A COMPARATIVE STUDY OF SPACED AND MASSED TIME ALLOTMENT IN IMPROVING ENGLISH VOCABULARY OF THE STUDENTS OF *MADRASAH ALIYAH DAKWAH ISLAMIYAH PUTRA NURUL HAKIM* KEDIRI

Musaddad[1]

English Post-Graduate Student, University of Mataram, dadmusaddad@yahoo.com[1]

Abstract

This research is aimed at finding if spaced time or massed time allotment can improve student's vocabulary. Spaced time allotment can improve students' vocabulary than massed time allotment. This experimental research was done at *MA.DI.Pa Nurul Hakim Kediri* in academic year 2016-2017. The total numbers of subject involved in this study were 49 students from science department classes. 26 students from IPA 1 were treated using spaced time allotment, and 23 students of IPA 2 were treated as massed time allotment. Spaced time allotment means students learned vocabularies in 45 minutes long then there was spaced approximately 8-9 hours. Students learned again in 45 minutes long. This run 10 times meeting while massed time allotment means students learned 90 minutes long without spaced time in it. This run 5 times meeting. The similarities of the two treatments are total time meeting and total vocabulary learned. The total time meeting of two treatments were 450 minutes and and the total vocabularies input were 100 vocabularies. The instrument employed in this research was multiple choice tests. It was found that the spaced time allotment is better than massed time allotment in improving students' vocabulary. It was shown by the mean score 78.03 for IPA 1 or spaced time treatment while IPA 2 or massed time treatment obtained 66.37. There is a significant effect in gaining students' vocabulary improvement. The t-count value (6.755) was higher than t-table value (2.704) in the significant level 0.05 with the degree of freedom (df) 22, Thus, the result of the research shows that the spaced time allotment is effective in improving students' vocabulary than massed time allotment. The alternative hypoyhesis is accepted and null hypothesis is rejected. The spaced time allotment gives higher improvement in vocabulary mastery.

Key words: comparative, spaced time allotment, massed time allotment, improvement, English vocabulary

Abstraksi

Penelitian ini bertujuan untuk menguji pengaruh durasi pembelajaran bersambung (spaced time allotment) dan durasi pembelajaran langsung (massed time allotment) terhadap peningkatan kemampuan kosakata bahasa Inggris siswa kelas 11 IPA 1 dan kelas 11 IPA 2 Madrasah Aliyah atau setingkat kelas 2 SMA program IPA 1 dan IPA 2. Pembelajaran kosakata bahasa Inggris yang menggunakan Spaced time allotment berlangsung 45 menit kemudian istirahat atau jeda selama 8 jam setelah itu siswa mendapatkan pembelajaran Kosakata bahasa Inggris kembali selama 45 menit. Pembelajaran ini berlangsung 10 kali pertemuan dengan total durasi 450 menit dengan 100 kosakata. Adapun pembelajaran dengan menggunakan pembelajaran massed time allotment berlangsung selama 90 menit langsung tanpa ada jeda pada waktu tersebut selama 5 kali pertemuan. Persamaan kedua pembelajaran ini (spaced dan massed time allotment) adalah kedua-duanya sama-sama memiliki total durasi yang sama yaitu 450 menit dan sama sama memiliki total kosakata bahasa inggris yaitu 100 kosakata. Total sampel kedua kelompok ini adalah 49 orang siswa dengan perincian 26 siswa kelompok IPA 1 dan 23 siswa kelompok IPA 2. Data diperoleh dengan menggunakan pre-test-dan pos-test dari kedua kelompok perlakuan. Telah didapatkan bahwa perlakuan pembelajaran dengan menggunakan spaced time allotment adalah lebih baik daripada pembelajaran massed time allotment. Nilai rata rata pada kelompok IPA 1 adalah 78.03 sementara nilai rata-rata IPA 2 adalah 66.37. terdapat hasil yang berbeda nyata pada peningkatan kosakata bahasa inggris siswa. Berdasarkan hasil penghitungan t-test kedua kelompok didapatkan bahwa nilai t-hitungnya lebih besar (6.755) daripada t-table (2.704) pada siginifikansi 0.05 dengan derajat kebebasan 22. Penelitian ini menerima hypothesis alternative yang menyatakan bahwa terdapat perbedaan yang signifikan antara spaced time dengan massed time allotment dalam meningkatkan kemampuan siswa pada penguasaan kosakata bahasa Inggris.

Kata Kunci: Perbandingan, waktu jeda, tanpa waktu jeda, peningkatan, kosakata bahasa Inggris.

INTRODUCTION

This study aims at examining a comparative study of spaced and massed time allotment in improving English vocabulary. An experimental research at *Madrasah Aliyah Dakwah Islamiyah Putra Nurul Hakim Kediri*.

Vocabulary is the basic core in acquiring a language. It is impossible to master a language without vocabulary. Vocabulary is strongly needed in receptive and productive language skills such as reading, listening, writing and speaking. One can not learn a language without learning vocabulary. One of the weaknesses of Indonesian students in learning English is caused by their lack of vocabulary mastery.

Regarding of time allotment in learning vocabulary (Ur, 1991) stated that it is better to teach vocabulary in separated, spaced session than to teach it all at once. Spaced learning is a method of embedding information in our long-term memory through repetition. Fundamentally, this is no different from how we learn all the time. When we hear, see or do something once, it can be stored in our short-term memory. If we hear, see, or do it repeatedly, it can enter our long-term memory.

The students need more thinking in achieving all the goals of the lessons. As a primary goal, teachers often strive to maximize the amount of information pupils' remember. Every day, students and teachers are faced with the decision of when to study information. The timing of study, and how it affects memory retention, will be explored by the researcher on students learning vocabulary through spaced and massed time allotment.

Learning words is also a time-consuming activity, and especially so as some of the words learned are forgotten quickly. Moreover, although there are some suggestions to the teacher as how to teach vocabulary, there is little guidance to the learner who asks: "How do I memorize vocabulary better?". It might be difficult to get any thing out of a lecture without making extensive use of a vast base of knowledge readily available in memory. To comprehend the content of a lecture, we need to call up from memory the information needed to interpret the message of the speaker. This goes from understanding each individual word (using ourworking vocabulary store), through combining words into sentences, up to forming a theme. All these interpretive activities require learners to draw on past knowledge about a topic.For many types of learning, spaced learning that involves repeated long inter-trial intervals (ITIs) leads to more robust memory formation than does massed training that involves short or no intervals (Smolen et al, 2014).

The researcher is inspired by students who learn Arabic language. As the school is Islamic-based, students learn Arabic language quite often. Therefore they speak Arabic relatively well. They learn it in class and dormitory. The school has students learn Arabic vocabularies *(Mufradat)* in order to make them to be capable to use a particular language skillfully. They get many times, chances and inputs in learning such a language. The phenomenon shows us that the more they learn it, the more capable they speak Arabic. Yet English is only learnt at school. They only have 2 times of English meeting in classroom in a week viewed from KTSP curriculum while Curriculum 13 gives once meeting in a week. Thus, it seems necessary for the researcher to conduct this research to assure the students that they deserve English learning. The researcher will conduct the research on the basis of spaced and massed time allotment in learning vocabularies in improving students' vocabulary.

Research has shown that second or foreign language learners rely heavily on vocabulary knowledge, and that a lack of vocabulary knowledge is the largest obstacle for second / foreign language learners to overcome.

Kweldju, (2004 : 51) proof that Indonesian students have little knowledge of English vocabulary.

> "The teaching of English in Indonesia has not successfully helped in Indonesia people to be proficient in the language. In spite of the experts' effort to identify the root of the problem, students themselves actually know that vocabulary is the single greatest source of problem. Even English Department students, who are considered to be more advanced in their learning, realize that they still do not have sufficient vocabulary to use language accurately, appropriately, and concisely. They also realize that without vocabulary they are unable to be native sounding. (Kweldju,S. 2004:51)

It is clear that those who are rich in their vocabulary knowledge can easily express their ideas and concepts in a more native-like manner because they have a better communicative competence in the target language. So it is apparent that there is a close relation between the English skills levels of the learners and vocabulary inputs. The single greatest reason that vocabulary is important is because of its significant impact on comprehension. This is true in terms of general vocabulary development as well as for the development of *content* or *academic* vocabulary, which word knowledge is used with texts that are valued in school (Athans et al, 2010).

In relation with time allotment, Indonesian schools have applied the new curriculum called Curriculum 2013. This curriculum has been applied since July 2013 to replace *KTSP (school based curriculum)*. In *KTSP*, students in senior high school learned English twice in a week where every meeting has 2x45 minutes or 90 minutes time allocation. Thus, English lesson had 180 minutes time allocation in a week. On the contrary, in Curriculum 2013, English lesson in senior high school is included in one of the obligatory lesson on group A in the obligatory class. The students in senior high school learn English just twice in a week where one meeting has 90 minutes time allotment. The researcher needs to try the research by teaching students in spaced time allotment. The schools and other school in Indonesia do not teach their students in spaced time allotment; 45 minutes spaced then reteaching them 45 minutes. Based on previous studies, absolutely spaced time allotment gives better impact for the students in senior high school in improving students' vocabulary.

Based on the problems above, a researcher needs to carry out the research under time allotment towards improving English vocabulary. In what kinds of certain time strategy do the students learn more effectively in improving students'vocabulary? Is the spaced time allotment (5 (2x45)) minutes better than massed time allotment practice (5 (1x90minutes))?

RESEARCH METHODS

This chapter presents research design, time and place of the study, population and sample, instrument of the study, technique of data collection, and technique of data analysis.

Research Design

The researcher used the experimental design. In the experiment, the researcher needs to focus on the independent variables. These variables influence or affect the dependent variable in quantitative study. The two major types of independent variables were treatment and measured variables. In experiments, according to Creswell (2012), treatment variables are independent variables that the researcher manipulates to determine their effect on the outcome, or dependent variable.

Treatment variables were categorical variables measured using categorical scales. For example, treatment independent variables used in this research were spaced time allotment and massed time allotment.

Two classes selected out of all the classes of the eleventh year students at *Madrasah Aliyah Dakwah Islamiyah Putraa Nurul Hakim*. Two of them comprised the experimental groups of the study and there was no control group. The independent variables were spaced and massed time allotment while the dependent variable was the students' scores in the vocabulary improvement test.

In this study, the researcher was interested in investigating the comparison on the effect of independent variables (X1 and X2) towards a dependent variable (Y) or students' vocabulary improvement.

Setting and Time

The study carried out at eleventh grade students of MA. DI. Pa in the academic year of 2016/2017. In addition, this study carried out for ten months, from July 2016 to April 2017.

Population and Sample
Population

The population of the research was the second year / eleventh grade of Madrasah Aliyah Putra in academic year 2016/2017 that learn English as foreign language. Total numbers of population were 140 students who were divided into five classes all together.

Sample

Sample refers to the number of people chosen randomly from a larger group that can be examined in order to see what the result is like. Hornby (1995:1040). Sugiyono (2007: 86) stated that if the sample is well selected, the result of a studyat sample should be generalizable to the population. Arikunto (2002:112) elaborates: "if the number of population is more than 100, it is supposed to take 10-15% or 20-25% or more. But, if the number of population is less than 100, it issupposed to take all the sample as the subject of the research.

The total number of population of the tenth grade students of *MA.DI. Pa Nurul Hakim* in academic year 2016/2017 is more than 100 persons. So, based on the theory of sampling procedure proposed by Arikunto (2002:112), in this case, 33 % of the population was taken as the sample of this study. Therefore, the researcher used simple random sampling technique to determine the two groups of sample. Sugiyono, (2007:82) stated that simple random sampling technique is the selection of sample randomly without looking at the students' stratification. It is because of the population is homogenous- they are male students only, and taught English by same teacher.

Besides, to select two classes as the sample, the researcher consulted with the English teacher of twelfth grade of MA.DI.Pa Nurul Hakim Kediri which classes have the same capability in English achievement. Then based on the English teacher in twelfth grade suggestion, this study determined XI IPA 1 and XI IPA 2 as the sample. Taking sample randomly is done by drawing lots. Through lottery, those two classes randomly assigned to be sample groups. XI IPA 1 was taught by spaced time allotmentand XI IPA 2 was taught by massed time allotment.

Research Instrument

For the purpose of this study, the researcher developed an instrument namely vocabulary test. The data of this research were collected by giving the student pre-test and post test to know the effect of time allotment towards English vocabulary improvement.

Vocabulary Test

The success of a test may be determined by what types of test that are used in the testing. The instrument used was multiple choice tests. The number of the test was 45 questions. The questions were taken from several resources like internet and other English books. Both groups, IPA 1 and IPA 2 got pre-test and post-test in their class room. The same tests were given to both classes in the same day in order to keep the validity and realibility of the test.

The Treatment of Instruments
Teaching Scenario

Teaching scenario is a teacher's detailed description of the course of instruction for an individual lesson. A teaching scenario is developed by the researcher to guide class instruction based on technique needed. The detail of the scenario would vary depending on the kind of technique used. The teaching scenario is designed based on the level and the needs of the students which is used as guidance in every teaching. In this research there are two teaching scenario prepared. The first scenario is based onspaced time allotment 5x(2x45minutes) and the second is based on massed time allotment meeting in class 5x (1x90 minutes).

Here are the detailed of teaching scenario which run in the research.

First. The researcher taught vocabularies (spaced time allotment) in 5 times (2x45 minutes) meeting inclass. There was a gap or space between first and second 45 minutes. Students were taught 45 minute in the morning and then stop, students were retaught again in the afternoon in 45 minutes to complete 90 minutes meeting. The completed meeting equals 10 times 45 meeting or 450 minutes in total. The students got 100 vocabularies in 10 times meeting.

Second. The researcher taught vocabularies (massed time allotment) at IPA 2. This class was taught by massed time treatment. The researcher taught 20 vocabularies in 90 minutes in the class. There was no gap or space in 90 minutes class meeting. The next day, the activities run as usual until the research completed by the 450 minutes in total meeting. The students got totally 100 vocabularies in 450 minute meeting.

Teaching Handout

Materials are defined as anything used to help to teach language learners. Materials can be in the form of a textbook, a workbook, a cassette, a CD-Rom, a video, a photocopied handout, a newspaper, a paragraph written on a whiteboard; anything which presents or informs about the language being learned. The materials designed while doing practice teaching was based on the syllabus and lesson plans designed previously and was got mostly from the internet with some adaptations.

Procedures of the study

The researcher followed the following procedures in implementing his study during the second semester of the academic year 2016/2017:
1. Reviewing the literature related to teaching and learning vocabulary towards vocabularyimprovement at spaced time allotment and massed time allotment.
2.Preparing the lesson plans based syllabus of the study.
3.Designing the achievement of vocabulary test.
4. Establishing the validity and reliability of the test.
5. Holding a meeting with the participating teacher to clarify the purpose of the study and to assign these experimental techniques to the two sections teaching and learning vocabulary and a word formation towards students'vocabulary improvement in 5(1x90) and 5(2x45) minutes time allotment.
6.Starting the experiment under investigation in the second semester of the year 2016/2017 for a month.

a. The researcher taught IPA1 first using spaced time allotment. The researcher taught 10 times meeting in 45 minutes in each session. This class got 45 minutes meeting in the morning and 45 minutes in the afternoon. The students were taught 10 vocabularies in first 45 meeting and 10 vocabularies in next 45 minutes meeting. The total vocabularies that were taught to student in all sessions were one hundred vocabularies. There is gap or space between first 45 and second 45 meeting respectively. The research run respectively until gaining completed session. The completed sessions equal 450 minutes meeting or 5 times (2x45 minutes) or 10 x 45.

b. The researcher taught IPA 2 using massed time allotment. The researcher taught 5 times meeting in 90 minutes in each session. This class will get 90 minutes meeting in the morning and 90 minutes in the afternoon. The students are taught 20 vocabularies in first 90 meeting and 20 vocabularies in next 90 minutes meeting. Thus the total vocabularies that are taught to student are one hundred vocabularies. There is no gap or space 90 minutes meeting. The research run respectively until gaining completed session. The completed sessions equal 450 minutes meeting or 5 times (1x90 minutes).

7. Administering Pretest in the first meeting and post-test upon the completion of the experiment, to investigate the effect of the independent variables; spaced time allotment 5 (2x45minutes) and massed time allotment 5 times (1x 90 minutes) towards English students' vocabulary improvement.

8. Analyzing the obtained data statistically so as to reach conclusions and suggest pedagogical implications and possible recommendations.

The research was conducted in the second grade of MA.DI Pa Nurul Hakim Kediri in IPA 1 and IPA 2 academic year 2016/2017. There were two different groups who got different treatment in learning English vocabulary namely IPA 1 and IPA 2. The IPA 1 got spaced time treatment and the IPA 2 got massed time treatment. The number of students in IPA 1 was 26 students while in IPA 2 was 23 students. The total samples were 49 students. The test was given after treatment using 45 questions in multiple choices. The writers taught 100 vocabularies to both groups and gave a same test to both groups after treatment.the 100 vocabularies can bee seen in lesson plans in appendix side. The test was taken into several resources namely internet and text books of English (*be Smart in English for grade XI or second grade of Senior High Schools for Physical science, Refresh your Vocabulary, and Advance Vocabulary Practice*). The research was conducted the treatments by teaching them vocabularies.

Before conducting the research, the lesson plans were made for both groups. It could be seen in the appendix. There were 100 vocabularies had been taught. They learned learning definitions, parts of speech and vocabulary sentences. The source of materials were taken from English text book such as *Global be Smart in English* for grade XI or second grade of Senior High Schools for Physical science, *Refresh your vocabulary*, and Advance *vocabulary practices.*

There were similiarities and differences of Both groups (IPA 1 and IPA 2) in conducting the research namely 1). They were taught same amount of vocabularies (100 vocabularies), they had same amounts of meeting (450 minutes meeting), and same total number of the pre and post test (45 questions in multiple choice test). They got the pre-test on same day Thursday 13-4-2017 and post test on the same day- on Saturday 15th of April 2017 and they spent 90 minutes in the classroom answering the post test. The differences were the intensity of teaching them vocabularies. IPA 1 was taught by spaced time treatment. There were two times meeting in each day namely in the morning and in the afternoon. In the morning IPA 1 was taught 10 vocabularies in 45 minutes long and it was stopped then they continued learning 10 vocabularies in the afternoon in 45 minutes long. They got 10 times meeting in 45 minutes. They got first time meeting on Monday the 3rd of April 2017 in the morning and in the afternoon and was continued on Wednesday 5th in the morning and in the afternoon, Friday 7th in the morning and in the afternoon, Monday10th in the morning and in the afternoon and the last meeting was onWednesday 12th of April 2017 also in the morning and in the afternoon, while IPA 2 was taught by massed time only in the morning. They spent 90 minutes meeting long in the classroom and they were taught 20 vocabularies in each meeting. There

were no spaced times in 90 minutes teaching. The students got 5 times meeting in 90 minutes long. They were taught on Tuesday the 4th, Thursday the 6th, Saturday 8th, Tuesday 11th, and Thursday 13th of April 2017.

Data Analysis Procedure

This research was conducted through a quantitative procedure. The all data were taken from the field through tests which were given to the students. There were two kinds of test that the students should take namely pre-test and post test.

Analysis of comparison was performed to detect any significant differences in the two variables (X1 and X2) towards dependent variable or outcome variable (Y) between the two goups on the total score of the vocabulary improvement. The comparison effects between the two independent variables were examined in light of participants' vocabulary comprehension performance. Data were analysed by using SPSS 16.

RESULT AND DISCUSSION

In this chapter the writer concerns with result of the study, the discussion of result of the study. The results of the study are obtained from both experimental groups (spaced and massed time allotment). To find out the answers of the two proposed reseach questions, the writer presents the data from the two groups through result of study, and discussion of the data. The steps will be described and explained chronoligacally.

Result

In this section the data are presented. The data which presented were obtained from the two different groups of students namely IPA 1 who got spaced treatment and IPA 2 who got massed treatment, then it is needed to compare both groups and taken consideration which kinds of treatment is more effective in improving students' vocabulary. The t-test in this study is very important as the material for conducting the right conclusion.

The students who were taught by using spaced time allotment.

There were 26 students who got involved in this class. In order to know the students' improvement in learning vocabulary using spaced time allotment, the data was analysed by using descriptive statistics on spss 16. The analysis is shown the table below

From the result of the test, it can be observed that the mean of the students' score on the pre-test of Space time allotment is 63.33; standard deviation is 4.08577; variance is 16.694. the range of the data is 22.22, it means that the range between the minimum and the maximum data is 22.22 in which the highest data is 73.33 and the lowest is 51.11. range is obtained by alleviating the highest score with the lowest one. The sum of the score from 26 students is 1646.64. The distribution of the data was normal. This can be known from skewness statistic score and Kurtosis statistic score. Skewness statistic is -.439 and Kurtosis statistic score is -2.926. The data can be normal if the skewness and kurtosis ratio are $< \pm 2$ (Hartono, 2016; 41-42). While on the post-test of spaced time allotment the mean is 78.0338; standard deviation is 8.89672; variance is 79.152. The range of the data is 31.12, it means that the range between the minimum and the maximum data is 31.12 in which the highest data is 95.56 and the lowest is 64.44. Range is obtained by alleviating the highest score with the lowest one. The sum of the score from 26 students is 2028.88. The distribution of the data was normal. This can be known from skewness statistic score and Kurtosis statistic score. Skewness statistic is .265 and Kurtosis statistic score is -.949. The data can be normal if the skewness and kurtosis ratio are $< \pm 2$ (Hartono, 2016; 41-42).

Based on the explanation above, it is clearly understood that the students' score on the post-test is higher than the pre- test, or on the other hand, it can be said that there was any difference of the students' score in learning vocabulary after taught by using

space time allotment. To make it right conclusion, it is need again to know the score of massed time allotment either in pre-test or post-test.

The students who were taught by using Massed time allotment.

Massed time allotment was used in IPA 2. There were 23 students attended and followed the pre-test and post test. The data below is shown to know the comparison within group in term of pre-test and post-test of this group.

As it can be seen from the table above there are differences score that students of IPA 2 got. From the table above, it can be observed that the mean of the students' score on the pre-test of massed time allotment is 63.2843; standard deviation is 4.73203; variance is 22.392. The range of the data is 17.78, it means that the range between the minimum and the maximum data is 17.78 in which the highest data is 77.78 and the lowest is 60.00. Range is obtained by alleviating the highest score with the lowest one. The sum of the score from 23 students is 1455.54. The distribution of the data is normal. This can be known from skewness statistic score and Kurtosis statistic score. Skewness statistic is 1.936 and Kurtosis statistic score is 3.394. The data can be normal if the skewness and kurtosis ratio are -2 to 2 (Hartono, 2016; 41-42). While on the post-test score of massed time allotment the mean is 66.3748; standard deviation is 6.40211; variance is 40.987. The range of the data is 22.22, it means that the range between the minimum and the maximum data is 22.22 in which the highest data is 82.22 and the lowest is 60.00. Range is obtained by alleviating the highest score with the lowest one. The sum of the score from 23 students is 1526.62. The distribution of the data is normal. This can be known from skewness statistic score and Kurtosis statistic score. Skewness statistic is 1.417 and Kurtosis statistic score is 1.509. The data can be normal if the skewness and kurtosis ratio are $< \pm 2$ (Hartono, 2016; 41-42).

Based on the explanation above, it is clearly understood that the students' Post-test score on massed time allotment is higher than the students' pre- test in the same treatment, but we can not judge this treatment gives better effect before comparing with the result of pre-test and post test in spaced time allotment.

Deciding the right conclusion to the result both Spaced and massed time allotment, it is need to compare the two groups using paired t sample test using spss 16 version.

Before testing the hypotheses, the data should be tested for its normality. The purpose of normality test is to know whether the data is in normal distribution or not.

Normality test of spaced time allotment.

Normality is important because on the analysis of parametric statistics, the data should be assumed in normal distribution. In order to know the form of data distribution statistic analysis can be applied by using spss 16.

As shown on numerical data above, the distribution data is normal in spaced time allotment either in pre-test score or post-test score. It clearly can be said that based on the table 11 (Spaced time allotment) the distribution data on IPA 1 is normal

Normality test of Massed time allotment

Below is the data distribution of Massed time allotment pre and post-test score which belongs to IPA 2. Based on the numerical data it is said to be normal.

In order to be able to judge both groups, it is decided to test and compare the two mean scores in those groups by using paired samples test formula by spss 16.

Examining Hyphothesis of means score of post-test score of spaced time allotment with mean score of post-test of massed time allotment.

The correlation of the two post-test score on the IPA 1 and IPA 2 is categorized

strong correlation because the score is 0.57. Sarwono (2017) categorized that the value of 0,5 – 0,75 is strong correlation. The correlation score is 0.57. This score means that there is strong correlation between spaced and massed time allotment.

Based on table 15, there are two kinds of judging the right conclusion of the paired sample test. First one is by comparing t-statistics with t-table and second one is by comparing probability significance. The result of this study provide evidence that space time allotment can be successfully implemented in classroom setting using realistic materials.

The result of computation described on previous data indicates that the T test is 6.755, while the T-table at significance level of 0.05, with the degree of freedom 22 is 2.074. It indicates that the T-test is higher than T-table (T-test >T-table). Moreover the mean of paired difference is 1.34304. Overall, the results reported here clearly reveal that there are significant differences between mean achieved by the spaced time allotment rather than massed time allotment.

The results show that in case of this particular group of learners using spaced time allotment in gaining student's vocabulary improvement test was able to help the EFL students a better improvement and higher score in their test.

Based on the comparison t test and t table it is found that t test is higher that t table (6.755 > 2.074). It means that H0 is rejected and H1 is accepted. It indicates that There is a significant difference effect between spaced and massed time allotment in improving students' English vocabulary.

The second way of examining of t-test is by comparing sig (2-tailed) with 0.05. As we see Sig. (2-tailed) in table 15 is 0.000. This means that 0.000 is lower than 0.05 (0.000 < 0.05). if it is happened we easily conclude that the null Hypothesis is rejected or in other word there is a significant difference between spaced and massed time allotment in improving students' English vocabulary.

Examining Improvement of Spaced and Massed time

Table of Comparative mean score between Spaced and Massed time allotment.

Treatment	Mean score of Pre-test	Mean score of Post-test
Spaced Time	63.33	78.034
Massed time	63.28	66.37

Table above shows us that the mean score of pre-test of spaced time allotment is 63.33 and the mean score of post-test of massed time allotment is 63.28 meanwhile, the mean score of post-test of spaced time allotment is 78.034 and the mean score of post-test of massed time allotment is 66.37. This data indicates that the spaced time allotment score in the post-test (78.034) is higher than the massed time allotment score in the post test (66.37); therefore the spaced time allotment is the effective way in gaining students' vocabulary improvement in this research site.

This finding is also in accordance with previous studies and behaviouristic theory. The previous studies which conducted by Cepeda, et all (2011) said that their finding demonstrates that the spacing effect can give significant effect to vocabulary learning in applied settings and middle-school-aged students. This study proved the previous study that using spaced time allotment in high school students can improve student's vocabulary. While Bloom and Shuell, (1981) found that students who had learned the words by spaced practice did substantially better than the massed practice students. If we see the result of the two groups students who got spaced time treatment did substantially better than the massed time treatment. Spaced Learning is a way of creating neural pathways at the start of a unit of work (memory acquisition), which can then be revisited at various intervals over time (memory retrieval). This will emphasise the pathway's importance and make it easier for

learners to 'locate' it when learners need it. Spaced practice leads to better long-term recall. Long periods of study are less helpful for long-term retention to foreign language learners than shorter but more frequent study periods (Schmitt,2000). Spaced repetition was developed on the basis of how human memory works. According to studies on memory (Baddeley,1982 ; Bahrick 1993) in Ortapitirici (2007), stated that learning by spaced time allotment leads to better learning and remembering. The studies suggest extending the space between successive repetitions gradually since practicing items massively does not result in better learning and retention.

Students who got 10 times treatment showed better result (78.034) than 5 times treatment (66.37) although they got same 450 minutes in learning vocabularies. A core principle of learning is that shorter, more-frequent episodes of practice lead to better mastery than longer, less-frequent episodes or massed time allotment. Improving vocabulary through more-frequent practice can be considered by spaced learning, whereas learning vocabulary through little-frequent input is considered massed learning. Spaced learning almost always gives better effect than massed learning (Gernsbacher, 2017). This study is also supported by the behaviouristic study. The message of the behaviouristic theory model from the viewpoint of study time calculation is that students need time for practising: the more time it is possible to use, the better learning results will be achieved. Teaching vocabulary by using spaced time treatment can be better enough than teaching it using massed time treatment. Students who learn 10 vocabularies in the morning and learn 10 vocabularies in the afternoon are better than students who learn 20 vocabularies in the morning directly without spacing in it. Ur, (1991) regarding time allotment in learning vocabulary, stated that it is better to teach vocabulary in separated, spaced session than to teach it all at once.

CONCLUSIONAND SUGGESTION

This chapter is divided into two section; conclusion and suggestion. In suggestion, there will be given some suggestions to the students, and teacher which can be considered as applicable result of the study or as some considerations for further research.

5.1. Conclusion

There is a significant difference of spaced and massed time allotments in improving students' vocabulary. Based on the comparison t test and t table it is found that t test is higher that t table (6.755 > 2.074). It means that H0 is rejected and H1 is accepted.

The mean score of post-test of spaced time allotment is 78.034 and the mean score of post-test of massed time allotment is 66.37, therefore the spaced time allotment gives higher improvement in vocabulary mastery in this research.

A better result of time allotment in improving student's vocabulary is that shorter, the more-frequent episodes of practice gives better mastery than longer, less-frequent episodes. Learning vocabulary through more-frequent practice is considered spaced learning, whereas learning vocabulary through less-frequent practice is considered massed learning. Improving student's vocabulary through spaced learning almost always trumps massed learning. Spaced time allotment shows increasing results in acquiring vocabulary.

Suggestion

to the Teacher

The findings of this study can be of valuable help to learners, teachers, and curriculum developers in different ways. It can be a good idea for teachers to schedule classroom learning activities according to a spaced schedule to increase learners' performance at the test. Also it will help syllabus designers and curriculum developers through which they will be able to plan the course books to facilitate foreign vocabulary learning. Teachers may look at

ways of implementing this technique into EFL classrooms.

to the Students

Learners can space their self-study sessions out in time to enhance the amount of their learning. The students should train themselves by doing a lot of exercises and developing themselves by reading any other sources to improve their vocabularies. The students should spend their time on learning English vocabulary because without learning hard they will not be able to improve their vocabularies well.

to next researcher

It is expected to know whether spaced time allotment is still having significant effect in improving students' vocabulary for younger or older age separation between times of teaching.

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