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THE IMPLEMENTATION OF MOBILE GAME-BASED LEARNING METHODS WITH TIMEX TIME MACHINES APPLICATIONS IN TELLING THE TIME MATERIALS (STUDY ON STUDENTS AT STATE JUNIOR HIGH SCHOOL 3 ONE ROOF SEJANGKUNG)

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Abstract

This research is motivated by the application of the Mobile Game Based Learning method based on the Timex Time Machines application in learning English for class VII B Semester I of the 2021/2022 academic year. The purpose of this study is to describe 1) students' understanding of the Telling the Time material using the Mobile Game Based Learning method with the Timex Time Machines application; 2) the ability of students to determine the right time in learning Mobile Game Based Learning with the Timex Time Machines application. The research procedure used is descriptive qualitative research. With primary sources, English teachers and students of class VII B Semester I for the 2021/2022 academic year. Collecting data using observation techniques, interview techniques, and documentation techniques. The results of the study show 1) The understanding of students has increased towards the material about Telling Time as evidenced by a GPA of 18 people; 2) the ability of 22 students in determining the right time has increased as evidenced by completing Level One and getting a Great Job appreciation.

Keywords: Analysis; *MGBL Method; Timex Time Machines; Telling the Time*

1 INTRODUCTION

Face-to-face learning is limited to the current Covid-19 pandemic, requiring learning media that do not make it difficult for students and are easy to use. Learning media has the meaning of learning resources that develop by the development of learning technology. The development of very sophisticated technology as it is today has created breakthroughs in learning, especially media in learning.

Currently, the practice of using mobile applications in language learning is the most widely used as a support in language acquisition (Kacetl & Klímová, 2019). Furthermore, research in *Mobile Assisted Language Learning* shows that using mobile phones and their applications appears to be beneficial for foreign language learning, mainly thanks to its unique features (e.g., interactivity, ubiquity, or portability) and teacher encouragement and feedback (Klímová, 2018).

Learning English which is carried out in class VII B Semester I of the 2021/2022 academic year in the first meeting Telling The Time material uses conventional learning media. Based on the documentation of learning outcomes in the first meeting material about Telling the Time in class VII B Semester I of the 2021/2022 academic year, out of 22 students, it was found that only 3 students could understand time in English, while 19 other students were still

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can't understand it (Desinta, 2021).

At the second meeting the material for Telling The Time, the English teacher used learning media based on the educational game "Timex Time Machines". This application is the solution chosen by the English teacher to provide opportunities for students to play by determining the time based on the instructions listed at the game level.

Based on the explanation above, it is important to conduct research on the use of the mobile game base learning method with the help of the "Timex Time Machines" application for class VII B students at State Junior High School 3 One Roof Sejangkung. The research questions asked are 1) How do students understand the material about Telling the Time using the Mobile Game-Based Learning method with the Timex Time Machines application? 2) How is the ability of students to determine the right time in learning Mobile Game-Based Learning with the Timex Time Machines application?

1. LITERATURE REVIEW

Mobile learning

Mobile learning (M-learning) is one of the learning models that allow learners to obtain learning materials anywhere and anytime using cellular technology and the internet. The elements of mobile learning need to be properly organized and the interactions between the various elements combined efficiently and optimally so that mobile learning is successful and its execution is efficient. In addition, the characteristics of mobile learning must be regulated, and how they have applied to mobile learning activities and application methods as well as the duration of the application must be planned well in advance (Ozdamli & Cavus, 2011).

Mobile devices, which can be iPods, cell phones, and tablet PCs, have become an integral part of learning English. Over the last few decades, technology has progressed at an impressive rate, making portable devices equipped with WIFI access, and enabling third/fourth-generation (3G/4G) services to pave the way for technology-oriented teaching models as well. Mobile learning has become a major issue in e-learning investigations (Jeng et al., 2010). It can be seen that the increased mobility and connectivity of mobile devices help to create new ways for cross-cultural learners to learn English (Kim et al., 2013).

Mobile Game-Based Learning

Mobile game-based learning is a game that contains a summary of lesson topics, constructed by various levels of education, adapted to the applicable curriculum, and can be run on mobile devices. Because electronic games play an important role in the lives of young people, researchers, and educators, hope to combine the intrinsic motivation that students show towards electronic games that contain a summary of lesson topics and objectives, to make learning more fun and enjoyable (Papastergiou, 2009).

The term *Game-Based Learning* (GBL) refers to the use of games that contain the educational value or various software applications that use games for educational purposes or learning effectiveness (Koshelev, 2011). The development of GBL is very rapid and is widely available on iPod, mobile, and tablet PC platforms.

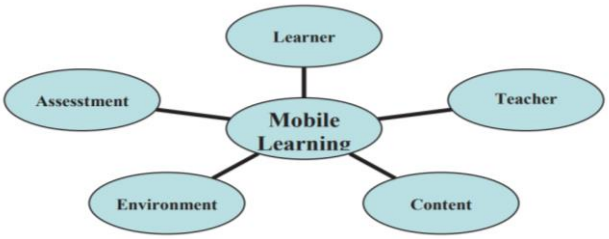
Basic Elements of M-Learning

The basic elements of mobile learning are learner, teacher, environment, content, and assessment. Picture 1 shows the basic elements of an effective mobile learning approach (Ozdamli & Cavus, 2011).

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Picture 1. Basic Elements of Mobile Learning



Data source: (Ozdamli & Cavus, 2011)

1. **Learner**

   Make in (Bidin & Ziden, 2013) claims that as the concept of mobile learning implies, the pedagogical approach places learners at the center of the learning process. Learners play an active role starting from setting goals to the evaluation stage. Learner roles are given below: a) Access information when they need it; b) Take responsibility for their learning; c) Learn at their learning speed; d) Find and use their learning style; e) Create and share new information or products; f) Study with their peers collaboratively; g) Evaluate yourself and other groups.

2. **Teacher**

   According to Ghaln in (Ozdamli & Cavus, 2011) with mobile technology changing the roles and responsibilities of learners, the role of the teacher slowly turns into a consultant. In this role, the teacher must be able to identify the interests of students, link these interests to learning objectives related to the topic, and offer opportunities to achieve these goals related to the specific condition of a student. The teacher's role in mobile learning: a) Qualify to use the necessary mobile tools and technologies; b) Determine the strengths and weaknesses of the methods used and learn to overcome the weaknesses with different methods; c) Facilitator's Guide; d) Advisors; e) High level of confidence about the course; f) Studying with the students; g) Remove obstacles; h) Increase the motivation of students; i) Organize activities to support interactive interactions between collaborative groups; j) Organize activities for process evaluation.

3. **Content**

   The issues that are expected to be studied by the students. The content should be decided in consultation with all stakeholders like learners, teachers, parents, etc. Otherwise, the teacher could not get the desired result. Learning content should allow users to quickly zone into the information they need. In addition, content can be served with interactive games or quizzes. Content must be supported by video graphics and other multimedia elements (Ozdamli & Cavus, 2011).

4. **Environment**

   The environment must be well designed for a positive learning experience. The environment is the place where students reach the information. Learners who study fully online should have access to all units of content including study outcomes, task requirements relevant resources. Learners attending face-to-face classes can receive in-class content and additional content online with mobile technology (Ozdamli & Cavus, 2011).

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5. Assessment

Assessment is an essential component of a complete m-learning. Mobile technology can assess notes and report student performance to instructors. So, student evaluation should be done through log databases, software packages, online exams, chat rooms, discussion boards, online quizzes, or project evaluations. Learners must also evaluate themselves and others. It provides the pieces needed to accurately evaluate a learner's knowledge, skills, creativity, etc. (Ozdamli & Cavus, 2011).

Mobile Game-Based Learning Goals

Game-based learning is about educational games that will improve students' attitudes towards learning and learning approaches to students. The goal is that students appreciate the learning process itself. Therefore, games are implemented to improve the learning experience to prove the balance between learning units and games and their implementation in the real world (Kadel et al., 2018).

Malliarakis, et al emphasize improving the learning aspect when using it in the classroom as a tool by increasing the involvement of students to better apply the concepts they learn under tutor supervision. (Malliarakis et al., 2013).

Critical Success Factors for Mobile Learning

Naismith and Corlett (Ibrahim & Ibrahim, 2019) identified five critical success factors for mobile learning, namely: *First,* Access to technology: Projects that successfully make mobile technology available where and when it is needed, either by developing users' own devices such as mobile phones and media players or by providing devices that can for use at home for learners and on the go.

Second, Ownership: Students need to be able to own the technology or treat it as if they owned it. Using technology for entertainment and socializing does not seem to diminish its value as a tool for learning, but rather helps bridge the gap between institutional and personal learning. *Third,* Connectivity: Many successful mobile learning projects are based on wireless or cell phone connectivity, to provide access to learning resources, to connect people across contexts, and to enable learners to capture material that can be sent to private media rooms and then shared or served

Fourth, Integration: A mobile learning project that is successfully integrated into the curriculum, learner experience, or daily life, or a combination of these. One way to achieve this integration is to extend forms of successful learning to mobile devices, such as frequently asked questions, or audio/powerpoint recordings from teachers. Another approach is to provide mobile technology that enhances the learner experience, for example with mobile tools such as 'mob logs' (mobile weblogs) to maintain electronic portfolios or learning notes.

Fifth, Institutional support: While the main benefit of mobile technology is the ability to put control in the hands of students, successful projects also require strong institutional support, including the design of relevant resources in mobile formats, staff training, and technical support.

Mobile Learning Function

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Function as a complement (complimentary), namely electronic learning materials are programmed to complement the learning materials received by students in the classroom. Electronic learning materials are programmed to become reinforcement materials that are enrichment or remedial for learners in participating in conventional learning activities (Munir, 2017).

Timex Time Machine App

Timex Time Machines app is a teacher-approved educational game app available on the Google play store. This application itself by the developer describes its educational mobile game as "Traveling in Your Time Machine", reinforced the main skill to express time while venturing through space and time at each level of the game. An overview of the features or advantages offered by Timex Educational are (Timex Educational, 2021): Ad and commercial-free; Developed with Scholastic, the most trusted name in learning; Free; and No in-app purchases.

The educational games contained in this application were developed with experts from Scholastic which aims to help empower children, namely students to have fun through learning by combining digital free games with various interactive lessons. Learners have two choices, namely between Tutorial Mode and Game Mode to learn the basics of time with the following description:

- Tutorial mode – learn to count time with tutorials featuring common concepts such as clockwise, counter clock wise, clockwise functions, telling time, A.M./P.M., and simple analogue digital matching games.
- Game Mode LEVEL 1: Time Stopper - The clock rotates and the player is given a time. The player must tap the clock at a certain point when his hand is at the indicated digital time to stop it.
- Game Mode LEVEL 2: Counting Time - Players see the clock with a certain amount of time shaded (e.g. quarter-hour Using the five times table, they have to press the minute button X minutes worth to match the shaded number without going over it.
- Game Mode LEVEL 3: Rocket Time - Time, in the form of a clock face, falls from the top of the screen towards the player's Time Machine. Players must tap the clock that corresponds to the written time displayed at the bottom of their screen.

In this educational game, the developer provides opportunities for students to play by opening the lid of the clock, building it, and learning to count time. During play, students easily learn how clocks are made and how to read time, so this game application has great game features.

METHODOLOGY

This study uses a qualitative approach. The type of qualitative descriptive research used in this study was intended to obtain information about the implementation of the mobile game base learning method using the timex time machine application for class VII B students. The primary data sources in this study were English teachers and class VII B students. State Junior High School 3 One Roof Sejangkung. There are three data collection techniques used, namely observation techniques intended for observation during learning, interview techniques to obtain data on the implementation of the mobile game base learning method, and documentation techniques to collect data on students' understanding and ability to material about Telling the

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Time using the Mobile learning method. Game-Based Learning with Timex Time Machines application. Data analysis uses data collection, data reduction, data display, conclusion drawing/verification.

FINDING AND DISCUSSIONS

Students' Understanding Of The Material About Telling The Time Using The Mobile Game-Based Learning Method With The Timex Time Machines Application

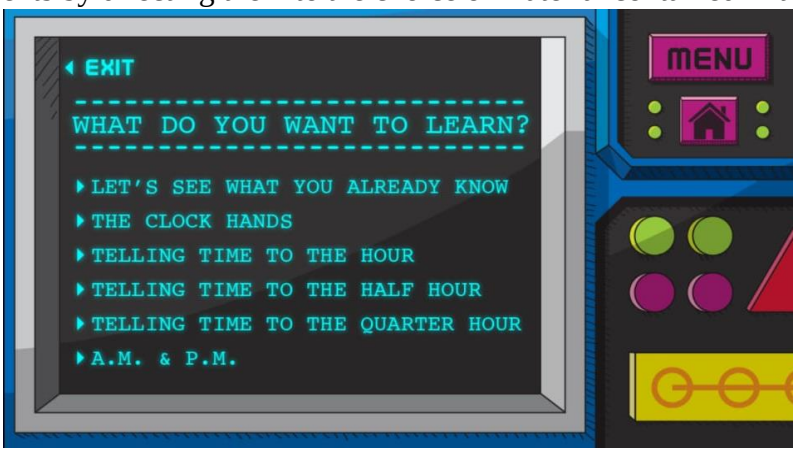
In the implementation, this activity the author uses the *Mobile Game-Based Learning* method. This activity was carried out during an English lesson in class VII B on Tuesday, October 26, 2021. In this case, the following things have been prepared:

1. The teacher prepares a Lesson Plan (RPP) using Basic Competencies (KD) 3.3 and 4.3 with the subject matter of Unit 3 "Telling the Time".
2. The teacher prepares learning materials and assignments according to the lesson plans that have been prepared.
3. The teacher prepares a mobile game application that has been downloaded on the Google Play Store on each available Google Chrome Book.
4. The teacher provides mentoring and monitoring to students during face-to-face lessons.
5. The teacher provides feedback on learning and assignments made by students.

The lesson for the subject matter of Unit 3 Telling the Time about the clock (Telling the Time) is scheduled for two meetings. At the first meeting, the core material of Telling the Time in English was discussed. However, it is still found that students have difficulty understanding the material. Therefore, it is necessary to have activities that can improve the understanding of students by utilizing interesting mobile games.

Based on the operational stages of implementation, there are several steps taken in implementing this activity. Following are the stages of implementation activities:

1. The teacher downloads the mobile game application, namely TIMEX TIME MACHINES on the Google Chrome Book.
2. Students use the available Google Chrome Book in pairs. The teacher guides and pays attention to each step that is taken next.
3. Students activate Google Chrome Book.
4. Students open the TIMEX TIME MACHINES educational game application.
5. Students click “LEARN” to recall the material from the previous meeting. The teacher facilitates students by directing them to the choice of material contained in the menu.



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a. The teacher provides feedback and then directs students to click to return to the home page.
b. Students click “PRACTICE”. For each application on each Google Chrome Book, even though they have the same instructions, they get different hours from one another. There are three levels contained in the application, but students are only directed to play Level One.
c. At Level One there are 10 exercises with the instruction “*Move the clock's hand to show: ……..*” Every 1 correct exercise gets a score of 1. If all 10 exercises are answered correctly, they will get a score of 10 marked by the sentence “GREAT JOB”



d. Students click “HOME” to return to the homepage.
e. Students exit the application by clicking "CLOSE".
f. Students are given a written test for six minutes in the form of a description of five questions to test the level of understanding about stating time.
g. The teacher evaluates the work of students and provides conclusions on the material that has been studied.

The evaluation given to measure the level of understanding of students about hours during learning is by observing students, giving written tests in the form of a description of five questions, and performance by playing applications according to basic competencies 3.3 and 4.3 with the following details:

No	Name	Score
1	Amelia	60
2	Astria	75
3	Elisa	75
4	Haikal	90
5	Hendra	75
6	Josi Pamungkas	75
7	Kairul Nizam	80

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8	Kasih Amanda	65
9	Kristian	75
10	May Sarah	90
11	Mirna	85
12	Nugie Satriaji	85
13	Nur Sientiya	75
14	Nurul Atiqah	75
15	Olipia	65
16	Rizki	75
17	Rosi	75
18	Ruben Once	90
19	Siti Nurwana	80
20	Yolanda	60
21	Zulfi Aditya	90
22	Yuna Saqinah	75
AMOUNT		1690
AVERAGE VALUE		76,8
LOWEST VALUE		60
THE HIGHEST SCORE		90

The results of the activities obtained are as follows: The increase in students' understanding of the material about clocks in English is stated by increasing the number of students' evaluation results above the Grade Point Average (GPA) by 18 people. While the other 4 students obtained results less than the GPA, among others, due to typos in writing and errors in distinguishing the location of writing minutes and hours.

The Ability Of Students To Determine The Right Time In Learning Mobile Game-Based Learning With The Timex Time Machines Application

The increasing ability of students to determine the right time according to the instructions given in the TIMEX TIME MACHINES application is marked by all 22 students completing Level One and getting an appreciation of "GREAT JOB!"

CONCLUSION

Students' understanding of the material about clocks in English has increased as indicated by the number of student evaluation results above the Grade Point Average (GPA) as many as 18 people. Meanwhile, the other 4 students scored less than the GPA, among others, due to typos in writing and errors in distinguishing the location of writing minutes and hours.

The ability of students to determine the right time according to the instructions given in the timex time machines application is marked by all 22 students completing level one and getting a "great job" appreciation

The COVID-19 pandemic is one of the eras where information technology is becoming increasingly inevitable in the development of educational institutions. For this reason, teachers need to develop self-actualization by carrying out learning using methods that can be adapted

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to the basic competencies that need to be taught to students. The Mobile Game-Based Learning method is one method that can be implemented in increasing the creativity of students, as well as one of the innovations that can be carried out by teachers. Therefore, teachers as facilitators must follow the development of science, technology, and information in improving the quality of education in Indonesian educational institutions.

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