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The Developing of Simple e-Learning based on the Flipped Classroom with VBL and DGBL for Junior High School Student Learning EFL

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Abstract. *Living with a pandemic for around three years made our education improve and update with technology. Mastering English as a popular language is a tool to gain more knowledge and experience in this era. This study researched the learning EFL with flipped classrooms based on video-based learning on YouTube and digital game-based learning for junior high school students in Riau Island. In this study, the researcher put the content of EFL about time, and the student learns through the explanation in the video before they study in the classroom; in the classroom teacher gives or asks a question or answers the student. The data was obtained by observation and online tests. The data was analysed by measuring of N-Gain score calculation. Only some junior high school students in Indonesia can apply to learn with e-learning for flipped classrooms. And the flipped classroom with VBL and DGBL is more effective than the traditional method.*

Keywords: *e-learning, EFL, Video-Based Learning, Flipped Classroom, DGBL.*

INTRODUCTION

Today, English is a widely spoken language; it was a worldwide language in the 20th century. Internationalization, student interchange, and obtaining global knowledge all contribute to global education. All of it requires English; as an Indonesian, in addition to speaking Bahasa Indonesia, mastering and being able to converse in English is a need in this day and age. To master the English language, we must study and practice. In this period, technology has also advanced swiftly; e-learning is commonplace. Since the invention of the computer, educational instruments, methods, and strategies have evolved. As with many other elements of human life, technological advancement impacts educational activities (Ağirman, 2021). With technology playing such an important role in the digital age, the current generation possesses a high level of technological literacy (Hashim, 2018). Education must adopt a technological approach if we want a significant portion of the population to be assimilated into modern culture and society (Burgin, 1999).

Technologies such as gamification, big data, e-learning, VR/AR, and AI are currently utilized in education. E-learning or electronic learning is accomplished by utilizing electronic training methods such as computers, smartphones, gadgets, multi-purpose CDs, the internet, electronic journals, and electronic newsletters (Tarzjani & Alishiri., 2017 in Habibollah Dehghan et al., 2022). Utilization of e-learning is a key performance metric for e-learning. Additionally, it improves academic performance (Ing-Long Wu, 2022). Internet or online materials pertinent to students' personal experiences may enhance their engagement with course material (Moore & Kearsley, 1996 in Kuo et al., 2014). Digital

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classrooms teach students using electronic devices and platforms such as social networking, multimedia, and mobile phones (Haleem, 2022). YouTube, as a social medium, may also be a useful learning platform for kids. Many students rely on YouTube to handle academic issues and get answers to inquiries. According to (Moghadam, 2018), the vast majority of students utilise YouTube to search for and acquire knowledge. Students' frequent use of IT, their comfort with it, and the efficacy of videos for learning make it necessary and appropriate. According to Bajrami & Ismaili (2016) students perceive about the use of video content in the classroom to be engaging, relevant, helpful, and somewhat inspiring.

YouTube boasts more than 2 billion monthly logged-in users, and each day, users watch more than a billion hours of video and produce billions of views. YouTube has localised versions available in over 100 countries and 80 languages. Each minute, more than 500 hours of content are uploaded to YouTube (Youtube, 2022). YouTube was founded by Chad Hurley, Steve Chen, and Jawed Karim in February 2005 (Alias, 2013). Everyone with Internet connectivity can access YouTube, one of the most popular media platforms. Individuals sharing, uploading, and commenting on videos is not the best way for kids to gain from YouTube; teachers and educators may exploit it to its fullest potential (Abbas, 2020). As a result of having extra time at home, students can assist their flipped classes by viewing instructive videos at any time. Teachers utilize this platform to engage their students and facilitate their learning through self-directed synchronous or asynchronous sessions, such as face-to-face or online classes. (Jiménez, 2021). YouTube assisted sport science students in comprehending remotely provided instructional content and compensating for missing opportunities to acquire knowledge and motor skills (Trabelsi, 2022).

The majority of publications define the flipped classroom as a form of blended learning (Abeysekera and Dawson., 2015, as cited in Reidsema, 2017). The flipped classroom is an innovative approach to blended learning. From students' perspective, flipped classrooms are an effective and advantageous instructional strategy (Youhasan, 2022). The flipped classroom has been implemented extensively in numerous educational settings (Lestari, 2021). The flipped classroom has gained popularity in nursing literature (Herbosa, 2022) and has been implemented in agribusiness and international business management departments (Anuar et al., 2021), English Education departments (Liu, 2016), and sport science departments (Reddan, et al., 2016). (Trabelsi, 2022). However, deployment of the flipped classroom model is prevalent among undergraduates. In this study, we investigate how the deployment of flipped classrooms affects junior high school students studying English as a second language.

LITERATURE REVIEW

e-Learning Simple

Simple e-learning is e-learning with simple creation by web developers employing Squarespace, Blogger, WordPress, Wix, and Google Site to create websites. E-learning is studying without the use of printed materials such as books or paper, and only with the aid of electronic materials and gadgets. Online learning is another term for e-learning. In online learning, students use various internet-connected devices (such as mobile phones, laptops, etc.) to engage in synchronous or asynchronous learning settings (Dhawan, 2020). There are various types of e-learning, such as web-based learning, blended learning, and remote learning. Since the start of the COVID-19 epidemic, e-learning has grown in popularity (Xuan Hu, 2022). In e-learning courses, explanations, examples, interactions, questions, feedback, glossaries, etc. are used to help learners become self-sufficient in the acquisition of new skills and concepts through the use of interactive learning resources that match to one or more learning objectives. E-adaptability learning's enables students to study whenever and wherever they choose. Using this strategy, learning can be simply (and affordably) spread out over a longer length of time, providing for a longer period of effective learning. E-learning courses can be accessed from any Internet-connected location, such as the office, the home, or the library. Therefore, users can benefit from just-in-time learning by having access to e-learning content whenever they need it, rather than at a predetermined time (Academy, 2021).

E-learning is not new, but related technologies have been developed through decades of research. E-learning has taken many years to make substantial advancements in the realm of education. However, there are many new concepts, like artificial intelligence, micro-credentials, big data, virtual and empowered reality, blended learning, cloud e-learning, gamification, mobile learning, the Internet of things, and online video (Baz, 2018). Every nation has its own implementation difficulties with e-learning. If these issues could be classified into four study groups—technological, individual, cultural, and educational—then the implementation of the e-learning system was the subject of dispute. Differences in cultures, histories, and phases of development accounted for a large proportion of the variation in difficulties between nations (Alfallaj, 2020). The development of e-learning in Indonesia is not ideal due to the lack of a good learning method, the absence of training, and the disparity in IT literacy between teachers and academic staff (Arafah;2019, Lutfi & Priyanto;2009 in (Rizq Husaini, 2020). According to (Salehudin M, 2021), a government strategy is required to increase teachers' awareness of e-learning in order to impact their competency in using social media for e-learning. With this basic e-learning, educators can construct their e-learning system without any trepidation.

Flipped Classroom with Digital Game-Based Learning and Video-Based Learning

Flipped learning, also known as a flipped classroom or inverted classroom, is a pedagogical strategy in which usual classwork (e.g., material delivery) is completed at home, and traditional homework assignments (e.g., problem-solving consolidation questions) are completed in class (Staddon, 2022). Using digital tools, flipped classrooms can flourish, from the ability to support and engage students to understanding how they are learning (McGrath, 2017). Using the flipped learning approach, primary kids achieve greater academic achievement and creativity (Moghadam, 2022). In the online flipped classroom, students achieved considerably different learning results than in the traditional classroom (Purwanti IT, 2022).

The term video-based learning refers to educational opportunities afforded by video. Video differs from other eLearning formats in that it incorporates camera video, animation, graphics, text, and audio. Video-Based Learning (VBL) presents the information consistently and interestingly. Recently, technology and types of VBL, such as MOOCs and flipped classrooms, have significantly impacted classroom instruction and learning (Yousef, 2014). Due to its numerous advantages, online-learning videos have grown in popularity among students and educators in recent years. Teachers have found video-based learning to be a successful tool for reflection, a crucial element of their professional growth, and a means of assisting their students' education (Sabli, 2021).

In this study, "game" refers to digital game-based learning. Digital game-based learning (DGBL) refers to the educational use of the entertainment potential of digital games. DGBL is the result of an equilibrium between learning and game components. DGBL is comprised of two essential elements: entertainment and education. Consequently, in the DGBL literature and published effectiveness studies, both learning and player engagement/motivation are deemed relevant to evaluate (All, 2016).

Consequently, flipped classrooms with VBL and DGBL are a pedagogical strategy in which conventional classwork is completed at home utilizing digital technology such as videos or video games before learning in school. The teachers will distribute assignments to their students one week or before the class begins.

SYSTEM DESIGN AND IMPLEMENTATION

System Architecture

The system is a website. Website is one of the e-learning platforms. Here the website system was developed using Google Sites. Google site is a free platform for creating web pages, allowing the freedom to create a website using offered templates. According to Google (2022), build internal project hubs, team sites, public-facing websites, and more without a designer, programmer, or IT help. With Google Sites, building websites is easy. Just drag the content where you need it.

Then, this simple e-learning has added YouTube for learning, Google Forms for doing the test or practice, and a game for their practice with the aim for students to exercise their knowledge. For the user interface, this website was divided into two modes: the first mode is a learning mode, and the second is a practice mode. Figure 1 shows the design of the system architecture, and figure 2 shows the simple e-learning user interface.

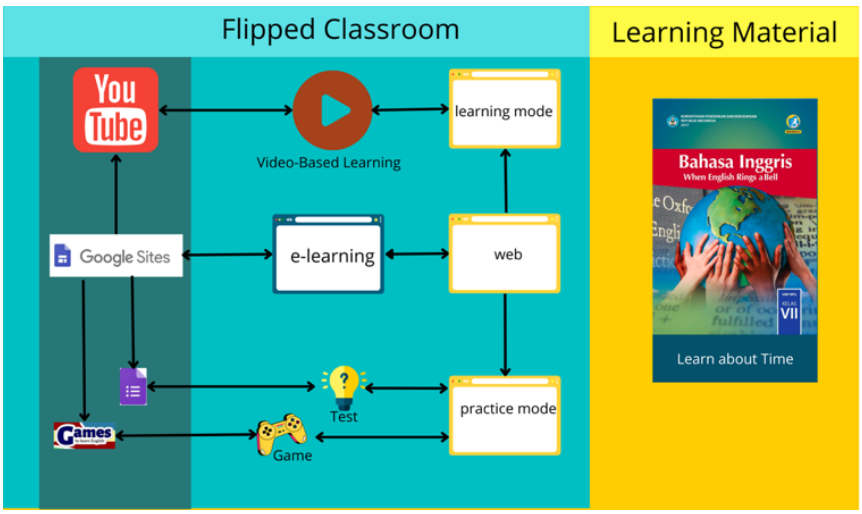

Figure 1. System Architecture

Teaching Procedure

For the teaching procedure, after the teacher designs a web on google site as media for learning. Then record a video for the learning material, upload it to YouTube, or find another related video. Then, use the video on YouTube to embed on the created website. The teacher instructs the student directly or via WhatsApp group to use e-learning to learn English (about time) before class begins or at home. In the course, the teacher assessed the student or asked the student questions about the subject (time). If the student does not understand or has a question, they can get the answer from the teacher in the class. Teacher and student can discuss the learning subject in the class; figure 2 shows the flipped classroom activity.

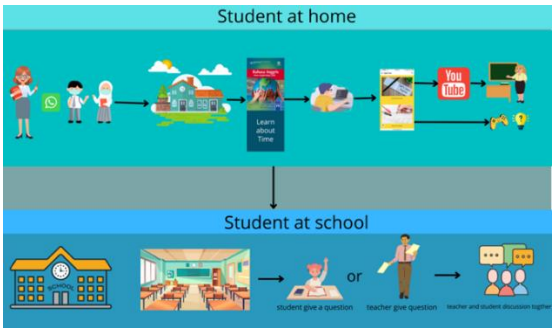

Figure 3. Flipped Classroom Activity

User Interface

As shown in figure 2, the user interface has been developed for students to learn English time. There is have 3 main pages. The first page is home, where students can choose their plan and go to the learning or practice page. On the learning page, students are able to learn English about time with video and text explanations. However, if students plan to go to the practice page, they can practice themselves by playing a game or going directly to the test form.

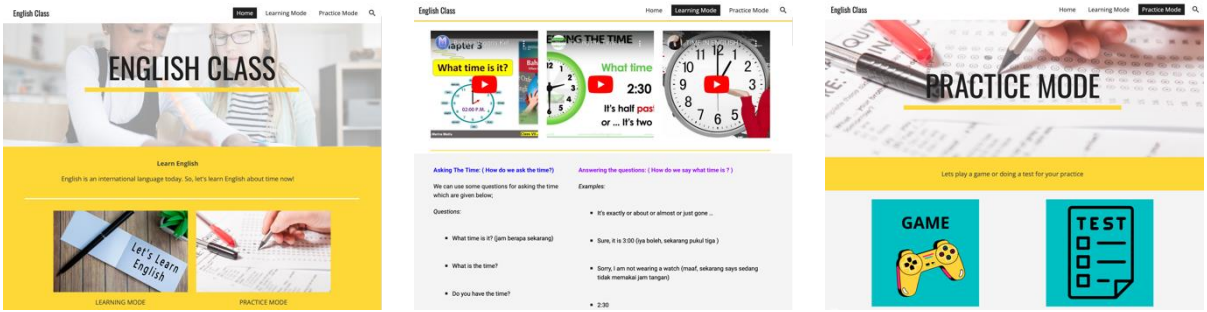

Figure 2. The user interface of the simple e-Learning web

EXPERIMENT USE

Participant & Instrument

The participant is a junior high school student in seven grade and a teacher. In this study, the students are from Private Islamic Junior High School Hidyatul Islamiyah and SMP N 3 Tasik Putri Puyu. Private Islamic Junior High School Hidyatul Islamiyah the school is located at Karimun Regency, Riau Island Province, Indonesia. And SMP N 3 Tasik Putri Puyu, Meranti Island regency, Riau Province, Indonesia.

Only students from Private Islamic Junior High School Hidyatul Islamiyah were conducted in this study. There were 40 students, and the researcher divided them into two groups. The first group is the control group, and the second is the experimental group. Each group had 20 students. Because the student from SMP N 3, Tasik Putri Puyu cannot join the experiment of this study. The reason will explain in the discussion.

Evaluation

This study was conducted for three weeks. An evaluation of the student's prior knowledge level was conducted before the experiment using a pre-test ranging from 0 to 100 points that the teacher developed. A post-test was conducted at the end to assess the students' learning outcomes to ensure consistency in the test results. Figure 4 shows the experimental design based on the teaching procedure and experiment subjects. The observation and test were given to the student with a printed paper to take the data. There are 25 questions; every question has five options, and only one is the correct answer.

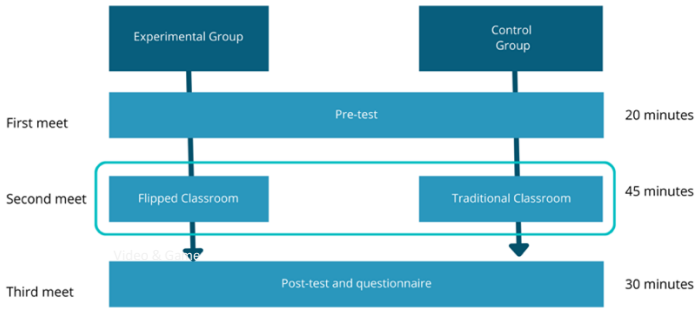

Figure 4. Experiment Design

FINDING & DISCUSSION

The finding while doing this research, researchers found that the SMP N 3 Tasik Putri Puyu, Meranti Island regency, Riau Province, Indonesia, could not join this study because their students did not have electronic devices like smartphones or laptops. So this experimental study cannot evaluate to their student.

However, the focus of this study is to answer the research question about how the implementation of flipped classrooms is for junior high school students learning English as a foreign language at MTs S Hidayatul Islamiyah. After the researcher received the data of the student's test results. The researcher used SPSS 27 for macOS to analyze the data. First, the author described the data, then decided whether the data was normal, and last analyzed the data as we see the mean in table 1, the pre-test and post-test of the experimental and control groups. There the experimental group was higher than the control group.

To consider whether the data distribution is normal, we used the popular indication that if the F>0.05, it means that the data is normal. When if the F<0.05, it means that the data is not normal. As shown in Table 2, the data analyzed with Kolmogorov-Smirnov and Shapiro-Wilk was higher than 0.05. So, it means that the data was a normal distribution.

Class	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test Experiment	20	28	72	53.40	13.690
Post-test Experiment	20	44	84	64.20	11.067
Pre-test Control	20	32	60	44.60	9.017
Post-test Control	20	32	68	53.70	11.150

Table 1. The Descriptive

	Class	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Learning Result	Pre-test Experiment	.175	20	.108	.938	20	.219
	Post-test Experiment	.120	20	.200*	.973	20	.812
	Pre-test Control	.147	20	.200*	.933	20	.178
	Post-test Control	.132	20	.200*	.940	20	.243

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Table 2. The Test of Data Normality

Dependent Variable	Post Test				
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2715.807[a]	2	1357.903	16.333	.000
Intercept	1991.488	1	1991.488	23.954	.000
Pre-Test	1613.307	1	1613.307	19.405	.000
Class	267.774	1	267.774	3.221	.081
Error	3076.093	37	83.138		
Total	144796.000	40			
Corrected Total	5791.900	39			
a. R Squared = .469 (Adjusted R Squared = .440)					

Table 3. Tests of Between-Subjects Effects

Then, the ANCOVA test was used in this study to know the effect of simple e-learning based on the flipped classroom with VBL and DGBL for junior high school students learning EFL. As shown in table 3, the Sig value of the pre-test as independent and the post-test as dependent shows that the score is 0.000. It means that less than 0.05. So, it can be concluded that there is any significant influence between the Pre-test and Post-test. The Sig value of the two classes (experiment & control) is 0.081 is bigger than 0.05, and it can be concluded that there is no significant difference between the Experiment and Control class. Or it could be interpreted that Flipped classroom has no significant influence on learning outcomes. Then, it can be concluded that the use of the flipped classroom learning method is less effective for improving learning outcomes in EFL subjects for learning time at 7th-grade students of MTs S Hidayatul Islamiyah in the 2022 academic year.

CONCLUSION

This study is about the simple e-learning of the Flipped Classroom with video-based learning and game for junior high school students to learn EFL. After the pandemic, e-learning still is a good choice for teachers to make students enjoy learning. To make the student achieve more achievement in their learning, the researcher suggests using the flipped classroom, video-based learning, and digital game-based learning.

From the finding, the researcher can conclude that only some junior high school students in Indonesia cannot apply the learning with e-learning for flipped classrooms. And the flipped classroom with VBL and DGBL could be more effective for junior high school students.

LIMITATION

This development of simple e-learning with google Sites did not provide a dashboard, automatic assessment or learning analysis, leaderboard, and feedback. In this study, the researcher only used time as learning material. The researcher has developed the game by embedding a game from another web (https://www.gamestolearnenglish.com). The experiment took only three weeks. And some students only did their pre-test and needed to do the post-test. So, the researcher needs help with the data.

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