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Factors that influence the use of Edpuzzle for ELE learners in Japan : A methodological proposal for individual learning

メタデータ	言語: en 出版者: 関西外国語大学・関西外国語大学短期大学部 公開日: 2022-10-05 キーワード (Ja): キーワード (En): Edpuzzle, vocabulary, ELE, foreign languages, methodology 作成者: 柳田, 玲奈, Lagones, Jakeline メールアドレス: 所属: 関西外国語大学, Kansai Gaidai University
URL	https://doi.org/10.18956/00008054

Factors that influence the use of Edpuzzle for ELE learners in Japan: A methodological proposal for individual learning

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Abstract

The teaching-learning process of Spanish as a foreign language (ELE) is limited due to some factors. This study presents a methodological proposal, that is, Edpuzzle for ELE, through a mixed experiment in a personal learning space with university students in Japan. The experiment measured the frequency of using Edpuzzle and analyzed the emerging categories of the experience of using Edpuzzle. The result revealed a constant use of Edpuzzle as a self-learning tool for ELE learners. The following categories were found as essential elements that influence its use: pronunciation, teacher, input, motivation, and mobile with Edpuzzle. Additionally, the following variables are necessary for the implementation of educational videos: specific contents, use of one slide as a primary feature, and limited duration in seconds and minutes as relevant for the continuous viewing of educational videos. Given the changing nature of teaching and learning due to the COVID-19 pandemic, this study tries to incorporate the use of technology, specifically, ICT into the teaching process of ELE. The findings of the research can be used by teachers, scholars, and policy makers alike to navigate the changing nature of teaching and learning.

Keywords: Edpuzzle, vocabulary, ELE, foreign languages, methodology

1. Introduction

According to the Common European Framework of Reference for Languages, lexical competence refers to “knowledge of the vocabulary of a language and the ability to use it.” (CEFR 2001). The volume of lexical knowledge is a good predictor of reading comprehension (Sanhueza 2018; Coady 1993; Laufer 1997; Shimamoto 1998), and lexical competence is essential for learning foreign languages (Kaneko et al. 2017). However, teachers tend to give little importance to vocabulary learning in class (Imai 1993). Some studies on lexical

competence in Japan argue that vocabulary learning corresponds well with Information and Communication Technology (ICT) (Kaneko et al. 2017). Therefore, based on the problems that we have encountered with our students in the context of teaching and learning vocabulary, we have been working—before and during the pandemic—on a new way of teaching and learning vocabulary, comprising a series of tasks to be conducted outside of class using an ICT tool, that is, the Edpuzzle (Lagones and Yanagida 2019).

During the Covid-19 pandemic, ICT was adopted in different modalities to facilitate teaching in Japanese universities. In 2020 and 2021, students were forced to spend several hours in front of a computer or smartphone screen. Consequently, the perception of using ICT tools in learning has changed as a result of the obligatory and continuous use during these past two years (2020–2021). In ELE (Spanish as a Foreign Language) classes at Kansai Gaidai University, we observed that while students properly learn the new language's grammar, they face difficulties in learning vocabulary which limits the growth of their conversation skills.

The following difficulties were observed in our classes. First, some students, especially those who did not obtain a good score, were not habitually studying outside of class. (This could be a common characteristic among Japanese students.) Second, in the case of sophomores (second-year), they often forget what they learnt in the previous year and faced difficulties in learning new content. In addition, the hours allocated to ELE classes are not sufficient for the second year's content; therefore, it is not easy to constantly provide feedback for the first year's content. Further, some students do not do their homework due to many factors, such as lack of motivation and part-time work. Therefore, there is a need to create new materials with methodological proposals that can help improve students' motivation to facilitate learning outside of class. Consequently, we hypothesize that Edpuzzle, an ICT tool, can be a useful alternative for students and teachers.

We considered the use of Edpuzzle because it is an application that can be used on smartphones, which young students use constantly. However, it is not necessarily open to the public, that is, it can be used in private with members of a class group or multiple classes. Further, only registered students can watch videos on the app, which simulates a classroom like environment. In addition, teachers can access the number of views of a video on a daily basis, including the number of times that students have viewed it and the percentage of the video that they have watched. In fact, using Edpuzzle is very convenient for teachers. Therefore, we conducted a mixed experimental study on the use of Edpuzzle on

smartphones, among ELE students in a Japanese university.

We present a methodological proposal, embodying the use of Edpuzzle by ELE learners in a personal learning space. The study was conducted with students of the Faculty of Foreign Languages specializing in Spanish at Kansai Gaidai University. The experiment was conducted during the spring semester in 2019. We began with assessing whether Edpuzzle is frequently used by university students as a self-study tool outside of class among a sample population. We analyzed the frequency data obtained through Edpuzzle views and conducted a semi-structured survey (Open-Dichotomized) to highlight the factors that influence its use. Thus, the first objective was to measure the frequency of the use of Edpuzzle by university students, and the second was to analyze the categories that emerge from the experience of using Edpuzzle. The following three research questions were examined: What is the frequency of the use of videos on Edpuzzle outside of class? (**RQ1**); What are the categories that influence the continuous use of Edupuzzle as a learning tool? (**RQ2**); What variables are essential for elaborating self-study videos on Edpuzzle? (**RQ3**). The remaining paper is structured as follows. First, we describe the characteristics of the ELE class in Japan, the importance of using Edpuzzle for ELE teaching, and the study's objectives. In section two, we explain the mixed method adopted for the study. In section three we present the results and the conclusion.

Given the changing nature of teaching and learning due to the COVID-19 pandemic, this study is extremely relevant because it tries to incorporate the use of technology, specifically, ICT into the ELE teaching. The findings of the research can be used by teachers, scholars, and policy makers alike to navigate the changing nature of teaching and learning.

1.1 ELE classes at Kansai Gaidai University

ELE classes, conducted by the Spanish faculty of the Kansai Gaidai University, include compulsory classes divided among the following three courses: conversation, grammar, and practice. Throughout the four years of study, students are divided into 12 groups based on their previous semester's grades.

For the first semester in 2019, a particular group of second year students had a standard textbook used for both grammar and conversation. The experimental study was conducted with this group.

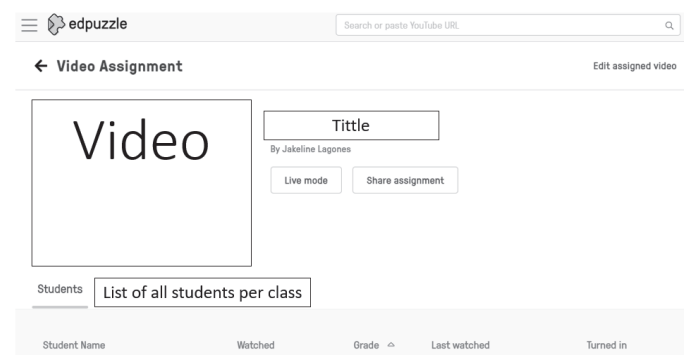
1.2 Edpuzzle: An innovative ICT tool

ICT is essential for language learning as much research has been done to improve motivation and skills; other researchers focus their studies on learner's autonomy (Guerza, 2015; Tri and Nguyen, 2014), oriented to self-study. According to our goals and research questions, this study hypothesizes that Edpuzzle as an ICT tool can be a valuable alternative for ELE learners as a self-study tool outside of the classroom in their vocabulary learning. "Vocabulary is the important part of learning a language and as a meaning of a new word is emphasized in books and classrooms" (Hussain 2017, p. 151). Furthermore, no research has been conducted to examine the use of Edpuzzle in terms of frequency among ELE students. Therefore, the purpose of this research was to address this research problem. This study aimed to examine the frequency and what factors need to be considered in ICT-based learning using Edpuzzle on learning students' vocabulary in ELE learners outside of the classroom.

The design of our study was a mixed experimental study, and our hypothesis was to research whether ICT-based learning using Edpuzzle is helpful for the student's self-study vocabulary or not. Because as some researchers stated, "To be autonomous, learners need to be able to have some choice in what, where, when, and how to study" (Frydrychová and Llona 2012, p. 91). The population was second-year undergraduate students of Spanish faculty at Kansai Gaidai University in Japan. This group has already learned basic vocabulary, and in the second year, they need to improve by studying new words, most of the time by themselves at home. Therefore, we used Edpuzzle as an ICT platform to help students in their vocabulary studies at home.

Edpuzzle is a tool for creating student-centered interactive videos. This tool allows students to watch videos repeatedly, and teachers can access each repetition which can be used as a guide to record the student's participation with each video. Teacher's account on the app includes information on the percentage of views of a video, when and how long did a student watch the video, and the frequency of views of each section of the video by each student (Figures 1 and 2). This tool can be used inside or outside of classroom. Other studies outside Japan have also experimented using this tool in the classroom (Pueo, Jimenez-Olmedo, and Carbonell-Martinez 2017) and through smartphones in classrooms (Lara Orcos, Blázquez, Curto, et al. 2018).

Figure 1
Teachers account on Edpuzzle

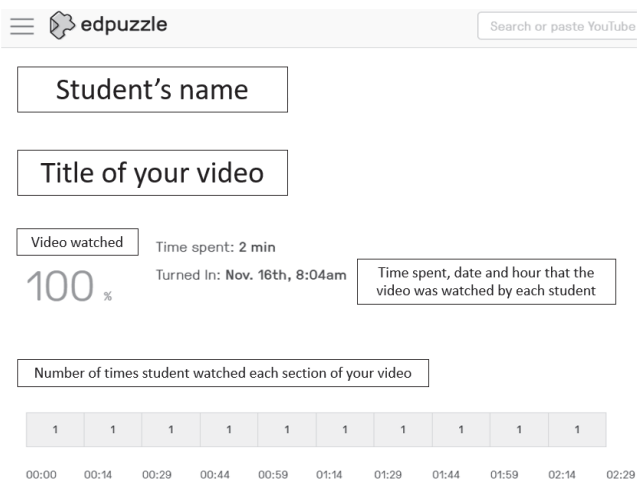


Note. Teachers can observe specific characteristics, such as name, time, and section of the video that each student watch, but students cannot observe this date.

1.3 How to use Edpuzzle?

First, the teacher creates, uploads, and invites students to watch necessary videos to facilitate learning. The most impressive feature of the application is that the teacher can observe the number of views for each video by each student, including the time that each student spent viewing each video (minutes and seconds, see Figure 2). Therefore, the authors decided to use Edpuzzle for the communication and grammar course in ELE classes. Our priority was the use Edpuzzle on a smartphone, for homework.

Figure 2
Each student's data on a teacher's Edpuzzle profile.



1.4 Objectives

This mixed experimental study had two objectives. First, to measure the frequency of the use of Edpuzzle by university students, and second, to analyze the categories that emerge from the experience of using Edpuzzle.

2. Methodology

First, the researchers asked the formal consent by participant. The names of individual subject will not be used in any publication that describe the research and the student's names are removed from all data collection forms. Then, we created six videos on the content extracted from the course textbook, which were then viewed by students outside of class. In the mixed experimental research, Edpuzzle is considered as a supplementary material which is used outside of class. The students used it during their first semester (during April, May, June, and July 2019). The study population comprised second-year students of the Spanish faculty of Kansai Gaidai University, where the authors teach Spanish. In the quantitative stage, we measured the frequency of the use of Edpuzzle by students and highlighted the similarities and differences. In the qualitative stage, we conducted an open dichotomous survey based on the qualitative results, to finally highlight the categories that influenced the use of Edpuzzle.

3. Results and discussions

3.1 Quantitative data results

Table 1 includes the length of each six video. Video 1 was the shortest (22 seconds) and Video 5 was the longest (159 seconds, i.e., 2 minutes and 39 seconds). We created short videos to avoid repetition fatigue and encourage students to watch them more often. Additionally, each video featured only one slide, focusing on the words that have to be learned from the textbook.

Table 1

Lenght of each video

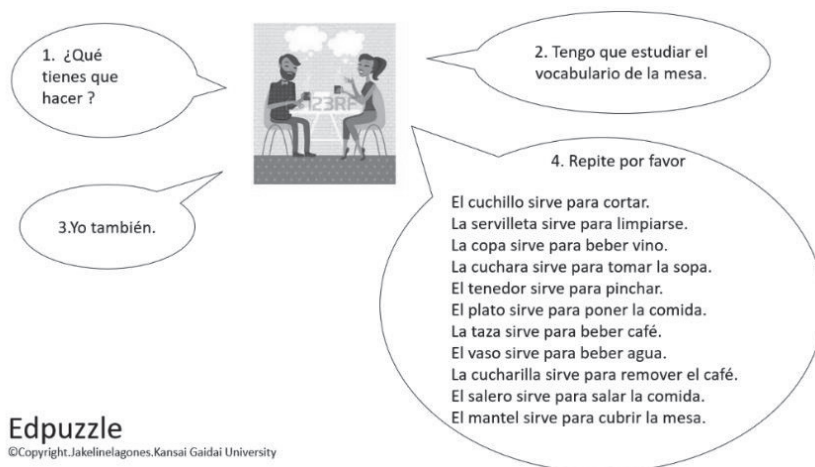
Video length	1	2	3	4	5	6
Seconds and minutes	22	43	64 (1.4)	52	159 (2.39)	75 (1.15)
Language	Spanish	Spanish	Spanish	Spanish	Japanese and Spanish	Japanese and Spanish

Note. Videos 1, 2, 3, and 4 were created by a native Spanish teacher to measure the frequency of views in a single language. Videos 5 and 6 were recorded with the two teachers, one Spanish and the other Japanese, to examine if the input in two languages facilitated comprehension and increased views.

Our initial survey used short videos (less than three minutes) created by teachers, with content in a single slide including essential words or phrases for the individualized practice of students outside of the classroom (see Figures 3 and 4). The frequency of views of videos created in Spanish and those created in both Spanish and Japanese were compared. Through this, we aimed to observe if there was a difference in the visualization of videos, which would help us determine whether students view videos more often when they are in their native language.

Figure 3

Video 2-Edpuzzle



Note. Figure 3 depicts the slide from Video 2 with three content variables: vocabulary, pronunciation, and dialogue in Spanish.

Figure 4

Video 3-Edpuzzle

EDPUZZLE						
Un lápiz	Una pizarra	Un cuaderno	Un bolígrafo	Una papelerera	Una goma	Una silla
l-á-p-i-z	p-i-z-a-r-r-a	c-u-a-d-e-r-n-o	b-o-l-í-g-r-a-f-o	p-a-p-e-l-e-r-a	g-o-m-a	s-i-l-l-a
Una regla	Un libro	Un sacapuntas	Una puerta	Una ventana	Una tiza	Una papelerera
r-e-g-l-a	l-i-b-r-o	s-a-c-a-p-u-n-t-a-s	p-u-e-r-t-a	v-e-n-t-a-n-a	t-i-z-a	p-a-p-e-l-e-r-a

Edpuzzle

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Note. Figure 4 depicts the slide from Video 3 with three content variables: vocabulary, pronunciation, and spelling in Spanish.

Students from three ELE study groups watched all six videos. By groups, we refer to the twelve sections or classrooms in each semester. Groups 4, 8, and 9 were included as the sample population. The results reveal that Video 1 was viewed 7.9, 5.5., and 4.8 times by students in groups 4, 8, and 9, respectively Further, Video 1, which was the shortest, was viewed the most (see Table 2).

Table 2

Frequency of visualization

Number of videos	1	2	3	4	5	6
Frequency of visualization	18.2 times	13.1 times	6.8 times	9 times	10.5 times	6 times

Note. The table includes the average number of times each videos was viewed repeatedly by the total number of participating students.

Video 2 (43 seconds) was the most-watched after Video 1. Ideally, Video 4, whose duration is 52 seconds, should have followed, however, Video 5 (2.39 sec)—which was the longest video—came next. This could be explained by the inclusion of Japanese in the 5th video. Therefore, it can be concluded that an essential variable for creating videos is the use of both languages, that is, the new language (Spanish) and the learners' native language (Japanese). This ensures greater accessibility to the content and increases learners' motivation to study the new language

Due to the difference in the conditions and contents of each video, and each student's situation, comparison became difficult. In addition, the display frequencies of Videos 4 and 5 were not significantly different. Videos 5 and 6 were created in two languages, but the frequency of views decreased for Video six. This could be explained by the fact that, until Video 5, the content was more about vocabulary, but Video 6 included grammar explanations in Japanese. This could have been perceived as complicated by students, to the extent that some of them eventually stopped watching it (see Figures 5 and 6). This result highlights another important variable: we must make videos using specific content, such as vocabulary.

Figure 5

Video 5-Edpuzzle

El pretérito indefinido 点過去

	Estudiar 勉強した	Comer 食べた	Vivir 住んだ	Llegar 着いた	Jugar スポーツを した	Explicar 説明した	Empezar 始めた	Ser/ir ～だった/ 行った
Yo	estudié	comí	viví	llegué	jugué	expliqué	empecé	fui
Tú	estudiaste	comiste	viviste	llegaste	jugaste	explicaste	empezaste	fuiste
Usted	estudió	comió	vivió	llegó	jugó	explicó	empezó	fue
Él/Ella	estudió	comió	vivió	llegó	jugó	explicó	empezó	fue
Nosotros/as	estudiamos	comimos	vivimos	llegamos	jugamos	explicamos	empezamos	fuimos
Vosotros/as	estudiasteis	comisteis	vivisteis	llegasteis	jugasteis	explicasteis	empezasteis	fuisteis
Ustedes	estudiaron	comieron	vivieron	llegaron	jugaron	explicaron	empezaron	fueron
Ellos/as	estudiaron	comieron	vivieron	llegaron	jugaron	explicaron	empezaron	fueron

Edpuzzle

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Note. Figure 6 depicts the slide from Video 5 with three content variables: vocabulary, pronunciation, and spelling in Spanish with a Japanese translation of verbs in the infinitive.

Figure 6

Video 6-Edpuzzle

Marcadores temporales que combinan con el pretérito indefinido

(点過去と一緒に用いられる、時を表す語句)

EJEMPLO VIDEO 6

1)

El año pasado (yo) fui a Argentina.

過去の時を表す語句 ir点過去 (主語yo)

2)

Esta mañana he desayunado en una cafetería.

Ayer también (yo) desayuné en una cafetería.

現在を含む時の単位内で起こったことは「現在完了」

現在とは切り離された過去に起こったことは「点過去」

Edpuzzle

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ayer	昨日
anoche	昨夜
anteanoche	おとといの夜
anteayer	おととい
hace unos días	数日前
hace un mes	1か月前
la semana pasada	先週
el otro día	先日
un día	ある日
el verano pasado	前の夏
el mes pasado	先月
el año pasado	去年
a finales del año pasado	去年の年末
aquel año	あの年
la primera vez que...	最初に〜した時

Note. Figure 7 depicts the slide from Video 6 with three content variables: Japanese vocabulary, translation, and grammar.

3.2 Qualitative data results

This section presents the results of the semi-structured survey (Dichotomous-open). The survey was conducted anonymously and included two simple questions: Did you like Edpuzzle? and Why? We conducted the survey with both second-and first-year student groups to gather more feedback. Thus, we had 39 freshmen and 44 sophomores (see Table 3). The comments were written in Japanese and translated by the authors.

Table 3

Number of students

	Number of students per group	Total	
1 st year	19 (Grupo 4) 20 (Grupo 8)	39 students	
2 nd year	18 (Grupo 4) 13 (Grupo 8) 13 (Grupo 9)	44 students	
Total		83 students	

Note. Groups refer to the number of each class. Usually, there are about 12 groups in each academic semester.

Of the 83 responses, we received 81 positive comments and 19 comments on limitations faced by the students (see Table 4). We grouped the students' positive comments into five categories and mentioned the limitations and disadvantages that the students faced while using Edpuzzle.

Table 4

Number of comments on advantages and disadvantages

	Positive answers	Answer about limitations
<i>1st year</i>	39	7
<i>2nd year</i>	42	12
<i>Total</i>	81	19

Note. The table includes the survey results, including the number of students who presented opinions about the advantages and disadvantages of using Edpuzzle as a self-study tool outside of class.

Category 1: Pronunciation

The most significant comments was, “concerning native pronunciation.” Following are some of the original comments: *“It is good because it is not just visual material but also the correct pronunciation is heard”* ; *“It was great because I was able to hear the authentic sound, intonation, and accent”* ; *“It was useful because I do not have the opportunity to listen to Spanish in my daily life”* ; *“Listening and pronunciation are important when learning Spanish, so it is good”* ; *“It is nice that I can check the pronunciation immediately even if I do not know it”* ; *“You can listen to the teacher’s pronunciation anytime, anywhere”* ; *“It is good because you can hear Spanish easily.”*

Category 2: Course Teacher

The students stated that they liked “hearing a familiar voice, that of their course teacher.” This could be explained by the fact that students feel more familiar and comfortable hearing their teacher’s voice which boosts their confidence for pronunciation practice outside of class.

Category 3: Edpuzzle is an innovative and convenient material

“Concerning ease of use” Was the third most cited comment. Some of the original comments translated by the authors are as follows: *“It helps me learn ELE because it is easy to listen to with headphones anywhere”* ; *“I can hear it before I sleep”* ; *“If it is a written assignment,*

on a crowded train in the morning, it is annoying to take it out of the bag and take it out of the folder” ; “It is convenient because I can listen to it anytime, anywhere” ; “I can listen to it when I travel by train or bus, like on the way to university” ; “I can hear it on the train and in my free time” ; “It is good because you can use it on the train, in the bathtub, in the library, among other places.” Students believe that they do not have time to study at their desks. For them, the only time that they can dedicate to study is during their trip to the university, a few seconds of waiting, a few minutes before falling asleep, or a moment in the bathtub. Therefore, if we provide them with material that corresponds with such time constrained instances, then they will not be resistant toward using the application.

Category 4: Input

Several comments affirmed that “it has been easy to understand.” Following are a few examples: *“It is easy to understand because it explains understandably” ; “The materials are easy to read” ; “The important points can also be seen on the mobile screen” ; “They made learning easier for me because the verb conjugation comes in tables and with example sentences.”* This reaffirms our hypothesis that the content of the videos does not have to be long or include a lot of content. Therefore, we affirm that it is essential to select the most relevant vocabulary points required by their program and level of study to avoid loss of motivation.

Category 5: Motivation

The following phrases were used by students to express that Edpuzzle is convenient and increases their motivation: *“You can use it doing something else” ; “I can take advantage of my free time” ; “Easy to practice repeatedly” ; “Easy to memorize” ; “It is fun.”* The last comment caught our attention because it was stated by not just one but several students. While we did not include any entertaining elements in Edpuzzle videos, it seems that they liked it *“not being a paper book,”* that *“the voice of their teacher is heard,”* or just *“being a smartphone application.”* Thus, Edpuzzle helps increase the students’ motivation because they to find it fun.

3.3 Comments on limitations and disadvantages

Category 1: Technical Problems

Some students commented on some technical problems they encountered while using

Edpuzzle: *"It consumes the battery"* (1 student); *"Consumes the monthly data capacity"* (2); *"I could not log in to Edpuzzle"* (2); *"It annoys me a bit that the Google account is required"* (2); *"When the video was paused, the bottom bar would hide the bottom of the content. It was inconvenient"* (2); *"Image cannot be enlarged"* (1). These comments are related to technical issues and not the videos' content. For example, the image is not enlarged, but the comment was due to the video that included grammar, which was a test that we later decided to change and only use vocabulary words, not add grammatical explanations.

Category 2: General Demotivation of the Course

Only one student commented: *"I was a bit lazy."* We assumed that this style of learning did not fit their preference or that the student was lazy to study the comprehensive courses.

Category 3: Preference

Two students commented, *"I cannot memorize the spelling, especially the accent"* (1); *"I prefer the written homework"* ; *"The presence of "written homework" puts more pressure on me to do homework. On the other hand, Edpuzzle is convenient, so I do not worry too much and can forget about homework. For this reason, I prefer to memorize by writing and muttering"* (1). This indicates that some students may prefer to study by writing or using a textbook, instead of watching or listening to videos.

4. Conclusion

The first finding revealed that the frequency of using of Edpuzzle was constant for the three groups; however, the viewing time was different for each video. **The second finding** revealed that the characteristics that influence the use of this methodology are native pronunciation of the new language, participation of the course teacher, accessible input in both languages (new and native), and motivation as a consequence of the comprehensible input. These along with the habitual use of mobile phones by students in their daily lives makes Edpuzzle an innovative and convenient material for both students and teachers. **The third finding** indicated that it would be preferable to make videos with (a) specific contents, (b) only one slide, and (c) a minimum average duration of seconds and minutes.

However, some technical limitations were also highlighted. The technical problems cited by students can be solved by constantly using and practicing through the app. Therefore, we

have conducted a second phase of the study, focusing on vocabulary learning, as an extension of this first phase.

These findings support the use of Edpuzzle as a new methodological tool to be used by university students in a personal learning space to facilitate the foreign language teaching-learning process. This study is highly relevant to the current situation of teaching foreign language because it tries to incorporate the use of technology, specifically, ICT into the teaching process of ELE. The findings of the research can be used by teachers, scholars, and policy makers alike to navigate the changing nature of teaching and learning.

Therefore, in terms of pedagogical innovation, this article could encourage teachers to change from using the traditional teaching methodology to new methodological approaches for learners of a foreign language, especially, for vocabulary learning, which is, not only used outside the classroom but in the classroom and vice versa.

For future research, we stated that in Phase 1, the participation frequency was positive for many reasons: First, the short duration of the video; second, the convenience of using a smartphone; and final, the native pronunciation of the teacher. In the next step, Phase 2, we consider evaluating if using Edpuzzle for vocabulary tasks promotes vocabulary through group cohesion between students and teachers. Furthermore, we examine if the increased use of ICT during the pandemic did not reduce student engagement compared to Phase 1 before the pandemic.

Acknowledgements

This work was supported by the Japan Society for the Promotion of Science(JSPS) Grant-in-Aid for Scientific Research KAKENHI [grant number, JP19K23302]. I thank two anonymous reviewers for precious comments on an earlier version of this paper.

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