitement into the learning process as well as everyday life, many of the teachers in Korea have been reluctant to use technology in the classroom.

Unfortunately, it has been believed by the many teachers in Korea that the main reason for teaching English is to make students get a high test score and to help them to enter an advanced school. Especially, when it comes to the school in a rural area, both teachers and students take this phenomenon more seriously. As they are facing several disadvantages in terms of educational, socio-economical inequality, students in a rural area are more likely to concentrate on gaining a high test score for entering advanced school in a city. The ultimate aim for learning English to them is to receive a good score in English exam, which make their interest gradually reduced in learning English. Because teachers in a rural school also have an objective to make students get a high

score in the English exam, they scarcely care for teaching English for a communicative purpose.

Hence, I as a researcher and educator, have pondered ways of taking advantage of multimedia to settle inequality issues for those who are suffering from social and educational disadvantages in a rural area, and considered ways of substituting a teacher-centered approach for student-centered learning. New ways of learning and teaching considered were also focused on the integration of technology which can provide motivation and interest to students in a rural school. As a way of reforming conventional English instruction, the researcher finally decided to use digital storytelling with expectations for students to enhance their English skills and to change learning attitude toward the reason they study English.

Purpose of the Study

In order to find out the solutions and make suggestions to rural English classes in Korea, the researcher made a decision to visit a local elementary school in a rural area of Jooyoung, and to conduct a research study with a local English teacher and his students. Prior to the study, I kept in mind that English should be taught in a communicative and meaningful way, and students in a rural area also have a right to receive a good quality education. When I met an English teacher who was a former co-worker of the researcher, I explained my teaching philosophy on English teaching, the concept of digital storytelling, and finally how the digital storytelling activity would fit the national English curriculum standard. Below is the English standard for the elementary level by Korean National Curriculum Information Center (2013).

"English, at the elementary school level, should focus on developing the ability to understand and express basic language used in everyday life, which is the basis of communication. Technical aspects of language, especially spoken language, are essential. With regard to written language education, students should be able to read and write simple works which are composed in connection with spoken language education. Therefore, the objective of elementary English is to increase students' interest in English and foster their basic ability to comprehend and express themselves in English.

- Acquire interest in English.
- Build confidence in basic use of English.
- Build a foundation for basic communication in English in everyday life.
- Understand foreign customs and cultures through English education."

Based on the English standard of elementary English education, we also discussed the methods on how he could integrate digital storytelling into his English class. Showing the results from previous research data, I suggested that English teacher would adapt and pilot digital storytelling as a new material of teaching and learning English in his after school class. Finally, the lesson plans and flows using digital storytelling were planned and designed by both me and English teacher in order to figure out its benefits and challenges, and students' perspectives on that.

Therefore, the main purpose of the study is to examine the effectiveness of digital storytelling in English class and the students' perspectives on digital storytelling. In addition, this study seeks to gauge whether it helps Korean EFL elementary school

students in a rural area develop their overall English ability, and their learning attitude in learning English.

Specifically, this study aims to find out whether students using digital storytelling can demonstrate any improvement in their English proficiency in the area of reading, writing, listening and speaking. Additionally, this study explores students' perspectives and perceptions on the development of self-confidence, interest, satisfaction, motivation for digital storytelling, and how it affects their learning process.

In order to answer those questions, the researcher conducted a mix-method research method through both a quantitative and qualitative analysis. By doing so, the present study is intended to provide the benefits and challenges of digital storytelling as computer assisted language learning strategy, and suggest pedagogical implications for the English teachers in a rural EFL school.

Significance of the Study

Before computer or multimedia was popular, or introduced in the field of education, the most common way of learning was to use paper based books. Currently, as the extensive use ICT has exercised a far-reaching influence upon general education, English education and its curriculum has also been impacted. Now that multimedia resources are available and accessible with the Internet, students have come to share the benefits of computer/multimedia supported learning.

In CALL/MALL environments, the purpose of teaching and learning English has been gradually shifting from developing students' grammatical competence to enhancing their communicative competence. Along with the change of the learning objective, the teaching approach in the class has also changed a bit from a conventional teacher-

centered to a student-centered one in order to help promote students' communicative competence. In other words, after ICT-based teaching and learning using CALL components emerged as a potential approach to English learning, such technology-enhance instruction greatly contributed to students' general learning. In particular, it started helping to boost students' listening and speaking ability in terms of English education.

Organization of the Dissertation

This present study is comprised of a total of six chapters. Chapter one introduces the topic of this study and provides a broad overview of the entire research project. The background of English education in Korea, the rationale of the research and statement of the problem to be investigated in this study is followed by the purpose of the study and the significance of the study. Chapter two reviews the relevant scholarly literature pertinent to the main topics concerned with this study. It also examines previous literature related to computer assisted language learning in second/foreign language learning with a focus on digital storytelling. Chapter three introduces the methodology and procedures of the study and provides research settings, focal participants, learning instruments and material, research procedures, and the methods of data collection and analysis. Chapter four presents the statistical results of the study focusing on the quantitative analysis. It discusses the results of the English proficiency tests and the changes in students' perceptions on digital storytelling. Next, Chapter five reports the results and discussions from the qualitative analyses which include students' reflective self-evaluation logs, teachers' lecture review reports, interviews, and classroom observations. Finally, Chapter six summarizes the main points of the results and findings reported in the previous

chapters about the benefits and challenges of digital storytelling in English learning, as well as the participants' perceptions of digital storytelling. It also offers pedagogical implications of the study and suggestions for future research. At the end, appendices show the instruments used for the study and other detailed descriptions needed for the study.

CHAPTER 2

REVIEW OF LITERATURE

"Digital stories let students express themselves - be creative.

Digital stories can be motivating and inspiring.

Digital stories can help with recall and retention.

Digital stories allow students to take ownership of learning

and thereby help with reflective and critical thinking".

Wakefield (2010)

Introduction

This chapter addresses a review of the literature that has helped shape the theoretical position developed during this research project. The purpose of the literature review is to explore how computer assisted language learning and its applications have shaped and affected education today, especially the field of foreign language learning and teaching. The historical development of information-communication technologies and trends on computer assisted language learning is described. The application of information-communication technologies in foreign language learning and teaching, and the potential required to utilize these technologies are also illustrated. Then, studies using multimedia and digital storytelling as a learning strategy are discussed. The review of literature serves as a theoretical framework for the structure and substance of the data collection instrument.

Needs for Paradigm Change in EFL Environment

Korean EFL (English as a Foreign Language) learners have been facing a difficulty in learning and practicing the English language. Unlike ESL (English as a Second Language) setting, learners in Korea have been literally isolated from the any English-speaking environment. This means Korean EFL learners have never experienced a way to put their knowledge of English to practical use either inside or outside classroom. English teachers and educators have not recognized the need for change of English instruction for a long period of time.

Although the importance of communication skills in English has been highly perceived every day, students have not been provided with any authentic communicative tasks that might facilitate the use of the target language in the EFL classroom (Dornyei, 1994). A deficiency of practical communicative opportunities inevitably prevented the possibility of developing the learners' motivation, which is one of the key elements in cultivating English proficiency.

Therefore, there has been a demand for changing a paradigm in teaching and learning English. One of the alternative options to resolve such demands was the use of multimedia. It has already brought about an innovative shift in learning environments as an educational medium, which provided both students and teachers with sufficient opportunities to interact in the target language (Blake, 2007; Kern, 1995; Warschauer, 1997). The application of multimedia in education has also made learning possible regardless of barriers of time and space (Dourneen & Matthewman, 2009; Lei & Zhao, 2008; Pitler et al., 2007; Stuart et al., 2009).

In other words, multimedia became an essential medium in a foreign language classroom (Berge & Collins, 1995; Buckingham, 2003; Felix, 2002; Meskill, 1999). It helps ELL learners experience an authentic target language environment in which ELLs can develop their communicative competence. Along with the development of such computer and multimedia technology, many studies have also proved that technology-supported learning offers the opportunity to access rich, authentic, and current information, exposures students to colorful visual elements, and heightens motivation, and interest (Hoffman & Nadelson, 2010; Ketelhut, 2007; Lee, 1998; Liu, 2005; Thomas et al., 2008; Wang, 2008).

Integrating Computers and Multimedia into Education

Multimedia refers to content that uses a combination of different content formats and the main components of multimedia are composed of text, graphics, video, animation, and sound in an integrated way. In other words, multimedia means "an individual or a small group using a computer to interact with information that is represented in several media, by repeatedly selecting what to see and hear next" (Agnew et. al, 1996).

In the 21st century, multimedia has shown its prominence in the area of language teaching and learning, since it is changing the way people communicate with each other. To include and use multimedia in education helps to reinforce the intention of the message which creates better learning outcomes. Among the many features of multimedia, the strongest point is that it has a multi-sensory (visual and auditory) function which makes information delivery or acquisition relatively easy. Through multi-sensory integration, multimedia brought a lot of changes in education and impacted the

ways that students received the new information. For example, along with the advent of multi-literacy as a new trend in language learning, the use of multimedia has attracted considerable attention. Today, much of information is presented in the form of multi-modalities which consist of visual, auditory, and text. Unlike the past, language learners do not depend on paper-based material any longer. Rather, they utilize a variety of multimodal materials for their meaningful language learning.

Educational software such as CD-ROM, or DVD ensures students study independently, depending on their level of proficiency, and helps them to practice what they study at their pace. Students may, for instance, go back and repeat some specific parts which they do not understand, based on their needs. Plus, they can receive instant feedback.

In terms of using multimedia in English classroom, many research studies have proved that the application of multimedia brought a positive effect on learning English education (Cha, 2004; Chapelle, 2003; Taylor & Gitsaki, 2003; Verdugo & Belmonte, 2007).

Specifically, studies of Danilova (2008) and Pennington (1999) displayed the effects of computer assisted instruction (Frizler, 1995; Hew & Brush, 2007; Sanders, 1995), while some studies indicated the advantages of using video and caption as a way of learning English (Figg et al., 2006; Lee, 2003; Maier & Fisher, 2006).

Turner (2011) argued that it is critical that students be required to engage in new literacies using multimedia in all of their classes, not only as a method for further engaging them, but also for learning valuable ICT skills. He emphasized that the

application of multimedia is potentially transferable to students' future educational, employment, social, and civic contexts.

Gilakjani (2012b) claimed that multimedia instruction creates the opportunity for language learners to improve their learning effectively. In order to fulfill the learning process effective, however, he stressed that it is crucial to understand and explore individual's learning through multimedia. To help students become more attentive and successful, teachers are required to analyze each learner's perceptions on multimedia as well.

Cahyani & Cahyono (2012) investigated the teachers' attitudes and thoughts towards the use of technology and the extent to which certain types of technology have an influence on the language learning of their students. They drew conclusions that the application of the current technologies in the class can not be inseparable with teaching and learning activities, because technologies facilitate language learning, regardless of the specific types of the technology, either computer-based, or online-based.

Gasigijtamrong (2013) sought the effects of using multimedia on EFL learners' word recall, and to inquire what types of multimedia would have a better effect on their recall of new words and reading comprehension. Using data collection of a questionnaire, a vocabulary pre-test, a computerized log-file, a vocabulary test and a text recall test, he analyzed the data and came to two conclusions. First, he found that using multimedia led to significantly greater vocabulary recall in EFL learners, since they recalled words with images significantly better than those with no images. Second, EFL learners showed better recall about 31% when the text was embedded with multimedia.

Yunus (2013) explored how the ELL teachers think of the use of visual media (e.g., animation videos, pictures, or films) as a motivational tool, and how multimedia exerts influence on elevating EFL students' interest in reading class. The analysis of the data revealed that the majority of the teachers showed positive perceptions of the use of visual media, and students thought multimedia helped to generate their creative and critical thinking skills.

Technology Integration for Meaningful Learning

As more teachers in a foreign language program use computers, Internet access, and other digital technologies, they often look for examples of adapting and integrating these new technologies to enhance students' learning. For purposeful learning with technology, Dunleavy et al. (2009) studied how students and teachers perceived the effects of technology in a learning environment, using gaming and simulation. Students' perceptions, teacher feedback, and direct observation were collected for data analysis. Findings indicated that after using gaming and simulation in class, students became more engaged in learning, motivated to study further, and worked together to solve the given tasks. The authors suggested that an amount of technical support would need to be provided to deal with any technical problems encountered during the simulation.

Billings et al. (2005) examined generational differences between undergraduate and graduate students taking online courses. A survey questionnaire was administered for 558 participants to seek vital factors of success in online based learning, such as the use of technology, educational practices, and learning outcomes. The results pointed out those most of the students felt quite comfortable in online based learning environment, and were satisfied in that it could make learning possible regardless of time and space.

Rajasekaran et al. (2008) did an experiment using a Power Point version of a Jeopardy-like game to figure out whether students could benefit from improving listening skills. Students in this research participated as a group, and the pre- and post-survey was distributed to gauge the students' thoughts on using technology in class. The results revealed that students felt the activity informative, interactive, and enjoyable, since it provided them with a chance to create a fun and interactive learning environment. They also agreed that technology has the potential to enhance learning.

Whitacre & Pena (2011) sought to find out whether students actually integrated technology into their lesson or not. A qualitative analysis of the lesson plans was administered, along with a participant survey in order to determine the educators' perceived self-efficacy of their technological skills. The results of the study showed that the majority of the students became proficient in using technology in their lesson.

Boles (2011) observed how new technologies in the classroom have been effective in her science classes, and how they have led to academic achievement in differentiated instruction. By incorporating different materials in her class projects, she encouraged her students to develop podcasts, PowerPoint, or digital storytelling software. After using a variety of new technologies in the class, she figured out the importance of integrating technologies into the curriculum. The use of a class website with an updated podcast of lessons, for instance, was a vital key for both students and their parents to stay up to date on all of their work. The use of differentiation in the science websites also helped to show that each student learned in a different way. Boles argued that by using technology and various web tools, teachers can achieve differentiation of teaching for students, depending on each individual's level.

Gooch & Saine (2011) investigated ways in which technologies such as Wiki, or online web resources can be adapted in composition class. They distinguished between three distinct grade levels (elementary, middle and high school) and provided sample lessons which matched the technological skill set of each grade level. The findings of the study described that by using the technologies, students of all levels enjoyed learning in the classroom, which motivated the students. Because they could enjoy the lesson using technology, it also demonstrated that technologies could aid to empower the learning process.

Development of CALL

Davies (1997), defined CALL (Computer Assisted Language Learning) as an approach to language teaching and learning where the computer is used as an aid to the presentation, reinforcement and assessment of material to be learned. One main feature of CALL is that it contains a substantial interactive element. In a broader sense, CALL is "the search for and study of applications of the computer in language teaching and learning" (Levy, 1997, p. 1). Levy's definition is in line with the view held by the majority of modern CALL practitioners as Chapelle (2001), Lafford & Lafford (2005), Felix (2005) and Warschauer (1996). The philosophy of CALL puts a strong emphasis on student-centered materials that allow learners to work on their own.

CALL was first introduced on university mainframe computers in 'The PLATO' project, which was initiated at the University of Illinois in 1960. It was a landmark in the early development of CALL (Marty, 1981). The advent of the microcomputer in the late 1970s brought computing within the range of a wider audience, resulting in a boom in the development of CALL programs and a flurry of publications of books on CALL in the

early 1980s. Later, the development of CALL was led by Davies & Higgins (1985), Jones & Fortescue (1987), Hardisty & Windeatt (1989), and Levy (1997), and they developed such classroom activities as gap-filling and cloze programs, multiple-choice programs, free-format (text-entry) programs, adventures and simulations, action mazes, or sentence-reordering programs. However, since the 1990s, it has become increasingly difficult to categorize CALL as it now extends to the use of blogs, WIKIs, social networking services (SNS), podcasting, Web 2.0 applications, learning management systems (LMS), and language learning in virtual worlds (Anma & Okamoto, 2009).

Warschauer (1996) and Warschauer & Healey (1998) attempted to interpret and analyze trends and advances in CALL. Rather than focusing on the typology of CALL, they identified three historical phases of CALL, classified according to their underlying pedagogical and methodological approaches as follows:

- Behavioristic: The computer as a tutor, served mainly as a vehicle for delivering instructional materials to the learner. This was conceived in the 1950s and implemented in the 1960s and 1970s.
- Communicative: During 1970s to 1980s, the computer was used for skill practice, but in a non-drill format and with a greater degree of student choice, control and interaction. This phase also included (a) using the computer to stimulate discussion, writing or critical thinking and (b) using the computer as a tool or workhorse - examples include word-processors, spelling and grammar checkers, and concordances.
- Integrative: This phase is marked by the introduction of two important

innovations which embrace multimedia and the Internet since 1990s. In integrative approaches, students learn to use a variety of technological tools as an ongoing process of language learning to use.

As explained above, behavioristic CALL consisted of drill-and-practice materials in which the computer presented a stimulus and the learner provided a response. So, behavioristic approaches to language learning have not been lasting for a long time by language teachers. The second phase described by Warschauer & Healey (1998), communicative CALL was based on the communicative approach that became prominent in the late 1970s and 1980s. The communicative approach focused on using the language rather than analysis of the language, and grammar was taught implicitly rather than explicitly. The first CALL software in this stage continued providing skill practice but not in a drill format any longer. The last phase of CALL, integrative CALL, developed with the advent of multimedia technology (providing text, graphics, sound and animation) as well as computer-mediated communication (CMC). CALL in this period saw a definitive shift from the use of the computer for drill and tutorial purposes to focus on use of multimedia and internet, combining text, sound, video, images, and etc.

Unlike Warschauer & Healey (1998), Bax (2003) had a slightly different point of view on CALL. He provided a critical examination and reassessment of the history of CALL, and argued for three new categories: 1) restricted CALL, 2) open CALL, and 3) integrated CALL. Restricted CALL differed a little from Warschauer (1996)'s behaviorist CALL in terms of its historical period and its main features. Bax (2003) specified that the software, activity types in use at the time, the teachers' role, and the

feedback offered to students, all were relatively restricted. According to him, although it is ‘open call’, the second approach that is being used today at school, it is important to ultimately move onto the integrated CALL stage where the technology is invisible and truly integrated. He defined this stage as ‘normalization’. In other words, when the technology becomes invisible, embedded in everyday practice, it will eventually be ‘normalized’ in our lives.

Contemporary CALL in Second / Foreign Language Learning

The contemporary pedagogy using CALL applies constructivist approaches to learning and teaching (Jonassen, 1996; Mayer, 2005, Mayer et al., 2003). The purpose of learning from the view of constructivists is to stimulate the learner to solve a problem or take action, then, reflect on the experience, and, finally, connect it to previous knowledge (Mayer, 2005).

During recent times, there has been a growing demand to use technology for educational purposes. Teaching and learning English is not an exception. A variety of computer programs have been produced and introduced in a language classroom. Many of the research has already shown the effects on computer assisted language learning (Brabec et al., 2004; Divaharan & Lim, 2010; Dourneen & Matthewman, 2009; Dunleavy et al., 2007; Hayes, 2007; Lacina, 2004; Lei & Zhao, 2008; Nikitina, 2011; Oliver & Corn, 2008; Passey, 2006; Pitler et al., 2007; Son, 2008; Stuart et al., 2009; Ward & Parr, 2010; Witte, 2007; Yang, 2009).

Specifically, students can develop their reading comprehension and vocabulary skills through CALL instructions (Engwall & Bälter, 2007; Handley, 2009; Neri et al., 2008; Tanner & Landon, 2009; Yanguas, 2010). Other research was conducted to explore

the effects on CALL in listening, and showed overall improvement in listening proficiency over time when CALL was applied. (Kormos & Csizér, 2008; Lan et al., 2007; Lin & Chen, 2007; Liu et al., 2010; Macaruso & Walker, 2008; Park & Son, 2009; Son, 2008; Ushida, 2005; Wik & Hjalmarsson, 2009; Zahar et al., 2001).

In addition to the development of reading and listening ability, Okonkwo (2012) advocated that most CALL programs are well-geared toward developing receptive skills because of the current state of computer technology. Some studies found out that ELL learners showed an increase in their speaking ability as well as pronunciation, using computer assisted pronunciation training (Derwing & Munro, 2005; Ducate & Lomicka, 2009; Ehsani & Knodt, 1998; Hincks, 2003; Hirata, 2004; Seferoğlu, 2005). Named CAPT (Computer Assisted Pronunciation Training) systems were designed to help learners with stress-free practice, while providing individualized and instant feedback on pronunciation.

There are also research studies which investigated the development of students' writing skills. Some studies using CALL and the Internet in English class indicated that it brought lots of positive effects on students' writing proficiency (Ben-Zvi, 2007; Foulger & Jimenez-Silva, 2007; Shang, 2007; Warschauer, 2007; Yang, 2009).

Among many kinds of new technologies affecting language learning, educators and teachers in language education have paid much attention to the Internet. It has made various major methodological changes over time. Now, the use of the Internet is regarded as a pedagogical device to develop language teaching and the learning process (Lee, 2000). In fact, the application of the Internet in a language class provided a number of interactive tasks and activities which have shown the potential in a foreign language

teaching and learning. Plus, many research studies have supported the effects of CALL using current technologies in a second or foreign language classroom, such as

1. Blog (Arslan & Şahin-Kızıl, 2010; Iida, 2009; Lin, Groom & Lin, 2013; Lowe & Williams, 2004; Pinkman, 2005; Sun, 2010; Ward, 2004),
2. E-book (Hwa, Weei & Len, 2012; McNeely, 2005; Yoon, 2008),
3. Facebook (Kabilan et al., 2010; Lantz-Andersson et al., 2013; Mitchell, 2012; Shih, 2011),
4. Mobile (Mahamad et al., 2013; Montero Perez, et al., 2010; Park, 2011; Sandberg, Maris & de Geus, 2011),
5. Online (Arnold & Ducate, 2006; Blake, 2011; Fan, 2011; Stevens, 2006; Stockwell, 2011),
6. WIKI (Bradley et al., 2010; Choy & Ng, 2007; Godwin-Jones, 2003; Larusson & Alterman, 2009; Richardson, 2009; Schwartz et al., 2004; Zorko, 2009).

Storytelling and Learning

In the early days, stories were a part of cultures of people all over the world, delivered by word of mouth in a rich variety of ways. The art of storytelling was one of the oldest methods of communicating ideas and learning as they were passed down from generation to generation (Bell, 2002; Carter, 1993; Moen, 2006). A form of storytelling was mainly oral based, combined with gesture and expression. Words spoken from one person were delivered to another in an effort to communicate a message or feeling. It was not until a writing system was invented later that stories were recorded, transcribed and shared widely among people. The commonly used medium with storytelling at that time was the novel or the storybook.

Gere et al. (2002) defined storytelling as the act of using language and gesture in colorful ways to create scenes. McDrury & Alterio (2003) described storytelling as a uniquely human experience which enables people to convey using words. Kang (2004) and Kim (2000) stated that storytelling is used not only for communication purposes, but also for teaching literacy, cooperative learning and critical thinking skills, as well as for building knowledge of different contexts. They stressed that to write the stories based on their prior experiences improved their writing proficiency as well as facilitated recognition of the meaning and understanding of the context. Plus, by presenting and listening to a story, students could meaningfully increase communicative competence.

Tingöy et al. (2006) identified that the storytellers share some values with the listeners, and through this, both of them can build intercommunication. In other words, because storytelling has the unique capability of helping the students interact as listeners or as storytellers, storytelling promotes student skills in listening, reading and comprehension.

Changing of Storytelling

As technology has made remarkable progress in teaching and learning environments, storytelling is also supported by various multimedia tools embedded in learning. Adding such multimedia components makes a story more mediated and digitalized through which the story becomes richer in content and application. The action referred as to the delivery of the story can be said as 'Digital Storytelling'. Today, digital storytelling is the modern concept of the ancient art of storytelling. Digital stories derive their strength by intermixing images, music, narrative and voice, thereby giving deep dimension and vivid color to characters, situations, experiences, and insights (Tingöy et

al., 2006). In addition to this, digital storytelling provides rich teachable moments to help students become digital, and media literate.

Digital stories can be made using PowerPoint, Windows Media Player, commercial animation software, or even special digital storytelling software such as Photo Story 3. The common denominator of digital stories is that they tell the story from the perspective of the storyteller, using technology to deliver the message.

Digital Storytelling in Language Classroom

In second or foreign language learning, digital storytelling can indeed be a good vehicle for increasing language performance in that it has the potential to provide motivation to students by engaging them in reflective learning. Because of the up-to-date ICT technologies and multimedia functions, it can appeal to young generations. In particular, using visual and audio effects can be the biggest difference between digital storytelling and oral one (Banaszewski, 2002; Lowenthal, 2008; Ohler, 2008; Sylvester & Greenidge, 2010; Yoon, 2012).

For example, in reading/writing class, ELL learners can have more creative opportunities if provided with sounds, music, graphics, images and animations which allow them to express their creative and critical thinking. In addition, learners are expected to have more chances for collaboration and cooperation work each other through digital storytelling, which helps them gain social and cognitive development through such sharing experiences. In English class, ELL learners are also expected to develop their listening and speaking skills as well as vocabulary enhancement (Ali et al., 2011; Al-Seghayer, 2001; Barcroft, 2007; Chiu, 2013; Groot, 2000; Li, 2010; Marsh, 2006; Tozcu & Coady, 2004; Verdugo et al., 2007; Ware, 2006).

Thesen & Kara-Soteriou (2011) discovered that digital storytelling has the potential to benefit learning and can be fitted with other subject areas. In their research, young learners utilizing Photo Story 3 to produce a digital story later showed an improvement in writing skills. The teacher mentioned that digital storytelling was a supportive learning tool which provided students with learning benefits.

Bull & Kajder (2004) suggested several ways that digital storytelling can be effective for learners who might have difficulty in writing. Through an in-depth analysis of digital storytelling, they explained why digital storytelling is an essential learning tool which can be used as an authentic means of communication.

A study by Wake & Modla (2010) showed pre-service teachers' perception of using digital storytelling. Research was conducted in an elementary school, and using pre/post surveys and a rubric-based assessment of the lesson and reflections, they found out that digital storytelling assisted the language learning of young learners.

Digital Storytelling and Learning Motivation

Motivation and engagement plays a vital role in language learning. Motivation produces effective second language communicators by planting in them the seeds of self-confidence (Ebata, 2008). According to Hussin et al. (2001), there are six fundamental principles which can contribute to the success of language learning: 1) positive self-concept, 2) high self-esteem, 3) positive attitude, 4) clear understanding of the goals for language learning, 5) continuous active participation in the language learning process, and 6) the relevance of conductive environment.

While six factors play an essential role in developing learners' motivation in a language classroom, there is one more factor which can improve students' motivation.

That is 'the integration of technology' in the 21st century. Many research studies have already displayed that the application of current technology heightened students' motivation (Divaharan & Lim, 2010; Kormos & Csizér, 2008; Park & Son, 2009; Son, 2008; Ushida, 2005).

In this regard, the use of digital storytelling ensures students to improve motivation because it provides an authentic learning experience using technology. Students usually can create a digital story using a computer program, and some of the popular products are Windows Movie Maker, Photo Story 3, or iMovie. In particular, Photo Story 3 is commonly used because it can be downloaded free of charge from Microsoft. With a single click, the users can touch-up, crop rotate pictures, remove red-eye, add special effects, sound and narration to a photo story, personalize with titles, captions, and more. Such user-friendly functions encourage students to get actively involved in learning and later make them gain self-confidence and motivation (Hung et al., 2012; Neo & Neo, 2010).

Papadimitriou (2003) ascertained that digital storytelling is a good vehicle for learning in a school setting, so it is possible to implement it into a number of subject areas such as math, art, language arts, and music. He also added that by producing an interactive story and lesson, students would get more involved in learning, which is totally different from using a traditional paper-based book that they may find boring.

Benefits of Digital Storytelling in Education

Daminco (2006) described new literacy as it relates to digital technology and provides research and advice on how to incorporate this into the elementary school fifth grade curriculum. A numbers of studies regarding the educational benefits of digital

storytelling have been carried out so far. The results of previous studies showed that the use of digital storytelling in the class caused positive effects to facilitate the learning process (Condy et al., 2012; Genereux & Thompson, 2008; Kajder et al., 2005 ; Kearney, 2011; Porter, 2005; Prensky, 2010; Yuksel et al., 2011).

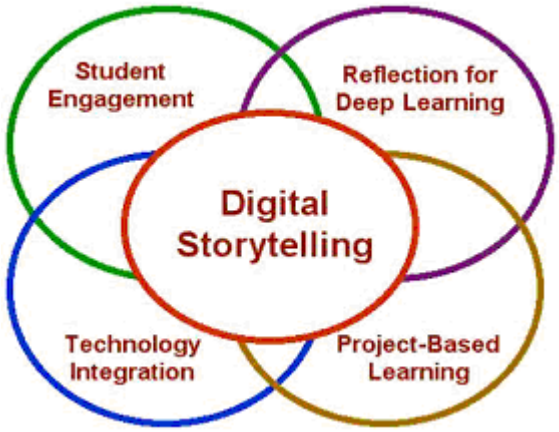
In fact, there are a lot of studies to support the effects of digital storytelling in all levels of students which were from elementary to high school. Digital storytelling, as a new teaching and learning material was applied in the classroom setting, and offered a creative and student-oriented learning environment (Sadik, 2008). Because of the characteristics of digital storytelling, it was mainly used in a foreign language class, but it was also utilized in other different subjects (France & Wakefield, 2011; Gregory & Steelman, 2008; Kang, 2004; Robin & McNeil, 2012).

Several studies have also found out that when students had an opportunity to use digital storytelling as a main learning material in class, they could develop the content knowledge more deeply as well as enhance learning motivation (Bran, 2010; Heo, 2009; Kim, 2000; Meadow, 2003; Rossiter & Garcia, 2010; Sakka, 2005; Sandars & Murray, 2009).

Gakhar & Thompson (2007) also stressed that digital storytelling is helpful to increase students' knowledge and thoughts when digital storytelling is integrated with content areas. In addition to the development of content knowledge, digital storytelling also had an influence on promoting students' active, voluntary class participation and self-confidence.

Barrett (2006) found out that the process of creating digital storytelling allowed learning not to be teacher-oriented, but student-centered. Following Figure 1 describes how digital storytelling can have an effect on student-centered learning strategies.

Figure 1. Convergence of Student-Centered Learning Strategies



As shown above, learning with digital storytelling is mingled with various aspects which include student engagement, reflection for deep learning, project-based learning, and technology integration into the classroom. Those elements are so indispensable to today's education that they are becoming the center of teachers' attention with the expectation of helping students' learning.

Brown et al. (2005) & Farmer (2005) stated that with the help of rapid development of computer and multimedia technology, digital storytelling can make learning contents more attractive, and thus can help students engage in active learning. Besides, as students have to use a series of integrated skills in producing one digital story, digital storytelling fosters students' development of language skills (Gjedde, 2006; Goulah, 2007; Hur & Suh, 2012; Jianing, 2007; Rance-Roney, 2008; Sylvester &

Greenidge, 2009; Thompson, 2005; Xu et al., 2011). For example, student can practice reading, writing, listening and speaking by creating a digital story, while obtaining other necessary literacy skills which are media-, visual-, or digital literacy.

Lowenthal (2009) deemed that digital storytelling is capturing the hearts and imaginations of teachers, since it combines traditional storytelling with modern-day culture and technology. He also ascertained a list of educational advantages of digital storytelling as follows, when applied in the educational context.

Digital storytelling can

- Increase student engagement
- Access a global audience
- Amplify student's voice
- Leverage multiple literacies
- Validate student emotion
- Provide agency of self

Like the views of Lowenthal (2009), Collier & Veres (2006) pointed out that digital storytelling has now become a requisite tool in teaching today's generation. As a range of media content, UGC (User-Generated Content) has been used for a wide range of applications and become popular with the advent of Youtube, or Social Media which make it possible to create media production through new technologies. Daugherty et al. (2008) found out that the proliferation of user-generated content has made a strong impact on engaging and motivating students.

Based on Robin (2008) & Robin et al. (2009)'s study, digital storytelling can be used as alternative traditional teaching and learning circumstance by utilizing technology in classroom. Robin suggested a few guidelines on how digital storytelling can be implemented in the traditional classroom. First of all, a sample digital story the teacher has created prior to the class can play a key role to attract students' interest. As a scaffolding, students are expected to experience and overview the contents before producing their own work. Next, as students can actively participate in the discussion while making a digital story, meaningful interaction also occurs continually between peers or group members. Finally, students can develop their inter-personal skills which improve their ability to work with others. Because they are encouraged to share and present what they are doing in the class, it helps them to cultivate the inter-personal skills.

Sadik (2008) conducted research to assist Egyptian teachers in developing teaching and learning through the application of digital technology. In the class, students were encouraged to work through the process of producing their own digital stories using Photo Story, and presented, published and shared their own stories with other students in the class. After the study, the digital storytelling projects showed that it helped to increase students' understanding of curricular content, and classroom teachers were willing to transform their curriculum to include digital storytelling.

Yang & Wu (2012) investigated the impact of digital storytelling on the academic achievement, critical thinking, and learning motivation of senior high school students learning English as a foreign language in Taiwan. They drew conclusions that participants showed outstanding performance in terms of English achievement, critical

thinking, and learning motivation. Interview results also supported that digital storytelling affected the increase of students' understanding of course content, willingness to explore, and ability to think critically.

According to Blocher (2008) and Martinelli & Zinicola (2009), although students had difficulty in choosing a topic during the digital story making, they had a great sense of pride in their final accomplishment. Digital storytelling proved to be an effective learning tool and developed students' academic progress. Li & Morehead (2006) used descriptive experimental research methods to investigate how digital storytelling could increase learners' literacy skills. An analysis of research data clarified that digital storytelling enhanced language literacy, visual literacy, and media literacy skills, especially when used in a teacher education program.

A study of Gyabak & Godina (2011) showed a similar result as explained above. They explored the use of digital storytelling as an instructional intervention for bridging the digital divide among public school students in a rural area. The participants were rural elementary school children who had never been exposed to computer technology inside or outside the classroom. The research results showed that creating digital stories developed a sense of voice of the students, and engaged them in technology aided learning which was valued as practical among students and the teacher.

Benefits of Digital Storytelling Application in the English Language Classroom

Barrett (2008) stated that digital storytelling is a good example of project-based learning (PBL). PBL is considered to be one of the instructional methods that contextualize learning by presenting learners with problems to solve or products to develop (Moss, 1997). According to Krajcik et al. (1999) & Solomon (2003), there are

various types of significant features that trigger the development of learning in a language classroom. They viewed project-based instruction as a task-oriented approach in teaching and learning, and thought it would lead to a joint process of negotiation among the students. They also pointed out that project-based learning could increase learners' interaction and ways of thinking through both the individual and the small group work of learners.

In regards to the group work in the class, Beckett & Slater (2005) stressed that a project of creating a digital story as group work showed a valuable way to promote the language use and to develop the contents and literacy skills. In fact, the fundamental concept of project-based learning has its base on several principles which include a greater depth of understanding of contents, broader knowledge of contents, improved communication and interpersonal skills, and especially improved writing skills (Chu et al., 2011; Lee, 2002; Stoller, 2002).

Koh et al. (2010) explained that project-based learning (PBL) can help students to connect what they learn to what they need to know with the object of providing real-world relevance. That is, if students gain content knowledge with PBL, they are more likely to be able to apply what they know and can do to new situations. Besides, with PBL, students are expected to not only understand content more deeply, but also to build confidence, problem-solving skills, critical thinking and creativity. It is common for students with PBL to take advantage of digital tools to seek resources and information, and to create collaborative products more effectively (Brunetti et al., 2003; Wolk, 1994). Learning with PBL helps students find out their learning styles and characteristics by working collaboratively with their peers. While carrying out a project, students

continuously interact with each other, engaging themselves in the project-solving process (Chang & Lee, 2010; Díaz-Rico, 2004).

As shown in the research studies (Blumenfeld et al., 1991; Hung et al., 2012; Meskill, 1999), students also elevated the self-confidence and motivation by working together in a group. This means that digital storytelling activity is a good example of project-based learning, and shows it can be a valuable teaching and learning tool in EFL setting if applied well in English class.

Digital Storytelling as a Way of Producing Output

To digital native students, the use of multimedia including a computer, the Internet, CD-ROM, DVD and so on is inevitable particularly in a language arts classroom. Because they take such materials easily, and absorb the advantages of multimedia well, language teachers have keen interest in adapting the benefits in their classes. Many of the teachers focused on two main factors which are 1) learning process and 2) learning outcome. In terms of expecting learning outcomes, teachers used a variety of teaching methodologies, and one of them was project-based learning (PBL) using a computer. PBL using a computer was considered to enhance students' learning outcomes by helping them to construct and interpret communicative competence rather than direct focus on linguistic forms (Brown, 2006).

According to Neo & Neo (2010), students improved their communicative skills after project-based learning (PBL) using a computer was adapted in the language class. The pedagogical application of multimedia has shown the general enhancement of learners' productive skills in their L2 learning (Ganem-Gutierrez, 2009; Littlemore, 2002; McGaghie et al., 2006).

In the study of Pirbhai-Illich et al. (2009), a writing activity using digital storytelling was given to students, and their writing ability was carefully observed and evaluated later. The results showed that a writing activity using digital storytelling escalated students' final products which were highly influenced by the projected-based learning using a computer. In other words, students began to brainstorm the main idea on the content they were creating and to write down the sentences or scripts to be added into the digital story. Then, they sought proper images to be matched in their story and added images which described the storyline well. During those processes, students could develop their ability to associate the contents of the story into a visual component.

Representation of the Pilot Study

Before starting the current research project, a pilot study was performed with 32 fifth grade ELL participants from Eastern Kyunggi Province, Korea. The purpose of this study aimed to explore the effects of digital storytelling in English reading class, and how it would affect the change of Korean young ELL learners' attitudes and perception towards learning in English.

Digital storytelling as a primary teaching and learning resource was introduced and used, which had been designed and developed by the researcher. In order to investigate the impact and effect of digital storytelling, a mixed research method was chosen and conducted for grasping students' response. Students' self-evaluation report and lecture review report were gathered for data analysis along with quantitative data which were pre-/post-survey on the change of students' learning attitude and reading comprehension.

Results of the Pilot Study

The results of the pilot study indicated that the potential benefits of digital storytelling brought positive effects on the 5th grade ELL students' attitudinal changes toward learning English by helping them to have deeper understanding of the lesson, and it led their voluntary active class participation. The results also revealed that digital storytelling made students engaged in the content of the story not only by promoting motivation and interest, but also by providing confidence in learning English.

CHAPTER 3

METHODOLOGICAL APPROACH

Introduction

This chapter describes the methodology which is used for the current study. First of all, the guiding research questions of the study are presented. Next, information about research settings including subjects and place, and research procedures are described. Then, data collection instruments and methods of data analysis will be presented. Lastly, the ethics of the research will be discussed.

Guiding Research Questions

The purpose of the current study is to investigate the benefits or challenges in using digital storytelling as a computer assisted language learning activity in the context of a Korean elementary school in a rural area. As classroom based research, this study seeks the sixth grade students and their English teacher's views and insights into digital storytelling as a tool for effective language learning and teaching. For this research, therefore, a mixed method research method was chosen to satisfy its intention. In order to explore the change of students' thoughts and perceptions of the digital storytelling to learn English, as well as the change of academic performance in English, multiple methods of data collection and analysis were employed both quantitatively and

qualitatively to heighten the validity and reliability of the research. A rubric for the measurement was created and administered to evaluate the changes after the intervention of the digital storytelling.

To answer the research question below, survey questionnaires were distributed, and pre- and post-test were employed to investigate the difference in terms of the ability of reading, writing, listening and speaking over time. In addition, student's reflective self-evaluation log, teacher's lecture report, classroom observation and in/formal interviews with focal students and the teacher were also conducted to figure out the factors which gave an influence to students and the teacher. Thus, the following research questions were used as a guide for this study:

- What are the potential benefits and challenges of digital storytelling for young EFL learners when it is employed in a rural context as a language learning activity? i.e.) the change of motivation, reading, writing, listening, speaking ability

- What does the English teacher find to be benefits and challenges of using a digital storytelling as pedagogical strategies in Korean EFL classroom?

Research Site

There were total twenty two sixth-grade ELL participants enrolled in after school English class in a public elementary school located in a rural area in Eastern Dongboo province (pseudonym) as of 2013. When it came to learning English at a regular English

class, the main textbook published by the DOE was the only material to study with. However, in this after school English class, new teaching and learning materials using a computer were adapted and used to maximize students' learning. As this research site was placed in a voluntary after school English class, the participation of the class solely depended on the students' interest and their will to learn English. Unlike the regular compulsory English class, the after school English class was designed to promote high motivation to students by providing alternative learning material.

The focal participants for the research were ten in total who eagerly volunteered to participate from the sixth grade class. They were composed of five boys and five girls, and their age ranged from eleven to twelve years old at the time of the research. According to the results of the recruitment and participation survey which had been distributed before the research project, the crucial element for choosing these students included their active and positive attitude in learning English.

To fulfill the criteria mentioned above, a purposive sample was chosen and used. According to the purposive samples, research participants were chosen based on certain specific characteristics of their own, and the criteria for selecting the focal participant in this research were considered as follows:

- Gender: five male and five female (equal number of students)
- English level: from basic, intermediate to advanced (different levels of English proficiency)
- Technology Friendly: high or low intention and interest in using digital storytelling (different learning styles)

Through the purposive samples, it was expected for the researcher to have an in-depth understanding of the different levels and degree of participants in terms of gender, English proficiency, and technology use in English learning. Below is the detailed information about each participant.

Focal Students

There were a total number of twenty two sixth grade students in a voluntary after school English class, including ten focal participants. In this research, the anonymity and confidentiality of the participants as well as the English teacher has been respected and guaranteed. Accordingly, pseudonyms were used to document the data collected. Below is detailed information about ten focal students.

- **Donhwa**

He is a pretty unique boy. Although he is in the sixth grade class, he behaves and speaks very slowly as little boys do, and his pronunciation is not very clear even in Korean. He told me that he likes English class very much, and he is very confident in everything related to using English, in particular when he plays an online game such as Blizzard's 'StarCraft', or 'EA SPORTS FIFA Online 2'. Although he has never experienced a digital storytelling, he thinks it would be interesting, and he would be really good at it.

- **Hyunji**

She is a twelve year-old who has been in the after school English program since third grade. She is a happy, outgoing student, eager to participate in class activities. She struggles to read at grade level, but has excellent comprehension for the group. She has

one younger brother (fourth grade) who also likes to study English. She has limited opportunity to speak English outside of school, and lives with her single mother and a brother who speak only Korean.

- **Jaekyung**

She confessed that she was almost forced to start learning English when she was in the third grade. Regardless of her interest, her parents kept sending her to a private English academy every month because they believed that the earlier young child starts to study English, the better he/she can have English test score. Her speaking performance is especially good compared to other students. She likes to memorize new vocabulary using her old flash cards every day. But, she doubts the effect of the digital storytelling, and she told me that she would gladly be in the class because it would be the first time for her to have such an experience.

- **Jeonga**

She is a twelve year-old sixth grader who is also eager to participate in class activities, whether social or academic. She struggles with text comprehension and reading at grade-level. She scored seventy points in the mid-term exam. Jeonga has a little brother and limited opportunity to speak English outside of school as her parents are Korean speaking only. Her mother runs a dried seafood shop near Namsan Elementary School, and her father is a caption of a small ink fish ship.

- **Jimahn**

He is a twelve years-old sixth grader who is very aware of what is happening around him. He wants to be involved in every conversation on his own terms. He is somewhat resistant to teacher-directed talk and prefers to lead the conversation. In

English class, he reads below grade level of the sixth grade, but has excellent comprehension for content and text. He scored fifty five points on the reading comprehension in the mid-term exam, and got sixty five points on the 2012 National Academic English Achievement Test. He has one little brother, and his family run a fish market in downtown of Jooyoung.

- **Sooyeon**

She always seems to be a leader in the class. Whenever any group activities are given during the class, she likes to lead the activities to solve as quickly as possible. On 2012 the National Academic English Achievement Test, she scored the best in the fifth grade. She told me that she wants to be an elementary school teacher in the future, so English is an important part in her life. According to her English teacher, although she is very good at English, she tends to rely too much on learning English from the private language academy after school. She told me that she loves to watch TV programs in English like 'Dora the Explorer'. She shows great favor in terms of creating a story using a computer.

- **Taekmin**

He is little different from other students. The other nine students were in the same class last semester when they were in the same grade. Spring semester in 2013 is his first time in Namsan Elementary School. When the class started, he didn't participate much. As time passed, however, he gradually participated in the class more actively. He seems to become the center of attention among friends. He told me that although he realizes the importance of English, English class is his least favorite class since he is not good at

memorizing new vocabulary. He thinks the he can speak and use English well only if he can memorize as many words as possible.

- **Yoonkyoung**

She is very active and passionate in the class. Although her English proficiency is not that high, she tries to speak in English as much as she can. She told me that she loves studying English because she can express her feelings and thoughts through it. She is really good at writing than reading. She likes to make a mini-comic book for fun and to share it with classmates. She looks nervous when her digital story was shared during the class because she was not confident with her production. Later, she was the one who participated the most actively.

- **Yuchang**

He told me that he likes English class because it is the only time that he gets more chances to speak in class. However, he stresses the fact that he doesn't like reading and grammar study itself because of the heavy workload. He shows a great interest in doing peer feedback activities by using computer not because he likes the activities, but rather he is interested in using a computer, like playing computer games. His hobbies are playing computer games and surfing the Internet. His English teacher told me that his parents are very worried about his school grades dropping, and thought the main reason might be playing computer games too much at home.

- **Yunbyung**

He is a twelve years-old who likes English class more than any other subject at school. But he struggles with reading, and has limited opportunity to practice English outside of school. His father speaks Korean only, and his mother is learning Korean, but

is primarily Vietnamese speaking. Because his mother is originally from Vietnam, she also has a difficulty in learning Korean as a second language. Although his parents pay attention to Yunbyung's education, they do not have enough time to care about him. His parents run a small grocery store in downtown of Jooyoung, and earn their living by selling dried seafood. Yuchang is Yubyung's best friend who plays together after school. Yunbyung has a brother in the fourth grade.

English Learning Experience

In order to figure out each participant' English learning experience, a recruit and participation survey was distributed before the research project (See Appendix 6 & 7). Through the survey, the focal participants were expected to describe their own English learning experiences. Below show the results from the participants.

Table 1. Places for Learning English of the Participants

Questions	No.	%
1. I study English only at school.	2	20
2. I study English at home with parents or a tutor.	1	10
3. I take English class at a private language academy after school.	5	50
4. I have never taken private lessons before.	2	20
Total	10	100%

According to the first section of the questions, it was clear that nearly half of the participants were taking an English lesson in a private English institute, and it turned out they attended a language academy which was designed to provide English lecture, mainly

focusing on English grammar and vocabulary. Interestingly, there were two students who had never taken any private lessons or tutoring before.

However, it turned out later during the interview that the financial issues in their family prevented them from taking any further classes outside the school even though those students had looked forward to attending a private language academy just like most of their classmates had done so. As for the average English learning period, the participants answered that they had spent approximately four years (70%) in learning English. This could be explained based on the 7th National English Curriculum Plan in Korea that English should be taught from third grade in elementary school. Now that the participants were in sixth grade, they were able to answer that they had studied English at least for three to four years.

Table 2. Average Period of Learning English

Period of Studying English	No.	%
Less than 2 year	0	0
2-3 year(s)	1	10
3-4 years	2	20
4-5 years	4	40
more than 5 years	3	30
Total	10	100

In the last part of the survey, students were asked to choose their previous learning experience using digital storytelling. Five out of ten (50%) marked that they had an experience with the digital storytelling before. While four out of ten (40%) students

answered that they had interest in using the digital stories as well as multimedia in learning English, other four out of ten expressed that they had no idea what the digital storytelling was nor dud they have no interest in studying English with multimedia. Three participants even responded that they had doubts about the probable educational effect of the digital storytelling.

English Teacher

Mr. Kyungo Suk (pseudonym) served as an English teacher in the participants' after school English class in Namsan Elementary School. He, as a native Korean, was born to parents in the town of Jooyoung, a small suburban town in Eastern Dongboo Province. Mr. Suk's Korean-only speaking parents were also from Jooyoung where they spent most of their lifetime. After graduating from the College of Education, Mr. Suk accepted a job as a substitute teacher for a small middle school located in a rural area in Eastern Dongboo province.

After one year of substitute school teaching, Mr. Suk decided it was time to focus his career as a full-time homeroom teacher working with young children. Mr. Suk attended Hankuk University in Seoul to hold the Master's degree in English Education and Elementary Teacher Licensure. His dreams were initially to acquire his doctorate and become an educator to help young learners who learn English as a foreign language, particularly suffering from the social inequality issues. After finishing licensure requirements to teach English in the K-6 school, he finally started to teach English in a pubic local elementary school in Myungjoo School District.

It has been nine years so far, and he has a keen interest in integrating current technologies into his English curriculum. Interestingly, it was revealed during the first

interview with him that he is an alumnus of Namsan Elementary School in which he is currently working. He enjoys teaching in his old school, and takes a lot of pride in his alma mater. Mr. Suk volunteered his assistance in this research project and was rather enthusiastic about adapting a new technology skill into his lesson.

Design & Methodological Approach

Research Area

The main research area is an after school English class at Namsan Elementary School which is located near the northeast coast of Myungjoo province in Korea. The total population of Jooyoung was more than 35,000 until 1990s, and is currently approximately 17,000. The school district is surrounded by the east coast, and is located in the town of Jooyoung. The town was once famous for one of the biggest fishing markets in Korea.

Figure 2. Local Fish Market in the Town of Jooyoung

Most families in this community subsist on fishing and its related industries and businesses. In Jooyoung, Namsan Elementary School was also one of the biggest schools in the province in the 1970s. More than 3,000 students were enrolled at that time, while only 91 students are enrolled at the time of 2013, ranging from kindergarten to 6th grade as shown at Table 3. Total number of teachers including a principal is 11, and Mr. Suk is a homeroom teacher of the sixth grade class.

Table 3. Descriptions of Namsan Elementary School

Grade	Kinder-garten	Special Edu Class	1st	2nd	3rd	4th	5th	6th	Total
Boys/Girls	4/5	2/2	8/6	4/2	6/4	5/6	5/11	9/12	43/48
No. of Students	9	4	14	6	10	11	16	21	91

The school provides a free or reduced lunch for most of the students who are from low-income families. Although Namsan Elementary School is a small school with only 91 students, it has financially benefited from educational policies which were based on the isolated area priority support by the Office of Education. According to the Annual Educational Report (2012) by the Office of Education in the town of Jooyoung, Namsan Elementary School got approximately $2,200 in funding for purchasing multimedia devices such as a DVD player or a LCD projector, as well as nearly $12,000 for renovating an up-to-date multimedia/computer equipped multi-purpose classroom. Plus, the authorities from the local school district launched ‘OTOLI’ (One-To-One Laptop

Initiatives) which supplied all the students at school with a laptop, and it was expected to become strong a method for integrating successful technology in the curriculum and maximizing the educational effects.

Figure 3. Namsan Elementary School in the Town of Jooyoung

Socio-economic Context

There are a lot of causes that bring about comparably lower quality educational condition in rural areas. Namsan Elementary School has been disadvantaged by their location, which is a little away from the city of Hasula with approximately 300,000 residents. Even Korean teachers and native English teachers who are in charge of English conversation class have scruples about teaching at this school because of the geographical reason. Most of the public schools in Myungjoo province are not be an exception in that they are heavily dependent on national and local economics. Unfortunately, the fishing economy in the town of Jooyoung collapsed decades ago, and now local schools suffer from unprecedented isolation both geographically and culturally. Even worse, there has

been a huge loss of population in the town of Jooyoung, which in turn has led to a loss of employment.

Figure 4. Seaport in the Town of Jooyoung

In this regard, there are roughly ten incoming first grade students each year in Namsan Elementary School. Although the school has been financially aided based on the isolated area priority support policy by the Office of Education, it still lacks the funding which is needed to elevate the quality of its school environment, and provide the students the educational resources they need. In addition to the funding issue, there is another significant factor in the town of Jooyoung which makes students' schooling less successful. Because most of the inhabitants in Jooyoung are occupied mainly with fishing or its related business, most of the parents of the students in Namsan Elementary School relatively have a lower level of education. Even whereas some parents put a value on schooling, they have less ability to provide not only support for their children learning at

home, but also parental encouragement in schooling. Thus, many young students dream one day leaving Jooyoung to migrate a big city for a better life.

OTOLI (One-To-One Laptop Initiatives)

The Office of Education in the town of Jooyoung implemented OTOLI (One-To-One Laptop Initiatives) for the local elementary schools in the rural area. It was believed that the up-to-date technology as an educational tool would reinforce ability to drastically change teaching and learning. In 2011, Namsan Elementary School was selected to be a pilot project school, and at the beginning of the 2012-2013 academic year, all of the students in grades five through six grades in school received laptop computers. Each laptop computer was expected to offer both students and teachers access to the rich contents and resources for teaching and learning. In other words, OTOLI (One-To-One Laptop Initiatives) was intended to aid students and teachers in the rural area to gain more equitable digital access as well as a more effective student-centered learning experience. Besides through OTOLI, students were expected to have more opportunities to effectively utilize online learning materials or resources, and to enhance digital skills and attitudes related to technology.

Description of After School English Class

After school English class met three times per week for forty minutes. The whole research lasted for twelve weeks. The class was held in a new multimedia equipped multipurpose classroom at Namsam Elementary School, which was recently renovated because of the funding from the Office of Education in the town of Jooyoung.

As for creating a successful digital story, several commercially available software programs, such as Adobe Flash, Adobe Premier Pro or AlSee were first considered and

tried by the researcher, but these authoring tools were neither cost-effective nor easy to use for the elementary school students. Thus, Photo Story 3 already installed in students' laptop computer was utilized as a basic authoring tool to help students to create their own digital story. As shown in the Figure 5 above, a personal laptop from OTOLI (One-To-One Laptop Initiatives) was offered to each student, which made interaction among students possible regardless of the physical placement of the computer.

In order to make the research go smoothly, the concept of the digital storytelling, and the use of the equipment and software resources required to develop digital stories were introduced to students in the first session of the class, and the ways of importing SATIs (Sound, Audio, Text, Image files) to Photo Story 3 were explained by the teacher as well. To help students have a clear idea about creating a digital story, popular digital storytelling websites were presented and shared, and sample works of digital stories produced by the teacher were also provided afterwards.

Figure 5. Students' Involvement in an After School English Program

In addition to sample works presented, students were given a handout (see Appendix 2) which explained five procedure-approaches as to create and integrate digital stories into learning. In the class, students were divided into small groups and were asked to brainstorm the story plot they would work on. They were encouraged to choose a topic, event or problem from the book which was the most exciting to them, and to write down a summary using a storyboard form (See Appendix 8). Next, each group was guided to search SATI (Sound, Audio, Text, Image files) from Junior Naver (www.jr.naver.com), or to create their own SATIs to embed in the story. Then, they were encouraged to develop the storyline by importing SATIs, and changing the sequence of the storyline. Finally, when the digital story was finished, the final production was presented through a LCD projector after being attached to the laptop computer. At this stage, all the digital stories from each group were shared, discussed and reflected on with peers.

Curricular with Digital Storytelling

In order to integrate the effects of digital storytelling into the English curriculum during the research from June to August, 2013, an introduction session was arranged by the researcher to help the main English teacher have a clear understanding about all of the research procedures. The main purpose of the introduction session was for the teacher to have further understanding on the effective use of digital storytelling in the class. Thus, the researcher set up a goal of the introduction session as follows:

The English teacher would be able to help students

- to figure out digital storytelling as an effective learning tool in English class
- to understand the elements of digital storytelling
- to find out the positive effect of digital storytelling for learning

- to make a connection to students' learning into their life
- to produce a creative multimodal digital story using Photo Story 3
- to save the completed work and to share it

Bearing those objectives in mind, both the English teacher and the researcher discussed the appropriate ways and approaches by looking at the currently popular digital storytelling websites among classroom ELL teachers. After taking a careful look and navigating all the websites, the teacher was guided to develop the curriculum and to create a new digital story-integrated lesson plan. The following tables show a list of the sample websites that were introduced in the orientation session with the English teacher.

Table 4. Descriptions of Animoto

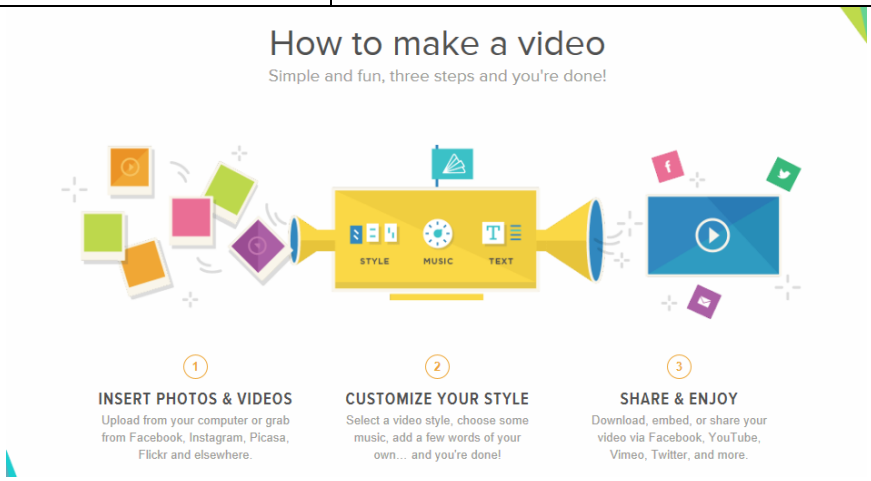
<table>
<tr><td>Name: Animoto</td><td>Web Address: www.animoto.com</td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td>Features</td><td>Animoto is an educational site in which students can create impressive digital stories or multimodal contents without difficulty. It helps students to create their own video or digital stories instantly and provides a very user-friendly environment to produce.</td></tr>
</table>

Table 5. Descriptions of Domo Nation

Name: Domo Nation	Web Address: www.domonation.com
	
Features	Domo Nation is an animation-based digital story site where students can create cartoon animations. It offers lots of interesting animation effects with backdrops, characters, dialogue, props, music, and so on. The overall interface consists of a simple drag-and-drop platform which is easy to learn and use to students.

Table 6. Descriptions of Google Search Stories

Name: Google Search Stories	Web Address: www.youtube.com/user/SearchStories

	
Features	Google Search Stories is a free website in which students can create their own search story. By writing a story, students can select what to search by images, videos, Flashes, animations, e-books and more. It is simple and easy to create, and the making procedures require only three stages: writing, adding sound/music, uploading.

Table 7. Descriptions of Kerpoof

Name: Kerpoof	Web Address: www.kerpoof.com
	
Features	Kerpoof is a free website where students can create their own picture and story books. For creating a digital story, if offers basic templates or

	backgrounds and characters, or students can draw their own illustrations. They also can write their story in both text boxes and speech bubbles.

Table 8. Descriptions of Pic Lits

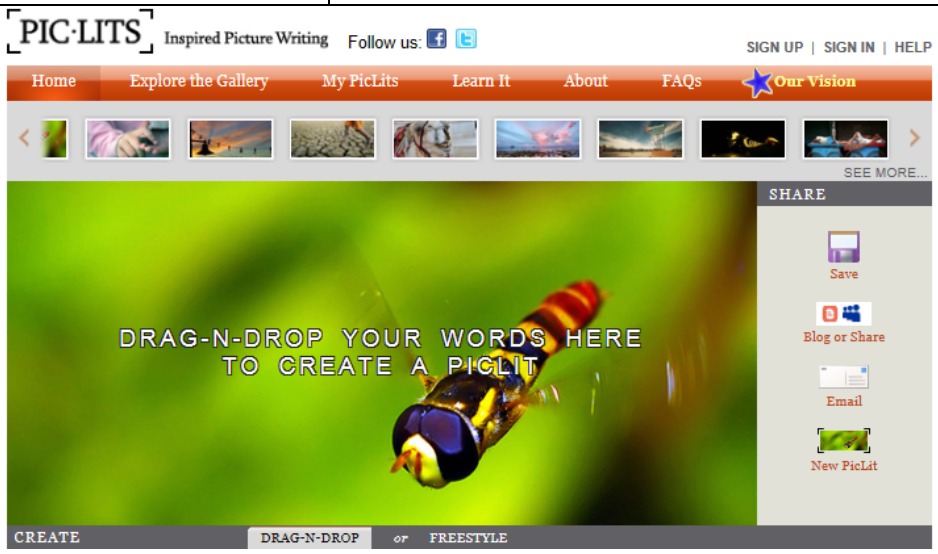
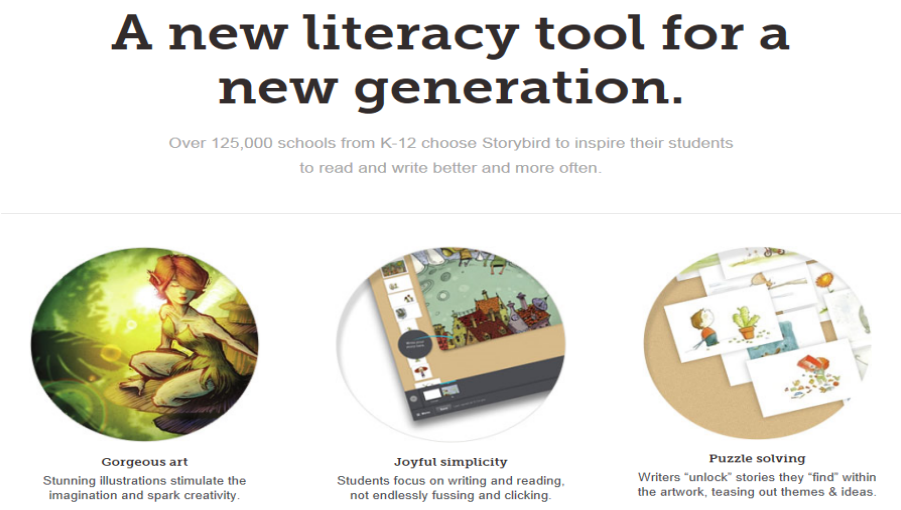
Name: Pic Lits	Web Address: www.piclits.com
	
Features	Pic Lits is an educational website which helps students to create a digital story. It provides students with lots of authentic pictures and word banks which enable them to create a story with pictures. It is a drag-and-drop format and offers a use-friendly environment.

Table 9. Descriptions of Shidonni

Name: Shidonni	Web Address: www.shidonni.com

<table>
<tr><td colspan="2"> 
</td></tr>
<tr><td>Features</td><td>Shidonni is a virtual space where students can create their own imaginary world. It provides digital room for students to create their own characters which can live, move and interact with others.</td></tr>
</table>

Table 10. Descriptions of Storybird

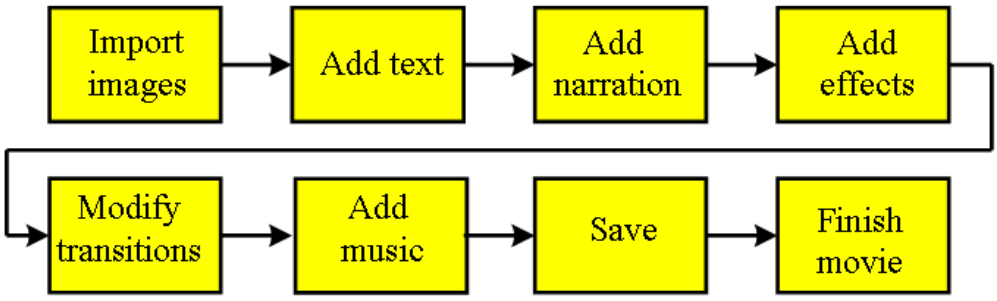
<table>
<tr><td>Name: Storybird</td><td>Web Address: www.storybird.com</td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td>Features</td><td>Storybird is a collaborative storytelling site in which students can create and tell stories in a digital way. Students can create stories together</td></tr>
</table>

	with a teacher, and after creating a story, they can share and read it together either in a digital format or in a hand-out format.

Learning Material: Photo Story 3

Microsoft's Photo Story 3 is one of the popular movie-making programs both in that it can be utilized as a creative tool for young students and in that it enables them to create their own stories easily without much training. Photo Story 3 can be downloaded from Microsoft website for free, and it is a very user friendly platform for young learners to produce their work by simply adding SATIs (Sound, Audio, Text, Image files). It also provides students with easy navigation buttons to guide the procedures step by step. Students can save their digital stories as WMV-format so that they can share it with peers after publishing. In general, there are 8 sequences in creating a digital story as shown at Figure 6.

Figure 6. Production Sequences in Making a Digital Story



At first, students are asked to import, edit and enhance images and photos that they want to use. After choosing proper images, they now can add text, narration, title, music, and even special effects to the images. Small icons in the program allow students

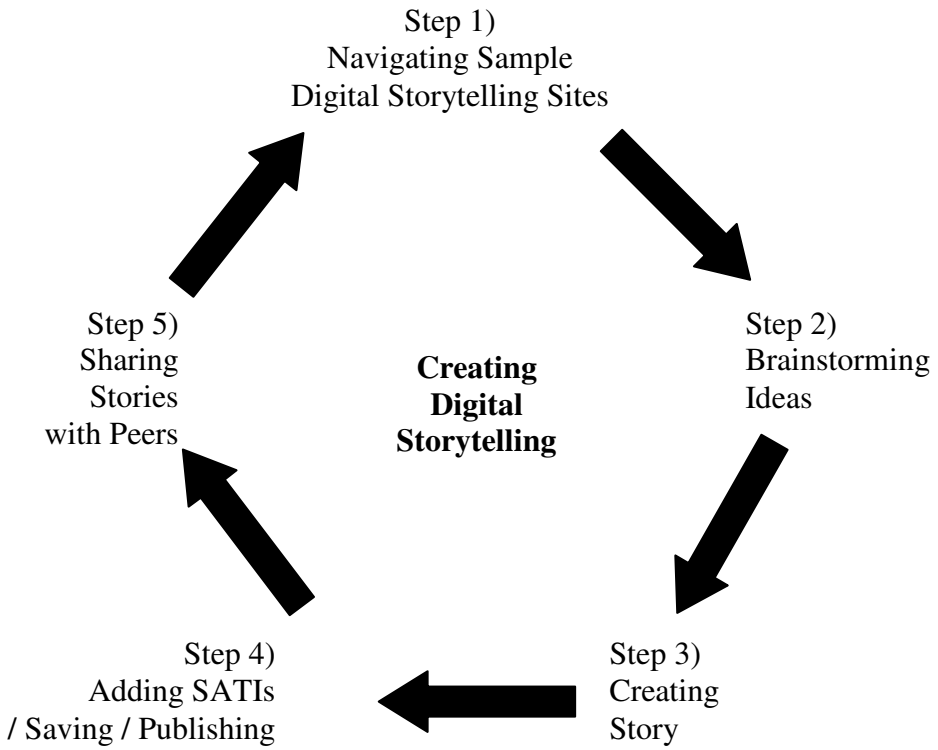
to navigate without any difficulty, and written instructions in Korean are also provided at each stage of the design process. A timeline is located at the bottom of the program in which students can change or control the structure of the story. Students are also encouraged to add their own narration using the 'add music' function, as well. By producing a verbal narration, students can experience authentic speaking practice. At the end of the procedure, the created story can be saved to be shared with the peers and teacher. In order to allow students to be understood in an easy way, a hand-out was passed out which showed the overview of step by step creating procedures (See Appendix 2).

Processes of Introducing Digital Story in the Class

In this research, ten participants followed five main procedures that Mr. Suk designed in order to create their multimodal digital stories. First, students were given instructions on how to produce a digital story utilizing software named Photo Story3. In order to make all the students understand better, Mr. Suk introduced the concepts of the digital story in the first session of the class, and scaffolded their understanding by sharing his own work with students. During the next two classes, students were provided with an opportunity to experience Photo Story 3, and were encouraged to create a short digital story about their favorite pet. Students were assigned approximately twenty minutes to develop, edit and re-draft their digital story. When the story plot was created, students were asked to embed SATIs (Sound, Audio, Text, Image files) which could be searched at Junior Naver (www.jr.naver.com), or to add their own drawings, pictures or voice. When they were finished, they were asked to save their work in the hard drive and then to publish it. After that, the initial product of each student was shared and discussed together

with productive feedback for better outcome. Below are the detailed procedures which students followed.

Figure 7. 5 Procedures used in the After School English Class



Step 1. Navigating Sample Digital Storytelling Sites

Firstly, students were asked to navigate sample digital storytelling websites, and to get familiar with the concepts of digital storytelling. Given by Mr. Suk, the list of websites included ones that were already used in the orientation session. After visiting a variety of digital storytelling sites, students were encouraged to spend some time producing their own work, simply by doing a drag-and-drop. After having time to get familiar with making a digital story, students were guided to open Photo Story3, which was already installed in their laptop computer. Mr. Suk introduced Photo Story 3 application to the class, which was the main creation tool in this research. The

participants were then taught on how to search, upload and edit images, how to add sounds and special effects and save their work.

Step 2. Brainstorming ideas

Just like any kind of writing, it was important to think about what to write. Before creating a digital story, students were given time to brainstorm an idea of what they would present in their story. Once a concrete idea was built up, then they were encouraged to write it in a Microsoft word document, which might include a topic sentence and a paragraph.

Step 3. Creating story

After students' stories were written on a Microsoft word processor, students were advised to pay attention to the organization and structures of the story, and they were instructed to choose the main sentence which could describe the whole story and the plot, and then add the images they downloaded. Next, they were guided to arrange the storyboards based on the story sequence to make sure both the teacher or other classmates would be easily able to follow the story plot.

Step 4. Adding SATIs / Saving / Publishing

After finishing the story writing step, students were guided to look up a website called Junior Naver (www.jr.naver.com) for finding proper images or sounds which might need to be added to their production. Junior Naver (2013) is the largest children's portal in Korea, and it offers specialized educational content for children, including children's song, fairy tale stories and entertainment services such as animal farm and game land, as well as sections for parents. In this stage, students were also highly encouraged to create their own SATI elements in their production, which included videos,

images, texts and audio files. After completing to add SATIs, students were asked to save and to publish.

Step 5. Sharing stories with others

After completing production, students were asked to perform storytelling using their own work in front of the class. By sharing their work each other, they were expected to have reflection or feedback on their story. After five procedures, students were also expected to gain familiarity as well as confidence on how to produce their own work using Photo Story 3. Any questions or concerns that students might have regarding the production process were dealt with by the teacher.

Making Digital Story & Intervention

In producing a digital story, multimedia is commonly used for engaging students in reading and writing activities for authentic purposes. Previous research studies show that the combination of various media enables the student to increase motivation in a different manner than interacting with traditional printed text. The process to produce a digital story began with brainstorming and drafting a storyboard sketch with regard to how the storyline would be unfolded. Because of the time restriction in each class, however, a digital story was guided to present 5 to 10 minutes with SATIs,

So, students were always encouraged to plan and design each step effectively enough to deliver the main idea of the story. The making process provided students with high motivation because students were made to practice authentic multimodal literacy production. By using a computer, young students got more involved in the learning activity as well as acquired computer literacy skills.

As described in Table 11 below, students were given several activities before starting to create their own digital stories. During the first four sessions of the whole class schedule, students were introduced to how to use a computer and Photo Story 3, and on how to embed SATIs in their production. In addition to those activities, they also had an opportunity to create their story as scaffolding and to share it with classmates and the teacher.

Table 11. Description of Intervention Activities

Timeline	Main activity	Description	Class
Week#2 June 10-17, 2013	Understanding a digital story	Introduce the concept of the digital story, Learn how to use a program	1st class
	Familiarizing to create a digital story	Learn how to embed SATIs, Learn how to use a storyboard and to save the work	2nd class
	Creating a digital story	Create a short digital story as a sample work, using Photo Story 3	3rd class
	Sharing & feedback	Share the digital	4th class

		story in the class Reflecting the created digital story	

Data Collection Instruments

In order to ensure the reliability and validity of the research, a variety of data collection methods were used. Such combined data played a role in providing an understanding about the inquiry, which led to objective and concrete findings being drawn from the entire research processes.

Table 12. Research Period and Contents

Stage	Research Contents	Period
Planning Phase	- Setting up a research plan - Searching related literature - Creating research questions - Finding participants and placement	May 5, 2013 - June 7, 2013
Experiment Phase	- Observing classes - Conducting interviews - Collecting data - Taking pre-/post test	June 10, 2013 - August 12, 2013
Analyzing Phase	- Collecting multiple data set and triangulation - Analyzing data set and drawing conclusions	August 19, 2013 - October 10, 2013

Specifically, nine different data sets were collected during the span of twelve week-research. Those data were divided into two phases depending on the collection period. The first phase of data collected consisted of two types of survey which questioned the background information of the focal participants, and their attitudes towards learning English with a digital story. Along with those survey questionnaires, students were asked to take a pre-test in order to figure out their overall English skills before the intervention with a digital story. It was composed of a reading, writing, listening, and speaking test.

The second phase data collection was conducted at the end of the research. Students were asked to take a post-test to see whether there would be any changes in the affective filters and their academic performance in learning English using a digital story. In addition to the test, they were also requested to have open-ended in/formal interview with the researcher and to fill out a self-evaluation sheet every two weeks. In terms of the teacher's perspective on digital storytelling, the English teacher was also asked to have open-ended informal interview as the focal students had done, and to write down a lecture review report every two weeks in order to grasp the flow as well as the atmosphere of the class. Most of the interview questions were focused on the students' knowledge, behavior, and perceptions towards computer assisted English learning, and their basic knowledge and interest in digital storytelling activities. Table 13 below describes methods of a variety of data collection.

Table 13. Data Collection Methods

Method	Data Type	Data Gathering	Analysis Tool
Quantitative	Questionnaire on affective factors	12 items(1-5 Likert scale)	SPSS/a paired sample test
	Reading ability tests	20 items	SPSS/a paired sample test
	Writing ability tests	4 items	SPSS/a paired sample test
	Speaking ability tests	5 items	SPSS/a paired sample test
	Listening ability tests	10 items	SPSS/a paired sample test
Qualitative	Reflective self-evaluation logs	5 times	Categorizing
	Lecture review reports	5 times	Categorizing/ Coding
	Interviews	5 times(with students) twice (with English teacher)	Categorizing/ Coding
	Class observations	10 times	COLT

For the sake of the accuracy of provided information, the participants were encouraged to use their mother tongue which was Korean while having interviews or

writing their thoughts and opinions on the self-evaluation sheet. All the responses from the students and the teacher were gathered and translated into English later by the researcher. Classroom observations were also followed during the research period, and then documented

Table 14. Procedures of Collecting Different Data

Week#	Data Collection			
	Selecting sample digital storytelling websites Orientation session with English teacher			
1	Pre-test(R/W/L/S) #1		Questionnaire #1	Observation #1
2	Self-evaluation log #1	Lecture review report #1	Interview with teacher #1	Observation #2
3			Interview with students #1	Observation #3
4	Self-evaluation log #2	Lecture review report #2		Observation #4
5			Interview with students #2	Observation #5
6	Self-evaluation log #3	Lecture review report #3		Observation #6
7			Interview with students #3	Observation #7
8	Self-evaluation log #4	Lecture review		Observation #8

		report #4		
9			Interview with students #4	Observation #9
10	Self-evaluation log #5	Lecture review report #5		Observation #10
11			Interview with students #5	
12	Post-test(R/W/L/S) #2		Interview with teacher #2	Questionnaire #2

Quantitative Methods

In order to figure out the changes of affective factors, as well as academic performances in reading, writing, listening and speaking towards English learning using digital storytelling, a pre-and post-test designed and prepared by the teacher and the researcher was administered to the participants prior to the design process. The two tests were compared and conclusions were drawn from these comparisons which will be discussed further in Chapter 4, Findings and Discussion.

Table 15. Research Design

Timeline	Assessment Area	Content of Assessment	Assessment Tool
Pre-test	Evaluation of Students' English ability	Reading, Writing, Listening, Speaking	Adapted and re-designed from the 6th grade National

			Academic English Achievement Test from KICE
	Affective factors	Self-Esteem, Empathy, Anxiety, Motivation	12 Survey questionnaires
		Experience about using digital story before	
Post-test	Evaluation of Students' English ability	Reading, Writing, Listening, Speaking	Adapted and re-designed from the 6th grade National Academic English Achievement Test from KICE
	Affective factors	Self-Esteem, Empathy, Anxiety, Motivation	12 Survey questionnaires
		Reflection about using digital story in English class	

Questionnaire on Affective Factors

At the beginning of the research, a questionnaire was given to students to see their fundamental knowledge and proficiency in English learning and their attitude toward digital storytelling, and the other survey on affective factors in English learning with digital storytelling was allotted to ascertain the change of affective factors at the end of the study. The survey was composed of twelve items using Likert scales, ranging from 1 (strongly disagree) to 5 (strongly agree), and these surveys were designed to gauge the students' attitudes and perceptions toward learning English with digital storytelling.

Table 16. Survey on Affective Factors in English Learning with Digital Storytelling

Content	Description	Style
Interest	English class Use of English in daily life Communication in English	1-5 Likert scale 1=Strongly disagree 2=Disagree 3=Neutral(neither agree nor disagree) 4=Agree 5=Strongly agree
Confidence	Pronunciation Low anxiety in speaking English Risk-taking in making mistakes	
Participation	Self-activity Concentration on class Voluntary presentation in class	
Intention to study English	To enjoy studying English To learn English with digital storytelling To communicate in English	

The survey questions were obtained from a preliminary review of related research of Zhou & Zhou (2002), and some of the questions were modified by the researcher. A pre-questionnaire was distributed on June 3rd, and the post one was done at the end of the study. Detailed information about survey content on learning with digital storytelling is included in Appendix 1. All the questionnaires were made of multiple-choice questions using 1-5 Likert scale. The first three questions aimed to figure out students' interest in English learning using digital storytelling. The next three questions were designed to understand students' self-confidence in using English in their daily life. Then, the following three questions were devised to grasp the degree of how actively or passively students would participate in the class.

The last part of the survey asked the intention and objectives of the students with regard to learning English. By answering those questionnaires, participants were all guided to choose the right answer based on their feeling without any bias, and it was expected that a change of the affective factors could be reflected by their sincere answer. Therefore, all the questionnaires were printed out in Korean to avoid any confusion or misunderstanding with the questions, and every participant was allowed to answer the questionnaires anonymously without writing his/her name on the paper.

Test of Reading Ability

Pre- and post-reading comprehension tests were administered to determine the learners' reading proficiency and ability. The pre-reading test was conducted during the first week of the research in June 2013, and the post-reading comprehension test was taken at the last week of the study. The participants were given thirty minutes to solve twenty reading comprehension questions which included the students' knowledge of

vocabulary, grammar, and reading skills. Each question was worth 5-point value, and the total test was worth one hundred points. To ensure the reliability and validity of test, all the questions were made of a multiple choice type, and were extracted from the 2011/2012 National Academic English Achievement Test for 6th grade, administered by the Department of Education's Korea Institute of Curriculum & Evaluation (see Appendix 12).

Test of Writing Ability

A pre-and post-writing test was given to students on purpose to figure out the changes of students' writing performance over time. Four different topics were given, and students were encouraged to write down their own thoughts and idea after choosing any one topic. Twenty minutes were provided to students to answer the questions per each test. Below Table 17 and 18 shows the topics of the pre- and post-writing test.

Table 17. Topics of the Pre-Writing Test

Type	Topic
Hypothetical	What would you do if summer vacation starts tomorrow?
Opinion	What is your opinion about school lunch?
Description	Describe your home..
Narration	Tell about a movie or manga you saw recently.

As shown above at Table 17, four main topics for the writing test were provided to students, which included general topic related to daily life. Students were encouraged to freely choose one of the topics and to write a story based on their personal thought or

experience. The post-writing test was also administered using the same style of the pre-test.

Table 18. Topics of the Post-Writing Test

Type	Topic
Hypothetical	If you could change one thing about yourself, what would it be?
Opinion	What is your opinion about wearing school uniform?
Description	Describe an interesting friend you have had.
Narration	Tell about something what you want to be when grown up.

Test of Listening Ability

A total number of ten questions extracted from the 2011/2012 National Academic English Achievement Test were prepared for the pre- and post-listening test. A pre-listening test was carried out in order to examine participants' basic level of listening comprehension ability. The test was comprised of ten multiple choice questions, and each question was given a score of 10-point for a total 100-point. Students were given ten minutes to solve the listening problems after listening to four short statements about a picture, and selected the statement that best described what was happening in the picture (See Appendix 10).

Test of Speaking Ability

In order to figure out the difference in the speaking ability over time, a total of five questions were given to students. To validate the verbal skills, all answers were digitally recorded and then evaluated by the English teacher. For the speaking test, questions were adapted from the ESPT (English Speaking Proficiency Test) for Junior,

which is the most well-known English speaking test in Korea, and is the most frequently chosen as the English speaking proficiency test. Table 19 shows the contents of the speaking test using the ESPT (English Speaking Proficiency Test) for Junior level.

Table 19. Contents of the Speaking Test (adapted from the ESPT Junior)

ESPT level	Type of Item	Ratio (%)	No. of Question
2	Appropriate response	20	1
1	Main idea, purpose, opinion	20	1
2	Factual information	40	2
2	Chart, map	20	1

In speaking test, each question incorporated four levels (4 points). As the test was taken with the English teacher who was not a native speaker of English, a scoring rubric, an explicit set of criteria from ETS Integrated Speaking Rubric was used to objectively measure students' verbal performance on the speaking test (See Appendix 9 & 11). Scoring standards included four scales such as general description, delivery, language use, and topic development. Table 20 below indicates the criteria for assessing the speaking ability.

Table 20. Criteria for Speaking Test

Section	Assessment Criteria
General description	The response fulfills the demands of the task, with at most minor lapses in completeness. It is highly intelligible and exhibits sustained,

	coherent discourse.
Delivery	Speech is generally clear, fluid, and sustained. It may include minor lapses or minor difficulties with pronunciation or intonation. Pace may vary at times as the speaker attempts to recall information. Overall intelligibility remains high.
Language use	The response demonstrates good control of basic and complex grammatical structures that allow for coherent, efficient (automatic) expression of relevant ideas. Contains generally effective word choice. Though some minor (or systematic) errors or imprecise use may be noticeable, they do not require listener effort (or obscure meaning).
Topic development	The response presents a clear progression of ideas and conveys the relevant information required by the task. It includes appropriate detail, though it may have minor errors or minor omissions.

Qualitative Methods

Student's Reflective Self-Evaluation Logs

Students were asked to keep a reflective self-evaluation log every two weeks. It was intended to investigate students' perceptions and thoughts of learning English with digital storytelling. All of the questions in the reflective self-evaluation log were composed of open-end style, enabling each student to reflect as individuals on the process of creating their digital story. Table 21 below shows the topics of the self-evaluation log.

Table 21. The Topics of Reflective Self-Evaluation Log

Timeline	Question #1	Question #2
Week#2	How do you like English class?	Why do you think you need to study English?
Week#4	What are your overall thoughts on learning English with digital storytelling?	What are the differences of learning English in the after school class compared your previous learning style?
Week#6	What was your previous way to learn English?	What are the advantages and disadvantages of learning English with digital storytelling?
Week#8	To what extent the current class influence in your English learning?	What are the advantages and disadvantages of activities done in the class?
Week#10	Do you think your overall English skills have improved?	What are the future plans for learning English?

Students Group & English Teacher Interviews

Even though the questionnaire was used to find out about students' perceptions and attitudes toward English learning with digital storytelling, group interviews were also carried out to explore the students' own reflections more in depth. Through the group interview, the participants were encouraged to express their thoughts on the use of digital storytelling in English class in more detail rather than by completing a questionnaire. A

total of ten students as interviewees participated. However, in order to listen to a wide range of ideas, thoughts, and comments from the participants, a group interview method was chosen in that it could provide a comfortable environment for students to communicate. In fact, it has been researched that a group interview method, particularly with young children can make it possible obtain greater depth and breath in responses than individual interviews (Lewis, 1992; Gibbs, 2009; Cohen et al., 2007). Bearing this in mind, group interviews were conducted total ten times during the research, and three students as a group carried out an interview per one time.

On the other hand, interviews with the English teacher were also conducted twice to investigate his thoughts and feelings during the implementation of digital storytelling. The first interview was done at the beginning of the research, and the other conducted after the observations were completed. The interview was semi-structured and was focused on how effectively digital storytelling was being used in class. Sample interview questions are included in Appendix 5.

Classroom Observations

Ten classroom observations were conducted in order to examine the activities and interactions as they were happening during the class. Field notes about what was observed were written, the researcher played as a participant observer, and the essence of the information was documented through notes. During the classroom observation, particular attention was paid to student(s)-student(s) interaction, student(s)-teacher interaction, their language use, the students' patterns of learning using digital storytelling, and overall learning atmosphere. Jottings notes and artifacts from the class were also collected for data analysis.

Teacher's Lecture Review Reports

A lecture review report was kept by the English teacher every two weeks because it was truly an expression of the teacher's opinion of utilizing digital storytelling into English curriculum. The entries of the report were employed as a means of gathering information on English teacher's opinions, and his perspectives on integrating digital storytelling into the regular English class. The lecture review report shown below is composed of three parts: 1) thoughts on digital storytelling, 2) efficacy on digital storytelling, 3) necessity of digital storytelling.

Table 22. Lecture Review Report on Digital Storytelling

Date:	
1. What are your overall thoughts on digital storytelling?	
2. How do you think about English learning/teaching using digital storytelling?	
3. Do you think digital storytelling has benefits in learning/teaching English? If yes, why? If not, why do you think so?	

Data Analysis

Quantitative Methods

Questionnaire on Affective Factors

A survey on affective factors in English learning with digital storytelling was composed of four contents (twelve questions in total) with Likert scale (1-5), and conducted twice as a pre- and post-survey. Each scale was converted into one point, and then the score was compared. For the sake of the reliability of items in the questionnaire, Cronbach's α was used as the reliability coefficient. The result showed > 0.8 Cronbach α value which was regarded as satisfactory and relatively reliable.

Test of Reading Ability

The results of the post-reading comprehension test were compared with the ones of the pre-reading test in order to identify the differences between the two tests. By using the SPSS 17 program, independent t-test, paired t-test, and correlation were performed to investigate the results of the pre-test and post-test. Cronbach's α for the pre-test scale showed 0.76, and 0.73 for the post-test scale.

Test of Writing Ability

Pre- and post-writing test was assessed using the analytical scoring profile developed by Jacobs et al. (1981), which consists of five different rating categories: content, organization, vocabulary, language use, and mechanics. After being divided into five categories, the students' writing was measured by two raters, the English teacher and the researcher, ranging from 1 (very poor) to 5 (excellent). The scores of pre- and post-writing tests were analyzed and evaluated descriptively using SPSS 17 program.

Test of Listening Ability

The data from the pre-listening test was analyzed using SPSS 17 program in order to reveal the students' basic level of English listening proficiency. The test scores for the post-test were also analyzed to measure the effects of learning English with digital storytelling.

Test of Speaking Ability

To determine the statistical differences between pre- and post-test, the results of the pre-and post- speaking test were compared using SPSS 17 program. After being recorded, the two tests were evaluated by the English teacher, based on the rubric from ETS. The use of general description, delivery, language use, and topic development were mainly assessed. Then, the pre- and post-test scores were analyzed using t-test to evaluate the statistical significance of the differences in scores.

Qualitative Methods

Student's Reflective Self-Evaluation Logs

Codes and themes were used to analyze the reflections for evidence which would indicate enjoyment and engagement with the activity as well as opinions and thoughts about digital storytelling. The number of personal opinions written in the students' reflective self-evaluation logs were counted and categorized. Table 23 below outlines the four categories for the coding with examples from the students' reflective self-evaluation logs.

Table 23. Categories of Students' Reflective Self-Evaluation Log

Contents			
interest	participation	understanding	self-confidence

Students Group and English Teacher Interviews

As for the students, group interviews were conducted five times in total with 20-minute length. The main purpose of the group interviews was to evaluate the participants' perceptions of their level of engagement with digital storytelling, and it involved open-ended questions about their knowledge development in English learning. On the other hand, the interview with the English teacher included questions about the actual benefits and challenges in teaching with digital storytelling. The researcher repeatedly read the recorded transcriptions from students to seek the patterns and differences as well as to categorize the data in groups connected with research questions.

Classroom Observations

In addition to collecting data on the academic development of students over the research period, classroom observations were conducted ten times to figure out both English teacher and the students' culture. Specifically, to document and describe the characteristics of the after school English class using digital storytelling, the rigorous observations occurred every time the researcher visited the school. During the classroom observations, the researcher collected students' background information and artifacts. Also, the background information of the school and the English teacher was gathered. Additional artifacts from the class were of course collected including lesson plans, teaching and learning materials, curriculum design for creating digital storytelling, hand-outs and English proficiency levels of students.

In addition to collecting those data, a classroom observation checklist adapted from Allen et al. (1984) was administered to figure out what kind of learning activities would be the most favored approaches in class. Thus, the observation checklist using

Communicative Orientation of Language Teaching (COLT) were used, then summarized, compared and interpreted.

Teacher's Lecture Review Reports

Analysis of the lecture review reports by the English teacher followed the procedure of coding (Creswell, 2009). The English teacher was asked to write five lecture review report during the research period. The researcher read the reports repeatedly, and categorized all of the information which was connected with research questions. Then, five big selected categories were coded in order to make meaning of this research. Below Table 24 shows the five categories coded from the lecture review reports.

Table 24. Categories of Teachers' Lecture Review Report

Category	Review Comments	No. (%)
Helpfulness	Students agree digital storytelling is of fun and interesting contents in learning English.	
Satisfaction	Students are more engaged in English lesson when they create the digital story.	
Interest	Students show a lot of interest in producing a digital story.	
Motivation	Students want to use digital storytelling in a regular English class.	
Participation	Students want to share and present their work voluntarily.	

Reliability and Validity

As this research was designed to employ a mix-method approach, six different data were collected during the research which included 1) questionnaire 2) pre-/post-tests,

3) class observation, 4) reflective self-evaluation log, 5) lecture review report, 6) interviews. In order to strengthen the validity of the research, data triangulation was adapted, which referred to a combination of quantitative and qualitative methods. According to Postholm (2010), the strengths of one method can compensate for the weaknesses of another method used. Thus, the IBM SPSS Statistics program was used to interpreter the data quantitatively. The results of the pre-/post test on the change of the affective factors, as well as the pre-/post-test about the academic performance which covered the four areas of reading, writing, listening and speaking were quantitatively analyzed. SPSS was helpful in evaluation because it offered quantifiable and easy to understand results. A reflective self-evaluation log and lecture review report were, on the other hand, analyzed in a purely qualitative way in order to make sense of the essential meanings of the phenomenon. By processing coding and categorizing, the qualitative data was examined to find the meaningful and symbolic content of that which was found within. Digitally recorded interview data were transcribed and coded to figure out the similar patterns towards the use of digital storytelling in general English learning. By looking at the same patterns and concepts in the dialogues, predominant codes were derived.

Respondent Validation

In order to help improve the accuracy, credibility, and validity of the study, respondent validation was considered in analyzing the interview data. As the overall goal of this process was designed to make findings authentic and reliable, Korean language was used during the interviews. Although the interviews could be conducted in English,

to use a mother tongue was believed to be a lot better to obtain honest and open responses from the interviewees. Also, it helped the interviewees build rapport with the researcher.

Data Verification

The English teacher, Mr. Suk was an experienced teacher who has been teaching English for nine years in a rural area. He had a strong interest to adapt up-to-date technologies in his lesson. However, as it was his first experience utilizing digital storytelling in his English class, the researcher prepared an orientation session for him to become familiar with the concepts and applications of digital storytelling. Sample websites as explained above were introduced to the teacher to have a clear understanding of the digital storytelling, and basic training on how to create the digital story before the class was carried out along with the explanation about the whole research process. All kinds of tests and questionnaires as well as interviews were conducted in Korean language in order for the participants not to be confused or to misunderstand the contents.

Ethics of the Research

Before processing the current research, ethical issues which might arise during the research period were discussed and argued by the researcher, by the Institutional Review Board (IRB) committee members at the University of Massachusetts, Amherst, and by a principal of Namsan Elementary School in Jooyoung. Upon being approved, the consent forms were delivered and distributed to those who were interested in participating this research project. As the focal participants in this study were elementary school students who were at the age of twelve, two separate consent forms written in Korean were prepared.

One was given to the students and the other to their parents, or legal guardians, providing detail information about the research project (see Appendix 3 & 4). The whole group of participants and their parents or legal guardians were fully informed and acknowledged ahead of the study on how the research would be conducted. To participate in the study was voluntarily decided by each student, and the ability to withdraw from the research at any time was guaranteed. Besides, all aspects of the research process were thoroughly discussed with the participants, the teacher and the principal, who were all involved.

Researcher Positionality

According to Kawulich (2005), the researcher's involvement in a variety of activities over an extended period of time enables to facilitate a better understanding of participants' behaviors and activities. In order to understand the participants' world and culture from their point of view, I played a role as participant observer. I stepped into the culture of the focal participants in the class to experience any events and situations in the way in which the students experienced them. In other words, I participated in ongoing activities in the class, as a player, and recorded observations. Doing so helped me to get an 'insider' viewpoint rather than to conduct a naturalistic observation, making it possible to collect rich information. During the participant observation, I tried to put myself in focal students' shoes so that there was little personal or social distance between me and the students.

CHAPTER 4

DATA PRESENTATION AND ANALYSIS PART I

Introduction

The previous chapter described the research methodologies used as well as the ways of data collection and analysis. This chapter now attempts to analyze the collected data, discuss the findings, and describe how they relate to the study being undertaken. As stated in previous chapters, this chapter also aims to address the main research questions, as follows:

- What are the potential benefits and challenges of digital storytelling for young EFL learners when it is employed in a rural context as a language learning activity? i. e.) the change of motivation, reading, writing, listening, speaking ability
- What does the English teacher find to be benefits and challenges of using a digital storytelling as pedagogical strategies in Korean EFL classroom?

To answer those research questions, multiple forms of data set were collected to corroborate the evidence from other sources. Each of these will be discussed in detail, and analyzed in an attempt to answer the research questions above. The data sources analyzed are as shown as next Table 25.

Table 25. Collected Multiple Data Sets to Analyze

Approach	Data Set #	Contents

Quantitative	1	Questionnaire on Affective Factors
	2	Pre-/Post-tests in Reading Ability
	3	Pre-/Post-tests in Writing Ability
	4	Pre-/Post-tests in Listening Ability
	5	Pre-/Post-tests in Speaking Ability
Qualitative	6	Student Reflective Self-Evaluation Logs
	7	Students Group & English Teacher Interviews
	8	Classroom Observations
	9	Teacher's Lecture Review Reports

Therefore, the results are presented in two sections and their subsections in this chapter. First section reports the differences between the pre- and post-tests in order to identify students' academic improvement in reading, writing, listening and speaking through the digital storytelling intervention. In addition to English improvement of students, their attitude change toward using digital storytelling is discussed based on the questionnaire results after experiencing digital storytelling. Next, Chapter 5 presents both the English teacher and the students' perspectives toward digital storytelling through an analysis of the self-reflection logs, classroom observations, group/teacher interviews and lecture review reports.

Students' Perception Using Digital Storytelling in Learning English

At the end of the research study, the students were asked to complete a questionnaire about their thoughts and perceptions toward the use of digital storytelling. Using a five-Likert rating scale from 1 (strongly disagree) to 5 (strongly agree), the

students were guided to rate based on their opinion. According to the students' response about common ways of learning English, students answered that they typically study English using a grammar exercise book (65%), with a textbook for tests (25%), with online-based practice website (6.5%), with dictionary (3%), and with mobile applications (0.5%).

Regarding students' previous experience in learning English with digital storytelling, 65% of the participants answered that they have used digital stories, whereas 35% have not experienced digital stories before. However, 65% respondents argued that the purpose of creating a digital story was not for learning English, but for fun such as creating a family photo book. That is, although more than half participants have used digital stories before, it was evident that they were not aware how to maximize the use of digital story for learning English. The excerpt below from an interview with Donhwa showed one clue that he had never experienced of learning English with digital storytelling in the English class.

돈화: 컴퓨터로 하는 건 좋아하는데 학교에서는 시간도 부족하고, 공부 할 때는 그냥 책으로 해요. 선생님은 컴퓨터로 이것저것 수업할 때 보여주는데 저도 해보고는 싶지만 그냥 넘어가요. 영어는 단어랑 문법을 해야 하는 게 중요하니까요.

Donhwa: "I like using a computer when studying, but textbooks are only resources in the class. There is always lack of time… English teacher sometimes prepares and shows activities using a computer, and I love to do it, but we can't participate. I believe to study grammar and vocabulary is the most important in learning English."

Another questionnaire asked students how much digital storytelling exerted an influence on the change of their attitude toward learning English. Table 26 below presents the results of the students' responses.

Table 26. The Results of the Questionnaire on Digital Story

Questionnaire Items	M	SD	t	sig
1. Digital storytelling makes me curious about the story.	3.73	0.78	1.53	0.13
2. Digital storytelling makes me more interested in reading process and activity.	3.97	0.76	0.954	0.34
3. Digital storytelling makes me understand the story better.	3.90	0.66	0.770	0.44
4. Digital storytelling makes me confident when I studies English.	3.87	0.73	0.791	0.43
5. Digital storytelling provides me with the opportunity to think creatively and critically.	3.70	0.65	1.52	0.84
6. Digital storytelling makes me know more from sharing ideas with classmates.	4.03	0.81	1.22	0.23
7. Digital storytelling makes English learning fun and pleasant.	3.87	0.73	0.386	0.76
8. Digital storytelling makes me more engaged in the lesson.	3.90	0.71	0.706	0.48
9. Digital storytelling makes me happy with learning activity.	3.93	0.69	4.69**	0.01
10. Digital storytelling makes the class atmosphere more enjoyable.	3.77	0.57	3.04**	0.01
11. Digital storytelling makes me like English study more.	3.90	0.71	0.954	0.34

12. Digital storytelling makes me feel more interested in English learning.	3.93	0.64	0.726	0.47

As shown above, the results from the questionnaire describe that the students had positive attitude change towards digital storytelling over time. Most of the students strongly agreed that digital storytelling made them engaged in the content of the story by gaining motivation and interest. Plus, students also answered that they had more confidence in learning English in that digital storytelling offered them a fun and pleasant learning experience. In particular, as digital storytelling made them feel less worried and made the classroom atmosphere more enjoyable, it was no doubt that the students came to like English study more. In terms of the effect of digital storytelling, the majority of students answered in a positive way when asked to rate the usefulness of digital storytelling in English class.

Table 27. Learners' Perspectives on Using Digital Storytelling in English Class

Item	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
Interest	7	70	3	30	0	0	0	0	0	0
Usefulness	6	60	3	30	1	10	0	0	0	0
Easiness	1	10	4	40	3	30	2	20	0	0
Satisfaction	2	20	70	70	1	10	0	0	0	0

As shown above, digital storytelling provided students with interest and learning satisfaction by offering a meaningful authentic learning experience. Through a dynamic and interactive process of producing and presenting digital stories, the students' motivation was also heightened. It was thus clearly evident that such technology supported learning made English learning more meaningful and interesting.

Results of Reading Ability Tests

In order to determine the students' reading proficiency and ability, pre- and post-reading comprehension tests were respectively administered in the first and the last week of the research. The test results were analyzed by descriptive statistics using SPSS 17. Table 28 below gives the details of the test results that included the number (N), mean score (M), standard deviation (SD), the standard error of the mean, and significance (Sig.) for the pre- and post-reading ability test of the students.

Table 28. Paired Samples Statistics

Variation	N	M	SD	Std. Error Mean	Sig,
Pre-test	10	60	10.000	.75	.0001**
Post-test	10	75	15.000	.90	

Note.

a. Minimum score of the pre- and post-reading test = 0

b. Maximum score of the pre- and post-reading test = 100

** p< .01.

As shown above, the number of students involved in the pre- and post-test was 10. A value of standard deviations for the pre- and post-test was 10 and 15, respectively, showing that there was a similar variation for the averages of the pre- and post-test. In terms of a mean score, students obtained 60 in the pre-test, whereas they scored a mean score of 75 in the post-test. In other words, there was 15 comparison mean score between the results of pre-test and post-test. Such increased mean score indicated that students were able to experience meaningful effects of digital storytelling toward their reading improvement. Next, Table 29 below represents a Pearson correlation analysis between the pre- and post-test scores for individual students. The correlation coefficient value implies that the post-test scores of the students can be predicted by their pre-test scores.

Table 29. Paired Samples Correlations

Pair 1	N	Correlation	Sig
Pre-test & Post-test	10	.800	.000**

As shown at Table 30, there was a high correlation at .800 which was statistically significant ($p < 0.0001$.), revealing that students who obtained a high score on the pre-test also scored high on the post-test. Table 30 and Figure 8 describe the results of the paired sample student's t-test. The mean difference between the pre- and post-test was 15, and the t-value of -2.5 is highly statistically significant. ($p.< 0.0001$.)

Table 30. Paired Samples Test in Reading Test

N	Mean Diff	SD	t	df	Sig.
10	15	10	-2.5	9	0.0001**

** p< .01.

Figure 8. Results of Scores in Reading Ability Tests

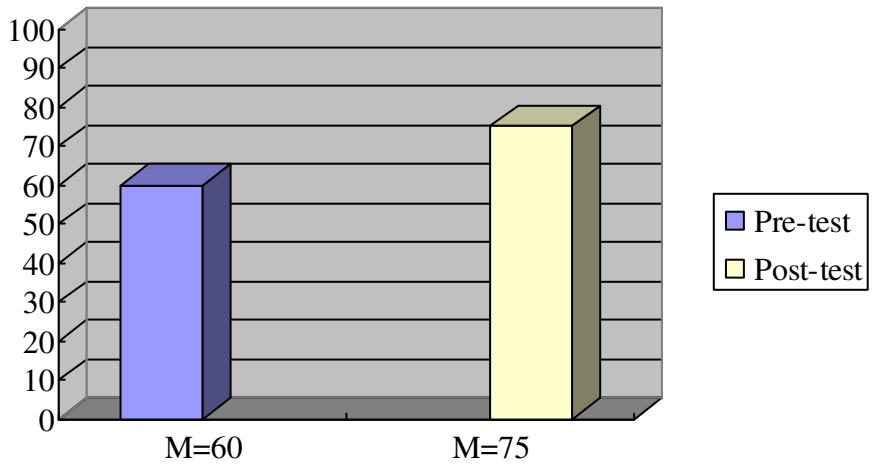


Table 31. Results of the Pre- and Post-Reading Ability Tests

Variation	N	M	t	p
Pre-test	10	60	.175	0.35
Post-test	10	75	12.200***	.000

*p<.05, **p<.01, ***p<.001

As indicated in Figure 8 and Table 31 above, there was strong evidence for the efficacy of digital storytelling in improving students' reading ability over time. To sum up the findings, there were large score differences of 15 points between the pre- and post-test for reading ability, adapted from the 2011/2012 National Academic English Achievement Test for 6th grade. The large differences between the two tests described that it was statistically significant, showing below p<.001. Therefore, it can be summarized that English learning using digital storytelling has brought a positive effect

on improving reading ability, and students can take advantage of learning when digital storytelling is applied in the reading class.

Results of Writing Ability Tests

In order to identify any differences in students' writing ability, pre- and post-writing ability tests were administered in the first and last week of the research, respectively. The results were analyzed by descriptive statistics as used in the reading ability tests. Each pre- and post- test was scored by the two raters, the English teacher and the researcher to ensure validity and reliability of constructed-response scoring. After the average scores of the two raters were combined, they were divided by two to get the mean score. Table 32 below illustrates the number (N), mean score (M), standard deviation (SD), the t-value (*t*), and significance (Sig.) for the pre- and post-writing ability test of the students.

Table 32. Pre- and Post-Writing Ability Test Scores

Variation	N	M	SD	t	df	Sig.
Pre-test	10	69.2	12.01	-2.4	9	0.17*
Post-test	10	76.6	14.65			

*p< .05, **p<.01, *** p<.001

As the reading ability tests, ten students took both the pre- and post-writing tests. As described above, the mean score of the pre-test was 69.2, and a value of standard deviations for the pre- and post-test was 12.01 and 14.65, respectively. Standard deviations revealed that there was a similar variation for the averages of the pre- and post-test. On the other hand, the mean score of the post-test showed 76.6, which implied

a considerable difference from that of the pre-test. Besides, the result of the paired t-test (t= -2.4) showed a significant difference in the development of writing ability, and significant correlations were also found between the total score at pre- and post-test (r = .760, p < .05). Such difference indicated the overall improvement in writing ability of the students, and a significant relationship between the two tests at the significance level of 0.05 (p = .000).

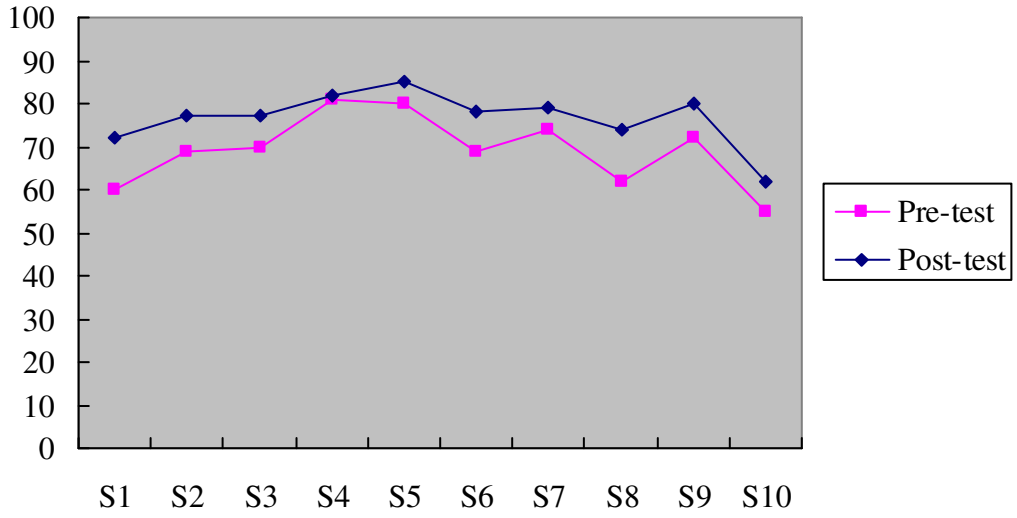
Table 33. Means and Standard Deviation on Writing Ability Test

Variation	N	M	SD	P
Pre-test	10	69.2	12.01	0.000***
Post-test	10	76.6	14.65	

*p< .05, **p<.01, *** p<.001

As shown in Table 33 above, the mean score difference between the pre- and post-test was 7.4, indicating that students showed considerable improvement in writing after using digital storytelling in the after school English class. Although there were few students who showed improvement to an advanced writing proficiency level, most of the students scored overtly high, compared to the result of the pre-test. Figure 9 below shows a change of the test score of each student in the writing ability tests.

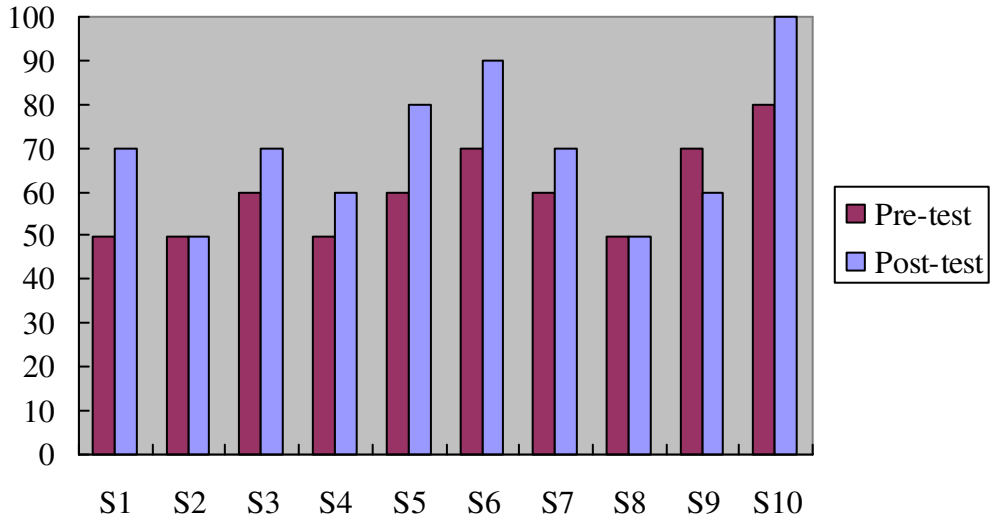
Figure 9. Results of the Pre- and Post-Writing Ability Tests



Results of Listening Ability Tests

In order to explore any improvements in overall listening ability of focal students, two pre- and post-listening tests were taken at the beginning of and the end of the study. Both tests were composed of ten multiple choice questions, and each item was given 10 points. Students were given ten minutes to solve the listening problems after listening to four short statements about a picture, and selected the statement that best described what was shown in the picture. According to the results of the two tests, the mean score in pre-listening test was 60, and the one in post-test showed 70, respectively. In other words, there was an increase of an average of 10 points from the pre-test to the post-one in overall scores, representing the fact that digital storytelling was helpful to improve students' listening ability. It also showed that there were statistically significant differences at $p<0.01$ level between the mean scores of pre- and post-test. Next Figure 10 shows the results of the two tests.

Figure 10. Results of the Pre- and Post-Listening Ability Tests



Results of Speaking Ability Tests

In order to figure out a clear understanding of the pre- and post-test in students' speaking performance, students' performance was observed and evaluated based on the scoring rubric with speaking on it: general description, delivery, language use, and topic development. For statistical measurements, two scores given to each task from both raters, who were the English teacher and the researcher, were combined and divided by two to find out the mean scores for each of the participants. Then, the mean score was compared to assess the statistical significance of the differences in scores between the pre- and post-test phase. The results of the pre- and post- speaking test are presented on the following Table 34 and Table 35.

Table 34. Descriptive Statistic of Pre- Speaking Test Results (out of 4)

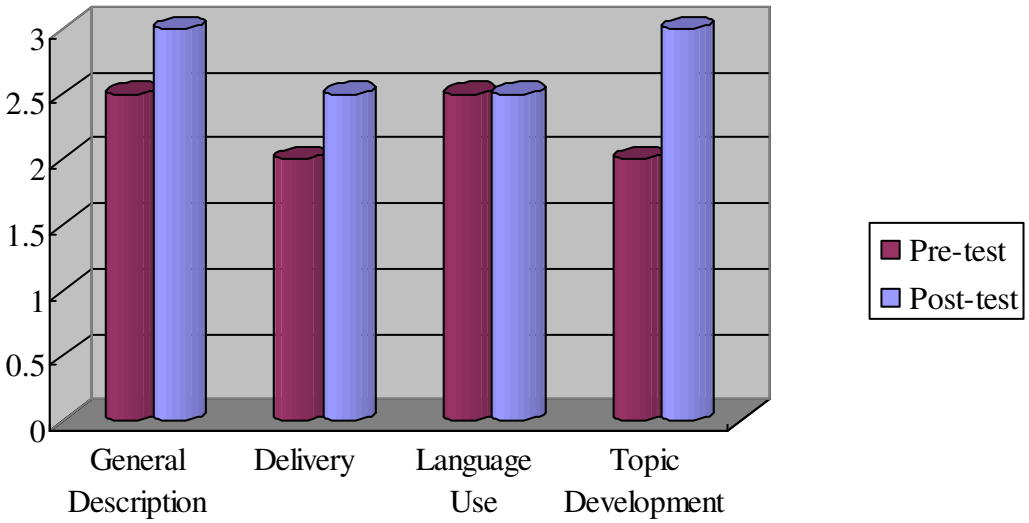
Proficiency Description	General description	Delivery	Language use	Topic development
Mean Score	2.5	2	2.5	2

Table 35. Descriptive Statistic of Post-Speaking Test Results (out of 4)

Proficiency Description	General description	Delivery	Language use	Topic development
Mean Score	3	2.5	2.5	3

Following is the comparison of the data obtained from the pre- and post-test.

Figure 11. Comparison of Mean Score in the Pre-/Post- Speaking Tests



In addition to the comparison of the mean score between the two tests, inferential statistics were employed to find out whether differences, if any, were statistically

significant. It was aimed to gauge whether digital storytelling has been influential and beneficial in improving the students' speaking ability. Table 36 below shows the results of a Paired (Matched) samples t-test and the difference between the means of the pre-tests and post-tests.

Table 36. Paired Samples t-test for Pre- and Post-Speaking Tests

Mean difference	t	df	Sig.(two-tailed)
0.5	-7.5	9	.000

P<0.05

Based on the data provide above, it was evident that students performed better in post-test than pre-test. T-value was -7.5 with the degree of freedom (df) 9. This indicates that the difference between the means of the students in pre- and post-test is statistically significant ($p<0.05$). That is, digital storytelling brought a positive effect in improving students' speaking ability.

Summary of Data Analysis Part I

This chapter illustrated the data presentation and analysis, mainly focusing on the quantitative data. Based on the descriptive data analyzed using SPSS program, students demonstrated the overall improvement in their English proficiency (reading, writing, listening and speaking), as well as learning motivation, and ICT digital literacy skills. According to the results between the pre- and post-tests, it was clear that most of the students gained a better score at the end of the study. In fact, each area out of four skills showed the improvement, influenced by the intervention of digital storytelling. In other

words, it can be interpreted that a classroom activity with digital storytelling was effective to promote students' 4 integrated skills.

CHAPTER 5

DATA PRESENTATION AND ANALYSIS PART II

Introduction

This chapter outlines themes that emerged from the data collected in this study. The data was collected using in-depth interviews, which included student group interviews and the English teacher interview sessions. In addition to interviews, classroom observations were conducted. Lastly, students' self-reflective logs and English teacher's lecture review reports were gathered and analyzed.

Results of Students' Reflective Self-Evaluation Logs

During the digital storytelling class, each student was asked five times every two weeks to fill out a reflective self-evaluation log with the object of identifying any changes of affective factors. A reflective self-evaluation log was designed to help students increase the value of the learning experience by facilitating meaning out of the process they were engaged in. Through a reflective self-evaluation log, the researcher could figure out how it helped the learners to connect the new material of learning to their prior knowledge and a better understanding for English learning.

After categorizing the codes extracted from their logs, it was shown that there were four main themes that were interest, participation, understanding, and self-confidence for learning English using digital storytelling. Table 37 shows the result of students' responses.

Table 37. Results of Students' Reflective Self-Evaluation Logs

Contents			
Growing interest for English learning	Active participation of the class	Better understanding of the content	Gaining self-confidence toward using English

As shown at Table 37 above, most of the students had a similar opinion on a steady change of their learning attitude, engagement, confidence and positive thinking (Donhwa, Jaekyung, Jeonga, Jinmahn, Taekmin, Yoonkyoung, Yuchang, & Yunbyung). The next two excerpts from a reflection log of Yunbyung illustrated how his learning attitude was changed over time after digital storytelling project

윤병: 문법공부 안 해서 좋음, 그런데 다같이 하니까 나 혼자 할 일이 별로 없고 심심함. 시간은 잘 가고 자유롭게 떠들 수 있어서 좋음. (실험 4 주차)

Yunbyung: "I feel good because I don't study grammar. But I don't know what to do because my group members do most of the project. Time goes well, and I like the way we can chat freely in the class." (4th week of the research)

윤병: 다같이 함께 하니까 더 좋은 작품이 나옴. 다른 조 보다 더 잘 만들고 싶어서 다들 열심히 한다. 선생님한테 잘했다고 칭찬받음. 그림을 넣어서 만드니까 이해하기 쉽고 집에 가서 동생이랑 엄마아빠한테도 보여주고 싶음. (실험 10 주차)

Yunbyung: "We are making a huge progress because we work together. We try our best to make a better production than any other groups. English teacher praised us for our work. It is easy to understand because we import images in our creation. I want to show my work to my mom, dad and brother."(10th week of the research)

As shown above, it was pretty obvious that Yunbyung's interest and understanding for the digital storytelling lesson escalated over time. He got more involved in the lesson using digital storytelling which triggered active participation in the class and made him and his group members gain more self-confidence, lowering anxiety in learning English. To sum up, integrating digital storytelling as part of English instruction enhanced ELL student learning considerably enhanced, clarifying that digital story was very effective in the sense that the students were all engaged in it, and their attention was focused. As Mayer et al. (2003) stressed, active engagement in the class helped the students construct their knowledge and organized information into meaningful learning.

Classroom Observations

Students' attitudes in the class were carefully observed. Field notes, jottings and artifacts were kept and gathered and then transcribed if needed. The transcripts were reviewed in conjunction with the field notes taken during the observation. Any challenges or difficulties encountered by students frequently were noted as an important issue for further classroom instruction and development. In addition to collecting those data, the observation checklist using Communicative Orientation of Language Teaching (COLT)

were used, then summarized, compared and interpreted. Below Table 38 shows the results of activities used by English teacher in class using digital storytelling.

Table 38. Results of Most Favored Activities in English Class

Item	Mean	Item	Mean
Information-Based Activities	3.64	Paraphrastic Activities	3.84
1. Comprehension questions exercises	3.71	13. Translation of text using L1	3.88
2. Lecture sessions	3.91	14. Re-tell story to students	3.94
3. Read notes from workbooks/handouts with students	3.20	15. Students read paraphrased notes in the workbook/handouts	3.67
Personal-Response Activities	3.53	16. Students re-tell story to the class	3.90
4. Explain a text to students	3.75	Moral-Philosophical Activities	3.26
5. Journal writing	3.42	17. Reflective sessions	3.72
6. Brainstorming sessions	3.66	18. Discussions on moral dilemmas	3.16
7. Small group discussions	3.25	19. Tell moral values to students	2.98
8. Writing about feelings/reactions towards an issue	3.60	20. Conduct self-evaluation activities	3.20
Language-based Activities	3.38	Stylistics Activities	3.07
9. Group work	3.26	21. Identify linguistics features (e.g. vocabulary, tenses) in a text	3.55
10. Language activities (cloze,	3.55	22. Discuss different meanings of	2.84

jigsaw puzzle, prediction exercises		a text	
11. Debate	3.52	23. Extract examples from a text that describe a setting	3.00
12. Performance activities (drama, role play, poetry recital)	3.18	24. Identify adjectives that describe a character	2.92

As show as above at Table 38, the results described that the most favored class activities used to study English using digital storytelling were as follows: paraphrastic activities (M = 3.84), information-based activities (M = 3.64), personal-response activities (M = 3.53), language-based activities (M= 3.38), moral-philosophical activities (M = 3.26), and stylistics activities (M = 3.07). Paraphrastic activities were the most favored activities in the class, whereas stylistics activities were among the least favored ones in the class. On one hand, it revealed that students were quite familiar with learning English taught in L1 which is a Korean language (M=3.88), and they got used to learning English in a way of re-telling (M=3.94) which was a similar grammar-translation method. On the other hand, students did not have sufficient activities about discuss different meanings of a text (M=2.84).

Interviews with English Teacher

To understand the English teacher's insights into classroom instruction using digital storytelling, in/formal interviews were conducted twice at both the beginning of the research and at the end of the study. Each interview took half an hour with a semi-structured format designed by the researcher. The data provided by English teacher was

then analyzed using content analysis. In an effort to provide a general overview of the data collected, the results for each question are presented as below.

Overall Opinions on the Use of Digital Storytelling

The first question asked to English teacher involved his overall opinions about the use of digital storytelling and it effects on general English learning. Mr. Suk asserted that he thought that the application of digital storytelling in the class had many educational benefits for the student. He added that digital storytelling had changed many things in the class, not only helping to improve the student's English language proficiency, but also providing multiple ways to engage students' interest and motivation.

선생님: (중략) 무엇보다고 학생들이 영어시간을 기다리고 있다는 걸 느낄 수 있어요. 아이들의 수업태도와 자세가 달라요. 시험을 위한 공부가 아니고 정말 팔요 한 걸 배우는 거잖아요. 자기가 말하고 듣고 쓰고 읽고, 다른 수업도 이렇게 재미있고 기다려 진다면 얼마나 좋을까요?

Mr. Suk: "Most of all, I can feel that students are waiting for the class. I mean their attitude looks totally different from other class. They are learning what they have to learn, not just for the test. They can do a sort of practice of reading, writing, listening, speaking… I am wishing other subjects could be as interesting as our after school class."

Benefits of Digital Storytelling in English Class

When asked the benefits of digital storytelling in EFL English classroom, Mr. Suk noted that the potential benefits of digital storytelling are its positive educational effects on the sixth grade ELL students' attitudinal changes in learning English. By creating

multimodal digital storytelling, students were able to have deeper understanding of the lesson, which led to their voluntarily active class participation. He also emphasized that digital storytelling made students engaged in the content of the story not only by promoting motivation and interest, but also by providing confidence in learning English.

선생님: 일단 아이들이 좋아합니다. 표정을 보면 알 수 있어요. 잘 만들고 못 만들던 간에, 컴퓨터를 이용해서 뭔가 만들어내고 함께 그룹활동도 하고, 수줍어하던 아이들도 시간이 갈수록 발표도 잘해요. 이해력도 좋아지고 일단 아이들이 영어에 대한 자신감이 많이 늘어난 것 같아요.

Mr. Suk: "My students like creating digital story and in class, I can grasp by looking their face. Whether they can make their own story well or not, they like to use a computer, to work collaboratively with peers. As time went by, they became better in presentation. I think students' understanding got better, and their self-confident toward English drastically lifted up than ever."

Challenges of Digital Storytelling in English Class

The next question inquired to the English teacher was about any challenges of integrating digital storytelling into the English curriculum. Mr. Suk answered that there were a few challenges found during the class. One of them was the complexity of the tasks which might be the most difficult issue to address in the classroom. Students needed to learn such four integrated skills as reading, writing, listening and speaking, and digital storytelling was helpful enough to cover those goals. However, he admitted that while teaching English for a communicative purpose sounds desirable and significant, to focus

only on such aspects may prevent students from gaining good test scores. In this sense, Mr. Suk argued that the test-oriented learning, or learning for the test should be changed in learning English or any foreign languages at school. He also expressed many concerns about the lack of class time and learning tools when integrating digital storytelling into the regular English class. But for any assistant teacher or staff, it might be almost impossible to run a class of more than 30 students.

선생님: 일단 시간이 많이 부족해요. 설명도 해야 하고 아이들 발표도 해야 하고, 저 혼자 하는 게 솔직히 많이 힘들고 준비시간도 많이 걸려요. 대부분 그래도 잘 따라 오는데 몇몇 학생들이 묻기를, 이거 잘 만들면 영어 시험 100 점 받을 수 있냐고... 그런 소리 들으면 좀 속상합니다. 시험제도가 바뀌지 않는 이상 디지털 스토리 만드는 건 정규 수업에 할 수 없을 거에요. 학생도 많으니까 (한숨)

Mr. Suk: "Well, TIME issue! I have to explain, students have to follow and present. Honestly speaking, it takes a lot of time to prepare for the lesson, and it costs me a lot of energy, too. Nonetheless, most of the students followed well, but some asked me before like, "If we can do digital story well, then we can receive a high test score?" (long pause then sigh) I felt pretty confused and upset, because I know the reality, and have to admit that it's not that easy to use digital storytelling in a regular English class if the test system won't be changed. There are too many students in a class, as well…. (sigh)…."

Effective Applications of Digital Storytelling in English Class

In order to make better English curricular, Mr. Suk stated that the way of assessing students' English proficiency should be changed from the elementary school.

According to him, at least, English which is now called ‘Globish’ or Global English is required to be taught for a communicative purpose, and therefore he thought both listening and speaking skills are needed to be focused. Mr. Suk also stressed that digital storytelling can be a ideal resource for young learners or those of low English proficiency to learn English, because it makes them practice four integrated skills including listening and speaking. Finally, he advocated that digital storytelling is presenting a good example on what English teachers in rural schools can do for students suffering from social, educational inequality and disadvantage. An excerpt below shows Mr. Suk’s opinion about an education application of digital storytelling in English class

선생님: 영어는 이제 꼭 배워야 하는 과목인데, 그러기 위해서는 듣고, 말하는 게 제일 중요하잖아요. 학교에서 가르칠 수 있는 한계가 있는데 그런 점에서 디지털 스토리텔링은 좋은 아이디어 같아요. 시골에 산다고 여러 가지로 불편한데 이런 걸로 인해a 아이들이 자신감을 가지고 재미있게 공부했으면 좋겠어요. 도시처럼 학원도 별로 없고, 진짜 시골학교에서는 흥미를 불어넣어 주는 게 제일 필요하거든요.

Mr. Suk: “Nowadays, English is a must, and we have to learn it. To do so, speaking and listening is important, isn’t it? But there is a limitation in teaching and learning English at school with a textbook, but digital storytelling is a great idea. In a rural school, there are few resources available and I wish my students get confidence by using this wonderful resource. We have few private language institute compared to city areas, and I think we need something special to provide motivation for students living in a rural area.”

Impacts and Effects of Digital Storytelling in English Class

The last question posed to Mr. Suk was whether or not he thought that the use of digital storytelling in English class had an educational impacts or effects on students' learning or their perceptions. His immediate response to this question was "Yes, of course! I am so sure about its positive effect". He added that although there are a number of notable challenges existing, it can be developed into a great educational resource for teaching and learning English. Below is a statement from Mr. Suk regarding the benefits of digital storytelling in English class.

선생님: 제가 생각할 때는 시골학교 아이들에게 정말 중요한 건... 영어에 관한 관심과 흥미 같아요. 현실적으로 성적도 중요하지만, 무엇보다고 아이들이 어떻게 하면 영어와 친하게 지낼 수 있을까가 제일 중요한 것 같아요. 그런 점에서 디지털스토리 만들기는 일석이조 같아요. 영어도 배우고 아이들의 흥미도 올라가고 덩달아 확실한 동기부여가 되니까요.

Mr. Suk: "I think the most important key in learning English in a rural elementary school is (pause) students' interest and attention for it. Realistically, yes, test score is important, (pause). However, I think more important thing is that how I can help my students make friends with English. In that sense, I feel digital storytelling, it serves a double purpose. Students can learn English through it, and their interest escalates naturally as well. More than anything else, digital storytelling helps students to stay motivated."

Result of English Teacher's Lecture Review Reports

In order to find out English teacher's attitudes and feelings about digital storytelling, the task of writing a lecture review report was given to him five times throughout the research period. Similar answers from students' reflective self-evaluation logs were then categorized into five sections that explained how he felt on digital storytelling during the lesson.

Table 39. Categories of English Teacher's Lecture Review Report

Category	Review Comments
Helpfulness	1. Digital storytelling is helpful to overall English learning
Pleasure	2. Digital storytelling makes English class fun.
Interest	3. Digital storytelling provides more interest in learning English.
Motivation	4. I want to study English more with digital storytelling
Necessity	5. Digital storytelling is necessary in English class.

Mr. Suk agreed that one of the most beneficial effects of digital storytelling was helpfulness in learning. Next, he thought by gaining a sense of satisfaction and confidence, students were strongly motivated, which aided them to have a desire for further English learning. Based on some excerpts from Mr. Suk's lecture review report below, it became much clearer why he felt satisfied with digital storytelling.

선생님: 학생들이 디지털스토리 만드는 것에 굉장히 관심을 많이 보인다. 개인컴퓨터를 가지고 수업을 하니까 들떠 보이기도 하고, 뭔가 이런 새로운 시도를 통해 아이들이 영어공부에 흥미를 붙였으면 한다". (실험 4 주차)

Mr. Suk: "Students came to show their interest in creating digital stories by themselves. It looks like that they seem pleasant because they can study with a laptop. My hope is that students will be able to gain more interest through this opportunity creating digital stories." (4th week of the research)

선생님: "시간, 시간! 늘 시간이 부족한 것이 문제이지만, 학생들이 잘 따라와 주고 있다. 제법 영상과 음악이 잘 조화를 이루고 아직 부족하긴 하지만 그래도 자기만의 작품을 만들어 나가는 모습이 뿌듯하다. 이것을 통해서 아이들의 영어실력이 갑자기 좋아 질 거라 생각하지는 않지만 아이들이 영어수업시간에 흥미와 관심을 갖게 되어 이것만으로도 성공이라고 본다". (실험 8 주차)

Mr. Suk: "Time, Time! We always lack of time in class, but my students manage to follow the procedures well so far. Some students can make a good story with music and pictures. Although they are still in the start line, I feel satisfied to see students can create their own works. I doubt that their English ability can surprisingly improve. However, I do believe it will be a success only if students have more interest and passion in learning English." (8th week of the research)

선생님: "20 분이면 이제 제법 멋진 디지털작품이 나온다. 자신이 만든 작품을 함께 나누고 수업 중에 발표하고 제한된 어휘나마 자기만의 스토리를

만들어간다. 수업시간이 정규시간보다 좀 정신 없기는 하지만 이런 게 진정한 영어수업이 아닐까 생각한다. 아이들의 관심이 새삼 놀랍니다". (실험 10 주차)

Mr. Suk: "students can create beautiful production within 20 minutes now. They like to share and present their own work in the class. Although they still have limited English proficiency, they can produce their stories using it. The class itself seems crazy, but I think this is a desirable or ideal English class. I am too surprised to see students' interest on this." (10th week of the research)

As described above, Mr. Suk enjoyed English class using digital stories including multimedia components. It was obviously different from a traditional English class depending on the paper-based books, and the bottom line was that students were able to have a strong motivation for learning English.

Students Group Interviews

Through the group interviews with students, it was evident that they considered digital storytelling an effective learning material to study with in English class. For instance, one student (Donhwa) commented that it was the first time that he enjoyed such a learning task because he loved a game-like learning environment. The other student (Yuchang) also stated that he enjoyed creating digital stories, as he found it more interesting than learning from the textbook. Below are excerpts from two students.

돈화: 저는 처음 해 본 거였는데요, 대게 재미있었어요. 학교나 학원에서는 교과서 문법공부하고 문제집만 푸는데 이렇게 공부하니까 새로운 기분이었어요. 그리고 이렇게 영어공부 할 수 있는데 대게 신기했어요.

Donhwa: "It was my first experience, and it was very fun to me. I have been studying English with a textbook or grammar exercise book so far at school or at a private language academy. But this way was great, it was so refreshing. My eyes opened wide thinking, wow I can study English in a different way."

유창: 제가 게임 진짜 좋아하는데, 디지털스토리 만드는 게 게임 하는 기분이에요. 솔직히 영어는 잘 못하지만 만드는 게 대게 재미있었어요. 맨날 교과서로 공부하다가 컴퓨터로 공부하니까 저는 집중도 잘되고 더 좋았어요.

Yuchang: "I personally am crazy for online games, and to create a digital story was exactly the same to me. I was feeling like playing a game. Frankly speaking, I am not good at English, but digital storytelling was a fun activity. It even made me concentrated in learning better than studying with a textbook. I am very satisfied with it."

As shown above, student interest in using digital storytelling in English classrooms was very high. To most of the students, even though using digital storytelling was a new learning experience, they felt it was an effective way to improve their English proficiency and agreed that it helped increase their interest in learning English. However, although most of the students generally agreed about its educational effect, one student (Hyunji) pointed out that she was not interested in it, and that she couldn't understand how digital storytelling could facilitate learning for improving her English proficiency.

Based on her opinion, digital storytelling did not bring a positive synergy effect to escalate her English ability. Excerpts from her 2nd interview are shown as follows.

현지: 재미는 있는데, 이게 영어 잘하는 거랑 상관 있는지 모르겠어요. 그냥 교과서로 공부하는 것 보다 컴퓨터로 수업하는 건 좋아요. 그런데 이것만 한다고 진짜 시험점수도 잘 받고 영어로 말도 잘할 수 있을 지는… 글쎄요, 모르겠어요.

Hyunji: "It's interesting, but I am unsure whether it (digital story) will affect my English proficiency up later. I mean, I like the way we study with a computer than do with a textbook. By the way, will I be able to be good at test and to speak well in English if I continue doing this? Well… I don't know. I am not sure."

Students' Satisfaction with Digital Storytelling

In terms of a question about their satisfaction with digital storytelling in English class, students also uttered that creating digital stories helped them to understand the subject content better. A few students (Jeonga, Sooyeon & Yunbyung) had the same idea that they were able to gain confidence, and positive outlooks for further English learning, and were satisfied with learning effect using digital storytelling. They also commented that they have become more self-aware in improving overall English ability. One student (Sooyeon) also showed a positive attitude and acknowledged that the class using digital storytelling was very useful and helpful. Next excerpts show how students have felt after experiencing digital storytelling.

정아: 그냥 교과서로 수업하는 것 보다 시간도 많이 걸리고 힘들긴 한데, 그래도 배우는 게 다양한 것 같아요. 인터넷으로 정보도 찾아보고, 이것저것 도움이 많이 되었고, 재미있게 공부한 것 같아요.

Jeonga: "Though I ought to spend a lot of time when using digital storytelling than just reading a textbook, I think I have learned even better because web resources available allowed me to explore and discover detailed information. I am satisfied with my improved attitude."

수연: 숙제가 있어도 재미있었어요. 다른 과목은 하기 싫은 것도 많은데 이건 재미있었어요. 만들면서 영어로 문장을 쓰는데 번역기 같은 것도 써보고 도움이 많이 되었어요. 다음에도 또 해보고 싶어요.

Sooyeon: "Homework was also fun to do. I hated doing homework like math or science, but this one was not bad. As I was creating my story, I used online translator, which worked a lot for me. I want to do this again."

윤병: 영어를 잘못해서 다른 시간에는 대게 조용했는데 이건 컴퓨터로 하는 거라 나름 자신 있었어요. 조별 활동할 때 다른 친구가 문장 만들어 주면 제가 얼른 포토 스토리로 만들고, 저희도 대게 잘 했어요(웃음)

Yunbyung: "Because of my English level, I was pretty quiet in English class. But I was pretty confident in this after school class, because we were studying with a laptop. In group work, once one of my peers created a storyline and sentences, and then I produced a digital story using Photo Story 3. We had a great team work. (laughing)"

As described above, the results showed that students were satisfied with using digital storytelling in English class. Besides, as digital storytelling provided a platform that enabled inquiry-based learning, students could expand their learning using search engines more effectively to gather information.

Helpfulness and Usefulness of Digital storytelling

In terms of a question about the helpfulness and usefulness of digital storytelling, most students regarded it as positive. A result from group interviews with Jimahn, Taekmin and Yoonkyoung revealed that digital storytelling helped to easily understand the learning content. They commented that the interactivity feature of digital storytelling made learning facilitated and fostered. Plus, they stated that they enjoyed small group work in the class and sharing their work with each other. Because they have had few opportunities to interact with others in a regular English class, they thought that using digital storytelling provided them with ample opportunities to communicate with each other. Excerpts from the students' interviews on the topic of the helpfulness and usefulness of digital storytelling are as follows.

지만: 처음에 잘 못 만들었기 때문에 좀 걱정이 많았어요. 다른 애들은 대게 잘하더라고요. 그런데 친구들 하고 같이 하니까 재미 있더라고요. 나중에 앞에 나가서 발표도 하고 아무튼 재미있는 경험이었어요.

Jimahn: "At first, I was worried, because I am not good at making a story. I was a little behind other students in this class. But it was fun to work with my friends. I was

able to finish my work and present it in front of the whole class. I loved to share what I did with my classmate."

택민: 전 원래 영어 별로 좋아하지 않았어요. 그런데 디지털 스토리 하는 건 재미있었어요. 친구들과 같이 하고. 단어라던가 내용을 더 잘 기억할 수 있고요. 컴퓨터로 수업하는 게 신선하고 즐거운 경험이었어요.

Taekmin: "I have been not interested in English itself, but digital story was very fun to make, to read and to share with. I can remember the words and the stories longer, and to use a computer and programs in the classroom is also a pleasant learning experience to me."

As shown above, students responded positively to the use of digital storytelling. One student (Yoonkyoung) in her interview expressed that she was able to improve her English skills as well as her learning attitude and self-esteem, because she has always had a lack of confidence in class. The following excerpt shows how her aptitude and attitude toward English learning was changed after using digital storytelling.

윤경: 전 수업시간에 말을 잘 안 해요. 혹시 틀릴 까봐 걱정도 되고 그냥 좀 그래요. 마음 속으로는 준비하고 있지만 말을 하는 게 부끄럽기도 하고, 근데 디지털스토리 같이 하면서 애들하고 너무 즐거웠어요. 같이 공부하니까 자신감도 생기고 이제 발표하는 것도 많이 좋아진 것 같아요.

Yoonkyoung: "I don't speak much in class just because I may be wrong, or so. I feel shy when I have to so. (pause) But I was pretty happy to work with my friends. As I

studied with them or as a group, I felt more confident and my English level increased. And I think now I became much better to give a presentation in front of others."

Active Learning Experience

Another benefit of digital storytelling was that it supported learning in an atmosphere conducive to engaging students actively in learning. Based on the results of the group interview with Jaekyung, Taekmin and Yunbyung, digital storytelling seemed to have contributed to enhancing students' creative thinking by fostering active learning and encouraging participation. Unlike a traditional English class, students in this after school class became active learners who were voluntarily doing tasks which they had to do in class. They all engaged in learning using digital storytelling when they studied through reading, writing, listening, speaking and even reflecting. The followings are interview excerpts from Jaekyung and Yunbyung.

재경: 다른 수업에서는 선생님이 시키는 것만 하고 그러는데 이 시간에는 저희들이 알아서 만들고 발표하고 많이 떠들 수도 있고, 살아있는 교실! (웃음) 좋았어요.

Jaekyung*: "Normally, we only do what the teacher let us do in other classes, but this class was different. We do, create, discuss and present by ourselves. We also talked a lot in the class, Alive class? (laugh). It was good."*

윤병: 사진 같은 걸로 쓰기 활동해서 신기했어요. 공부도 이해하기 더 쉬었고요. 목소리 녹음해서 말하기도 재미있었어요. 음악도 함께 넣어서 만들어보고 나중에 또 만들어서 가족들이랑 친구들한테도 보여줄래요.

Yunbyung: "I like to use the visual images in the story, and I can easily understand what it means. I also recorded my voice to narrate my own story, which was fun. To choose music and sound is also very interesting. I want to make more stories and then share them with family and friends."

As mentioned above, the class did not seem to be 'teacher-centered', and it was clear that technology as part of learning materials played an important role in enhancing the students' learning experience or/and triggering active learning experience. In other words, a new teaching approach using digital storytelling affected to create a rich collaborative learning experience for students. Being 'student-centered', they could be comparably active learners in this class.

Motivation Increase

The other strength of digital storytelling, as students reported was the increase of motivation. Results from a group interview with Hyunji, Jimahn and Yoonkyoung revealed that digital storytelling made it possible to have intention, to arouse interest and motivation, and to gain confidence and enthusiasm for further learning. They emphasized that it has also helped to improve their overall English proficiency. It was therefore probable that students, by using digital storytelling could advance their English ability as well as interest and motivation. The followings are the excerpts from a group interview with Hyunji and Jaekyung.

현지: 학교에서 디지털스토리 발표대회 했으면 좋겠어요. 지난번에 만든 우리동네 소개도 외국인들한테 보여주고 싶고. 다른 과목 배울 때도 이렇게 새로운 걸로 배우면 좋을 것 같아요.

Hyunji: "I hope we have a digital story competition, so I want to show my work – introduction of my town, Jooyoung to foreigners. Also, I think it will be better to study with a new material like this (digital story) when we learn other subjects."

재경: 솔직히 별 기대는 안 했는데 나름 재미있었어요. 미술시간 말고 제가 제일 좋아하는 시간이에요. 시간이 너무 빨리 가서 아쉬웠어요. 조금 하다 보면 벌써 끝나고. 노트북이 있으면 한번 또 해보고 싶어요.

Jaekyung: "Honestly speaking, I did not expect this class. But this class was good. This is my 2nd favorite class after fine arts class. Every class time flew so quickly. Time's over when I was doing it. I want to do it again if I can use a laptop."

Consequently, a positive attempt and impact on the students who participated in the innovations using digital storytelling could increase confidence and self-esteem, improve group-working and co-operative skills, enhance achievement, and eventually influence their English proficiency.

Development of Digital Literacy Skills

Owing to the national educational policy act in Korea for supporting a rural school, the fundamental technology infrastructure and support has been provided by the

Ministry of Education, and it brought a positive effect on improving equity in rural education. As a result, students in Namsan Elementary School were able to have a personal laptop computer for learning. According to the group interviews with students (Jeonga, Jaekyoung, Yunbyung), it was revealed that the use of digital storytelling contributed to improving students' digital literacy skill and enabling to expand the knowledge of technology in learning process. The following represents an excerpt from Yunbyung's thought on the use of IT in learning.

윤병: 교과서랑 문제집 말고 다른 교재가 별로 없는데 학교에 컴퓨터가 있어서 자료도 찾고 숙제 하는데도 도움이 되고 도서관에도 컴퓨터가 더 많이 생겼으면 좋겠어요.

Yunbyung: "Basically, there are few resources and materials except for textbooks and exercise books. But now that we have a laptop, it is easy to find more resources and helpful to do assignment. I wish we could have more computers at library."

Mr. Suk also pointed out that both teachers and students in Namsan Elementary School were fortunate to have up-to-date IT infrastructure, and it was helpful in reducing educational inequity and the academic gap between urban and rural students. For example, one of the interesting facts was that students showed the different learning attitude in English class when a computer was utilized as a learning tool. Unlike the traditional way of studying English, students were encouraged to be creative and innovative in making their digital story. While the traditional way of learning English in Korea paid too much attention to rote learning, asking students to memorize, learning

with a computer and technology provided a pleasant learning experience for them to become more creative and critical learners. Following is an excerpt from 2nd interview with him.

선생님: 시골학교가 도시학교와 경쟁할 수는 없습니다. 다만 다양한 학습도구들, 특히 멀티미디어 시설이 있다면 어느 정도 교육격차 해소에 도움이 될 것 같아요. 우리 아이들도 양질의 교육을 받을 권리가 있잖아요.

Mr. Suk: "I know rural schools can't competitively be the same as one in the urban area. However, if we have various learning tools or resources, particularly multimedia equipments, I think those will be helpful to narrow educational achievement gap. My students in Namsan Elementary School also have a right to receive a high quality education."

Application of Digital Storytelling into Other Subjects

As a last advantage of digital storytelling in a class, the students responded that this digital storytelling would be used and adapted in other subject areas. One student (Donhwa) commented that to produce a digital storytelling with Photo Story 3 was so interesting and enjoyable that more learning tasks would adopt this approach. Yuchang also agreed that using a game-like learning experience could make learning more fun and help students deeply involved in learning.

돈화: 제가 영어를 좀더 잘하면 더 멋진 디지털 스토리를 만들텐데요, 대신 우리 역사 같은 거 배울 때 이거 이용하면 더 좋을 것 같아요. 글짓기 시간이나 자연시간에도 할 수 있을 것 같고. 다른 시간에도 한번 해봤으면 좋겠어요.

Donhwa: "I wish my English proficiency would be high, then I could make way better story. Instead, (pause) I think it will be better to use digital storytelling in history class. Or, we can use it in writing class or science class. I would like to use this in other subject classes."

유창: 영어는 단어 많이 외우는 게 제일 중요하다고 생각했는데 이렇게 영어공부 하니까 내가 뭔가 만들어 가는 게 더 중요한 것 같아요. 제가 게임도 엄청 좋아하는데 게임에 나오는 영어도 열심히 영어공부 할거에요.

Yuchang: "I believed that to memorize a vocabulary is a key in learning English, but with digital storytelling, I realized that it's more important for me to create something in English that I learned. I like online games and I will study English expressions in the games, too."

As noted above, students' overall opinions about the educational effects of digital storytelling in the English classroom turned out positive as the research processed, and their overall satisfaction for learning was also high. This shows that students seemed to have felt that using digital storytelling was a helpful, productive approach not only to make learning experience exciting, meaningful, and active, but also to make students' perceptions and attitudes towards a traditional learning changed.

Difficulties of Using Digital Storytelling in a Class

Although most students agreed that the digital storytelling activity has several potentials as an effective tool, there were a few challenges they felt difficult in using it. One of them was the technical difficulty while using it in the class. The laptop as a main learning tool did not work perfectly during all time. Time to time, it got frozen and slow without any specific reasons. As there were no assistant teachers or mentors to help in a timely manner, the students had to reply on the English teacher. Next excerpt describes a complaint from one student who faced a technical problem.

택민: 프로그램 사용하는데 그렇게 어렵지는 않았는데, 저장하고다시 불러오는 것을 몰라서 힘들었어요. 한번은 컴퓨터가 갑자기 느려지면서 멈추었는데 다시켜고 하는데 시간이 많이 걸렸어요. 선생님이 도와주셨는데...

Taekmin: "It was not that difficult to use the program, Photo Story3, but I had a difficulty to open the file after saving my work. I was not sure where it was saved at first. Also, I had a bad experience because my computer got frozen suddenly one day, and I didn't know what to do. My teacher helped to reboot, anyway…"

As shown above, in a class where students use technologies, it looks obvious to have an assistant teachers, staff or mentors to assist both the students and the teacher. There was another issue students had when they navigated the web to search proper images or songs. Some websites did not allow the users to download any of the items. It was also directly related to the issues of ownership, copyright, or permission. As a result, the students had to spend more time to find freely downloadable materials for their work.

So far, there is not a clear answer to the question of what materials may or may not be freely downloaded and used in educational purposes. Even though it seemed to be the best for students to use digital cameras or camcorders to shoot their own pictures and video, there was no such equipment for students in this research. In other words, the web was the only venue for them to find either songs or images. Following excerpts show the difficulties some students found while downloading materials from the web.

수연: 인터넷에서 음악을 찾긴했는데 다운을 받을수가 없어서찾느라 시간이 많이 걸렸어요. 녹음하는 것도 계속 연습을 했지만, 소리가 작아서 다시하고, 헤드셋으로 처음해보는 거라서요.

Sooyeon: "I managed to find a good image from the web, but I could not download it. I ended up wasting some extra time to do it. I tried to record my voice for narration, but it was recorded in a very low volume. I had to do it again and again, and it was my first experience to use a headset."

현지: 그림을 다운받았는데 로고 같은게 있어서 지우지 못했어요. 지우고 싶은데 어떻게 하는지 모르겠어요. USB 가 있으면 좋을 텐데, 없으니까 집에서 엄마 아빠한테 못 보여 줬어요.

Hyunji: "One day, I downloaded an image, which has a logo on it. I wanted to erase it, but I had no idea how to do that. I wish I could have a USB drive to save my works. I could not show my works to my mom and dad at home because I did not have a portable storage for saving.

Summary of Data Analysis Part II

This chapter described the research findings mostly from the qualitative data which consisted of students' reflective self-evaluation logs, English teacher's lecture review reports, classroom observations and interviews with students and English teacher. Findings showed that both English teacher and the students considered digital storytelling activity interesting and useful for helping to teach and learn English in a pleasant manner. It was also revealed that using digital storytelling can not only provide opportunities to practice English for a communicative purpose, but also engage students in enjoyable learning experiences. After taking all the factors into consideration, the researcher reached this conclusion that the students had a positive learning motivation toward English learning using digital storytelling, and were also satisfied with its educational effectiveness.

CHAPTER 6

SUMMARY, CONCLUSIONS, AND RECOMENDATIONS

This chapter summarizes the major results of the present study with references to implications for pedagogy and research from previous studies. It also contains pedagogical implications, limitations, and suggestions for future research based on the results of present study.

Introduction

Although there were several challenges to use it in a class, digital storytelling as multimedia-integrated instructional strategy was used in an after school English class, and showed the potential as an effective learning tool to escalate students' English proficiency and their motivation for English learning. In other words, this mix-method research study after twelve weeks of digital story intervention, the sixth grade elementary school students in a rural school demonstrated significant improvement in overall English proficiency (reading, writing, listening and speaking), learning motivation, and ICT digital literacy skills.

Furthermore, qualitative data from interviews and writing artifacts with the English teacher and students reconfirmed the potential of digital storytelling as an approach for fostering language learning in EFL environment. Students developed a way of expressing their own voice using digital storytelling project, which engaged them in

learning as a meaningful activity. Below provides a brief summary of the process and finding.

The Correlation of Digital Storytelling and Reading Proficiency

In order to verify the change of the students' reading proficiency, pre- and post-reading comprehension tests were respectively taken in the first and the last week of the research. The test results analyzed by descriptive statistics using SPSS 17 described that among students' learning outcomes, students' reading ability made a significant improvement as a result of instruction with digital storytelling. This means using digital storytelling in an English class had a positive effect on the development of reading ability. As the students have become more adept at making progress in learning tasks and activities using them, it led them to become more proficient in reading and to create better digital stories.

In terms of a mean score, students obtained 60 in the first-test, while scoring a mean score of 75 in the second-test. In other words, there was 15 comparison mean score between the results of the two tests. The difference of mean score indicated that digital storytelling was a meaningful aid to help students enhance reading ability. In addition, the results of descriptive analysis showed that there was strong evidence for the efficacy of digital storytelling in improving students' reading ability over time.

To sum up the findings of reading ability tests, there were large mean score differences of 15 points between the pre- and post-test which was adapted from the 2011/2012 National Academic English Achievement Test for the sixth grade. The large differences between the two tests described that it was statistically significant, showing below $p<.001$. Thus, it has been statistically proven that the use of digital storytelling

enhanced students' reading comprehension. Moreover, digital storytelling strategy facilitated the understanding of structures and expression, and eventually led students to have a better reading comprehension.

Based on the results of the two tests, it can be summarized that the use of digital storytelling has great effects on the development of reading comprehension over time. It is, therefore, certain that students are more likely to improve their reading proficiency once they get more used to utilizing digital storytelling, and incorporate it well into their learning process. It is apparently effective to the English teacher, as well, in that he can use digital storytelling as a successful teaching tool to support reading comprehension. Of course, it can be possible only if the teacher allots enough time by providing adequate assistance, and consistently supports the use of digital storytelling by reinforcing them in class.

The Correlation of Digital Storytelling and Writing Proficiency

Pre- and post-writing ability tests were administered in the first and last week of the research to identify any changes of students' writing proficiency. According to descriptive statistics as used in the reading ability tests, the results showed that there was a mean different of 7.4 between the pre- and post-writing ability test. That is to say, digital storytelling was identified as a very useful learning strategy for English writing instruction, as well. Students showed considerable improvement in writing skills over time using digital storytelling. Although there were few students who showed improvement to an advanced writing proficiency level, most of the students scored overtly high, as opposed to the result of the pre-test.

In this regard, it can be presumed that digital storytelling, a form of multimodal literacies appealed to the students. One of the reasons they could expand their skills naturally and spontaneously in writing was because of the characteristic of multimodal literacy. In other words, a practice of multimodal literacies using digital storytelling helped young students to have a better understanding when acquiring new information. The writing practice employed in this research was totally different from the conventional one, in that it was composed of SATIs (sound, audio, text and image). Those multiple modes of communication and expression led students' writing practice to be improved, even though students were given approximately twenty minutes per class to work on their story making. Despite this, they became so dexterous in terms of using the technical aspects of digital production.

As a result, multimodal production using digital storytelling increased capacity for each student to adapt the tools for their own learning process and communication purposes, and students finally could build capability to develop literacy skills for a real purpose of learning English. To produce a digital story also worked as a means to get students' digital stories published, and students could express their real voice through it.

Therefore, it can be summarized that English learning using digital storytelling has brought a positive effect on improving writing ability, and students can take advantage of learning when the digital storytelling is applied in a writing or composition class by developing multimodal literacies.

The Correlation of Digital Storytelling and Listening Proficiency

In order to investigate the change of students' listening ability, two pre- and post-listening tests were administered. According to the results of the two tests, there was an

increase of an average of ten points between the pre-test and the post-one, representing the fact that digital storytelling improved students' listening ability. Specifically, the results indicated that the students who had the lowest scores on the pre-test showed the greatest improvement on the post-listening test. It can be claimed that digital storytelling had a positive impact on the students who were at a lower proficiency level of listening.

The fundamental reason why students could improve their listening skills throughout the entire multimodal media production was due to the characteristics of digital stories. Unlike a conventional storytelling, digital storytelling provided visual aids which worked as sufficient clues to help students understand the content. Such embedded visual aids such as pictures and images made students comprehend a lot better, when they might have a difficulty in understanding the story without the images. Whenever unfamiliar topics and unclear narration have discouraged some students to understand, such visual components helped them to seize the main idea.

Additionally, digital storytelling was also useful in practicing the pronunciation of English words and sentences. Because all the students in the class were non-native English speakers, they had opportunities to practice the correct pronunciation by listening to their peers' narrative in a digital story form. When students saw and listened to a digital story, simultaneously, they could repeat the words and phrases which were unfamiliar to them. This process helped to increase students' comprehension of what was being said.

Overall, it can be concluded that digital storytelling was helpful in developing students' listening proficiency through the use of visual aid effects in a digital story. Visual aids such as photos, pictures, or the images in a digital story indeed helped to

contextualize students' listening input and provided clues to meaning. Therefore, it is unquestionable that digital storytelling provided students with an exciting learning experience through which they can develop a positive attitude and perception toward listening comprehension.

The Correlation of Digital Storytelling and Speaking Proficiency

Like the other areas as mentioned above, students' speaking performance was also observed and assessed through the pre- and post-test. Based on the scoring rubric, the speaking tests were graded to find out the mean scores for each student. The tests were focused on the general description, delivery, language use, and topic development. In addition to the comparison of the mean score between the two tests, inferential statistics were administered to figure out whether digital storytelling has been influential and beneficial in developing the students' speaking proficiency. The results showed students performed better in the post-test than pre-one. T-value was -7.5 with the degree of freedom (df) 10, which illustrated the difference between the means of the students in pre- and post-test is statistically significant ($p<0.05$).

To sum up, it was obvious that the speaking performances of the students improved overall after a 12-week treatment with digital storytelling. It can be assumed that digital storytelling activities in the class were remarkably based on verbal communication among peers or team members. To make one digital story completed, students had frequent interaction with each other through continuous discussion, and embedded a narrative or voice, if needed, in producing a story. By practicing sentences and vocabulary, it was, therefore, clear that digital storytelling improved students' speaking level in terms of their proficiency and fluency.

According to the English teacher, a digital storytelling activity incorporated problem-solving skill with which students could work together to accomplish a given task. It was a totally new approach, as opposed to a traditional speaking instruction in that digital storytelling encouraged students to use and practice verbal skills. Plus, it led students to use English as a communicative purpose by making them express their thoughts and ideas in a narrative form. Thus, it is summarized that digital storytelling has notable implications for the development of speaking proficiency, and its educational effect can be further escalated if the English teachers can use it adequately for students who have a low level of English speaking proficiency, or who have anxiety about speaking English in class.

Efficacy of Computer Assisted Language Learning Activity

Throughout the classroom observations, it was evident that students got an advantage from Photo Story 3, which made them become active learners and get involved in the learning process. They agreed that Photo Story 3 was easy enough to utilize, even to a few students who had no a previous experience in such authoring program. Students with a basic level of computer skill performed well enough to produce their stories, using the web resources through the Internet.

In addition, it was noticed that students increased their learning motivation and engagement by project-based media production with peers, further demonstrating the positive relationship between learning outcomes and motivation. According to the interviews, students regarded the digital storytelling activity as interesting and useful for helping them to learn English in a pleasant manner.

Moreover, students pointed out that using digital storytelling can not only provide opportunities to practice English for a communicative purpose, but also to engage in enjoyable experiences for assisting overall learning. Therefore, it can be summarized that the students had a positive learning motivation toward English learning using digital storytelling, and were also satisfied with its effectiveness.

English Teacher's Views on the Implementation of Digital Storytelling

Based on the results of the interviews and the lecture review reports, the English teacher, Mr. Suk stressed that digital storytelling triggered students' learning process and learning outcomes through experiencing an authentic, creative and motivating production. He perceived students to become more motivated and engaged when using the computer, the Internet and Photo Story 3 program to create their own stories. At the same time, the English teacher believed that learning with digital storytelling could not only benefit elevating students' knowledge and understanding of curricular content, but also improve their receptive communication skills. He also witnessed that students, as a team or group, were of help to each other when they progressed to develop their stories, and were more willing to work collaboratively on their works.

In terms of concerns regarding the implementation of digital storytelling in class, it was concluded that Mr. Suk thought the lack of class time was a big challenge. Because using digital storytelling in class required considerable time for preparing and planning prior to class, he emphasized that time controlling or managing ought to be considered in a technology integration lesson. He also mentioned that it took time even for some digital native students to learn how to use the computer program and to produce a story.

The other concern he had was that some students were worried about the effect of digital storytelling directly associated with the English test. In other words, as students have been too much accustomed to learning English for a test, it was natural for some students to doubt that the digital storytelling activity was not ideal for getting a high test score. Even though they agreed that learning with digital storytelling had a lot of potential, some of the participants still doubted its direct impact on the test result. Lastly, he put an emphasis on the importance of having access to technical assistance when digital storytelling is utilized as a learning material in the class. But for technical support, it is literally impossible for one teacher to manage the whole class of around thirty students. In case students may encounter any technical issues or difficulties in using multimedia, he suggested that assistant staff also be provided in the technology aided class in order to make the learning successful without discouraging students.

Other Benefits of Digital Storytelling in EFL Classroom

Boosting Self-Confidence and Positive Outlook

Through a class activity with digital storytelling, students answered that digital storytelling has the potential to develop their creative confidence in English learning. It was evident that digital storytelling helped students achieve the ultimate learning objectives on why they should learn English, and this strengthened their English skills and self-confidence. Because students produced stories based on their prior knowledge and experience, they could practice skills for self-expression and sharing emotions with peers.

Doing Student-Centered Learning

In terms of students' view, the way of learning English in after school class was absolutely different from a conventional English class. Through a story-making project, all the students were encouraged to create their own story, by working as a group. The English teacher just facilitated the whole flow and played an instant feedback or assistant provider. Thus, the key agents in the learning process were the very ELL learners, not the English teacher, who has been regarded as a center of the class in a traditional classroom setting. By creating a story by themselves and solving a problem together, students could build self-awareness and achieved student-initiated learning.

Promoting Active Learning

Students responded that the digital storytelling project helped them to think that they could do something new and special, which they had never imagined they could do. Traditionally, as students got used to a rote learning led by a teacher, they had literally been a passive learner in English class. For the English teacher, it was even more important to teach grammar and vocabulary than to encourage EFL students to have a positive attitude.

However, it was proved that the digital storytelling activity contributed greatly to the success of English language learning, as well as to a positive attitude toward the language and its use. Students felt that instructional activities and materials with digital storytelling was stimulating and exciting, and digital storytelling played an important role to promote students' active learning as a way to improve their conceptual understanding and thinking skills.

Increasing Interaction & Collaboration

One of the benefits of digital storytelling was that it made English class active and interactive. As students worked in a small group in a collaborative and cooperative manner, they could not but interact continually by discussing and sharing their ideas to have the story completed. The final production contained each student's personal perception and thoughts which reflected their previous experiences and life story. By sharing each story in class, other students were also able to gain indirect experiences and to think creatively or critically based on the different view point.

Fostering Creative & Critical Thinking

When it comes to building students' creative and critical thinking, learning with digital storytelling actively engaged students in the investigation of new knowledge. By working collaboratively with peers, each student could foster both their creative and critical thinking skills, which made them become self-directed learners later. Students also learned to monitor and improve their thinking skills, which are significant for success and achievement in learning. The majority of students answered that they loved the digital storytelling project, and learned from each other as they presented, shared and listened to their peers' production, and later watched the complete production. The English teacher also confirmed that digital storytelling was a meaningful instructional activity in class which helped to promote internalization of creative and critical thinking skills. In particular, he stressed that the digital storytelling activity was a powerful tool in that it enabled students to become not just receivers of information, but users of information.

Developing Multiliteracy Skills

For most of the students in this research, introducing digital storytelling as a new technology assisted learning into English class created a sense of pleasure or excitement. With proper scaffolding from the teacher, in combination with a supportive and collaborative environment, students showed gradual development. Using technology as a strategy and keeping the project-based learning encouraged students to enhance their multiliteracy skills, which also contributed to an increase in motivation for these students. It would be a lot better to enhance students' multiliteracy if teachers could develop their technical proficiency in multiple communication modes, using the prevalence of technology.

Heightening Motivation

Along with the overall improvement of English proficiency, the use of digital storytelling as a main learning material showed an increased level of satisfaction and motivation, as well as students' class participation. Regardless of the test results, it is significant to pay attention to the fact that digital storytelling was to promote students' motivation and encourage their active classroom participation. It can be inferred that the way of students' presentation in the class worked well. Young EFL students in this research were not reluctant to present their digital stories in front of the class. Rather, they enjoyed sharing their work and listening to opinions and thoughts from their peers regarding what was good and what would make their work better. Positively, this process aroused continuous motivation in the students.

Challenges of Digital Storytelling in EFL Classroom

As the English teacher has placed an emphasis in the interview and his lecture review report, it was apparent that the amount of time provided to students in creating a

digital story was not sufficient. Students, as a team or group usually ended up continuing their work even after class at school in order to have their production completed. In terms of the teacher's standpoint, Mr. Suk also experienced a lack of time in preparing for the class where technologies were integrated in his lesson. Like this, there were some challenges in using digital storytelling which teachers who want to use digital storytelling in their class need to pay attention to.

First, it usually takes a lot longer to prepare for the lesson, because of the use of multimedia in the classroom. In order not to face any technical issues or disconnection of the Internet, teachers should double check those prior to class, so that students are not discouraged when producing a digital story. Second, teachers also need to consider having an instant assistant or aid that students can ask questions to while creating their stories.

During the process of creating a digital story, students may undergo a number of difficulties. Even though some are familiar with multimedia technology, others are not, or some students are of high English proficiency and others are not. Thus, supporting materials and feedback should be provided to make sure they can feel that learning with digital storytelling is interesting and meaningful. Lastly, teachers are strongly required to pay regard to working on the time management in class. Because a current class time lasts only forty minutes in an elementary school curriculum, part of tasks or activities may not be accomplished during the class. In this case, teachers can give students homework or allow them to use a computer at school for the extra work. When completing the work, students can present and share their finished production in class, so

that students are to have an opportunity to receive a feedback and comments from the teacher and their peers in class.

Digital Storytelling as a Successful Language Learning Activity

Throughout this research study, it was clear that digital storytelling can be an effective avenue for EFL students to use for the improvement in academic development, or motivational increase. Thus, it is suggested that English language teachers in EFL environment pay attention to the educational benefits of digital storytelling as a successful learning activity. Some guidelines for a successful language learning activity are described below.

Meeting a Learning Goal

Digital storytelling can be used with and aligned to the students' real, practical needs on learning English. To meet such learning goal, the English teacher is required to design the curriculum and pedagogy and keep in mind that students can use English in real life, as a result of the meaningful learning with digital storytelling.

Doing a Student-Centered Learning

Learning with the digital storytelling engages and motivates students. Students are encouraged to learn by producing a digital story, using computer, and multimedia. Through project-based learning, students can become an active agent of learning who is not a passive receiver of knowledge and information.

Integrating Technology into Learning

Unlike the traditional classroom activity, the digital storytelling project can make students engaged and motivated in the learning process. The effects of educational technology show the academic development of students, providing a personalized

learning environment. Also, it allows students to work collaboratively, and to enhance creative and critical thinking through the presentation of their stories, thoughts and ideas.

Suiting Young Learners' Learning Style

Young students called digital natives have a keen interest in absorbing and using a multimedia. Out of multiple intelligences, today's students tend to like using audio- and visual intelligence, which contains audio, sound, music, image, video and so on. Because digital story making requires using such intelligences to accomplish one story, it matches young students' learning style.

Enhancing Collaboration

The digital storytelling activity plays a notable role in facilitating collaborative inquiry within a group, because students can interact continuously, increasing their knowledge, and conducting reflective thinking about their own and others' works. By enhancing collaboration, students also can get a sense of team work to create a motivational framework in which students increasingly build both conceptual and procedural knowledge.

Providing Pleasure in Learning

Creating a digital story can boost students to have a self-confidence and satisfaction for the learning outcomes. It has the potential for the development of affective, social, cognitive, emotional, and cultural components in the students. By utilizing digital storytelling, students can elevate their internal motivation for learning, and gain benefit of expanding their knowledge and ability to think.

Summary of the Research

A current mixed-method research study showed that the application of digital storytelling was effective in EFL classroom, providing several educational benefits. It seems clear that the digital storytelling activity has the potential to shed light on helping EFL learners to develop English skills as well as their attitude toward English learning. In other words, digital storytelling also increased other skills more than just academic skills related to learning English, and it also helped to improve students' communicative ability, and enhance their collaboration, motivation and creativity.

Pedagogical Implications

This research revealed that young EFL students showed interest in using multimedia to learn English, as opposed to the sole use of paper-based materials. Therefore, for English teachers concerned about the academic achievement with young EFL learners, the use of digital storytelling can be one solution. Getting to know digital storytelling enables students to get involved in learning process, and increases their motivation, interest and a desire for further learning.

Another significant reason the digital storytelling activity needs to be considered is that it helps to develop four integrated skills in learning a language, in particular. The digital storytelling projects provide a wealth of authentic written, audio and video material which might be of personal or professional interest to students. The use of digital storytelling also can be exploited in a regular English classroom, not only to provide practice in the receptive skills, but also to stimulate the productive use of language.

In reading and writing, for instance, digital storytelling supports multimodal communication, which provides texts and images. Digital storytelling can subsequently take advantages of the multiliteracy skills of students and encourages EFL students to use

their reading and writing skills to contribute to the overall effort. Audio, music and sound in digital storytelling are other good factors to exert a favorable influence on English learning, since students are likely to get involved in multimodalities, which are less tedious than printed material.

In listening and speaking, on the other hand, digital storytelling also contains a distinctive feature. Because digital storytelling is designed solely on the basis of the multimedia, it can be strongly utilized in interactive learning. Digital storytelling provides a motivating learning atmosphere with students, since audio and video clips inside digital storytelling can be imported. Students can record their own narrative and practice their pronunciation.

Suggestions for Future Research

For future study, more research needs to be undertaken on the educational value of digital storytelling. At present, there are a lot of digital storytelling websites for the academic use, depending on the level or age group. Yet, few teachers in Korea feel comfortable or believe they have the time to delve into such technologies to support their teaching and improve students' learning. It is thus, expected for English teachers to have a research and training course, in order to recognize the wealth of digital storytelling resources available and how to apply and embed them successfully in their classroom teaching.

Furthermore, more research is required to investigate how English education in an EFL setting is situated within prevalence of multimedia, and how other digital technologies can be applied adequately, and utilized for ELL students who are particularly marginalized in terms of education and society. Additionally, further study is

needed to explore how technologies can empower students in a rural area to develop their academic learning.

That is, more attention should be paid to EFL learners who suffer from socially, or/and educationally disadvantaged learning, and more research needs to be done concerning how to narrow the academic achievement gap using technologies between students in rural areas and ones in urban areas.

In class, specific times in the school curriculum should be devoted to integrating digital storytelling into other subjects, as well. More studies also must be set aside to develop students' motivation and to turn them into independent learners.

In addition, because current research mainly focused on EFL learners' language development based on four skills, it is important to investigate the influence of digital storytelling in other areas of English learning such as vocabulary and pronunciation. In the end, more research should therefore be done to determine whether the findings of this study are generalizable to other learning levels or environments.

APPENDIX A

QUESTIONNAIRE ON STUDENT'S LEARNING ATTITUTE

본 설문지는 여러분의 생각을 알고자 만들어졌습니다. 연구 외의 목적으로는 사용되지 않을 것입니다. 디지털 스토링텔링에 대한 여러분의 솔직한 의견을 얘기해 주세요. 내용을 잘 읽고 난 후 1점부터 5점까지 여러분이 생각하는 곳에 동그라미를 그려주세요.

디지털 스토리텔링에 관한 나의 생각은 어떤가요?

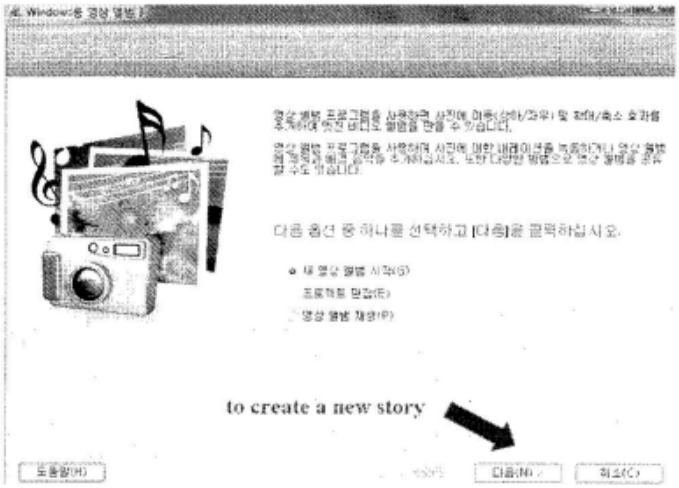
질문내용	대답	매우 그렇지 않다	그렇지 않다	중간이다	그렇다	매우 그렇다
	점수	1	2	3	4	5
1. 디지털 스토리텔링으로 공부하는 것은 흥미로운 것 같다.						
2. 디지털 스토링텔링으로 공부해 보니까 읽기공부에 더 흥미가 생겼다.						
3. 디지털 스토리텔링으로 공부하니까 학습이 더 쉬웠다.						
4. 디지털 스토리텔링은 영어공부에 자신감을 불어 넣어주었다.						
5. 디지털 스토리텔링 학습은 좀 더 창의적이고 비판적인 생각을 가능하게 해준다.						
6. 디지털 스토리를 만들 때 친구들과 의논하여 함께 만들 수 있어서 좋았다.						
7. 디지털 스토리텔링으로 공부하니까 영어 공부가 더 재미있고 흥미로웠다.						
8. 디지털스토리 만드는 활동이 영어공부에 더욱 몰입할 수 있도록 해주었다.						
9. 디지털 스토리텔링 학습을 해본 후 내 영어실력이 좋아진 것 같다.						
10. 디지털 스토리텔링은 수업 분위기를 더욱 좋게 만들어 주었다.						
11. 디지털 스토리텔링 학습을 해보니까 영어공부 하는 게 더 좋아지게 되었다.						
12. 디지털 스토리텔링을 하고 나서 학교 수업과 영어공부에 대한 관심이 더 높아지게 되었다.						

APPENDIX B

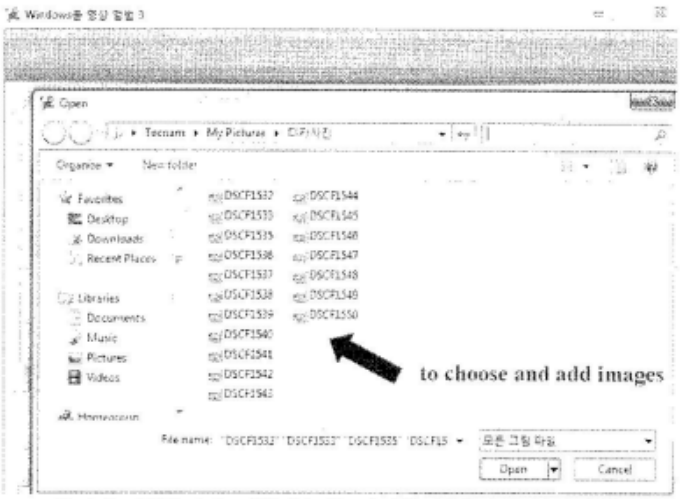
STEPS TO CREATE A DIGITAL STORY USING A PHOTO STORY3

<디지털스토리 만드는 과정>

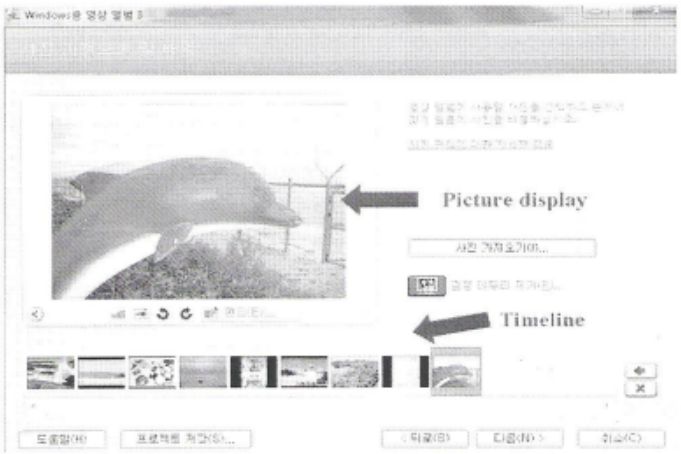
포토스토리 3를 이용하여 디지털 스토리를 만드는 방법



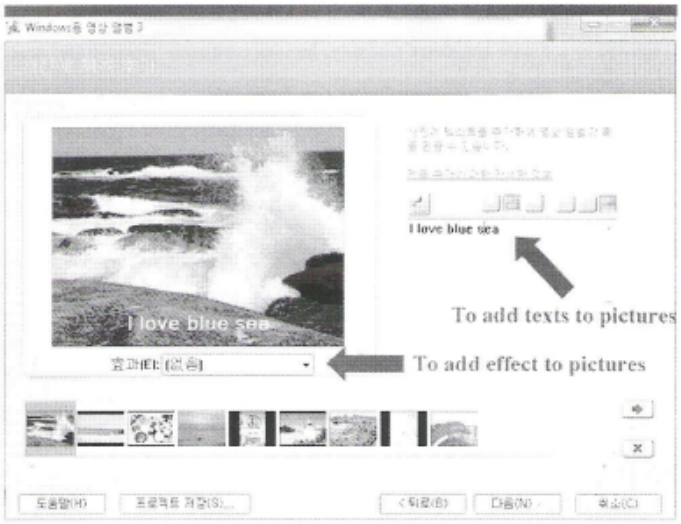
첫번째, 먼저 시작버튼을 클릭하고 다음으로 넘어간다.



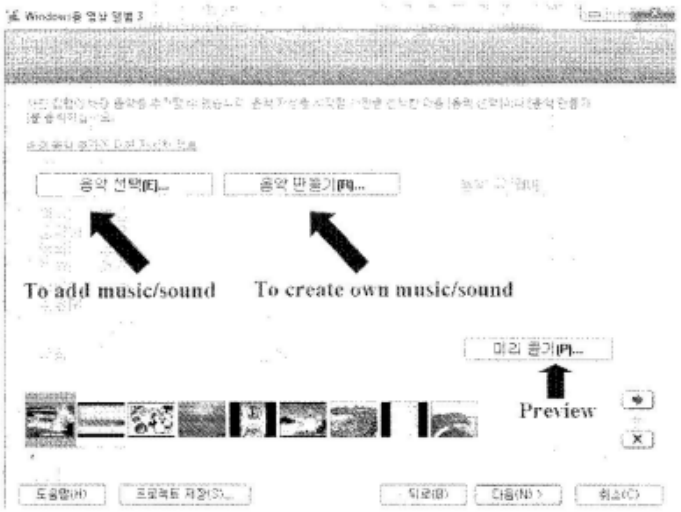
두번째, 컴퓨터에 저장해놓은 사진을 선택하여 불러온다.



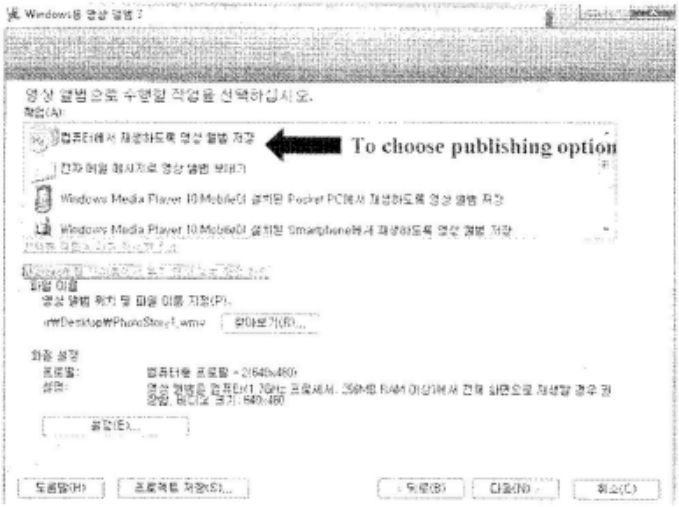
세번째, 사진을 골랐으면 스토리 내용에 맞추어 순서대로 배열한다.



네번째, 사진배열 후에 스토리에 들어갈 글을 첨가한다.



다섯번째, 스토리에 들어갈 배경 음악을 선택하여 넣는다.



여섯번째, 스토리가 완성되었으면 파일을 컴퓨터에 저장한다.

끝으로, 스토리를 재생하여 잘 만들어졌는가를 확인한다.

APPENDIX C

INFORMED CONSENT FORMS

매사추세츠주립대학교 교육대학원
117 퍼롤로 홀 813 노스 플래즌트 스트리트
애머스트, 매사추세츠 01003, 미국

부모 동의서

- 연구대상 : 남산초등학교 6학년
- 연구자 : 윤택남 (tyoon@educ.umass.edu)
- 지도교수 : 냇 터너(Nat Turner) 교수 (nturner@educ.umass.edu / 1-413-577-0497) 매사추세츠 주립대학교 교육대학원, 사범대학 조교수
- 연구주제 : 초등학생의 디지털 스토리텔링이 영어학습에 미치는 영향에 관한 연구

본인 (부모님 또는 법적 보호자) _____ 은(는) 본 연구에 있어 본인의 자녀(아들이나 딸) _____ 이(가) 참여하는 것을 동의 합니다.

이 연구의 목적은 초등학교 영어학습에 있어 디지털 스토리텔링이 미치는 영향과 효과를 알아보는 데에 있습니다. 디지털 스토리텔링을 학습함으로써 학생들은 이것이 얼마나 영어학습에 도움이 되는지를 배우게 될 것 입니다.

본 연구는 현재 매사추세츠 주립대학교 대학원 박사과정 중인 윤택남 선생님의 연구로 이루어 지고 있습니다. 윤택남 선생님은 이번 연구를 통하여 초등학교 학생들의 디지털 스토리텔링을 통한 영어교육과 효과와 가능성을 살펴 보고자 합니다.

필요에 따라 연구 중에 학생들의 쓰기 표본을 복사하여 사용 할 수 있습니다.

본 연구가 진행되는 가운데 어떠한 신체적 위험이 발생하지 않을 것이며 수업가운데 방해요소가 발생하지 않도록 노력할 것 입니다. 그러나 참여학생이 불편하거나 더 이상 참여하고 싶지 않을 경우에는 언제든지 그만둘 수 있음을 알려드립니다.

또한 본 연구에 참여한다고 해서 참여학생이나 가족에게 어떠한 경제적 지원이 이루어지지 않는다는 점도 아울러 알려드립니다.

본 연구자는 수업활동을 고의적으로 방해하거나 피어들지 않을 것이며, 본 연구로 인해

일상 학교 생활이 문제가 되지 않도록 최선을 다할 것입니다.
본 연구는 2013년 5월부터 8월까지 진행될 예정에 있습니다.

연구에 쓰인 각 종 정보는 안전하게 보관이 될 것입니다. 학생들의 쓰기 표본이나 다른 문서 역시 안전한 곳에 보관할 것을 알려 드립니다.

참여 학생의 이름과 개인정보 역시 실제 논문에서는 실명이 아닌 가명이 쓰일 것이며 이것은 개인의 정보를 보호 하기 위함입니다.

연구 참여는 전적으로 본인의 의지에 달려 있으며, 원치 않을 때에는 언제든지 그만 둘 수 있음을 알려드립니다.

혹시라도 본 연구에 관하여 궁금한 점이 있으면 언제든지 저에게 연락해 주시기 바랍니다. 또는 냇 터너 교수 (ntuerner@educ.umass.edu)나 교육대학원 책임자인 린다 그리핀 (lgriffin@educ.umass.edu)에게 연락 하시기 바랍니다.

동 의

아래 빈칸에 서명함으로서 본인은 이 연구에 참여할 것을 확인합니다. 아울러 서명하기 전 본 연구에 관해 충분한 설명을 들었으며, 설명은 한국어로 진행되었음을 확인합니다. 또한 사전 질문과 답변을 듣는 시간을 갖고 본 연구가 어떻게 진행될 것인가를 숙지 하였습니다. 따라서 본인은 아래와 같이 동의합니다.

_____

부모 (또는 보호자)의 이름

_____ _____

서명 날짜

_____ _____

서명 날짜

University of Massachusetts Amherst
College of Education
117 Furcolo Hall
813 North Pleasant Street
Amherst, MA 01003-9308

CONSENT FORM

- Subject: 6th grade Elementary School Students (ELLs) in Namsan School, Jooyoung, South Korea
- Teacher researcher: Tecnam Yoon (tyoon@educ.umass.edu)
- Project Supervisor: Dr. Nat Turner(nturner@educ.umass.edu / 1-413-577-0497)
- Assistant professor, Department of Teacher Education and Curriculum Studies, College of Education, University of Massachusetts, Amherst
- Title of Project: The Effect of Digital Storytelling as a New Avenue for Effective English Learning with EFL Elementary School Students in Korea

By signing this consent form you, (*parent or guardian name*) _____, indicate that you willingly agree for your son, daughter, or ward (*student's name*) _____ to participate in this project.

The purpose of this project is to explore the application of digital storytelling as a language learning activity in the English as a foreign language environment in Korea.

Your child has been selected to participate in this project because he or she is in after school English class where the researcher participates as a participant-observer, who is not teaching a class, but is observing what the teacher and students are doing in the class, and look at how students create stories using a computer, what problems they may encounter and how digital stories affect students' learning, etc. The researcher is currently taking a doctoral course at the University of Massachusetts under the direction of Dr. Nat Turner.

There are no specific physical risks or discomforts associated with participation in this project and the researcher will make ever effort not to disrupt the flow of everyday classroom activities. However, some students find this kind of extra attention uncomfortable. In the event that you or your child find

participating in this project is uncomfortable, you may decline to participate at any time. In addition, there are no costs associated with participating in this project and students and their families will not receive any compensation.

This project will be conducted from June to August in 2013.

Information produced by this project will be confidential and private. Samples of student work and other documents will be kept in a secure space at the University of Massachusetts, Amherst.
Students' real names and other identifiers will be removed from their work and pseudonyms or "fake names" will be used to protect confidentiality. There will be no videotaping during the research. Rather, personal interviews will be conducted with focal students in the class.

You are under no obligation to participate in this project. You may withdraw your participation at any time without prejudice.

Should you have any questions about your participation in this project, you may email K. C. Nat Turner, a project supervisor (nturner@educ.umass.edu), or Linda Griffin, an associate dean for academic affairs (lgriffin@educ.umass.edu)

Consent

When signing this form I am agreeing to voluntarily enter this project. I understand that, by signing this document, I do not waive any of my legal rights. I have had a chance to read this consent form, and it was explained to me in a language which I use and understand. I have had the opportunity to ask questions and have received satisfactory answers. A copy of this signed Informed Consent Form has been given to me.

_____
Parent Guardian's Name (Print or type)

_____ _____
Signature Date

_____ _____
Signature Date

APPENDIX D

MINOR ASSENT FORMS

미성년학생 참가 동의서

연구자 성명: 윤택남 (tyoon@educ.umass.edu)

연구제목: 초등학생의 디지털 스토리텔링이 영어학습에 미치는 영향에 관한 연구

1. 본 동의서의 목적은?

본 동의서의 목적은 이 연구가 무엇에 관한 연구인지, 또한 연구 중에 궁금한 점이 있거나 질문이 있을 때 언제라도 물어 볼 수 있도록 연구 전에 여러분의 궁금한 점을 알려드리기 위함입니다.

2. 본 연구의 목적은?

이 연구의 목적은 초등학교 영어학습에 있어 디지털 스토리텔링이 미치는 영향과 효과를 알아보는 데에 있습니다. 디지털 스토리텔링을 학습함으로써 학생들은 이것이 얼마나 학습에 도움이 되는지를 배우게 될 것 입니다.

3. 연구에 앞서 해야 할 것은?

본 연구에 참여하기를 원한다면 이 동의서에 서명을 하고 영어선생님께 제출해 주시면 됩니다. 이 연구에 참여한다고 해서 금전적인 보상이 따르지는 않습니다. 대신 연구가 끝이 났을 때 우리가 연구를 통해 배운 것 들을 기록하여 앞으로 영어교육에 도움을 주고자 합입니다. 참여자들의 실명은 모두 가명으로 기록될 것 입니다.

4. 연구에 관한 질문이 있다면?

본 연구에 참여하고 싶지 않다면 언제든지 그만 둘 수 있습니다. 또한 본 연구 가운데 궁금한 점이 있거나 질문이 있으면 언제라도 물어 보시기 바랍니다.

5. 연구에 참여하려면?

본 연구의 참여는 자발적입니다. 참여하고 싶으면 아래 서명란에 이름을 쓰고 서명하면 됩니다. 연구에 참여하다가 그만 두고 싶으면 언제라도 그만둘 수 있습니다.

본 연구에 참여하기를 원한다면 아래에 서명하여 주세요.

나는, _____, 본 연구에 참여하고 싶습니다.
(본인의 성명)

_____ _____
(본인의 서명) (날짜)

Minor Assent Form

Researcher: Tecnam Yoon (tyoon@educ.umass.edu)

Study Title: The Effect of Digital Storytelling as a New Avenue for Effective English Learning with EFL Elementary School Students in Korea

1. WHAT IS THIS FORM?

This form is called an Assent Form. It will give you information about the study so you can make a decision about whether you want to participate or not. Your parent or guardian knows that you are being invited to be a part of this study.

2. WHAT IS THIS STUDY ABOUT?

A research study is a way to learn more about learning English using a digital story. We are doing a research study about multimedia English learning, and are hoping how it will motivate your English learning.

3. WHAT WILL I BE ASKED TO DO?

If you decide that you want to be part of this study, you will be asked to sign this form and to submit to your English teacher. There are some things you should know about this study.
There are no costs associated with participating in this project and students and their families will not receive any compensation. When we are finished with this study we will write a report about what we learned. This report will not include your name or that you were in the study.

4. WHAT IF I HAVE QUESTIONS?

If you don't want to participate, you can stop at any time. There will be no bad feelings if you don't want to do this. You can ask questions if you do not understand any part of the study.

5. CAN I STOP BEING IN THE STUDY?

You do not have to be in this study if you do not want to be. If you decide to stop after we begin, that's okay too.
If you decide you want to be in this study, please sign your name

I, _____, want to be in this research study.
(Print your name here)

_____ _____
(Sign your name here) (Date)

APPENDIX E

SAMPLE INTERVIEW QUESTIONS

인터뷰 질문지(학생용)

사전

1. 교육용으로 컴퓨터를 사용하는 것에 대해 어떻게 생각하는가?
2. 혹시 공부할 때 컴퓨터를 이용해서 해 본적 있는지?
3. 만약 없다면, 그 이유는 어떤 것 때문이었는지?
4. 만약 해보았다면, 결과가 어땠는지, 학습에 도움을 주었는지?
5. 디지털 스토리텔링이 영어공부에 도움이 될 것 같은지? 어떻게 생각하는지?

사후

1. 디지털스토리 만드는 과정이 어땠는지? 어렵거나 문제가 있지 않았는지?
2. 만들고 나서 발표했는데 어땠는지?
3. 다른 친구들이 만든 거 보고 난 소감, 느낌은 어땠는지?
4. 디지털스토리 만드는 게 전반적으로 어떻게 느꼈는지?
5. 만들어 보고 나니까 느끼는 점은? 장점이나 단점?
6. 컴퓨터를 이용해서 학습해 보니까 어땠는지? 학습에 도움이 된다거나?
7. 디지털 스토리텔링의 좋은 점과 반대로 아쉬었던 점은?
8. 디지털 스토리텔링 학습이 영어학습에 미친 영향은?

APPENDIX F

QUESTIONNAIRE ON ENGLISH LEARNING

기초조사 설문지

이 설문지는 학생 여러분의 평소 영어에 대한 태도를 조사해보고자 하는 문항들로 구성되어 있습니다. 각각의 질문에 대해서 여러분이 어떻게 대답하더라도, 연구이외에 다른 목적으로는 절대로 사용하지 않을 것입니다. 그러므로 여러분의 평소의 생각이나, 실제로 하고 있는 대로 솔직하게 대답하여 주시기 바랍니다.
※ 자신이 생각하는 문항에 ○표를 해 주시면 감사하겠습니다.

1. 학교 영어시간 외에 영어공부를 어떻게 하고 있습니까 ?
① 방과후 시내의 학원에 다니고 있다.
② 집에서 개별적 혹은 소규모 집단으로 과외공부를 한다.
③ 학습지 방문 선생님과 전화를 통하여 공부를 한다.
④ 교육방송 시청이나 비디오 테이프를 통해서 공부한다.
⑤ 학교에서 배운 내용을 스스로 공부한다.

2. 하루에 영어공부를 하는 평균 시간은 얼마입니까 ?
① 30분 이하 ② 30분에서 1시간 정도
③ 1시간에서 1시간 30분 정도 ④ 1시간 30분에서 2시간 정도
⑤ 2시간 이상

3. 무엇을 위해 영어를 공부합니까 ?
① 성공하기 위해서 ② 외국인과 의사소통을 위해서
③ 외국서적을 읽기 위해서 ④ 외국영화, 뉴스를 듣기 위해서
⑤ 기타( )

4. 가정에서 혹은 학교에서 디지털스토리텔링을 경험한 적이 있습니까 ?
① 경험이 있다. ② 경험이 없다.

5. 만약 디지털스토리텔링을 경험한 적이 있다면 어디에서입니까 ?
(경험이 없으면 대답할 필요 없음)
① 집에서 ② 학교에서 ③ 학원에서 ④ 교회에서 ⑤ 기타

6. 영어공부를 위해 영어 이야기책을 읽어본 적이 있습니까 ?
① 없다 ② 1권 ③ 2권 ④ 3권 ⑤ 4권 이상

7. 친구나 다른 사람에게 자신의 경험이나 읽은 내용을 영어로 말해본적이 있습니까 ?
① 경험이 있다. ② 경험이 없다.

8. 영어선생님이 수업시간에 영어와 우리말을 어느 정도로 쓰면 좋을까요 ?
① 영어로만 ② 영어를 많이 우리말은 조금
③ 우리말로만 ④ 우리말을 많이 영어는 조금

9. 선생님이 수업시간에 영어로 지시할 때 이해할 수 있나요 ?
① 전혀 이해하지 못한다. ② 조금 이해한다.
③ 50% 정도 이해한다. ④ 많이 이해한다.
⑤ 완전히 이해한다.

10. 무엇으로 영어를 공부하는 것이 가장 흥미 있습니까 ?
① 교과서 ② 영화로 ③ 노래로 ④ 게임으로
⑤ 역할놀이로 ⑥ 이야기책으로 ⑦기타

APPENDIX G

RECRUIT & PARTICIPATION FLYER

★ 5월 특집

디지털 스토리텔링

"디지털 스토리텔링이 뭘까?"

모집개요

❍ 과 정 명 : 디지털 스토리텔링을 이용한 영어배우기

❍ 교육목적 : 디지털 스토리를 이용한 재미있고 즐겁게 배우는 영어교육

❍ 교육기간 : 2013 년 여름(추후 공지)

❍ 교육장소 : 영어전용교실

❍ 교육대상 : 영어에 관심있는 6 학년 아무나

❍ 모집인원 : 20 여명

접수 및 신청

❍ 접수 및 문의: 영어선생님께

신청

- ·, 선생님: espenglish@naver.com

- 접수기한 : 2013. 4. 26(금)까지

APPENDIX H

STORYBOARD FORM

Storyboard Form (스토리보드)

스토리 제목(title): _____

만든사람/그룹(author/group): _____

그림/스케치 (Insert or sketch image)	그림/스케치 (Insert or sketch image)	그림/스케치 (Insert or sketch image)
음악/내용 (Accompanying audio/words)	음악/내용 (Accompanying audio/words)	음악/내용 (Accompanying audio/words)
기타 정보 (Other information)	기타 정보 (Other information)	기타 정보 (Other information)

APPENDIX I

PRE-/POST-SPEAKING ABILITY TESTS

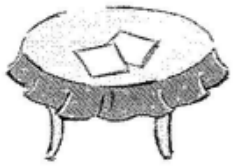
사전 말하기 시험(Pre-Speaking Ability Test)

◇ Speaking Test

♣ Yes/ No Questions. 다음 질문에 대답하세요.

♣ Choice Question.

♣ Wh- Question 다음 질문에 대답하세요.



♣ Personal Information 다음 질문에 대답하세요.

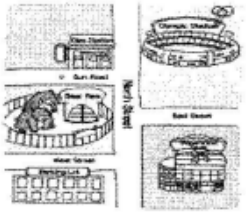
사후 말하기 시험(Post-Speaking Ability Test)

◇ Speaking Test

Location 다음 질문에 대답하세요.

Picture Description, 다음 질문에 대답하세요.

Giving Directions, 다음 질문에 대답하세요.



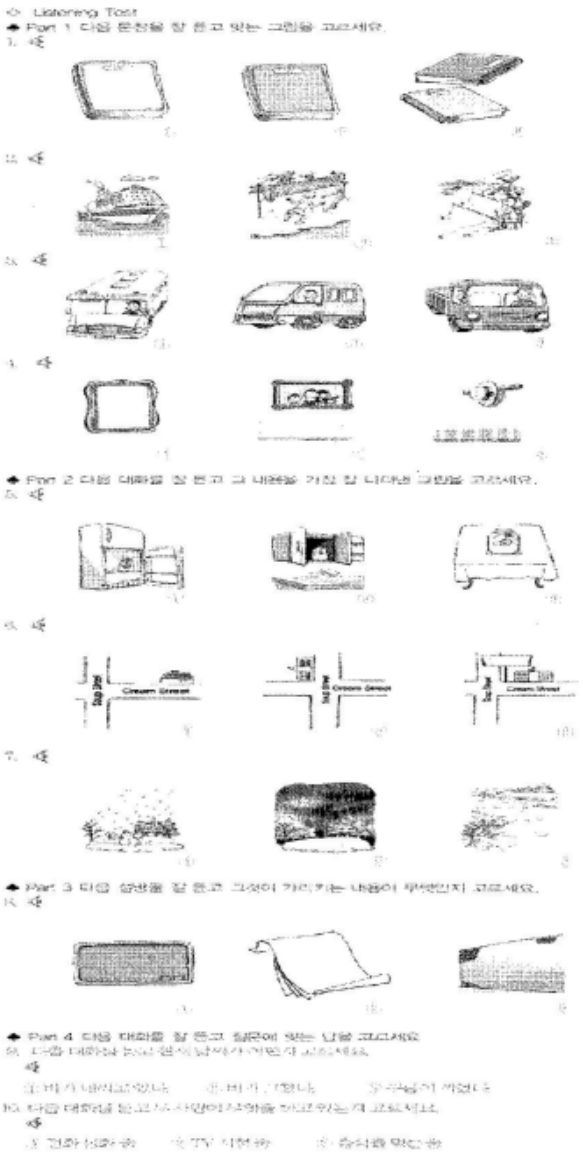
Basic Survival Situation, 다음 질문에 대답하세요.

Picture Story 다음 질문에 대답하세요.

APPENDIX J

PRE-/POST-LISTENING ABILITY TESTS

사전 듣기 시험(Pre-Listening Ability Test)



사후 듣기 시험(Post-Listening Ability Test)

APPENDIX K

ETS SPEAKING RUBRICS

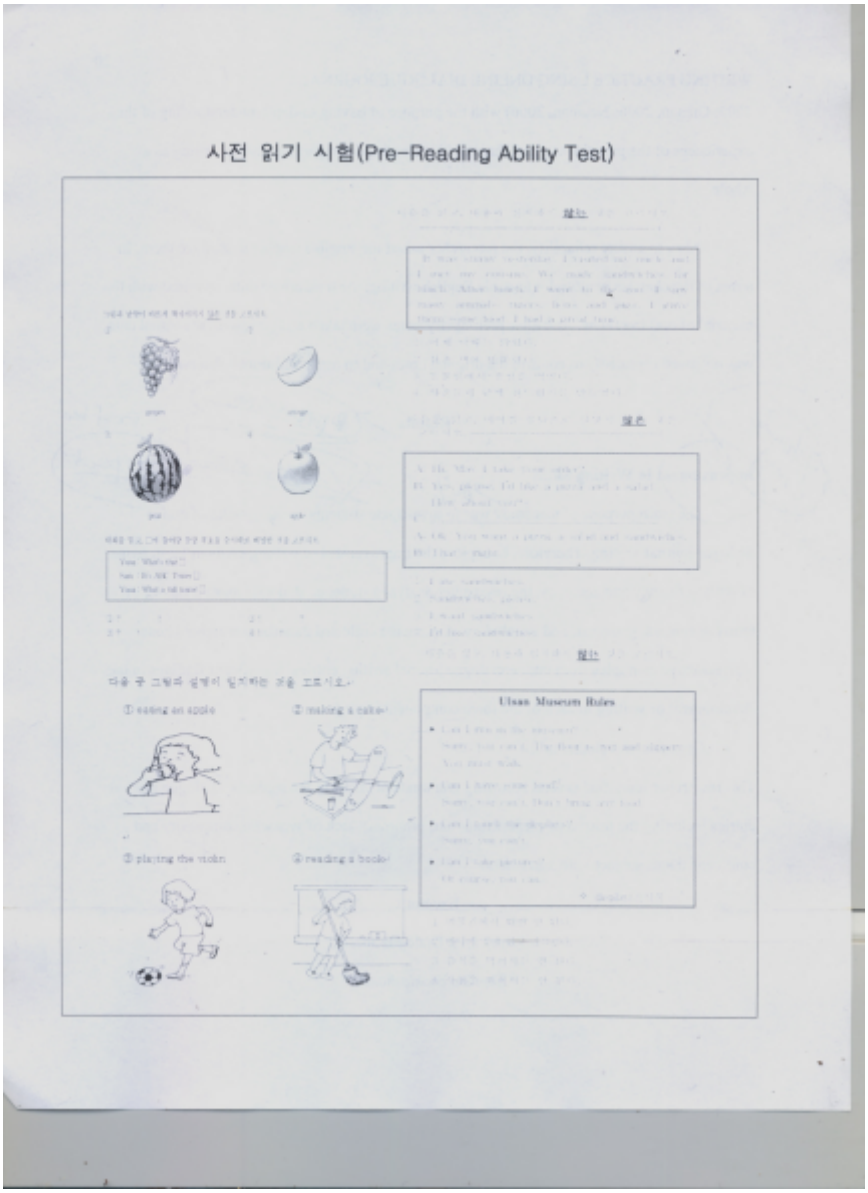
ETS TOEFL

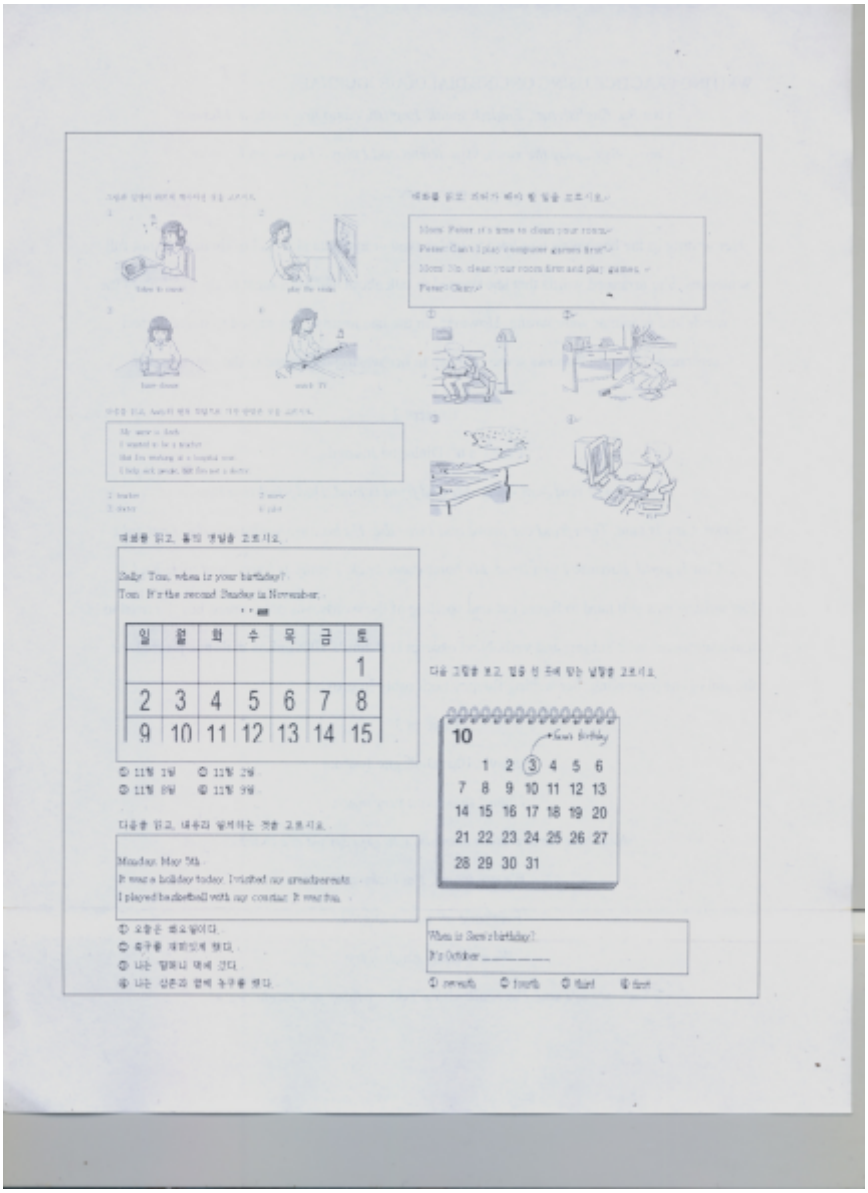
iBT/Next Generation TOEFL Test
Independent Speaking Rubrics (Scoring Standards)

Score	General Description	Delivery	Language Use	Topic Development
4	**The response fulfills the demands of the task, with at most minor lapses in completeness. It is highly intelligible and exhibits sustained, coherent discourse. A response at this level is characterized by all of the following:**	Generally well-paced flow (fluid expression). Speech is clear. It may include minor lapses, or minor difficulties with pronunciation or intonation patterns, which do not affect overall intelligibility.	The response demonstrates effective use of grammar and vocabulary. It exhibits a fairly high degree of automaticity with good control of basic and complex structures (as appropriate). Some minor (or systematic) errors are noticeable but do not obscure meaning.	Response is sustained and sufficient to the task. It is generally well developed and coherent; relationships between ideas are clear (or clear progression of ideas).
3	**The response addresses the task appropriately, but may fall short of being fully developed. It is generally intelligible and coherent, with some fluidity of expression though it exhibits some noticeable lapses in the expression of ideas. A response at this level is characterized by at least two of the following:**	Speech is generally clear, with some fluidity of expression, though minor difficulties with pronunciation, intonation, or pacing are noticeable and may require listener effort at times (though overall intelligibility is not significantly affected).	The response demonstrates fairly automatic and effective use of grammar and vocabulary, and fairly coherent expression of relevant ideas. Response may exhibit some imprecise or inaccurate use of vocabulary or grammatical structures or be somewhat limited in the range of structures used. This may affect overall fluency, but it does not seriously interfere with the communication of the message.	Response is mostly coherent and sustained and conveys relevant ideas/information. Overall development is somewhat limited, usually lacks elaboration or specificity. Relationships between ideas may at times not be immediately clear.
2	**The response addresses the task, but development of the topic is limited. It contains intelligible speech, although problems with delivery and/or overall coherence occur; meaning may be obscured in places. A response at this level is characterized by at least two of the following:**	Speech is basically intelligible, though listener effort is needed because of unclear articulation, awkward intonation, or choppy rhythm/pace; meaning may be obscured in places.	The response demonstrates limited range and control of grammar and vocabulary. These limitations often prevent full expression of ideas. For the most part, only basic sentence structures are used successfully and spoken with fluidity. Structures and vocabulary may express mainly simple (short) and/or general propositions, with simple or unclear connections made among them (serial listing, conjunction, juxtaposition).	The response is connected to the task, though the number of ideas presented or the development of ideas is limited. Mostly basic ideas are expressed with limited elaboration (details and support). At times relevant substance may be vaguely expressed or repetitious. Connections of ideas may be unclear.
1	**The response is very limited in content and/or coherence or is only minimally connected to the task, or speech is largely unintelligible. A response at this level is characterized by at least two of the following:**	Consistent pronunciation, stress, and intonation difficulties cause considerable listener effort; delivery is choppy, fragmented, or telegraphic; frequent pauses and hesitations.	Range and control of grammar and vocabulary severely limit (or prevent) expression of ideas and connections among ideas. Some low-level responses may rely heavily on practiced or formulaic expressions.	Limited relevant content is expressed. The response generally lacks substance beyond expression of very basic ideas. Speaker may be unable to sustain speech to complete the task and may rely heavily on repetition of the prompt.
0	Speaker makes no attempt to respond OR response is unrelated to the topic.			

APPENDIX L

PRE-/POST-READING ABILITY TESTS





대화를 읽고, 빈칸에 가장 적절한 것을 고르시오.

A: Excuse me. Can you help me?
B: Sure.
A: Where is the post office?
B: _____

① It's fine today.
② It's behind this building.
③ It's very good for you.
④ It's time to go to school.

다음 대화의 ___에 들어갈 문장으로 순서대로 나열한 것을 고르시오.

Joy: Can you see the leaves ___.
Sam: Oh, yes. They're very beautiful ___.
Joy: Do you like fall?
Sam: Yes. I do ___.

① ! , ?
② ! ? .
③ ? , !
④ ? ! .

다음 상황에 가장 어울리는 말을 고르시오.

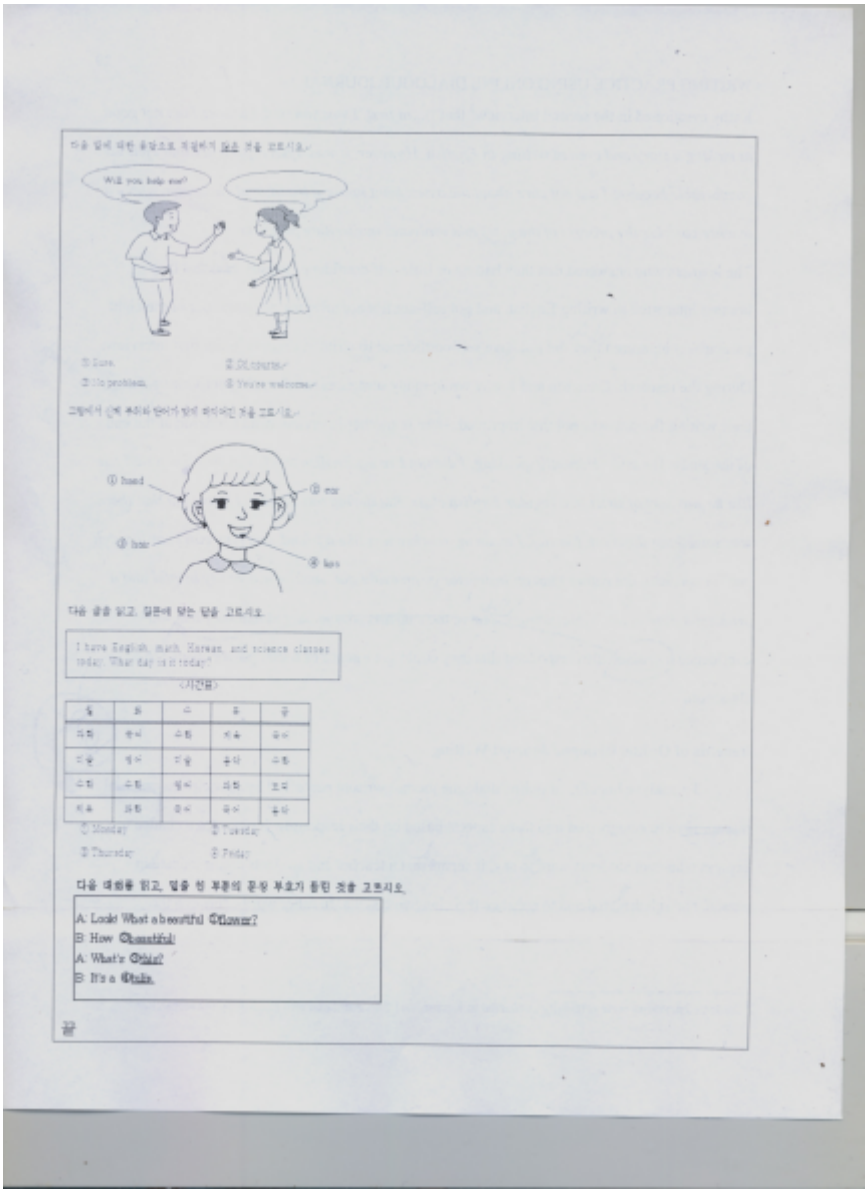
① Would you like to ride it?
② I will read a book.
③ Where is your house?
④ I must cause water.

다음 대화를 읽고, 밑줄 친 부분의 문장 부호가 틀린 것을 고르시오.

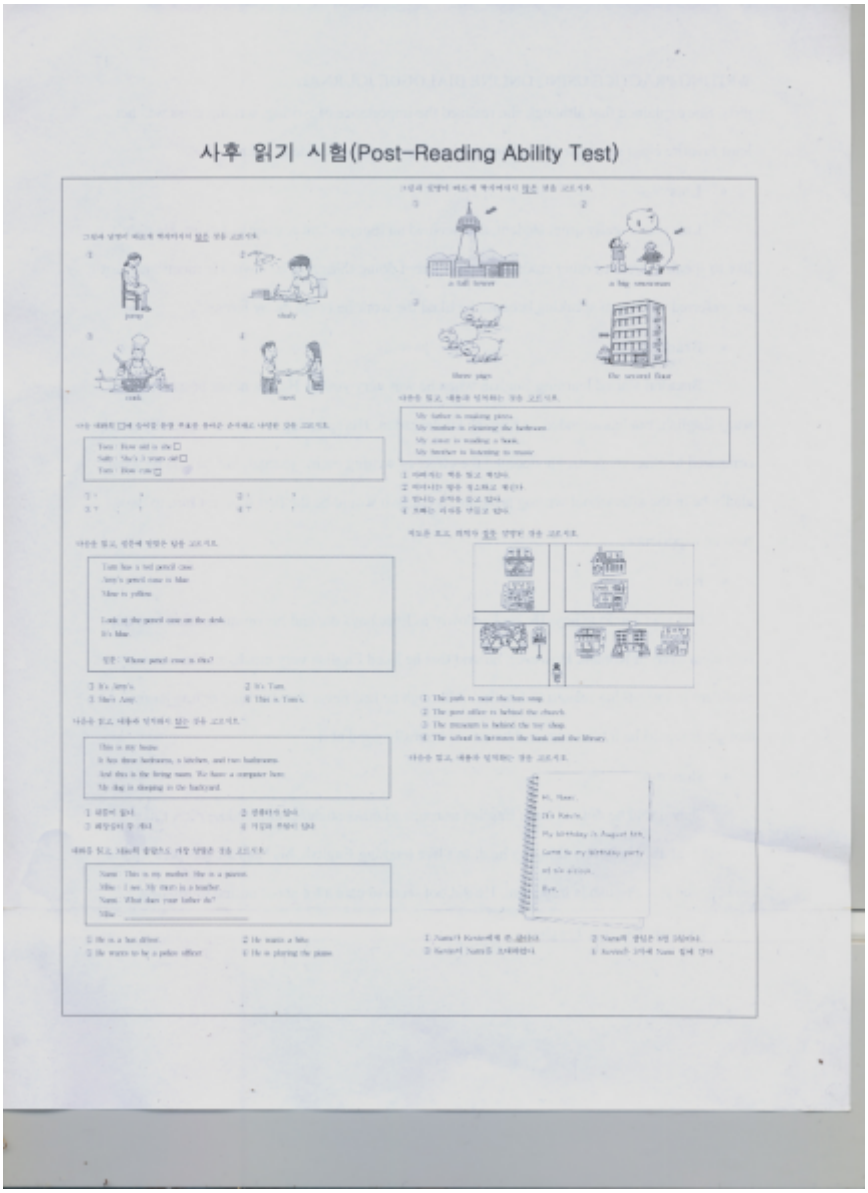
A: Look! What a beautiful ①flower?
B: How ②beautiful!
A: What's ③this?
B: It's a ④rule.

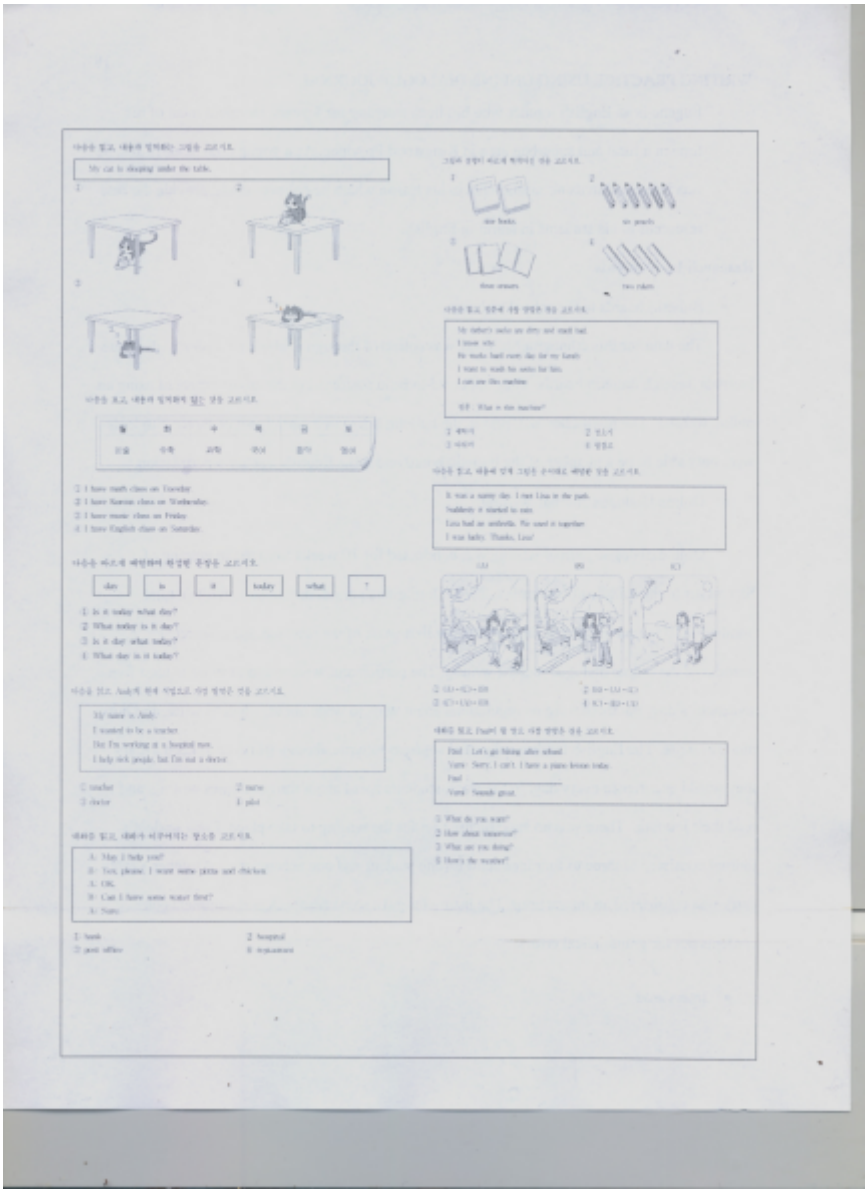
다음 대화에서 남자 아이의 질문으로 가장 알맞은 것을 고르시오.

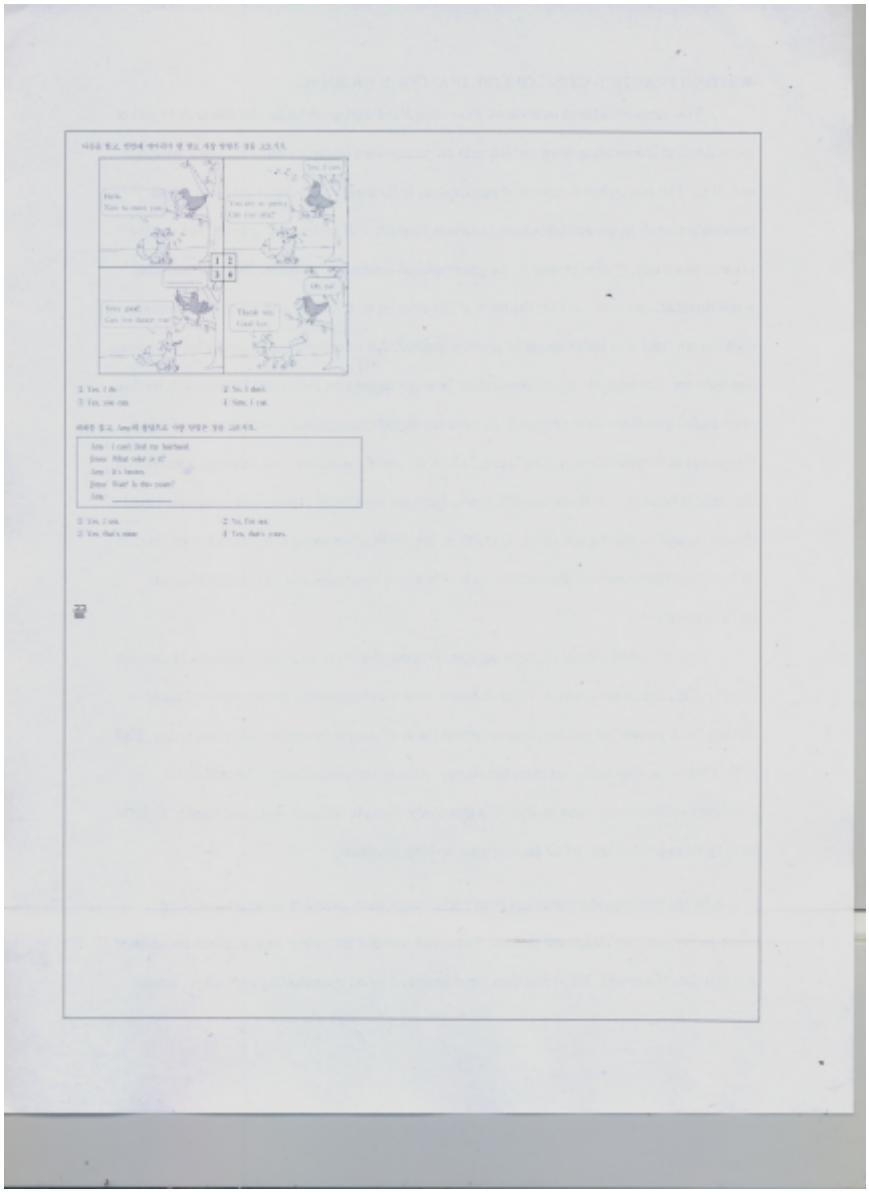
① What do you have?
② What are you doing now?
③ What did you do yesterday?
④ What are you going to do tomorrow?



사후 읽기 시험(Post-Reading Ability Test)







BIBLIOGRAPHY

Agnew, P. W., Kellerman, A. S., & Meyer, J. (1996). *Multimedia in the Classroom*, Boston: Allyn and Bacon.

Allen, P., Fröhlich, M., & Spada, N. (1984). The communicative orientation of language teaching: An observation scheme. In J. Handscombe, R. A. Orem & B. P. Taylor (Eds.), *On TESOL 83: The question of control,* (pp. 231-252). Washington, DC: TESOL.

Ali, Z., Mukundan, J., Ayub, A. F. M., & Baki, R. (2011). The effectiveness of using contextual clues, dictionary strategy and computer assisted language learning (Call) in learning vocabulary. *International Journal of Business and Social Research, 1*(1), 136-152.

Al-Seghayer, K. (2001). The effect of multimedia annotation modes on L2 vocabulary acquisition: A comparative study. *Language Learning & Technology, 5*(1), 202-232.

Anma, F., & Okamoto, T. (2009). Development of a Participatory Learning Support System based on Social Networking Service. In T. Bastiaens et al. (Eds.),*Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2009,* (pp. 2360-2365).

Arnold, N., & Ducate, L. (2006). Future foreign language teachers' social and cognitive collaboration in an online environment. *Language Learning & Technology, 10*(1), 42-66

Arslan, R. Ş., & Şahin-Kızıl, A. (2010). How can the use of blog software facilitate the writing process of English language learners? *Computer Assisted Language Learning, 23*(3), 183-197.

Ballast, K., Stephens, L., & Radcliffe, R. (2008). The effects of digital storytelling on sixth grade students' writing and their attitudes about writing. In K. McFerrin et al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2008,* (pp. 875-879). Chesapeake, VA: Association for the Advancement of Computers in Education.

Banaszewski, T. (2002a). Digital storytelling finds its place in the classroom. *Information Today, 4*(2), 3-5.

Banaszewski, T. (2002b). Digital storytelling finds its place in the classroom. *Multimedia Schools, 9(*1), 32-35.

Banaszewski, T. (2005). *Digital storytelling: Supporting digital literacy in grades 4-12*. Georgia: Georgia Institute of Technology.

Barbe, W. B., & Swassing, R. H. (1988). *Teaching through Modality Strengths: Concepts and Practices*. Columbus, OH: Zaner-Bloser.

Barcroft, J. (2007). Effects of opportunities for word retrieval during second language vocabulary learning. *Language Learning, 57*(1), 35-56.

Barrett, H. (2006). Researching and evaluating digital storytelling as a deep learning tool. In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2006*, (pp.647-654). Chesapeake, VA: AACE.

Barrett, H. (2008). Multiple purposes of digital stories and podcasts in e-portfolios. In K. McFerrin et al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2008*, (pp.880-882). Chesapeake, VA: AACE.

Bax, S. (2003). CALL - past, present and future, *System, 31*(1), 13-28.

Beckett, G. H., & Slater, T. (2005). The Project Framework: A tool for language, content, and skills integration. *ELT Journal, 59*(2), 108-116.

Behmer, S., Schmidt, D., & Schmidt, J. (2006). Everyone has a story to tell: Examining digital storytelling in the classroom. In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2006*, (pp.655-662). Chesapeake, VA: AACE.

Bell, J. S. (2002). Narrative inquiry: More than just telling stories. *TESOL Quarterly, 36(*2), 207-213.

Bell, S. (2010). Project-based learning for the 21st century: Skills for the future. *The Clearing House, 83*(1), 39-43.

Benmayor, R. (2008). Digital storytelling as a signature pedagogy for the new humanities. *Arts and Humanities in Higher Education, 7*(2), 188-204.

Ben-Zvi, D. (2007). Using Wiki to promote collaborative learning in statistics education. *Technology Innovations in Statistics Education, 1*(1).

Berge, Z., & Collins, M. (1995). *Computer-mediated communication and the on-line classroom in distance learning*. Cresskill, NJ: Hampton Press.

Billings, D. M., Skiba, D. J., & Connors, H. R. (2005). Best practices in Web-based courses: Generational differences across undergraduate and graduate nursing students. *Journal of Professional Nursing, 21*(2), 126-133.

Blake, R. J. (2000). Computer mediated communication: A window on L2 Spanish interlanguage. *Language Learning & Technology, 4*(1), 120-136.

Blake, R. J. (2011). Current trends in online language learning. *Annual Review of Applied Linguistics, 31*(1), 19-35.

Blas, N. D., Paolini, P., & Sabiescu, A. G. (2012). Collective digital storytelling at school: a whole-class interaction. *International Journal of Arts and Technology*, *5*(2), 271-292.

Blocher, M. (2008). Digital storytelling and reflective assessment. In K. McFerrin et al. (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2008* (pp. 892- 901). Chesapeake, VA: AACE.

Blumenfeld, P. C., Soloway, E., Marx, R. W., Krajcik, J. S., Guzdial, M., & Palincsar, A. (1991). Motivating project-based learning: sustaining the doing, supporting the learning. *Educational Psychologist, 26(*1), 369-398.

Boles, S. R. (2011). Using technology in the classroom. *Science Scope, 34*(9), 39-43.

Brabec, K., Fisher, K., & Pitler, H. (2004). Building better instruction: How technology supports nine research-proven instructional strategies. *Learning and Leading with Technology, 31*(5), 6-11.

Bradley, L., Rystedt, H., & Vigmo S. (2010). Language learning in a wiki: Student contributions in a web based learning environment. *Themes in Science and Technology Education, 3(1*-2), 63-80.

Bran, R. (2010). Message in a bottle: Telling stories in a digital world. *Procedia Social and Behavioral Sciences 2*, 1790-1793.

Brown, D. H. (2006). *Principles of language learning and teaching*. 5th Edition. Pearson Education ESL.

Brown, J., Bryan, J., & Brown, T. (2005). Twenty-first century literacy and technology in K-8 classrooms. *Innovate Journal of Online Education, 1*(3). Retrieved December 30, 2014 from http://www.editlib.org/p/107300.

Brunetti, A. J., Petrell, R. J., & Sawada, B. (2003). Team project-based learning enhances awareness of sustainability at the University of British Columbia, Canada. *International Journal of Sustainability in Higher Education, 4(*1), 210.

Buckingham, D. (2003). *Media education: Literacy, learning, and contemporary culture*. Cambridge, UK: Polity Press.

Bull, G. & Kajder, S. (2004). Digital Storytelling in the language arts classroom. Learning & Leading with Technology, 32(4), 46-49.

Burgess, J. (2006). Hearing ordinary voices: Cultural studies, vernacular creativity and digital storytelling. *Continuum: Journal of Media and Cultural Studies, 20*(2), 201-214.

Burmark, L. (2004). Visual presentations that prompt, flash & transform. *Media and Methods, 40*(6), 4-5.

Burn, A., & Reed, K. (1999). Digi-teens: Media literacies and digital technologies in the secondary classroom. *English Education, 33*(3), 5-20.

Byrnes, J., & Wasik, B. (2009). Picture this: using photography as a learning tool in early childhood classrooms. *Childhood Education, 85*(4), 243-248.

Cahyani, H., & Cahyono, B. Y. (2012). Teachers' attitudes and technology use. *TEFLIN Journal, 23*(2), 130-148.

Carter, K. (1993). The place of story in research on teaching and teacher education. *Educational Researcher, 22*(1), 5-12.

Cha, K-A. (1995). The effect of text length in the diagnosis of reading comprehension. *Korean Journal of Applied Linguistics, 8*(1), 249-275.

Cha, K-A. (2004). The New cyber writing program at HUFS: Some considerations about online learning. *Language and Linguistics, 33*(1), 166-177.

Chang, L. C., & Lee, G. C. (2010). A team-teaching model for practicing project-based learning in high school: Collaboration between computer and subject teacher. *Computers & Education, 55*(3), 961-969.

Chapelle, C. (2001). *Computer applications in second language acquisition: Foundations for teaching, testing and research*. Cambridge: Cambridge University Press.

Chapelle, C. (2003). *English language learning and technology: Lectures on teaching and research in the age of information and communication*. Amsterdam: John Benjamins.

Chiu, Y. H. (2013). Computer□assisted second language vocabulary instruction: A meta-analysis. *British Journal of Educational Technology, 44(*2), 52-56.

Choy, S. O., & Ng, K. C. (2007). Implementing wiki software for supplementing online learning. *Australasian Journal of Educational Technology, 23*(2), 209-226.

Chu, M. L. (1995). Reader response to interactive computer books: Examining literary responses in a non-traditional reading setting. *Reading Research and Instruction, 34*(4), 352-366.

Chu, S. K. W., Tse, S. K., & Chow, K. (2011). Using collaborative teaching and inquiry project-based learning to help primary school students develop information literacy and information skills. *Library & Information Science Research, 33*(2), 132-143.

Chung, S. K. (2006). Digital storytelling in integrated arts education. *The International Journal of Arts Education, 4*(1), 33-50.

Chung, S. K. (2007). Art education technology: Digital storytelling. *Art Education, 60*(2), 17-22.

Collier, J., & Veres, M. (2006). Digital storytelling in an early childhood literacy methods course In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2006*, (pp.4247-4250). Chesapeake, VA: AACE.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education* (6th edition), London, Routledge.

Condy, J., Chigona, A., Gachago, D., & Ivala, E. (2012). Pre-service students' perceptions and experiences of digital storytelling in diverse classroom. *Turkish Online Journal of Educational Technology, 11*(3), 278-285.

Cradler, J., McNabb, M., Freeman, M., & Burchett, R. (2002). How does technology influence student learning? *Learning and Leading, 29*(8), 46-49.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.

Daminco, J. (2006). Exploring freedom and leaving a legacy: Enacting new literacies with digital texts in the elementary classroom. *Language Arts, 84(*1), 34-44.

Danilova, V. (2008). *How to apply digital educational resources on the lesson of English*. Retrieved September 12, 2013, from http://www.permschool31. narod.ru/danilova.html.

Daugherty, T., Eastin, M. S., & Bright, L. (2008). Exploring consumer motivations for creating user-generated content. *Journal of Interactive Advertising, 8*(2), Retrieved September 12, 2013, from http://jiad.org/article101.html.

Davies, G., & Higgins J. (1985). *Using computers in language learning: a teacher's guide*. London: CILT.

Davies, G. (1997). Lessons from the past, lessons for the future: 20 years of CALL. In Korsvold, A. K. & Rüschoff, B. (eds.) *New technologies in language learning and teaching*. Strasbourg: Council of Europe.

Department of Education. (2004). *The 7th National curriculum information*. Retrieved Jan 17, 2014 from http://ncic.kice.re.kr/nation.dwn.ogf.inventoryList.do

Derwing, T. M., & Munro, M. J. (2005). Second Language Accent and Pronunciation Teaching: A Research-Based Approach. *Tesol Quarterly, 39*(3), 379-397.

Di Blas, N., Garzotto, F., Paolini, P., & Sabiescu, A. (2009). Digital storytelling as a whole-class learning activity: Lessons from a three-year project. In: Proceedings of ICIDS, Springer, 14-25.

Díaz-Rico, L. (2004). How project-based learning imitates life and video games. Essential Teacher: *Compleate Links, 1*(4).

Dickinson, L. (1995). Autonomy and motivation-A literature review. *System, 23*(3), 165-174.

Divaharan, S., & Lim, C.P. (2010). Secondary school socio-cultural context influencing ICT integration: A case study approach. *Australasian Journal of Educational Technology, 26*(6), 741-763.

Dogan, B., & Robin, B. (2008). Implementation of digital storytelling in the classroom by teachers trained in a digital storytelling workshop. In K. McFerrin et al. (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2008,* (pp. 902-907).

Dörnyei, Z. (1994). Motivation and motivating in the foreign language classroom. *The Modern Language Journal, 78*(3), 273-284.

Dourneen, J., & Matthewman, S. (May 2009). Seeing through ICT: Re-viewing student teachers' transformation of practice from university session to school placement. *Studying Teacher Education, 5*(1), 61-74.

Dreon, O., Kerper, R. M., & Landis, J. (2011). Digital storytelling: A tool for teaching and learning in the YouTube generation. *Middle School Journal, 42*(5), 4-9.

Ducate, L., & Lomicka, L. (2009). Podcasting: An Effective Tool for Honing Language Students' Pronunciation? *Language Learning & Technology, 13*(3), 66.

Dunleavy, M., Dede, C., & Mitchell, R. (2009). Affordances and limitations of immersive participatory augmented reality simulations for teaching and learning. *Journal of Science Education & Technology, 18*(1), 7-22.

Dunleavy, M., Dexter, S., & Heinecke, W. F. (2007). What added value does a 1:1 student to laptop ratio bring to technology-supported teaching and learning? *Journal of Computer Assisted Learning, 23*(5), 440-452

Ebata, M. (2008). Motivation factors in language learning. *The Internet TESL Journal, 14*(4). Retrieved September 12, 2013, from http://iteslj.org/Articles/Ebata-MotivationFactors.html.

Ehsani, F., & Knodt, E. (1998). Speech technology in computer-aided language learning: Strengths and limitations of a new CALL paradigm. *Language Learning & Technology, 2*(1), 45-60.

Engwall,, O. & Bälter, O. (2007). Pronunciation feedback from real and virtual language teachers. *Computer Assisted Language Learning, 20*(3), 235-262.

Fan, J. (2011). Constructing Web-Based Learning Environment for College English Teaching. *In Computing and Intelligent Systems,* (pp. 515-521). Springer Berlin Heidelberg.

Farmer, L. (2004). Using technology for digital storytelling: Tools for children. *New Review of Children's Literature and Librarianship, 10*(2), 155-168.

Felix, U. (2002). The web as a vehicle for constructivist approaches in language teaching. *ReCALL, 14*(1), 2-15.

Felix, U. (2005). E-learning pedagogy in the third millennium: The need for combining social and cognitive constructivist approaches. *ReCALL, 17*(1), 85-100.

Felix, U. (2008). The unreasonable effectiveness of CALL: What have we learned in two decades of research? *ReCALL, 20*(2), 141-161.

Figg, C., Ward, R., & Guillory, D. L. (2006). Using social studies content themes and digital storytelling to make video come alive. In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2006,* (pp. 663-668).

Foulger, T. S., & Jimenez-Silva, M. (2007). Enhancing the writing development of English language learners: Teacher perceptions of common technology in project-based learning. *Journal of Research in Childhood Education, 22*(2), 109-124.

France, D., & Wakefield, K. (2011). How to produce a digital story. *Journal of Geography in Higher Education, 35*(4), 617-623.

Frizler, K. (1995). *The Internet as an educational tool in ESOL writing instruction*. Unpublished Master's Thesis, San Francisco State University.

Gakhar, S., & Thompson, A. (2007). Digital storytelling: Engaging, communicating, and collaborating. In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2007*, (pp.607-612). Chesapeake, VA: AACE.

Ganem-Gutierrez, G. A. (2009). Repetition, use of L1 and reading aloud as meditational mechanism during collaborative activity at the computer. *Computer Assisted Language Learning, 22*(4), 323-348.

Gasigijtamrong, J. (2013). Effects of multimedia annotations on Thai EFL readers' words and text recall. *English Language Teaching, 6*(12), 48-57.

Genereux, A., & Thompson, W. (2008). Lights, camera, reflection! Digital movies: A tool for reflective learning. *Journal of college science teaching, 37*(6), 21-25.

Gere, J., Kozolvich, B., & Kelin, D. (2002). *By word of mouth: A story telling guide fort he classroom*. Honolulu, HI: Pacific Resources for Education and Learning.

Gibbs, A. (2012). Focus groups and group interviews. In J. Arthur, M. Waring, R. Coe, & L. V. Hedges (Eds) *Research methods and methodologies in education.* (pp. 186-192). Thousand Oaks: Sage.

Gilakjani, A. P. (2012a). The significant role of multimedia in motivating EFL learners' interest in English language learning. *Modern Education and Computer Science, 4,* 57-66. Retrieved December 21, 2013, from http://www.mecs-press.org/ijmecs/ijmecs-v4-n4/IJMECS-V4-N4-8.pdf.

Gilakjani, A. P. (2012b). *The effect of multimodal learning models on language teaching and Learning. Theory and Practice in Language Studies*, 1(10), 1321-1327

Gjedde, L. (2004). Digital storytelling as a context for collaborative and creative learning. In L. Cantoni & C. McLoughlin (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2004*, (pp.2387-2389). Chesapeake, VA: AACE.

Gjedde, L. (2006). Story-based e-learning as a vehicle for inclusive education. In A. Méndez-Vilas, A. Solano Martín, J. Mesa González, & J. Mesa González (Eds.), *Current developments in technology-assisted education: Technological science education, collaborative learning, knowledge management,* (pp. 1126-1130). Badajoz, Spain: Formatex.

Godwin-Jones, R. (2003). Blogs and wikis: Environments for on-line collaboration. *Language Learning & Technology, 7*(2), 12-16.

Gooch, K., & Saine, P. (2011). Integration of the visual arts and web 2.0 technologies in the classroom. *The New England Reading Association Journal, 47*(1), 92-100.

Goulah, J. (2007). Village voices, global visions: Digital video as a transformative foreign language learning too. *Foreign Language Annals, 40*(1), 62-78.

Gravestock, P., & Jenkins, M. (2009). Digital storytelling and its pedagogical impact. In: Mayes, T., Morrison, D., Mellar, H., Bullen, P. & Oliver, M. (eds) *Transforming higher education through technology-enhanced learning*. York: The Higher Education Academy.

Greer, C. (2007). Digital storytelling and iPods: Content delivery for the 21st century K-12 classroom. In C. Montgomerie & J. Seale (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2007*, (pp.2032-2034). Chesapeake, VA: AACE.

Gregori-Signes, C. (2008). Integrating the old and the new: Digital storytelling in the EFL language classroom. *A Journal for Teachers of English, 16*(1), 43.

Gregory, K., & Steelman, J. (2008). Cresting the digital divide. *Community college journal of research and practice, 32*, 880-882.

Groot, P. J. M. (2000). Computer assisted second language vocabulary acquisition. *Language Learning and Technology, 4*, 60-81.

Gültekin, M. (2005). The effects of project-based learning on learning outcomes in the 5th grade social studies course in primary education. *Educational Sciences: Theory and Practice, 5*(2), 548-556.

Gyabak, K., & Godina, H. (2011). Digital storytelling in Bhutan: A qualitative examination of new media tools used to bridge the digital divide in a rural community school. *Computers & Education, 57*(4), 2236-2243.

Handley, Z. (2009). Is text-to-speech synthesis ready for use in computer-assisted language learning? *Speech Communication, 51*(10), 906-919.

Hardisty, D., & Windeatt, S. (1989). *CALL*. Oxford: Oxford University Press.

Hathorn, P. P. (2005). Using digital storytelling as a literacy tool for the inner city middle school youth. *The Charter Schools Resource Journal*, *1*(1), 32-38.

Hayes, D. (2007). ICT and learning: Lessons from Australian classrooms. *Computers & Education, 49*(2), 385-395.

Heo, M. (2009). Digital storytelling: An empirical study of the impact of digital storytelling on pre-service teachers' self-efficacy and dispositions towards educational technology. *Journal of Educational Multimedia and Hypermedia*, *18*(4), 405-428.

Hew, K. F., & Brush, T. (2007). Integrating technology into k-12 teaching and learning: current knowledge gaps and recommendations for future research. *Educational Technology Research and Development, 55*(3), 223-252.

Hincks, R. (2003). Speech technologies for pronunciation feedback and evaluation. *ReCALL, 15*(01), 3-20.

Hirata, Y. (2004). Computer assisted pronunciation training for native English speakers learning Japanese pitch and durational contrasts. *Computer Assisted Language Learning, 17*(3-4), 357-376.

Hoffman, B., & Nadelson, L. (2010). Motivational engagement and video gaming: a mixed methods study. *Educational Technology Research and Development, 58*(3), 245-270.

Howell, D. (2003). What's your digital story? *Library Connections, 22*(2), 40-41.

Huffaker, D. (2004). The educated blogger: Using weblogs to promote literacy in the classroom. *First Monday*, *9*(6).

Hull, G. A., & Katz, M. L. (2006). Crafting an agentive self: Case studies of digital storytelling. *Research in the Teaching of English*, *41*(1), 43-81.

Hull, G. A. (2003). Youth culture and digital media: New literacies for new times. *Research in the Teaching of English, 38*(2), 229-233.

Hung, C.-M., Hwang, G.-J., & Huang, I. (2012). A Project-based digital storytelling approach for improving students' learning motivation, Problem-Solving Competence and Learning Achievement. *Educational Technology & Society, 15*(4), 368-379.

Hur, J., & Suh, S. (2012). Making learning active with interactive whiteboards, podcasts, and digital storytelling in ELL classrooms. *Computers in the Schools*, *29*(4), 320-338.

Hussin, S., Maarof, N., & D'Cruz, J. (2001). Sustaining an interest in learning English and increasing the motivation to learn English: an enrichment program. *The Internet TESL Journal, 7*(5). Retrieved December 20, 2013, from http://iteslj.org/Techniques/Hussin-Motivation.

Hwa, S. P., Weei, P. S., & Len, L. H. (2012). The effects of blended learning approach through an interactive multimedia E-book on students' achievement in learning Chinese as a second language at tertiary level. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT), 2*(1), 35-50.

Iida, A. (2009). Research in weblog pedagogy: Blogging and developing learner autonomy in a JFL context. *The Language Teacher, 33*(2), 3-7.

Jacobs. H. L., Zingraf, S. A., Wormuth, D. R., Hartfield, V. F., & Hughey, J. B. (1981). *Testing ESL Compositions: a practical approach*. Rowley, Mass: Newbury House.

Jianing, X. (2007). Storytelling in the EFL Speaking Classroom. *Internet TESL Journal, 13*(1), 1-8.

Jonassen, D. H. (1996). *Computers in the classroom*. Englewood cliffs, NJ: Merrill.

Jones, C., & Fortescue, S. (1987). *Using computers in the language classroom*. Harlow: Longman.

Junior Naver. (2013). Retrieved from http:// http://jr.naver.com.

Jung, J. (2010). *A Comparative study of face-to-face storytelling and digital storytelling in elementary students' English class*. Unpublished Master's Thesis. Hanyang Univeristy, Seoul.

Kabilan, M. K., Ahmad, N., & Abidin, M. J. Z. (2010). Facebook: An online environment for learning of English in institutions of higher education?. *The Internet and Higher Education, 13*(4), 179-187.

Kajder, S., & Swenson, J. (2004). Digital images in the English/Language arts classroom. *Learning and Leading with Technology, 31*(8), 18-22.

Kajder, S. B. (2004). Enter here: Personal narrative and digital storytelling. *English Journal, 93*(3), 64-68.

Kajder, S., Bull, G., & Albaugh, S. (2005). Constructing Digital Stories. *Learning & Leading with Technology, 32*(5), 40-42.

Kang, H. S. (2004). *Toward an efficient storytelling in elementary school education*. Unpublished Master's Thesis. Dongguk University, Seoul.

KCIC (2013). Retrieved from http://ncic.kice.re.kr/english.kri.org.inventoryList.do;jsessionid=D01D226B9BFC0843953E80121BB3F77F#

Kearney, M. (2011). A learning design for student-generated digital storytelling. *Learning, Media and Technology, 36*(2), 169-188.

Kern, R. (1995). Restructuring classroom interaction with networked computers: Effects on quantity and characteristics of language production. *The Modern Language Journal, 79*, 457-476.

Ketelhut, J. D. (2007). The impact of student self-efficacy on scientific inquiry skills: an exploratory investigation in River City, a multi-user virtual environment. *Journal of Science Education and Technology, 16*(1), 99-111.

Kim, H. R., & Yi, N. K. (2008). A study of developing primary English teacher training program for the preparation of content-based integrated English teaching. *Primary English Education, 14*(2), 145-170.

Kim, J. H. (2008). The effects of English teaching practicum on pre-service teachers' perception of teaching English in elementary schools. *Primary English Education, 14*(2), 5-22.

Kim, M. H. (2000). *The effects of storytelling on learning of elementary school English*. Unpublished Master's Thesis. Gyeongin National University of Education.

Koh, J. H., Herring, S. C., & Hew, K. F. (2010). Project-based learning and student knowledge construction during asynchronous online discussion. *The Internet and Higher Education, 13*(4), 284-291.

Kormos, J., & Csizér, K. (2008). Age-related differences in the motivation of learning English as a foreign language: Attitudes, selves, and motivated learning behavior. *Language Learning, 58*(2), 327-355.

Krajcik, J., Czerniak, C., & Berger, C. (1999).*Teaching children science: A Project-based approach*. Boston: McGraw-Hill College.

Kawulich, B. B. (2005). Participant observation as a data collection method. *Forum: Qualitative Social Research 6*(2).

Lacina, J. (2004). Promoting language acquisitions: Technology and English language learners. *Childhood Education, 81*(2), 113-116.

Lafford, P., & Lafford, B. (2005). CMC technologies for teaching foreign languages: What's on the horizon? *CALICO Journal,* 22(3), 679-709.

Lambert, J. (2009). *Digital Storytelling: Capturing Lives, Creating Community*. Berkeley, CA: Digital Diner Press.

Lan, Y. J., Sung, Y. T., & Chang, K. E. (2007). A mobile-device-supported peer-assisted learning system for collaborative early EFL reading. *Language Learning & Technology, 11*(3), 130-151.

Lantz-Andersson, A., Vigmo, S., & Bowen, R. (2013). Crossing boundaries in Facebook: Students' framing of language learning activities as extended spaces. *International Journal of Computer-Supported Collaborative Learning, 8*(3), 293-312.

Larusson, J. A., & Alterman, R. (2009). Wikis to support the 'collaborative' part of collaborative learning. *Computer-Supported Collaborative Learning, 4*(1), 371-402.

Lathem, S. (2005). Learning communities and digital storytelling: New media for ancient tradition. *Proceedings of Society for Information Technology and Teacher Education International Conference 2005*, (pp.2286-2291). Chesapeake, VA: AACE.

Lee, C. H. (1998). The use of computers in foreign language teaching and learning effectively: Rethinking key issues. *Korean Journal of Applied Linguistics, 14*(1), 87-115.

Lee, C. H. (2003). The effective use of satellite TV and video in foreign language education. *Woosong Review, 8*(1), 1-21.

Lee, E-J. (2008). *Designing English class using digital storytelling*. Unpublished Master's Thesis. Busan University of Foreign Studies, Busan.

Lee, I. (2002). Project work made easy in the English classroom. *Canadian Modern Language Review, 59*(1), 282-290.

Lee, S., & Chang, K. (2012). A study on the development of pre-service elementary teachers' educational connoisseurship on English teaching through class analysis. *Primary English Education, 18*(2), 295-321.

Legutke, M., & Thomas, H. (1991). *Process and experience in the language classroom*. London; New York: Longman.

Lei, J., & Zhao, Y. (2008). One-to-one computing: What does it bring to schools? *Journal of Educational Computing Research, 39*(2), 97-122.

Leneway, R., Brinkley, E., Webb, A., & Harbaugh, C. (2002). Preparing for digital storytelling. In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2002*, (pp.1147-1149). Chesapeake, VA: AACE.

Levine, G. S. (2004). Global simulation: a student-centered, task-based format for intermediate foreign language courses. *Foreign Language Annals, 37*(2), 26-36.

Levy, M. (1997). *Computer-Assisted Language Learning: Context and Conceptualization*. Oxford: Oxford University Press.

Lewis, A. (1992). Group child interviews as a research tool. *British Educational Research Journal, 18*(4), 413-421.

Li, J. (2010). Learning vocabulary via computer-assisted scaffolding for text processing. *Computer Assisted Language Learning, 23*(3), 253-275.

Li, L., & Morehead, P. (2006). Digital storytelling: Self-efficacy and digital literacy. In T. Reeves & S. Yamashita (Eds.), *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2006,* (pp. 2159-2164).

Lin, H., & Chen, T. (2007). Reading authentic EFL text using visualization and advance organizers in a multimedia learning environment. *Language Learning & Technology, 11*(3), 83-106.

Lin, M. H., Groom, N., & Lin, C-Y. (2013). Blog-Assisted Learning in the ESL Writing Classroom: A Phenomenological Analysis. *Educational Technology & Society, 16*(3), 130-139.

Littlemore, J. (2002). Setting up a course in ICT for language teachers: Some essential considerations. *CALL-EJ Online, 4*(1). Retrieved October 11, 2013, from http://callej.org/journal/4-1/littlemore.html.

Liu, M. (2005). The effect of a hypermedia learning environment on middle school students' motivation, attitude, and science knowledge. *Computers in the Schools, 22*(3), 159-171.

Liu, P. L., Chen, C. J., & Chang, Y. J. (2010). Effects of a computer-assisted concept mapping learning strategy on EFL college students' English reading comprehension. *Computers & Education, 54*(2), 436-445.

Lowe, C., & Williams, T. (2004). *Moving to the Public: Weblogs in the Writing Classroom.* Into the Blogosphere: Rhetoric, Community, and Culture of Weblogs, L. Gurak, S. Antonijevic, L. Johnson, C. Ratliff, and J. Reyman (Eds.).

Lowenthal, P. R. (2008). Online faculty development and storytelling: An unlikely solution to improving teacher quality. *Journal of Online Learning and Teaching, 4*(3), 349-356. Retrieved Sep 12, 2013 from http://jolt.merlot.org/vol4no3/lowenthal_0908.pdf

Lowenthal, P. R. (2009). Digital storytelling-An emerging institutional technology? In J. Hartley & K. McWilliam (Eds.), *Story circle: Digital storytelling around the world* (pp. 252-259). Oxford: Wiley-Blackwell.

Macaruso, P., & Walker, A. (2008). The efficacy of computer-assisted instruction for advancing literacy skills in kindergarten children. *Reading Psychology, 29*(3), 266-287.

Mahamad, S., Rashid, F. A. A., Ibrahim, M. N., & Kasbon, R. (2013). Mobile English Learning System: A Conceptual Framework for Malaysian Primary School. In *Innovations and Advances in Computer, Information, Systems Sciences, and Engineering* (pp. 189-197). Springer New York.

Maier, R. B., & Fisher, M. (2006). Strategies for digital storytelling via tabletop video: building decision making skills in middle school students in marginalized communities. *Journal of Educational Technology Systems, 35*(2), 175-192.

Marsh, J. (2006). Emergent media literacy: digital animation in early childhood. *Language in Education, 20*(6), 493-506.

Martin, C. (2010). Digital storytelling as web passport to success in the 21st century. *Procedia-Social and Behavioral Sciences, 2*(2), 3060-3064.

Martinelli, J., & Zinicola, D. (2009). Teaching science through digital storytelling. In I. Gibson et al. (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2009* (pp. 3802-3808). Chesapeake, VA: AACE.

Marty, F. (1981). Reflections on the use of computers in second language acquisition. *System*, *9*(2), 85-98.

Mayer, R. E. (2005). Principles of multimedia learning based on social cues: personalization, voice, and image principles. In R. E. Mayer, (Ed.) *The Cambridge handbook of multimedia learnin*g. New York: Cambridge University Press.

Mayer, R. E., Sobko, K., & Mautone, P. D. (2003). Social cues in multimedia learning: role of speakers' voice. *Journal of Educational Psychology, 95*(1), 419-425.

McDrury, J., & Alterio, M. (2003). *Learning through storytelling in higher education*. Sterling, VA: Kogan Page Limited.

McGaghie, W., Issenberg, S., Petrusa, E., & Scalese, R. (2006). Effect of practice on standardised learning outcomes in simulation-based medical education. *Medical Education, 40*(8), 792-797.

McLellan, H. (2007). Digital storytelling in higher education. *Journal of Computing in Higher Education*, *19*(1), 65-79.

McNeely, B. (2005). Using technology as a learning tool, not just the cool new thing. In D. Oblinger (Ed.), *Educating the Net Generation*. EDUCAUSE e-book. Boulder: Colorado.

Meadow, D. (2003). Digital Storytelling: research-based practice in new media. *Visual Communication, 2*(2), 189-193.

Meskill, C. (1999). Computers as tools for socio-collaborative language learning. In K. Cameron (Ed.), *Computer assisted language learning (CALL): Media, design and applications* (pp. 141-162). Lisse: Swets and Zeitlinger Publishers.

Mitchell, K. (2012). A social tool: Why and how ESOL students Use Facebook. *CALICO Journal, 29*(3), 471-493.

Montero Perez, M., Senecaut, M. P., Clarebout, G., & Desmet, P. (2010). Designing for motivation: the case of mobile language learning. In Motivation and Beyond. *Proceedings of the XIVth International CALL Conference* (pp. 128-132).

Moss, D. (1997). *Project-based learning and assessment: A resource manual for teachers*. Arlington, VA: The Arlington Education and Employment Program (REEP).

Moyle, K. (2006). Using emerging technologies in focus group interviews. In S. N. Hesse-Biber (Ed). *The handbook of emerging technologies in social research*. (pp. 320-341). New York: Oxford University Press

Neo, M., & Neo, T. K. (2010). Students' perceptions in developing a multimedia project within a constructivist learning environment: a Malaysian experience. *The Turkish Online Journal of Educational Technology, 9*(1), 176-184.

Neri, A., Mich, O., Gerosa, M., & Giuliani, D. (2008). The effectiveness of computer assisted pronunciation training for foreign language learning by children. *Computer Assisted Language Learning, 21*(5), 393-408.

Nikitina, L. (2011). Creating an authentic learning environment in the foreign language classroom. *International Journal of Instruction, 4*(1), 33-45.

Ohler, J. (2005). The world of digital storytelling. *Educational Leadership, 63*(4), 44-47.

Ohler, J. (2008). *Digital storytelling in the classroom. New media pathways to literacy, learning and creativity*. Thousand Oaks, California: Corwin press.

Okonkwo, U. C. (2012). Computer assisted language learning (CALL) software: Evaluation of its influence in a language learning process. *Unizik Journal of Arts and Humanities, 12*(1), 76-89.

Oliver, K. M., & Corn, J. O. (2008). Student-reported differences in technology use and skills after the implementation of one-to-one computing. *Educational Media International, 45(*3), 215-229.

Park, C. N., & Son, J. B. (2009). Implementing computer-assisted language learning in the EFL classroom: Teachers' perceptions and perspectives. *International Journal of Pedagogies and Learning, 5*(2), 80-101.

Park, Y. (2011). A pedagogical framework for mobile learning: categorizing educational applications of mobile technologies into four types. *International Review of Research in Open and Distance Learning, 12*(1), 78-102.

Passey, D. (2006). Technology enhancing learning: Analyzing uses of information and communication technologies by primary and secondary school pupils with learning frameworks. *The Curriculum Journal, 17*(2), 139-166.

Pennington, M. C. (1999). The missing link in computer-assisted writing. In K. Cameron (Ed.), *Computer assisted language learning (CALL): Media, design and applications* (pp. 271-292). Lisse: Swets and Zeitlinger Publishers.

Pierson, M. E. (2001). Technology integration practice as a function of pedagogical expertise. *Journal of Research in Computing in Education, 33*(1), 413-430.

Pinkman, K. (2005). Using blogs in the foreign classroom: Encouraging learner independence. *JALT CALL Journal, 1(*1), 12-24.

Pirbhai-Illich, F., Turner, K. C. N., & Austin, T. (2009). Using digital technologies to address Aboriginal adolescents' education. *Multicultural Education & Technology Journal, 3*(2), 144-162.

Pitler, H., Hubbell, E., Kuhn, M., & Malenoski, K. (2007). *Using technology with classroom instruction that works*. Alexandria, VA: Association for Supervision and Curriculum Development.

Porter, B. (2005) *DigiTales: The art of digital stories*. Sedalia, CO: BJP Consulting.

Postholm (2010): Self-regulated pupils in teaching: teachers' experiences, *Teachers and Teaching, 16*(4), 491-505.

Prensky, M. (2001a). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1-6. Retrieved Sep 1, 2013, from http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf.

Prensky, M. (2001b). Digital natives, digital immigrants, part II: Do they really think differently? *On the Horizon, 9*(6), 1-6. Retrieved Sep 1, 2013 from http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part2.pdf.

Prensky, M. (2010). *Teaching digital natives: Partnering for real learning*. Thousand Oaks, CA: Corwin.

Pritchard, A. (2004). Introducing new students to ICT: Giving a purpose to it all. *Active Learning in Higher Education, 5*(3), 248-262.

Rajasekaran, S., Senthilkumar, U., & Gowda, V. (2008). A PowerPoint game format to teach prescription writing. *Medical Teacher, 30*(7), 717-718.

Rance-Roney, J. (2008). Digital storytelling for language and culture learning. *Essential Teacher, 5*(1), 29-31.

Richardson, W. (2009). *Blogs, wikis, podcasts, and other powerful Web tools for classrooms* (2nd ed.). Thousand Oaks, CA: Corwin Press.

Robin, B., & McNeil, S. G. (2012). What educators should know about teaching digital storytelling. *Digital Education Review, 22,* 37-51.

Robin, B. (2008). Digital storytelling: A powerful technology tool for the 21st century classroom. *Theory into Practice, 47*(3), 220-228.

Robin, B., White, C., & Abrahamson, R. (2009). The expansion of digital storytelling into content area instruction. In I. Gibson, R. Weber, K. McFerrin, R. Carlsen, & D. A, Willis (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2009* (pp. 672-679). Chesapeake, VA: AACE.

Rossiter, M., & Garcia, P. (2010). Digital storytelling: A new player on the narrative field. Special Issue: Narrative perspectives on adult education. *New Direction s for Adult and Continuing Education, 26*(1), 37-48.

Rudnicki, A., Cozart, A., Ganesh, A., Markello, C., Marsh, S., McNeil, S., Mullins, H., Odle Smith, D., & Robin, B. (2006). The buzz continues . . . The diffusion of digital storytelling across disciplines and colleges at the University of Houston. In C. Crawford, R. Carlsen, K. McFerrin, J. Price, R. Weber, & D. A. Willis (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2006* (pp. 717-723). Chesapeake, VA: AACE.

Sadik, A. (2008). Digital storytelling: A meaningful technology-integrated approach for engaged student learning. *Educational Technology Research and Development, 56*(4), 487-506.

Sakka, Z. I. (2005). Digital storytelling in higher education: a case study in a civil engineering laboratory. Advanced Learning Technologies, 2005. ICALT 2005. Fifth IEEE International Conference on, 5-8 July 2005, (pp-365- 367).

Sanchez-Laws, A. L. (2010). Digital storytelling as an emerging documentary form, International Journal of Media. *Technology and Lifelong Learners, 6*(3), 359-366.

Sandars, J., & Murray, C. (2009). Digital storytelling for reflection in undergraduate medical education: A pilot study. *Education for Primary Care. 20*(1), 441-444.

Sandberg, J., Maris, M., & de Geus, K. (2011). Mobile English learning: An evidence-based study with fifth graders. *Computers & Education, 57*(1), 1334-1347.

Sanders, R. (1995). Thirty years of computer assisted language instruction, Festschrift for John R. Russell, *CALICO Journal, 12*(4), 84-96.

Scheneman, L. (2010). Digital storytelling: How to get the best results. *School Library Monthly, 27*(1), 40-42.

Schwartz, L., Clark, S., Cossarin, M. & Rudolph, J. (2004). Educational wikis: Features and selection criteria. *The International Review of Research in Open and Distance Learning, 5*(1).

Seferoğlu, G. (2005). Improving students' pronunciation through accent reduction software. *British Journal of Educational Technology, 36*(2), 303-316.

Shang, H. F. (2007). An exploratory study of e-mail application on FL writing performance. *Computer Assisted Language Learning, 20*(1), 79-96.

Shih, R. C. (2011). Can Web 2.0 technology assist college students in learning English writing? Integrating Facebook and peer assessment with blended learning. *Australasian Journal of Educational Technology, 27*(5), 829-845.

Solomon, G. (2003). Project-based learning: A primer. *Technology & Learning, 23*(1), 20-27.

Son, J. B. (2008). Using web-based language learning activities in the ESL classroom. *International Journal of Pedagogies and Learning, 4*(4), 34-43.

Stevens, V. (2006). Second Life in education and language learning. *TESL-EJ, 10*(3), 1-4.

Stockwell, G. (2011). Online approaches to learning vocabulary: Teacher-centred or learner-centred?. *International Journal of Computer-Assisted Language Learning and Teaching, 1*(1), 33-44.

Stoller, F. (2002). Project work: A means to promote language and content. In Jack, C. Richards & Willy, A. Renandya (Eds.) *Methodology in language teaching: an anthology of current practice* (pp. 107-120). Cambridge: Cambridge University Press.

Stuart, L. H., Mills, A. M., & Remus, U. (2009). School leaders, ICT competence and championing innovations. *Computers and Educations, 53*(3), 733-741.

Sun, Y. C. (2010). Extensive writing in foreign-language classrooms: A blogging approach. *Innovations in Education and Teaching International, 47*(3), 327-339.

Sylvester, R., & Greenidge, W. (2010). Digital storytelling: Extending the potential for struggling writers. *The Reading Teacher, 63*(4), 284-295.

Tan, O. S. (2000). *Thinking skills, creativity and problem-based learning*. Paper presented at the 2nd Asia Pacific Conference on problem-based learning: Education across disciplines, December 4-7, 2000, Singapore.

Tanner, M. W., & Landon, M. M. (2009). The effects of computer-assisted pronunciation readings on ESL learners' use of pausing, stress, intonation, and overall comprehensibility. *Language Learning & Technology, 13*(3), 51-65.

Taylor, R., & Gitsaki, C. (2003). Teaching WELL in a computer less classroom. *Computer Assisted Language Learning, 16*(4), 275-294.

Teo, R., & Wong, A. (2000). *Does problem based learning create a better student: A reflection?* Paper presented at the 2nd Asia Pacific Conference on problem-based learning: Education across disciplines, December 4-7, 2000, Singapore.

Thesen, A., & Kara-Soteriou, J. (2011). Using digital storytelling to unlock student potential. *The NERA Journal, 46*(2), 93-100.

Thomas, E., Place, N., & Hillyard, C. (2008). Students and teachers learning to see: Part1: Using visual images in the college classroom to promote students' capacities and skills. *College Teaching, 56*(1), 23-27.

Thompson, M. (2005). Digital storytelling: Combining literacy and technology. *Information Searcher 15*(4), 3-6.

Tingöy, O., Günefler, A., Öngün, E., Demirag, A., & Köroglu, S. (2006). Using Digital Storytelling in Education. *Proceedings of the 4th International Symposium of Interactive Media Design*. Yeditepe Univerisity.

Tozcu, A., & Coady, J. (2004). Successful learning of frequent vocabulary through CALL also benefits reading comprehension and speed. *Computer Assisted Language Learning, 17*(5), 473-495.

Tsou, W. (2003). Storytelling workshop: for EFL teachers. *Journal of National Tainan Teachers College, 37*(2), 113-130.

Tsou, W., Wang, W., & Tzeng, Y. (2006). Applying a multimedia storytelling website in foreign language learning. *Computers & Education, 47*(1), 17-28.

Turner, K. C. N. (2008). *Multimodal Media Production in the Development of Multiliteracies*. Unpublished Doctoral Dissertation. The University of California, Berkeley.

Turner, K. C. N. (2011). Rap Universal: Using multimodal media production to develop ICT literacies. *Journal of Adolescent & Adult Literacy 54*(8), 613-624.

Ushida, E. (2005). The role of students' attitudes and motivation in second language learning in online language courses. *CALICO Journal, 23*(1), 49-78.

Verdugo, D. R., & Belmonte, I. A. (2007). Using digital stories to improve listening comprehension with Spanish young learners of English. *Language Learning & Technology, 11*(1), 87-101.

Vincent, J. (2006). Children writing: multimodality and assessment in the writing classroom. *Literacy, 40*(1), 51-57.

Wake, D. G., & Modla, V. B. (2010). Language experience stories gone digital: Using digital stories with the LEA approach, *College Reading Association Yearbook, 31*, 253-274.

Wakefield, J. (2010). *Digital Storytelling*. University of North Texas. Available from http://jennywakefield.files.wordpress.com/2009/09/digitalstorytelling_annotated_bib_2010.pdf.

Wang, C. R. (2008). A comparative study on the traditional model of English teaching and multimedia computer aided English teaching. *Journal of Hunan First Normal College, 8*(3), 56-58.

Ward, J.M. (2004). Blog assisted language learning (BALL): Push button publishing for the pupils. *TEFL Web Journal, 3*(1), 1-16.

Ward, L., & Parr, J. M. (2010). Revisiting and reframing use: implications for the integration of ICT. *Computers and Education, 54*(1), 113-122.

Ware, P. D. (2006). From sharing time to showtime! Valuing diverse venues for storytelling in technology-rich classrooms. *Language Arts, 84*(1), 45-54.

Warschauer, M. & Healey, D. (1998). Computers and language learning: An overview. *Language Teaching, 31*(1), 57-71.

Warschauer, M. (1996). *Computer assisted language learning: an Introduction*. In Fotos S. (ed.) Multimedia language teaching, Tokyo: Logos International. Retrieved October 11, 2013, from http://www.ict4lt.org/en/warschauer.htm.

Warschauer, M. (1997). Computer-mediated collaborative learning: Theory and practice. *The Modern Language Journal, 81*(1), 470-481.

Warschauer, M. (2007). *Technology and writing. In International handbook of English language teaching*. Springer US.

Whitacre, M., & Pena, C. (2011). From the classroom to the field: Pre-service teachers integration of technology during field placement. *International Journal of Instructional Media, 38*(3), 237-244.

Wik, P., & Hjalmarsson, A. (2009). Embodied conversational agents in computer assisted language learning. *Speech communication, 51*(10), 1024-1037.

Witte, S. (2007). That's online writing, not boring school writing: Writing with blogs and the talkback project. *Journal of Adolescent and Adult Literacy, 51*(2), 92-96.

Wolk, S. (1994). Project-based learning: Pursuits with a purpose. *Educational Leadership, 52*(3), 42-45.

Xu, J. (2010). Using multimedia vocabulary annotations in L2 reading and listening activities. *CALICO, 27*(2), 311-327.

Xu, Y., & Liu, W. (2010). A project-based learning approach: a case study in China. *Asia Pacific Education Review*, *11*(3), 363-370.

Xu, Y. (2009). *Effects of writing for digital storytelling on writing self-efficacy and flow in a virtual world*. Unpublished Master's Thesis. Korea National University of Education.

Xu, Y., Park, H., & Baek, Y. (2011). A new approach toward digital storytelling: An activity focused on writing self-efficacy in a virtual learning environment. *Educational Technology & Society, 14*(4), 181-191.

Yang, S. H. (2009). Using blogs to enhance critical reflection and community of practice. *Educational Technology & Society, 12*(2), 11-21.

Yang, Y-T. C., & Wu, W-C. I. (2012). Digital storytelling for enhancing student academic achievement, critical thinking, and learning motivation: A year-long experimental study. *Computers & Education, 59*(1), 339-352.

Yanguas, Í. (2010). Oral computer-mediated interaction between L2 learners: It's about time. *Language Learning & Technology, 14*(3), 72-93.

Yoon, T. (2008). A *study of elementary school students' response using an E-book*. Unpublished Master's Thesis. Hankuk University of Foreign Studies, Seoul.

Yoon, T. (2012). Are you digitized? Ways to provide motivation for ELLs using digital storytelling. *International Journal of Research Studies in Educational Technology,* 2(1), 25-34.

Yu, J. H. (2012). *A study of teaching and learning English vocabulary using digital storytelling*. Unpublished Master's Thesis. Korea University, Seoul.

Yuksel, P., Robin, B., & McNeil, S. (2011). Educational uses of digital storytelling all around the world. In M. Koehler & P. Mishra (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2011* (pp. 1264-1271). Chesapeake, VA: AACE.

Yunus, M. (2013). Using visual aids as a motivational tool in enhancing students' interest in reading literary texts. *Proceedings of the 4th International Conference on Education and Educational Technologies (EET 13)* Cambridge, MA, USA.

Zahar, R., Cobb, T., & Spada, N. (2001). Acquiring reading through reading: Effects of frequency and contextual richness. *The Canadian Modern Language Review, 57(*1), 541-572.

Zhou, X., & Zhou, Y. (2002). Investigations and analyses on teacher talk in college English classroom. *Foreign Language Education and Research 1*, 59-68.

Zorko, V. (2009). Factors affecting the way students collaborate in a wiki for English language learning. *Australasian Journal of Educational Technology, 25*(5), 645-665.