

애니메이션과 멀티미디어 소프트웨어의 영어 학습 연구

이일석*

요약

컴퓨터 기술의 발달로 인해 만화로 된 영상과 대화형 삽화를 제공하는 멀티미디어 매체들이 점차 교육용 자료들로 각광받고 있다. 따라서 종전의 전통적인 교육 자료들과 비교했을 때 멀티미디어 자료들이 학습에 더 효율적인지 조사할 필요가 있다. 어떠한 환경가운데 좀 더 효율적인 학습이 될 수 있는지 연구하는 것이 필요하다.

본 연구는 전통적인 영어 읽기와 쓰기 학습방법과 삽화나 애니메이션을 사용하는 교육용 멀티미디어 매체를 기반으로 하는 학습과의 비교 연구를 하고자 한다. 학생들의 실험집단과 통제집단으로 구분하여 6개월간의 실험과 서로 다른 교육 자료를 적용하여 설문조사와 평가를 기반으로 그 결과를 영어 교육에 새로운 접근 방법을 제시하고자 한다.

키워드: 멀티미디어, 애니메이션, 삽화, 영어 학습, 읽기

English Learning Application by Animation and Multimedia Software

Il Seok Lee*

Abstract

With the development of computer technology, the multimedia mediums that allow for animated videos, conversational illustrations are increasingly receiving attention for materials for educational purposes. Accordingly, there is a need to research whether multimedia resources and material is more effective compared to traditional educational material and resources.

This study aims to compare traditional English reading and writing learning methods with learning methods using educational multimedia mediums such as illustrations or animation. Students were divided into a experimental group and a control group, and during 6 months the groups were exposed to different educational resources and on the basis of student evaluation feedback and grades, a new approach to English education is offered.

Key words: animation, English learning, multimedia, frames, Reading

1. Introduction

Due to the development of the Internet and computer technology, students increasingly

need of new classes, and the professors guiding the students need to implement and apply these changes. The most effective education and learning occur when the students enjoy learning and enjoy what they are being taught.

Animation, a tool used for English learning and to promote English learning, is not only enjoyable it is highly effective. Using such tools and multimedia technology, students are able to possess story telling, visual communication, concentration, problem solving

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* Dankook University, Dept. of General Education

Tel: +82-41-550-3130, Fax:+82-41-555-6240

e-mail: lis213@dankook.ac.kr

skills and abilities. Students are able to absorb foundational knowledge of how to create a clay stop-motion animation, pixilation and other animation technology to create an animation movie.

Another characteristic of multimedia is being computer-based, allowing for combinations of various mediums and video usage going beyond simply connecting the preexisting mediums of television or computers, and the application of videos is possible. If previous forms of learning mostly used text medium with a focus on text, learning using multimedia uses and offers the learner unlimited information, along with images, photos, animation, sound features that offer liveliness and authenticity and have a great impact on the effectiveness of learning. In addition, through video conferencing, it is possible to share opinions face to face with people who are not in the same space. Also, through real-time question and answer tools, it is possible for instructors to receive questions online from learners during the lecture.

This research compares traditional methods of teaching English such as story-telling and reading of books and stories with teaching methods utilizing multimedia graphics or animation, and considers large differences exist in the effects on learning for the skills of listening, speaking, and reading. Accordingly, in this study, all participating students took a pre-test of their English ability, then were divided into two groups to observe the effects of different teaching methods, one control group and one experimental group. The first group was exposed to former and traditional teaching methods for a set period of time, and the other group learned English using multimedia. This study aims to provide a new direction for English learning based on the results of the before and after testing. In addition, the results of a survey show there is

a difference in the level of interest in English learning according to whether the student learned in the group using multimedia storytelling or the group using traditional storytelling.

2. Research Background and Literature Review

English Mayer (1990) defines multimedia education as using presentations that includes images or words that strengthen learning. Here, words refer to symbolic information involving graphics such as formulas used in mathematics and chemistry, rather than simply information used and spoken in natural, everyday language.

Betrancout and Tversky (2000) define animation as ongoing and continuous screen determined by the designer or user, generating a series of screens, each screen different from the previous one.

The following are academic comments on the effects of using multimedia for English language learning. Kim Inseok (1998) has posited that from the students' perspective, students are able to directly listen and hear a native English speaker's pronunciation and thus effectively developing their ability to communicate, and from the perspective of a non-native English teacher, the responsibility and expectation of having accurate pronunciation is lessened.

Kang Bok Nam (1998) regard multimedia as lessening the pressure of expectation and responsibility from the instructor as it eliminates any personal prejudice and also eliminates a sense of monotony or boredom from repetitive and rote education from the perspective of the instructor. From the perspective of the young child, multimedia is able to spark interest and motivation to learn, through the child's interest in devices and

computers and repetitive education.

There have been various advantages discussed regarding the use of multimedia, and there have also been scholars who mention the issues and problems that could possibly arise from using multimedia.

3. Utilizing Animation and Software

3.1. Cartoon Films

Multimedia mediums have become so influential; it has become difficult to imagine modern everyday life without the latest multimedia technologies. As such, for young students beginning to develop habits of reading, animated stories can be a good learning tool to encourage and develop this reading habit. With such mediums, the importance of reading is realized, and in addition, the graphics, stories, sound, and background music of animation allow for greater interest, thus greater concentration on the book.

The table below <Table 1> shows a much greater proportion of students, 29.1%, that look at the animation first then the text second, compared to the 13.8% of students that look at the text first then the animation second when students are given the choice between animation and text within a picture book reading context. The majority of learners experience greater concentration when provided with animation, sound effects, visual effects and other characteristics of animation.

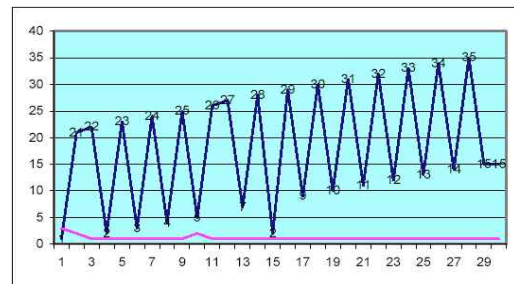
<Table 1> Animation and Text

| Strategies | Assessment | No assessment | Total |
|---------------------|------------|---------------|------------|
| animation then text | 29.1% (35) | 22% (20) | 19.3% (41) |
| text then animation | 13.8% (17) | 9% (8) | 11.9% |

| | | | |
|------------------|------------|-----------|------------|
| animation | | | (25) |
| Successful study | 10% (12) | 25% (23) | 22% (46) |
| animation first | 15.6% (18) | 18% (16) | 16% (34) |
| text first | 5.4% (6) | 10% (9) | 6% (12) |
| Animation only | 19.6% (24) | 16% (14) | 15.6% (33) |
| Text only | 6.5% (8) | 0 | 0.9% (19) |
| Total | 100% (120) | 100% (90) | 100% (210) |

The language used on mobile and Internet sites for English learning animation stories is very simple and easy to comprehend. In addition, the animation effects used for story development create higher levels of learning interest and concentration in students. For example, if a person was to read a story to students, the students would eventually lose interest as time passed. On the other hand, animation stories hold the student's interest and completely engage them for the duration of the story thus creating a totally different situation compared to a person reading the story.

<Table 2> Systematic Alternation between text and animation



This picture shows the systematic progression between textbook cartoon video information. For example, students have begun viewing the animation before reading the text. This shows the students in both organized

groups first explore all the cartoon videos, and then the text.

(Figure 1) English Reading



This article will now review several cartoon movies for reading and discuss their strengths and characteristics of 'Dark, Dark Wood', 'Goldilocks and the three bears', 'Little Red Riding Hood', 'Leaping Match', 'My Secret Team', 'Ugly Duckling Fairy Tales', amongst others.

First, 'Ali and the Magic Carpet' is a fantasy story and an authentic tool to create interest in reading. The story, about a magic carpet that allows one to transport from this world into a completely different world, is an enjoyable animation that creates magic.

(Figure 2) Quiz Animation



Jack and the Beanstalk is a fairy tale about the poor widow and her son Jack who foolishly sells their cow in exchange for beans, and these beans later lead to great treasure. It shows the importance of the role of the illustrations, cartoon movie and the avatar that appears in the movie, and how

significant animation is for reading.

3.2. Software and English Learning

The educational brand 'Badanamu', launched last October by company Calm Island, is a digital learning program and game application for early childhood users, utilizing Near Field communication (NPC) technology and 'Baby-POP' 3D animation. Accordingly to CEO Roberts, 'Badanamu animation videos' have been searched for 150 million times over a period of 2 years.

As a comprehensive education program focused on infant and early childhood, the specialized company 'i-challenge' (CEO Kim Woo Jeong) receives close attention and feedback from mothers, and its representative character 'Hobi' is being utilized in various ways.

The character 'Hobi' was developed by educational company Benesse, representative of educational companies in Japan, and has received much attention and loved by children upon being introduced to the Korean market. i-challenge's textbooks, educational tools, and DVDs are recognized as naturally facilitating child development as well as educational effects with Hobi's presence, along with children aged similarly as the target audience in their products and services.

(Figure 3) Free Animation Software



All children are attracted to an empty canvas. Children like white paper, where they

are free to express their thoughts and feelings. It is an opportunity for the imagination to freely unfold and to create various characters and creations that lived within themselves. It is software children can use to create stories and cartoons with these characters that are truly remarkable.

3.2.1 Stickman Cartoon

This is software where children can draw characters with a large round head with stick arms and legs. It is a very easy to use the software tool where a person can easily transfer a character they imagined into an image.

(Figure 4) Stickman



The image above was designed using stickman software to create a scene of drinking water, and a scene of competing in the Olympic games. As evident, the stickman software is very simple yet effectively relays meaning very clearly.

Pivot Stickfigure Animator and Stykz are two main animation tools. Stickmen originated from the prehistoric age, people and entities were simplified, and are also used as a language of symbols. Stickmen were first used at the 1964 Tokyo Olympic Games Pictograms by Japanese designer Masaru Katzumie, and since then have become the foundation of symbolic language. Creating stickmen animations using Adobe Flash is easier to apply and create than previous blueprints. For example, the online cartoon series 'xaioxaio'

was created using such software. These allow for children to easily learn the foundations of how to create an animation.

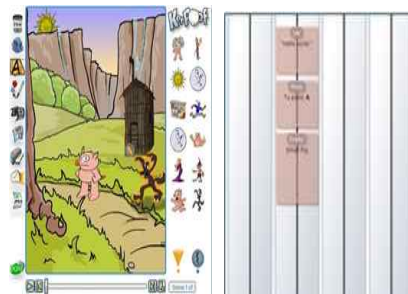
3.2.2 Flipbook

ABCYA Animator, a web-based animation, allows for children's pictures to be created into a cartoon movie in the form of a flipbook or cartoon. The latest version has simple computer symbols and command systems that children enjoy and are easy to understand. As the software can support 100 frames, it can create an animation and send it as a GIF file, which can be played in any web browser. As there are many subjects, characters, and backgrounds, it is simple to use to create a cartoon movie.

3.2.3 Movies

Kerproof Studios is an Internet site that allows for many creative activities such as creating pictures, cards, storybooks, cartoon movies and many more. There are many wonderful story outlines students can choose from when creating an animation.

(Figure 5) Animated Frames



There are many subjects to choose from before making it to cardboard, such as fairy tales, robots, pets and animals. Each subject loads with a background, objects, and characters. The software offered on the site engages students in a creative development process they can enjoy.

3.2.4 Stop Motion Animation

Stop Motion animation is when individual photos of a particular object are taken and the object is moved little bit by little bit. When the photos are played in series, it gives the effect of motion and movement. To make these types of animation, a digital camera and software like Monkeyiam is needed. A toy model with movable joints, a subject made out of clay or Lego etc., can be used.

The subject is moved a little at a time while photos are taken in succession continuously to capture all movements made. Although this process takes some time, the result and effort are worth it. The photos are then loaded onto Monkeyiam and the user can set the number of photos displayed per second, and then the program runs by itself. In addition to such programs, using a video camera reduces the time consumed to take photos.

4. Multimedia Approach for the traditional Class

This study tested for more effective methods and approaches for English internet education users within the premise of the Internet as a place where learners can independently participate and engage in learning activities using software and animation.

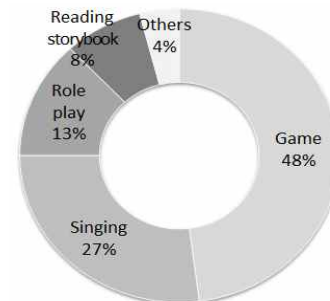
The parameters of the study are digital mediums used in class such as mobile devices, digital white board and other actively used digital mediums. 100 students from grades 1-3 were divided into the control group and the experimental group, and the two groups were divided after a pre-test. After 6 months of the two groups using different educational mediums, a survey and a post-test was conducted and these results form the

formation of a new English learning methods recommended.

This study compared traditional methods of English learning such as the teacher reading children's books with learning methods using multimedia such as graphics or animation, and suggests there is a significant difference in the students' English listening and speaking and reading.

After each student in both of the two groups were provided with standard regular English learning resources as well as English learning resources that consisted of various contents such as animation, screen English, movie music, 2D and 3D animation, the results were investigated.

(Figure 6) The preferred Activities

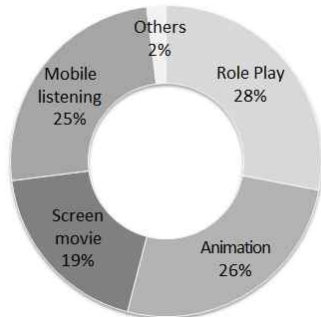


(Figure 6) shows the results of the activity most preferred by students during English class. After a survey listing items such as repeating after listening, English pop songs, games, role play, 48% of students prefer game activities, followed by pop song or other music activities at 27%, 13% preferred role plays, 8% enjoyed reading storybooks, and 4% other.

(Figure 7) shows the results of the methods of English learning that students would like to do in the future. Of the items such as textbooks, current events journals, storybooks, screen movies, animation and others, the largest proportion of 42% of students wanted to learn English through movies or animation. The next most popular item was screen

movies at 29%, followed by storybooks at 16%, textbooks at 8% and others at 4%.

(Figure 7) The priority of the method studying English

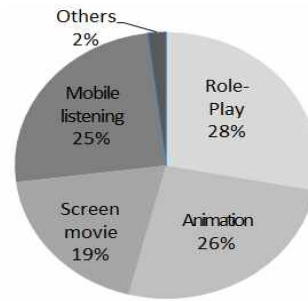


Through (Figure 6) and (Picture 7), it can be seen that of the current curriculum activities, children prefer studying English through games and animation or screen movies, and that they will enjoy English learning through new studying methods with movies or animation is the dominating opinion.

The survey showed the level of satisfaction for traditional learning resources and methods compared to more diverse multimedia software utilizing contents at 23.6% and 76.4% respectively, showing a 52.8% difference. This result can be analyzed the most effective English education is through animation contents. On the basis of such evidence, it reveals that the effect of English learning and the participation can be increased through contents for not only early childhood or elementary students but for adult learning as well.

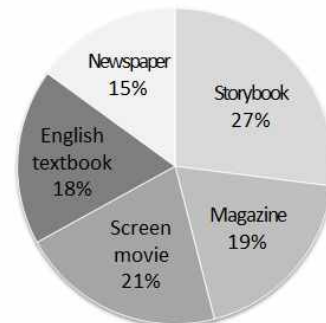
We conducted a comparative analysis of the importance of usage regarding multimedia tools. The learning results show an average grade of 77 for the experimental group, a 24.2% increase than the control group, showing animation usage is effective for English learning.

(Figure 8) The Effect of Resources in Speaking and Listening



The effects on English speaking and listening were found to be role play (28%), screen movies (19%), animation (26%), Mobile Listening (25%) and others (2%). For reading and writing, reading storybooks (27%), current events journals (19%), screen movies (21%), English textbooks (18%), newspapers (15%) were most helpful.

(Figure 9) The resources in Reading and Speaking



It is evident that sound effects and visual information of animation improved the skill of English speaking and listening, and where cartoons images combined with text improved English reading and writing skills.

In addition, the results of the survey show a difference in the level of interest in English learning compared to the control group of traditional fairytales and the experimental group using multimedia for fairy tales.

5. Conclusion

This study shows how animation can be used effectively for English education purposes in multimedia mediums. The strongest advantage of English education using animation is it goes beyond time and space restrictions, and dynamic phenomenon and visualization is possible. In other words, it is possible to implement the most effective education through visualization of animation even within realistically difficult situations.

Previous English reading education approaches were the instructor reading to students or students would read independently. We can see that reading and learning fairy tales through illustrations and has greater educational effects when studying reading.

Animation allows for the user to create their own creative world and the use results in gaining an interactive learning experience within a conversational model. This type of learning was posited by Schnotz (1999), that learning through discovery and realization, can create motivation, which is being used within a theoretical approach.

Not only standard drawing, but also rough drawing, sketching, illustration, photos, symbols and including other forms, as well as cartoon, videos, animation, picture folders, picture cards, postcard etc.. Through this, students realize the breadth how the principle of using pictures can be applied; the second language communicative abilities of students are improved, as well as students' creativity and sociability.

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Lee, Il-Seok

1992 Bachelor of Dankook
University(English)
1997 Master of Dankook
English Education
2005 Phd. Dankook
University

2013- 현재 단국대학교 교양학부 조교수
관심분야: 멀티미디어 언어학습, 모바일 어플 언어
교육, 인터넷 영어 교육, TESOL