

EFFECTIVENESS OF THE ADVENTURE OF TIMUN EMAS GAME IN IMPROVING THE READING SCORE OF INFORMATICS ENGINEERING STUDENTS

Yusniarsi Primasari
Universitas Islam Balitar Blitar
Email; yusniarsi2015@gmail.com

ABSTRACT

One of the things that is very important to support the success of facing Asian Economic Community (AEC) is mastery of English. From the pretest in Informatics Engineering students conducted by researcher in January 2020, the average result was 50.17%. So it can be concluded that their reading comprehension skills are not good enough. On the other hand, There are several media to increase interest in reading. One form of learning media is educational games. Games are an interactive application that involves the relationship between humans and computers and humans and humans. The Adventure of Timun Emas is a game that contains reading comprehension learning. In certain parts English text and questions are inserted which require the player to answer the question in order to continue the game. This study adopted a pre-experimental design. The significance of the difference in mean change is determined by precise statistics such as the dependent T-test. From the results of calculations using the t-test found that the t-value obtained was 7,028, while the required critical t-value at $p > .05$, the level of significance of the two tailed test is 2.069 (df = 23), $p > .01$ significant level of two The tailed test was 2.807 (df = 23), $p > .001$, the significant level of the two tailed test was 3,768 (df = 23). The results of the data in this study indicate that there is a difference in results between the scores on the pre test and post test. This can be seen in the table of student scores on the pre test and post test. So it can be said that students taught by this game achieve better reading comprehension than those taught by printed text.

Keyword: *Learning Media, Reading Comprehension, Educational Game,*

1. INTRODUCTIONS

English is an international language used in the era of globalization such as in the era of the Asian Economic Community (AEC). English is one of the six languages recognized by the United Nations (UN) in relations in various fields such as economics, defense and education. On the other hand, the 2015 ASEAN Community is also something that must be faced by the Indonesian people. For this reason, various preparations are needed to be better prepared for the free market arena of the ASEAN Community and the Asian Economic Community (AEC).

One of the things that is very important to support the success of facing this is mastery of English. Progress related to ASEAN identity is the establishment of English as an ASEAN language (work language). Therefore, the role of higher education, especially English language education, is very important and needed by the community so that the community can actively communicate in English, both in writing and orally, in official communication and in communicating according to their needs in life. One of the successes in facing the MEA can be marked by the readiness to master English language skills.

The government, through Regulation No. 19 of 2005, says that language education aims to equip graduates to be able to communicate using language as a means of communicating on the international scene. In short, the government has paid special attention to teaching English with the target of communication skills.

At the university level, English is a compulsory subject. Government Regulation No. 19 of 2005 Article 9 paragraph (2) states that the curriculum at the unit level of higher education is obliged to contain subjects such as religious education, civic education, Indonesian and English; regarding the depth of curriculum content regulated by each university.

In general, the skills involved in mastering English are reading comprehension, speaking, listening and writing. Among them, reading comprehension is the most important factor that can support the process of mastering other skills and increase knowledge. Reading is fundamental to learning English. Through reading, students can expand their knowledge. According to Grabe (2010: 5), modern society must be a good reader to be successful. Reading skills don't guarantee success for anyone, but success is much harder to come by without being a skilled reader.

On the other hand, from the pretest conducted by researchers in January 2020, the average result was 50.17%. So it can be concluded that their reading comprehension skills are not good enough. This is due to their lack of vocabulary mastery and their low reading interest.

There are several media to increase interest in reading. One form of learning media is educational games. Games are an interactive application that involves the relationship between humans and computers and humans and humans. Games are also an entertainment medium that is the choice of society to get rid of boredom or just to fill their spare time.

There are currently 3.3 million Android-based applications on the Google Play Store. This shows the large selection of Android-based applications and games that can be played by students. One of the educational games that can help learning reading is the game *The Adventure of Timun Mas*. According to Primasari et al. (2019), *The Adventure of Timun Emas* is a game that contains reading comprehension learning. In certain parts English text and questions are inserted which require the player to answer the question in order to continue the game. Because of the questions, players are expected to learn first. On the other hand, the feeling of being happy while playing makes students not get bored quickly.

Agreeing with the above, Pratiwi in 2015 designed the *Ability to Read English Texts* game for non-English students. In this research activity there is an increase in understanding of English reading texts, it can also be seen that there is interference from the research team in reading learning for non-English students which can help improve student understanding and vocabulary addition can help improve student understanding (Pratiwi, et. Al. 2015.).

In 2015, Ramansyah also designed an Education game on the theme "My Body", presenting the English learning process while playing with an Android device. The development product in the form of an education game on the theme "My Body" can be used as a resource in improving the message delivery strategy or teaching strategies for teachers to be more innovative and of high quality and fun for students. In addition, additional multimedia instruments (such as music, pictures, animation, and sound effects) can attract students' attention and eliminate boredom in learning so that the education game on the theme "My Body" can increase students' desire to learn (Ramansyah , 2015).

Based on the above considerations, the researcher conducted a study entitled "*The Effectiveness of The Adventure of Timun Emas Game in Improving the Reading Score of Informatics Engineering Students*".

2. LITERATURE REVIEW

2.1 Learning Media

Media is an inseparable part of the teaching and learning process in order to achieve the goals of education in general and the objectives of learning in schools in particular (Arsyad, 2000). If the media carries messages or information that are instructional or contain teaching purposes, the media is called Learning Media (Arsyad, 2007).

Hamalik (1986) argues that the use of teaching media in the teaching and learning process can generate new desires and interests, generate motivation and stimulation of learning activities, and even have psychological effects on students. (Arsyad, 2007)

In general, the benefits of media in the learning process are to facilitate interaction between teachers and students so that learning will be more effective and efficient. But more specifically there are some more detailed media benefits. Kemp and Dayton (1985), for example, identify some of the benefits of media in learning, namely:

1. Delivery of subject matter can be uniform
2. The learning process becomes clearer and more interesting
3. The learning process becomes more interactive
4. Efficiency in time and effort
5. Improve the quality of student learning outcomes
6. Media allows the learning process to be carried out anywhere and anytime
7. Media can foster students' positive attitudes towards the learning material and process
8. Changing the role of teachers to a more positive and productive direction. (Depdiknas, 2003)

There are many types and kinds of learning media. Starting from the smallest simple and inexpensive media to sophisticated and expensive. There are media that can be made by the teacher himself, there are media that are produced by factories. There are media that are readily available in the environment that we can use immediately, there are also media that are specifically designed for learning purposes. Some of the most familiar media and almost all schools make use of are printed media (books). Besides that, there are also many schools that have used other types of media, images, models, and Overhead Projector (OHP) and real objects. Meanwhile, other media such as audio cassettes, videos, VCDs, slides (frame films), computer learning programs are still rarely used even though they are actually familiar to most teachers. The basic consideration for choosing media is very simple, namely meeting needs or achieving desired goals or not.

2.2 Definition of Educational Games

Understanding the game Game is taken from English which is translated which means game. Gamedini defines as a structured activity or is also used as a learning tool (Nilwan, 1998). According to Henry (2010), the types of games known as game genres are as follows: (1) Maze game; (2) Board game; (3) Card game; (4) Battle card game; (5) Quiz game; (6) Puzzle game; (7) Shoot them up; (8) Side scroller game; (9) Fighting game; (10) Racing game; (11) Simulation; (12) Turn based; strategy game; (13) Real-time strategy game; (14) SIMS; (15) First person shooter; (16) First person; 3D vehicle based; (17) Third person; 3D games; (18) Role playing game; (19) Adventure game; and (20) Sports.

While education is another term for education. Education is a process in order to influence students so that they are able to adapt as best as possible to their environment,

and thus will cause changes in themselves that allow them to function as adequate in community life (Hamalik, 1994). In this study, the educational game used is the Computer Educational Game, which is an educational game specifically designed to make it easier for students to understand the material, especially in the material "Computer Hardware".

2.2.1 Definition of educational games

Education Games are activities that are very fun and can be an educational method or tool that is educational (Ismail, 2007). In accordance with the meaning in Indonesian, game means game, while education is education. Educational games are games that are used to provide instruction / increase knowledge to users through a medium that is unique, interesting, challenging, and provides a fun effect for users that aims to improve motivation to learn so that it is expected to produce better learning outcomes. This educational game is intended for junior high school children, so an attractive color composition is needed.

2.2.2. Why do humans like games

Games have become our daily culture. Slowly, gaming culture has become a lifestyle that is familiar to the younger generation. Games are not only played by young people, in fact, many adults play them in their spare time (Henry, 2010). The four main reasons for playing games are: (1) Games are fun and enjoyable, (2) Games are challenging, (3) Games are a means of interaction and social experiences that can be shared with friends and family, (4) And games provide a lot of entertainment. and worth compared to the cost (Henry, 2010).

3. METHOD RESEARCH

This study adopted a pre-experimental design. Pretest is used to get a score before the treatment is given. Treatment was given to the experimental group for a specified time. After that, the teacher gives a post-test. The post-test was conducted to obtain a score after treatment and then calculate the mean difference score between the pre-test and post-test. The significance of the difference in mean change is determined by precise statistics such as the dependent T-test.

The research design consisted of one class as an experimental group that was taught using games.

According to Cresswel (2008), variables are characteristics or attributes of an individual or organization that researchers can measure or observe and vary between individuals or organizations. There are two kinds of variables that should be investigated. They are independent and dependent variables.

Independent Variable

Independent variables are attributes or characteristics that affect or affect the outcome or dependent variable. The independent variable in this study is the learning strategy. A dependent variable is an attribute or characteristic that is dependent on or is influenced by the independent variable. In this study, the dependent variable was students' reading comprehension.

The sample is a subgroup of the target population that the researcher plans to study in order to generalize about the target population. In this study, the population was all

semester 2 students of the Faculty of Information Technology, Balitar Islamic University, Blitar, 2019/2020 academic year and the sample used was 24 students of the TI-C class of Information Technology study program.

Researchers used the test as an instrument consisting of a pretest and posttest. According to Arikunto (2010), the test is an assessment of individual understanding or the entire program evaluation effort. It can be concluded that the test is a method of obtaining data by giving students a score for each question. In this study, researchers used comprehension tests in the pretest and posttest to determine students' ability in learning to read before and after being given treatment. Data were collected by giving reading tests. The test form is multiple choice.

In analyzing the data, researchers used a quantitative approach. Researchers used a statistical procedure, namely the dependent T-test. In this study, the researcher wanted to find out whether the students got a better score or not when using the game The Adventure of Timun Emas in reading comprehension as follows:

1. Calculating the mean of differences (MD) between variables X and Y, the researcher uses the formula:

$$MD = \frac{\sum D}{N}$$

2. Calculating standard deviation of differences (SD_D) with the formula:

$$SD_D = \sqrt{\frac{\sum D^2}{N} - D^2}$$

3. Calculating standard error dari mean of differences (SEMD) between variable X and Y:

$$SE_{MD} = \frac{SD_D}{\sqrt{N - 1}}$$

4. Finding the result of observation (t_o) from the test with formula:

$$t_o = \frac{MD}{SE_{MD}}$$

5. Finding the degree of freedom (df) with formula:

$$df = N - 1$$

4. RESULTS OF DATA ANALYSIS

There are several points explained in the data analysis, namely the Dependent T-test as described below:

Table 1 value analysis

X_1	X_2	D	D^2
32	40	8	64
44	44	0	0
64	72	8	64
44	40	4	16
52	72	20	400
62	72	10	100
32	52	20	400

44	52	8	64
40	60	20	400
32	40	8	64
52	68	16	256
40	52	8	64
52	52	0	0
48	60	12	144
32	48	16	256
20	40	20	400
60	80	20	400
72	88	16	256
76	88	12	144
44	44	0	0
36	40	4	16
72	64	8	64
72	80	8	64
28	40	12	144
32	40	8	64
$\sum X_1$ 1204	$\sum X_2$ 1436	$\sum D$ 272	$\sum D^2$ 4512

Calculating mean of difference (MD) between variabel X dan Y,

$$\begin{aligned}
 MD &= \frac{\sum D}{N} \\
 &= \frac{272}{24} = 11.33 \\
 D^2 &= 11.33^2 \\
 &= 128.37
 \end{aligned}$$

Calculating standard deviation of differences (SD_D):

$$\begin{aligned}
 SD_D &= \sqrt{\frac{\sum D^2}{N} - D^2} \\
 &= \sqrt{\frac{4512}{24} - 128.37} \\
 &= \sqrt{188} - 128.37 \\
 &= \sqrt{59.63} = 7.722
 \end{aligned}$$

Calculating standard error from mean of differences (SE_{MD}) between variable X and Y:

$$\begin{aligned}
 SE_{MD} &= \frac{SD_D}{\sqrt{N-1}} \\
 &= \frac{7.722}{\sqrt{24-1}} \\
 &= \frac{7.722}{\sqrt{23}} \\
 &= \frac{7.722}{4.79} = 1.6121
 \end{aligned}$$

Finding the result of observation (to) from the test:

$$\begin{aligned} \text{to} &= \frac{MD}{SE_{MD}} \\ &= \frac{11.33}{1.6121} = 7.028 \end{aligned}$$

Stating the degree of freedom (df):

$$\begin{aligned} \text{df} &= N - 1 \\ &= 24 - 1 \\ &= 23 \end{aligned}$$

25

The results of the calculation of student scores are:

$$\begin{array}{ll} N &= 24 & \sum D^2 &= 4512 \\ \sum D &= 272 & SD &= 7.722 \\ D &= 11.33 \end{array}$$

From the above results, the calculation using the t-test found that the t-value obtained was 7,028, while the required critical t-value at $p > .05$ level of significance of two tailed test is 2,069 (df = 23), $p > .01$ level. The significant of the two tailed test is 2,807 (df = 23), $p > .001$ the significant level of the two tailed test is 3,768 (df = 23). The results of the data in this study indicate that there is a difference in results between the scores on the pre test and post test. This can be seen in the student score table on the pre test and post test.

5. CONCLUSION

As stated in the introduction, the researcher conducted this research in order to obtain empirical data about the effect of The Adventure of Timun Emas Game on the reading comprehension ability of students of the Informatics Engineering study program at the Islamic University of Balitar. The implementation of The Adventure of Timun Emas Game in reading learning is expected to improve students' abilities.

The results of the discussion concluded that students who were taught using the The Adventure of Timun Emas Game method achieved better reading comprehension than those taught by printed text. Using technology in language teaching will also involve the roles of teachers and students. Both must have knowledge of how to use those used in the classroom.

From the above results, the calculation using the t-test found that the t-value obtained was 7,028, while the required critical t-value at $p > .05$ level of significance of two tailed test is 2,069 (df = 23), $p > .01$ level. The significant of the two tailed test is 2,807 (df = 23), $p > .001$ the significant level of the two tailed test is 3,768 (df = 23). The results of the data in this study indicate that there is a difference in results between the scores on the pre test and post test. This can be seen in the table of student scores on the pre test and post test.

Based on these considerations and the steps taken by the researcher, the findings of the study finally showed that the mean score of the pre-test was higher than the average score of the post-test so that it was automatically concluded that there was an increase in the achievement of students' reading comprehension.

6. SUGGESTION

Based on the research results, the researchers suggest several things, including:

1. For teachers, the use of an educational game in reading learning does not have to replace the role of the teacher himself in the classroom. It must be used wisely as a learning medium to support learning activities. And also, knowledge in the operation of various kinds of technology and the use of the right and correct software must be considered.
2. For researchers, the researcher can use the results of this study as a starting point for further research in the same field using different types of competencies and can also use them as references for other studies in different fields.

REFERENCES

- Arikunto, S. 2010. *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.
- Arsyad, A., 2000. *Media Pengajaran*. Jakarta: Raja Grafindo Persada.
- Arsyad, A., 2007. *Media Pembelajaran*. Jakarta: Raja Grafindo Persada.
- Creswell, John W. 2008. *Educational Research (Planning, Conducting, and Evaluating Quantitative, and Qualitative Research)*. United States of America. Pearson Education.
- Depdiknas, 2003. *Media Pembelajaran*. Jakarta: Departemen Pendidikan Nasional Direktorat Jenderal Pendidikan Dasar dan Menengah Direktorat Tenaga Kependidikan.
- Depdiknas, 2003. *Media Pembelajaran*. Jakarta: Departemen Pendidikan Nasional Direktorat Jenderal Pendidikan Dasar dan Menengah Direktorat Tenaga Kependidikan.
- Grabe, W. 2010. *Reading in Second Language Moving from Theory to Practice*. New York: Cambridge University Press
- Hamalik, O. (1994). *Kurikulum dan pengembangan*. Jakarta: Bumi Aksara.
- Henry, S. (2010). *Cerdas dengan game*. Jakarta: Gramedia Pustaka Utama.
- Primasari, Y., Dhenabayu, R., Lestanti, S. Implementasi Construct 2 Pada Pengembangan Media Pembelajaran Bahasa Inggris Interaktif Berbentuk Game Edukasi Multi Platform. Diakses pada 11 Februari <http://ojs.semndikjar.fkip.unpkediri.ac.id/index.php/SEMDIKJAR/article/view/70/68>
- Ismail, A. (2007). *Education games*. Yogyakarta: Pilar Media.
- Nilwan, A. (1998). *Pemrograman animasi dan game profesional*. Jakarta: Elex Media Komputindo.
- Peraturan Pemerintah Nomor 19. 2005. *Standar Nasional Pendidikan*. Diakses pada 11 Februari 2020 <http://luk.staff.ugm.ac.id/atur/PP19-2005SNP.pdf>
- Pratiwi, V., Astuti P., & Handayani S. 2015. Kemampuan Membaca Teks Bahasa Inggris. *Magister Scientie*. Edisi No. 38
- Ramansyah, Wanda. 2015. Pengembangan Education Game (Edugame) Berbasis Android pada Mata Pelajaran Bahasa Inggris untuk Peserta Didik Sekolah Dasar. *Jurnal Ilmiah Edutic*, Vol. 2, No. 1
- Undang Undang NO 20. 2003. Diakses pada 11 Februari <http://luk.staff.ugm.ac.id/atur/UU20-2003Sisdiknas.pdf>