Creating a Multimedia Book for Korean Learners: Using Emerging Technologies to Foster English as a Second Language

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Introduction

This study explores the question of how to create a multimedia book to foster English learning as a second language for Korean learners. Multimedia principle suggests students learn better when they learn with multimedia learning materials comprising text, audio, and visual images combined together (Clark & Mayer, 2011; Mayer, 2002). Several components of the multimedia principle were used in a multimedia book designed and printed to support students in learning the English Language better. Currently, this book is titled Thanksliving (Dean et al., 2022), and in its first edition is being used in online classes where young Korean students learn the English language with international teachers. The teachers help students read aloud the contents in the book as students use the book to practice their speaking, listening, reading, writing and vocabulary skills in online class sessions. Inside this multimedia book, emerging technologies including QR codes, Word-Wall, and Padlet were embedded to assist students with diverse practices such as a vocabulary game in learning English. In this manuscript, multimedia components with examples from the book will be introduced. In addition, the implications and suggestions for future application of the book will be discussed.

Multimedia Principle

According to Clark and Mayer (2011), students learn better with multimedia materials than text alone. Multimedia resources contain the forms of text, sound, video, and visual images, which can facilitate interaction between learning content and students. Mayer (2002) explained that learning happens when a student “builds a mental representation from words and pictures that have been presented (p. 85).” For example, when students learn about an apple in English as a second language, presenting a text of an apple, and image of an apple together can help students learn better. In addition, the English passages selected for the multimedia book feature the signaling effect. Signaling refers to highlighting key terms or specific content which does not add any extra content or materials to the original learning material. In the experiment of Mayer’s study (2002), two groups of students received the same content, and one had signaled content and the other had non-signal content. The results showed that students who received the signaled materials performed better than the non-signal group of the students.

Problem Statement and Research Questions

Because of the complexity of designing and developing educational content (Jung et al., 2019), more research is needed to explore creative ways to utilize emerging technologies in
simple ways with practical examples. Thus, this study explores the question of how to create a multimedia book with educational technologies to foster English learning as a second language for Korean learners.

**Method**

QR codes were actively used in designing and developing a multimedia book in this study. The following will describe specific examples that this multimedia book used QR codes. First, when students scan the QR codes, they connect to multimedia resources including the videos on Youtube (Figure 1). With these videos, students can listen to the passages in the book in both English and Korean as much as they want at any time through their personal device such as a smartphone (Figure 2). In addition, the QR codes connect students to play games and to communicate with their peers via online bulletin boards, which will be described more in one of the subsequent sections, Emerging Technologies as Educational Tools.

Figure 1. Online Contents on Youtube

![Figure 1](image1)

Figure 2. QR Codes for Reading English and Korean Texts

![Figure 2](image2)
In each section of the book, the Korean and English texts were added together on the same page, and three to five words on each passage were highlighted in red according to signaling strategies (Mayer, 2002). This is intended for students to recognize specific vocabulary words to focus on, so they can remember after reading the corresponding passage. For example, in Figure 3, John’s disciples were highlighted in red in the English passage, and 요한의 제자들 were also highlighted in red in the Korean passage, and they indicates the same word in both English and Korean. This was supposed to be helpful, especially, when students do not know most of the English words in the English passage. It can be daunting for students to read an English passage containing a big chunk of unknown words. On the other hand, highlighting three to five words per English passage could put less pressure on students to learn the new vocabulary by preventing students from closing the textbook, and by encouraging them to continue to move on to the next page.

Figure 3. Highlighted Words
Emerging Technologies as Educational Tools

In the multimedia book, educational technologies were used to facilitate students’ learning English as a second language of instruction. This section introduces QR codes, Word-Wall, and Padlet along with the examples of how they were used in the multimedia book.

QR Codes

A QR code is a type of barcode which connects to different forms of online environments. In this book, QR codes were used to connect students to multimedia resources on Youtube, a virtual bulletin board called Padlet, and vocabulary games. QR codes can be generated for free on websites. The website, https://www.qr-code-generator.com (Figure 4), is one of the examples where any user can generate free QR codes. Once a URL, image, sound, or video on the website is typed, a QR code that connects to each resource is generated within a minute.

Figure 4. Example of the QR Code-Generator

Word-Wall

Word-Wall is an online literacy tool where teachers can create teaching resources, such as quizzes and word games. In the last section in the multimedia book, several QR codes were added to guide students to engage in further activities (Figure 5). When students scan the QR codes, they can play vocabulary games an unlimited number of times. This was intended for students to review the vocabulary that was highlighted in red in each section of the passages on the previous pages of the book. Once students scan one code with a phone, different vocabulary games pop up. One form of the game is to select a correct English word among different words based on a given Korean vocabulary (Figure 5).

Figure 5. Further Activities
Another part of the vocabulary game is to match the correct words between English and Korean (figure 6). When students play this game, fun music plays in the background depending on the themes of the game. The theme of the Figure 6 is a jungle, so the background scene and the music match with a jungle theme. In addition, students are able to leave their nickname on the leaderboard if they finish within the top five, which can generate positive competition among students to complete the game fast. Once this game is set up, students can play the game at their convenient times, more than one student can access the same games at the same time, and students can have repeated access to the games if they want.

Figure 6. Matching a Correct Word between English and Korean
Padlet is an online post-it-note or a virtual bulletin board. On the last page in the book, Padlet was added with a QR code as an extra activity (Figure 7). With this tool, students are encouraged to connect with each other asynchronously or synchronously to communicate in English. While a paper bulletin board has only an option with a paper based-note, a virtual bulletin board can have diverse forms including website-links, videos, images, texts, and documents. Additionally, students are allowed to communicate with each other by leaving comments on each other’s notes in English. One activity used in this book was that students choose and type their favorite sentence from the book in the English language (Figure 7).

Figure 7. Virtual Bulletin Board

Implementation

So far, the multimedia book has been introduced to 3rd and up to 8th graders for the purpose of learning the English language under the supervision of six different teachers including American and Korean teachers through online classes. Students and teachers meet on Zoom to learn and teach English with the book respectively. In addition, shadowing techniques are used where students read and write about the content of the book. Since the book contains mostly Korean texts with the corresponding English translations, it seems to be very beneficial to low-performing English reading students as they can understand the English passages through the aid of the Korean texts. Kim & Curry (2020) claimed that using new technology through hands-on activities is helpful to build self-efficacy especially “when working with novice learners” (p.218). Offering diverse hands-on experiences through QR codes to students such as playing a vocabulary game seemed to be helpful as students could access through their phones, with the ability to play games either in class or out of class. In addition, using QR codes seemed to facilitate accessibility as students can access learning content easily and quickly. After using this textbook for more than six months, it seemed that the students’ vocabulary, speaking, and listening skills improved tremendously.

Implications and Suggestions

The multimedia book was designed by using simple educational technologies such as QR codes, Word-Wall, Padlet, and media contents on Youtube which are available for educators to use for free. So far, around 20 young Korean students have used the book with six different teachers. Future study will be to implement this project with different languages, so that users can learn English as a Second Language of instruction. For example, the content of this book is
from the Bible which has the same content with different languages. The book can be designed for students who use Japanese, Chinese, or Spanish as their first languages to learn English in the similar format of the book and educational tools from the multimedia book. In this paper, multimedia resources including educational tools, and its examples were introduced. While developing online content can be complicated (Jung et al., 2019), through using these resources, teachers can easily create multimedia books in a simple way; students can have fun interacting with educational tools. Additionally, using educational tools introduced in this book can be beneficial to potential authors who are interested in creating a book with a small budget because different free and open educational tools are available.

The purpose of creating this book was to assist English learning, especially for Korean students. Learning English has been a hot topic as educational issues in South Korea have been a problem for a long time. Scholars have been concerned with a social phenomenon called the English Divide, referring to the English gap between advantaged students and disadvantaged students (Jeon, 2012; Lee & Lee, 2016; Martinez-Garcia, 2020; Shin & Lee, 2019). Some students receive quality English education while other students do not (Jeon, 2012; Lee & Lee, 2016; Martinez-Garcia, 2020; Shin & Lee, 2019). This multimedia book was made to offer good quality English education to any students with easy access. Target students of the book can be any English language learners, and they can have repeated access to educational resources only through a smartphone.

Language skills can be built along with learning a new vocabulary, listening, reading, writing, and speaking. With games and highlighted words on the book, students may learn new terms while reading this book. As students have access to audio files for the whole passages in English and native language (here Korean), students may increase their listening skills along with understanding the content of the book with a story. Reading skills may be facilitated with texts in English and Korean along with audio versions of the text. A virtual bulletin board may facilitate writing and speaking skills as it allows students to upload diverse forms of the files including sound and typed text.

According to Self-determination theory by Ryan and Deci (2017), when students have autonomy, competence, and relatedness in learning, students can be motivated to gain knowledge. In this book, students can choose diverse activities based on the same contents - listening, reading, or writing. With different activities, students can read the English passages. Moreover, the book contains not artificial English passages, but original English passages by using the English Bible. This is important as using natural English passage could be beneficial to learn English as a second language. One of the authors of this book was an English as a second language teacher for several years in South Korea, she observed lots of unclear or awkward sentences used in the textbooks at public and private schools. In this multimedia book, the English Bible was used as an English passage. Some of the primary reasons for using this are because the Bible is considered one of the steady sellers and the Bible contains natural or clear English sentences. Besides, self-determination theory explains when students feel they belong to a learning group or community, they can be encouraged to learn better. Through a virtual bulletin board and vocabulary game-platform, in this multimedia book, students are given access to be connected together with classmates and teachers. In order to explore the impact of using this book, future study will be necessary. Thus, inviting students to use this multimedia book would be the next step by using the following questions.

1. What are the pros of this multimedia book, if any?
2. What are potential challenges of using the book, if any?
3. What features or tools would you like to use if you intend to create your own multimedia book?

In order to use this book effectively, using a smartphone is necessary as a smartphone connects students to access all the learning materials. In some districts and schools, using a phone in class is a controversial topic as it can be helpful or hinder students' learning. An author of this book thinks a smartphone is considered the same as a knife. A knife can be used for cooking beautiful and delicious food at fancy restaurants. At the same time, a knife can be considered as a weapon to be used to hurt people. Phones can be the same way. In this multimedia book, using a smartphone is highly encouraged to students and teachers to facilitate students’ learning English. At the 2022 AECT International Convention, this project will be presented in order to listen to diverse opinions from students, teachers, instructional designers, and professors from around the world. Their creative and critical opinions will be tremendously beneficial to numerous stakeholders in the education sector.

References


