

The Effectiveness of Online Based Multimedia in Teaching Preposition of Place through Scientific Approach at EFL Classroom

Anwar Hadi Irawan¹

¹(Master of English Education Study Program, Lampung University, Indonesia)

Abstract: This present study aims to investigate the effectiveness of using online based multimedia by using scientific approach in teaching preposition of place. The researcher used only control group and experimental group as the subjects of the research. The participants were 35 EFL learners from the first year of junior high school students in each sample. The control was taught by using conventional teaching technique while experimental group was taught by using online multimedia based on scientific approach. In analyzing the data, the mean score of pre-test and post test of the control group and experimental group were calculated by using independent group t-test. The result showed that there was a statistically significant different between the control group and the experimental group in the mean score ($p < 0.001$) which increased from the pre-test to post test after the treatments. Further, due to interview results revealed that the treatments was interesting as most of the participants of the research said that the activities were fun and interesting. In conclusion, this study is beneficial and effective to be used in teaching preposition toward EFL learners.

Keywords: Preposition of place, Multimedia, Scientific Approach.

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I. Introduction

English is the most commonly spoken language in the world. The tremendous advance of technology in communication successfully leads to the domination of English in all human spheres of life. In recent years, there has been a dramatic expansion on the scope of English language teaching on worldwide and an increasing demand for competent English language teachers, as well as for language programs that deliver the English language skills and competencies which are needed by present global citizens (Richard, 2015). Teaching and learning English as a foreign language in Indonesia has been gradually conducted from elementary school to university level. Teaching and learning English introduces in our educational curriculum as one of the compulsory subject matters since 1960s till now. In 2013, as a part of the evaluation and development process in education, our government issues new curriculum called a 2013 Curriculum. The new curriculum surprisingly asserts that English at the elementary school is just as an additional subject instead of the main subject. The insight requires some state elementary schools to annihilate English as the subject matter which results in some fatal problems in teaching and learning English as the second language, especially for junior high school level. One of the barriers is mostly about the difficulty level of the materials in the English textbook. Many English teachers in junior high school consider that the level of materials in the English textbook for junior high school students is difficult enough for those who are mostly not accustomed to English during their elementary level. The problem forces the teacher to find the appropriate way that meets the students' level and to decide which materials is the most problematic one for them.

Preposition of place in context varies greatly from one language to another, such as in, on, at, above, beyond, under, in front of, between, among, and many more. Recognizing such variety may be a major problem among non-native or incompetent language users. This incompetency may further result in wrong interpretation both syntactically and morphologically. This clearly indicates that learners cannot depend on their prepositional knowledge from their mother first language. If students conduct a negotiation of semantic correspondence between the first and second languages, it often results in prepositional mistakes (Lam, 2009 in Mubarak 2017).

The errors which deal with prepositions are the most common mistakes done by the non-native speakers especially in their writing. This could be due to a wide range of linguistic functions that prepositions serve, hence ESL learners may feel discouraged to learn and master this grammar topic. For example, in choosing the appropriate preposition, one has to know and understand the context as well as "the intended meaning" (Tetreault & Chodorow, 2008) in Abu Alzhain (2017). According to Inezan (2010) the second language learners tend to have three types of problems with prepositions during learning, they are: Choosing the wrong preposition, omitting a needed preposition, and using a preposition where one is not needed. Those three

type problems are due to the first language interference and different illustration in their previous stage of schooling.

Due to the previous research that had been done by the researcher toward the new graduates from elementary schools in 2017, it shows that many new students at the first years are not able to differentiate the use of prepositional place. The researcher claims that the errors are due to the unavailability and the simplicity of preposition in Bahasa Indonesia or the students' first language. Take for example, the preposition "on", "over" and "above" are semantically the same but different in function, those three prepositions used to show the position of a particular thing are higher than the reference thing. In Bahasa Indonesia these three prepositions just simplified by the preposition "di atas" which represents all the position of particular thing that is higher than the reference point. By mastering the prepositional place it will be at least help the students of the first year in overcoming the problems in using English preposition of place in spite of their unfamiliarity to English.

Teaching English as a foreign language in the classroom can be carried out through various ways, yet with the same goal it is to make sure that the learners understand our material easily. One of the ways to achieve the goal in teaching in the classroom is by using media. The researcher focuses on multimedia, because multimedia shows the authenticity of language usage to the students classroom stationary, reinforcing for students the direct relation between the language classroom and the outside world, further it inspires the interest and the morale of learners in learning something because tools like internet, audio, video clips can help learners interact directly to authentic native language. This can attract their curiosity in learning English as a second language (Brinton, 2001: 459-475) in Anil (2015). In traditional classrooms, teacher stands right before the class while transferring explanation and instruction by using blackboard or whiteboard. These methods must be changed concerning to the development of technology.

The usage of multimedia texts in classroom assists learners in become familiar to vocabulary and language structures. The application of multimedia also makes use of print texts, film, and internet to enhance learners' linguistic knowledge. (Ahmadi, 2018). Ghassabsaraie (2014) defines that multimedia teaching refers to use of any computer software or application such as films, colors, animations, etc. It is one of the techniques to improving the students' meets the academic needs and helps them developing English language skills in providing multimedia during the process of teaching and learning in the classroom. In conclusion, multimedia instruction creates the opportunity for learners to improve their learning effectively.

Multimedia provides a large amount of instructional information to the students for the purpose of English learning and the acceleration of information searching. Words include written and oral text, and pictures include static graphic images, animation and video. The use of both words and pictures let the mind of the learners process more information rather than words consists of letter only (Gilakjani, 2012). The 2013 Curriculum as a revision of the school based curriculum, promotes new approach in teaching subject matter in the classroom, namely Scientific Approach. Scientific approach is approach based on the steps of scientific procedures in obtaining the result of the research. Kemendikbud (2013) states that:

"Scientific Approach consists of five steps for all subjects. The first step is observing. In observing students are trained about seriousness, thoroughness and searching for information. Second is questioning, students are expected able to develop creativity, curiosity and the ability to formulate questions. Third is associating, competencies that developed are honest, particular, disciplined, and hard working. Fourth is experimenting, here students have to communicate with other and practice to appreciate the opinion from other friends. The last is networking, students have to develop their ability to express the idea and practice their ability to use language".

Further Wahyudin (2015) defines scientific method as the procedure of acquiring learning outcomes which values much on the process of learning and student-centeredness so that it can facilitate and develop students' cognitive, affective, and psychomotor capability. As the new curriculum has been initiated, the use of scientific method becomes prominent with regards to the decree of Minister of Education and Culture No. 69/2013 that requires the integration of scientific method into all subjects including English language teaching. Consequently, English teachers currently are required to conduct successful instruction through scientific method in order to help students gain their target language mastery. Due to the previous theories and previous research. It shows that online multimedia through scientific approach is suitable to be applied in teaching learning preposition of place.

II. Literature Review

2.1 Concept of Preposition

Preposition comes from Latin words "Pre and ponere". The word "pre" means "before" while the word "ponere" means "to place something". Preposition shows the relationship between noun and noun-equivalent behind a word with another word in front of it, it can be "noun, pronoun, verb, adjective, adverb, gerund, present

participle, past participle and to-infinitive. (Abdi, 1999). A preposition expresses a relation between two entities, one being represented by the prepositional complement of the various types of relational meaning (Quirk et al, 1985). These relationships include those of time, place, direction, and various degrees of mental and emotional states. Studies have shown that the preposition is one of the most problematic categories that students encounter in learning English (Ravina, 1982) in (Abualzain, 2017).

2.2 Concept of Preposition of Place

Preposition of place in context varies greatly from one language to another, such as in, on, at, above, beyond, under, in front of, between, among, and many more. Recognizing such variety may be a major problem among non-native or incompetent language users. This incompetency may further result in wrong interpretation both syntactically and morphologically. This clearly indicates that learners cannot depend on their prepositional knowledge from their mother first language. If students do negotiation of semantic correspondence between the first and second languages, it often results in prepositional mistakes (Lam, 2009 in Mubarak 2017). The most common common are preposition of place, as follows:

about, above, across, after, against, along, among, around, because of, before, behind, below, beneath, beside, between, close to, down, during, except, inside, instead of, into, like, near, off, on top of, onto, out of, outside, over, past, since, through, toward, under, until, up, upon, within, without

2.3 Concept of Multimedia

According to Nian& Drew (2004) Multimedia consists of: applications that use multiple modalities to their advantage, including text, images, drawings (graphics), animation, video, sound (including speech), and, most likely, interactivity of some kind. Multimedia was originally seen as a vertical application area; that is, a niche application with methods that belong only to itself. However, like pervasive computing, multimedia is now essentially a horizontal application area and forms an important component of the study of computer graphics, image processing, databases, real-time systems, operating systems, information retrieval, computer networks, computer vision, and so on. Multimedia is no longer just a toy but forms part of the technological environment in which we work and think.

While (Thamarana, 2016) states that multimedia is the combination of different content forms. It includes a combination of text, audio, still images, animation, video, or interactivity content forms. It is usually recorded and played, displayed, or accessed by information content processing devices, such as computerized and electronic devices, but can also be part of a live performance. Multimedia devices are electronic media devices used to store and experience multimedia content. Further, Pooja (2015) describes multimedia as “the combination of various digital media types, such as text, images, sound, and video, into an integrated multisensory interactive application or presentation to convey a message or information to an audience.” It certainly has the potential to extend the amount and type of information available to learners. Well-designed multimedia helps learners build more accurate and effective mental models than the learners get from text alone.

2.4 Concept of Scientific Approach

Scientific method in Indonesia refers to *pendekatansaintifik* or scientific approach stated in the document of the decree of Minister of Education and Culture No. 69/2013. The researcher uses the term scientific method rather than scientific approach because the term approach does not truly represent the procedure of teaching stated in the document of the 2013 Curriculum. In the field of language teaching, the term method is considered suitable for procedural level and approach is in theoretical level (See Anthony, 1963; Richards & Renandya, 2002; Celce-Murcia, 2001).

Scientific Approach consists of five steps for all subjects. The first step is observing. In observing students are trained about seriousness, thoroughness and searching for information. Second is questioning, students are expected able to develop creativity, curiosity and the ability to formulate questions. Third is associating, competencies that developed are honest, particular, disciplined, and hard working. Fourth is experimenting, here students have to communicate with other and practice to appreciate the opinion from other friends. The last is networking, students have to develop their ability to express the idea and practice their ability to use language”. Nugraha&Suherdi (2017).

Sofyan (2016) defines scientific Approach as a learning process includes digging through observation, questioning, trial, and then process the data or information, presenting data or information, followed by analyzing, reasoning, then concluded, and creates (Daryanto, 2014:59). There are five steps on Scientific Approach, namely: observing, questioning, collecting information or experimenting, associating or information processing, and communicating (Fauziati, 2014: 157). Sani (2015: 50) simply explains that Scientific Approach involves observation activities which are needed to formulate a hypothesis or collect data. The scientific method is generally based on the exposure data obtained through observation or experiment.

Based on the aforementioned background, the research problems are formulated as follow:

1. Is there any significant different of the EFL Learners achievement of preposition of place after being taught by using online based multimedia through scientific approach?
2. Is there any problem that obstructs the teaching learning process?

III. Methodology

This research belongs to quantitative design with kontrol group and experimental group. The researcher then compared the means of both groups and analyzed by using Independent Group T-Test (Setiadi, 2006:143) to know the significance different of the mean pre-test and post test of the two samples. To answer the second research questions, the researcher asked the student to write down any difficulty they face during the online learning, even the researcher wrote down some problems on the sticky notes.

3.1 Participants

The population of the research was the first year students of SMP Negeri1 Braja Selehah, East Lampung Regency. There are 5 classes of the first year and each class consists of 35 students. The researcher grabbed two classes as the samples of the research. The attendance list has reflected the randomness of the population so the researcher directly selected two of the classes to be the control class and as the experimental class. The platform used was WAG, Quizziz and Online Games.

3.2 Procedures

The first day of the research, the researcher selected and decided the participants of the research just right before commencing the pre-test. The purpose of this step was to find out the students` preliminary ability to use prepositions of position before the researcher gave the treatment. The pre-test will be in form of vocabulary test consists of preposition and it was administered for 70 minutes. The second day was started by implementing the treatment in form of teaching preposition of place by using online multimedia through scientific approach. The researcher asked the students to access search engine,

www.quizziz.com <https://www.eslgamesplus.com/prepositions-of-place-esl-fun-game-online-grammar-practice/>, <https://gamestolearnenglish.com/prepositions-game/>. The treatment was conducted in one meeting for experimental class and one meeting for control class. The final day was about conducting post test while submitting the students notes about the problems they met during learning.

3.3 Data Analysis

The collected data were recorded in SPSS 23 Version. To know the different score of pretest between control and experiment group independent sample T-Test was used to analyze it and to know the different score of pretest and posttest in each group paired sample T. Test was undertaken to analyze it. And to know the different score between the posttest of control and experiment group, independent sample T. Test was undertaken to analyze it.

IV. Findings and Discussions

4.1 Findings

The means analysis of the pre-test of both experimental control group was commenced in order to see whether those two samples have almost the same or the same level so the two samples were suitable to be compared.

Table 1 The Mean Description Table of the Pre-Test

Group Statistics					
	CONTROL AND EXPERIMENT	N	Mean	Std. Deviation	Std. Error Mean
CONTROL AND EXP PRETEST	CONTROL	35	58.3429	4.17234	.70525
	EXPERIMENT	35	58.5714	4.45425	.75291

Table 2. T-test shows both samples have no significance difference

Table 2. T-Test Results of the Pre-Test

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CONTROL AND EXP PRETEST	Equal variances assumed	.760	.385	-.222	68	.825	-.22857	1.03162	-2.28715	1.83000
	Equal variances not assumed			-.222	67.711	.825	-.22857	1.03162	-2.28731	1.83018

The result of the SPSS analysis showed that there was no significance difference of both samples on the pretest, it means that the two sample were comparable to be compared because they had the same level of proficiency in preposition of place.

Table 3 Means Description Table of the Post-test

Group Statistics					
	CONTROL AND EXPERIMENT	N	Mean	Std. Deviation	Std. Error Mean
CONTROL AND EXP POSTTEST	CONTROL	35	64.4000	1.97335	.33358
	EXPERIMENT	35	73.1429	3.65532	.61788

Table 4. T-Test Results of the Pre-Test

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CONTROL AND EXP POSTTEST	Equal variances assumed	24.271	.000	-12.452	68	.000	-8.74288	.70215	-10.14397	-7.34174
	Equal variances not assumed			-12.452	52.287	.000	-8.74288	.70215	-10.15165	-7.33406

As shown in the Table 3 and 4 the Significant 2 Tailed value p was 0.000 it is less than .001, it implies that there was a statistically significant improvement after both samples receiving the treatment; the control class receiving the conventional technique while the experimental class receiving the online based multimedia. The means of the pre-test and post-test on the control group increased 7 points (58 to 64), while the mean of the pre-test and post-test on the experimental group significantly increased 16 points (58 to 74). Those evidence indicated that teaching preposition of place by using online multimedia is quite effective to be applied for English as a foreign language learners rather than conventional technique that is whiteboard and marker based technique.

4.1.1 Problems during Learning

During the teaching preposition by using online multimedia both researcher and the participants of the research successfully distinguish some problem. The problems met by the researcher and as follow:

1. The unstable internet signal sometimes obstructed the students when they did online task.
2. The researcher required carefull attention on the students just to make sure they didnt browse the innaproprate website or content.
3. Some students got difficulty in operating the online devices such as laptop, cell phone and platform as well especially, they way how to browse or do online activity.

4. The students who didn't get accustomed to do online activity screwed up the focus of the other students through their questions in WA group.

V. Conclusion

The results of the compared T-test and Mean above provides fine evidence about the effectiveness of using online multimedia in teaching preposition of place. It reveals that multimedia technology providing teaching resources including text, graphics, animation, image, sound and video information, which can greatly improve the learning interest of the students and promote their understanding and memory of knowledge. Therefore, using online multimedia teaching is very necessary, especially in English teaching; only effective co-ordination of multimedia can better complete the teaching task. It is in line with Wang, 1992 cited in Zhen, 2016 which states that most of information that is learnt through visual and auditory access is 98% in which 88 percent is through vision and the rest is through hearing. Thus, it can be concluded that teachers can use multimedia to create more colorful and stimulate class in learning English as a second language with the assistance of audio, visual and animation effect, motivates the students in learning

Further, using multimedia teaching make English class and interesting, which can therefore stimulate students' interest in learning, improve class efficiency and achieve more satisfactory teaching results. With pictures, sounds and animations, multi-media teaching can provide a number of dynamic implicit information associated with linguistic factors, such as cultural background knowledge, exotic customs and so on. (Rongchun, 2011) in (Ghasabsaraie, 2014). However, the multimedia also bring out some problems in the teaching learning process, therefore the researcher recommend anyone who interested in using multimedia to focus on overcoming the problems especially the relation of semantic triangle, multimedia and long term memory for the sake of their further research.

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