

**The Effect of Using Educational Multimedia in Dictation on Students' Listening Comprehension at MA Darul Hikmah Pekanbaru****Agustina***Islamic University of Riau*

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**Abstract**

The main goal of the study was to investigate the effect of using educational multimedia in dictation on students' listening comprehension at MA Darul Hikmah Pekanbaru. This was a quasi-experimental research which involved control class and experimental class. The population of the study was 175 and the sample was 52. The instrument of the study had been tested its validity and reliability by conducting try-out test two times. The instrument was given in control class and experimental class before and after giving treatments. The treatments were only given to experimental class meanwhile in control class remained using the conventional teaching technique. The data were analyzed by using independent sample t-test and paired sample t-test then the effect size and improvement were calculated. The result of the study shows that both control class and experimental class had improvement of their listening comprehension. But, the improvement of experimental class was much higher than control class was. The improvement of listening comprehension in experimental class was 43,2% but in control class was only 11,5%. In short, it can be concluded that the using of educational multimedia in dictation probably could improve students' listening comprehension.

**Key words:** *Educational multimedia in dictation, listening comprehension.*

**Efek Penggunaan Multimedia Pendidikan pada Kegiatan Pendidikan Terhadap Pemahaman Menyimak Siswa di MA Darul Hikmah Pekanbaru****Abstrak**

Tujuan utama dari penelitian ini adalah untuk menginvestigasi efek dari penggunaan multimedia pendidikan dalam pendidikan terhadap pemahaman menyimak siswa di MA Darul Hikmah Pekanbaru. Penelitian ini merupakan penelitian quasi-eksperimen yang melibatkan kelas kontrol dan kelas eksperimen. Populasi pada penelitian ini terdiri dari 175 siswa dan sampelnya terdiri dari 52 siswa. Instrumen yang digunakan dalam penelitian ini telah diuji validitas dan reliabilitasnya. Instrumen tersebut diberikan kepada kelas kontrol dan kelas eksperimen baik sebelum maupun setelah diberikannya perlakuan (treatment). Perlakuan tersebut hanya diberikan kepada kelas eksperimen sementara kelas kontrol tetap diajarkan menggunakan teknik mengajar seperti biasanya (cara konvensional). Data yang diperoleh dianalisa menggunakan teknik uji t sampel bebas dan uji t sampel berpasangan kemudian efek size dan peningkatannya diukur. Hasil dari penelitian ini menunjukkan bahwa baik pada kelas kontrol

maupun kelas eksperimen memiliki peningkatan pada kemampuan pemahaman menyimaknya. Namun, peningkatan yang terjadi pada kelas eksperimen jauh lebih baik dari pada peningkatan yang terjadi pada kelas kontrol. Peningkatan pemahaman menyimak siswa pada kelas eksperimen mencapai 43,2 % sedangkan pada kelas kontrol hanya 11,5%. Singkatnya, dapat disimpulkan bahwa penggunaan multimedia pendidikan dalam pendiktean terbukti dapat meningkatkan pemahaman menyimak siswa.

**Kata kunci:** *Multimedia pendidikan dalam pendiktean, pemahaman menyimak.*

## 1. INTRODUCTION

Listening is one of the four language skills (the others are reading, speaking and writing). Sevik (2012: 10) cites definition of listening from Cameron as the receptive use of language whose the goal is to make sense of the speech, and the focus is on meaning rather than language (Cameron, 2001). He also agrees with Sariçoban (1999) who states that listening is the ability to identify and understand what others are saying. For learners, listening is how spoken language becomes input (i.e., it is the first stage of learning a new language). In the classroom, listening process is acquired from the teacher, a CD, or other learners. Listening is not only hearing but it is also the process of interpreting messages of what people say. Listening spoken English can guide the students to immitate teacher's pronunciation or immitate recorded voice from CD (or multimedia) and it makes them to immitate pronunciation like native speakers.

For foreign language learners, especially for the EFL students, listening may be one of difficult skills to learn. Those students do not use to listen to the voice of native speakers. However, many theories suggest that to acquire language, it needs situation

where people always practice the target language most of the time. Unfortunately, finding English native speakers in Indonesia is difficult enough. So that, the students just listen to English pronunciation which sound like 'Indonesian style' so that if they listen to pronunciation from native speakers, they do not understand instead. However, the case like this is believed not only happen in Indonesia, but also many language learners in other countries face such problem as well. In consequence, considering to find the problem solving, some studies have been conducted world wide.

In last decades, many experts have developed the ways to improve listening skill. Two of them are using multimedia and conductiong dictation. Multimedia is the use of text, graphics, animation, pictures, video, and sound to present information (Najjar, 1996: 129) and dictation is one of popular techniques in used in teaching language (Hassankiadeh, 2013).

One reason for the trend of using multimedia is caused by the assumption that multimedia information can help people to learn. It is believed as a means which able to help people learn lots of knowledge and acquire information more quickly

compared to traditional classroom lecture.

Najjar also cites some research findings which found that learning achievement was higher when the information was presented via computer-based multimedia systems than traditional classroom lectures (Najjar, 1996: 130). Najjar mentions that over 200 studies that compared learning information between traditional classroom and computer-based multimedia systems show that the meta-analyses in learning were higher when the information was presented via computer-based multimedia systems than traditional classroom.

Najjar also gives examples of some studies which show that using multimedia instruction could save time in learning (Najjar, 1996: 130). For example, Kulik, Bangert and Williams (1983) found one study that recorded an 88% savings in learning time with computerized instruction (90 minutes) versus classroom instruction (745 minutes) and another study that recorded a 39% savings in learning time (135 minutes for computerized instruction versus 220 minutes for classroom instruction). Eventually, these research findings are so impressive that educational multimedia is not only able to help students learn but also to save learning time.

Moreover, some experts of language teaching development have created many combinations of multimedia with some techniques or method. One of them is Azimi's study related to educational multimedia in dictation (Azimi, 2014). Azimi agrees that the combination of multimedia

and dictation technique could help students in learning process.

Dictation has also been considered as an effective tool that can help teachers and learners during language teaching/learning processes to promote learning (Hassankiadeh, 2013: 129). However, Hassankiadeh also states that it was ignored during the years in foreign language classes. Dictation has been used in language learning for many years. There are many researchers who work on dictation as a useful tool in learning/teaching a language. For example, Norris' (Norris, 1993: 72) studied dictation as a beneficial tool for managing and motivating learners in language classrooms (Hassankiadeh, 2013: 129).

Hassankiadeh (2013: 130) emphasizes that although there are some studies which concentrate on dictation as a learning tool not just as a testing procedure, there is little attention to techniques, methods and strategies which can be used in language classes. He also agrees with Alkire (2002) who mentioned that the following benefits in utilizing dictation as a learning instrument:

1. Dictation makes the students and the teacher aware of the students comprehension errors (phonological, grammatical or both).
2. It shows learners the kinds of spelling errors they are prone to make.
3. It assists learners to practice in comprehending and transcribing clear English prose.
4. It gives learners valuable practice in note-taking.
5. It gives practice in correct form of speech.

6. It can help develop all four skills.
7. It helps to develop short-term memory.
8. It can be a good indicator of overall language.
9. It involves the whole class.
10. It is psychologically powerful and challenging.

While doing dictation, a teacher can become a model of producing pronunciation from the passages of authentic materials such as a narrative story by dictation. The teacher reads aloud the text or list of words piece by piece and pauses while the students are writing what they have heard. Then the scripts will be marked. The correct or incorrect on the scrips can be checked. As result, students have learnt new vocabulary of both written and sound forms.

Subsequently, Najjar states that people enjoy multimedia, prefer multimedia learning materials and believe that multimedia help them learn. The use of text, graphics, animation, pictures, video and sound to present information can gain comprehension in learning specific lessons effectively and efficiently. Compared to traditional classroom, the via computer-based multimedia classroom is much more interesting and interactive.

Computer-based multimedia instruction tends to be more interactive than traditional classroom lectures. Interactivity can be thought of as mutual action between the learner, the learning system and the learning material (Fowler (1980) in Najjar (1996:130)). Interactivity appears to have a strong positive effect on learning and interactivity is associated with learning achievement and retention of knowledge over

time. People learn the material faster and have better attitudes toward learning the material when they learn in an interactive instructional environment.

Kim and Gelman (2008: 124) point out that multimedia can support vocabulary acquisition and help to increase achievement scores of English lessons, it means that multimedia is also useful for developing students' listening and reading skills. He also mentions that an effective way to improve the learning of English vocabulary is to offer graphics to illustrate the definition through multimedia. Students were likely motivated to success and achievement in vocabulary learning when visual text and sound of its pronunciation were presented with graphics because text alone did not usually translate in a manner that is meaningful to the learners, while graphics allowed them to visualize the definition in a more meaningful way and recorded voice allowed them to immitate the correct pronunciation. Kim and Gelman also suggest that developers of vocabulary learning instruction and curriculum should reconsider of using multimedia within their presentations (Kim & Gelman, 2008: 124). They also believe that using multimedia properly in classromm is a good way to help students to gain English achievement which provide enjoyable learning for students and easy-handle teaching by the teachers. Although "all multimedia messages are not equally effective" for EFL students (Mayer, 2001, p. 79), an appropriate and suitable multimedia can help them to develop all English language skills including listening skill.

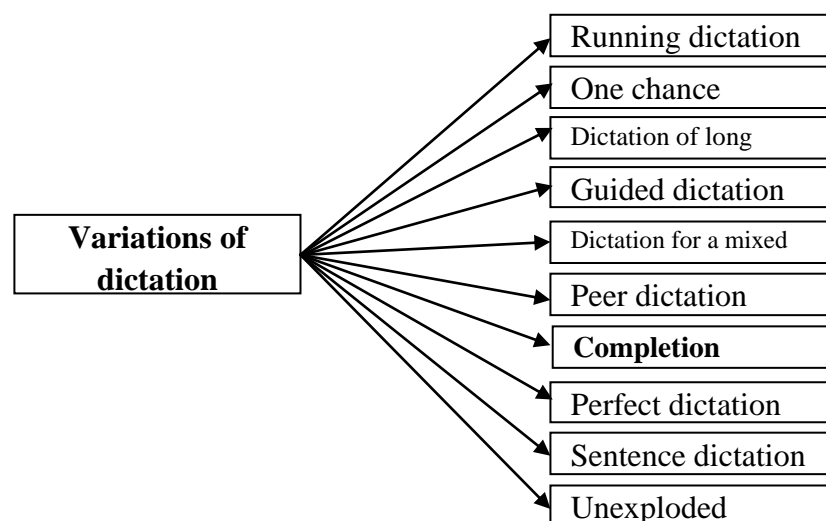
Dictation is described as a technique used in both language teaching and language testing in which a passage is read aloud to students, with pauses during which they must try to write down what they heard as accurately as possible (Richards, Platt, and Platt, 1992). Dictation is used as a technique where the learners receive some spoken input, hold this in their memory for a short time, and then write what they heard. This writing is affected by their skill at listening, their command of the language, and their ability to hold what they have heard in their memory. Dictation has been thoroughly examined as a language proficiency test (Oller and Streiff, 1975). But, it also needs a good pronunciation belongs to the teacher to make the proces of listening run well. Good pronunciation and intonation is necessary to make

students able to catch the point or figure out what teacher dictates.

Nation and Newton (2009: 59-60) suggest that a dictation text should consist of 100 to 150 words long which contains suitable material for learners' level. A dictation text can be taken from material that the learners have studied before of will study, or it can be take from other book of a similar level. Usually a dictation text should not contain words that the learners have not met before.

According to Nation and Newton (2009: 62-65), dictation technique has many variations, such as running dictation, one chance dictation, dictation of long phrases, guided dictation, dictation for a mixed class, peer dictation, **completion dictation**, perfect dictation, sentence dictation and unexploded dictation.

**Figure 1. The variations of dictation based on Nation and Newton (2009)**



According to Nation and Newton (2009: 64), the steps of completion dictation are:

1. The learners are given several printed copies of the text. One copy has a few words missing, the next copy has more words missing, and so on.
2. The learners listen to the text being read by the teacher phrase by phrase and fill in the words missing on their first copy.
3. Then the teacher reads the text again and the learners fill in the missing words on the next copy which has more words missing than the first copy.
4. This continues until the learners are writing the whole dictation.

Here is an example of completion dictation:

When \_\_\_\_\_ person dies \_\_\_\_\_ Bali, family and friends \_\_\_\_\_ not usually sad. For them, death \_\_\_\_\_ \_\_\_\_\_ beginning of life. \_\_\_\_\_ dead person will come back \_\_\_\_\_ world \_\_\_\_\_ another shape. Before this happens, \_\_\_\_\_ old body must go.

Unfortunately, the term of *completion dictation* is not always used by experts. Marzban and Abdollahi (2013) mention another name of completion dictation, that is partial dictation. They explain that in partial dictation, a passage with some deletions is given to the testees, but read in complete form. The testees are required to fill in the deleted parts as they hear the passage. Marzban and Abdollahi (2013: 239) also mention that partial dictation is, in fact, an activity between cloze and dictation tasks. It is similar to dictation in that

the passage is read to the testee. However, it is different from dictation in that the testee is provided with an incomplete form of the passage. Furthermore, it is similar to cloze in that the testee should fill in the blanks. But, in cloze text the students just fill in the blanks without writing exactly what is heard.

Based on an observation at MA DARUL HIKMAH Pekanbaru conducted on Thursday, 22 January 2015, it was found that most students were not able to comprehend English conversation (when they were listening to conversation of an English movie shown by the teacher) because they could not figure out what the speakers said (only about 5 students or 20% students who could understand). They might hear English conversations of the movie but they could not comprehend them, they preferred to read the script of translation at the bottom side of TV screen. It means that what they have learned at schools for very long time cannot be very useful in their real life. Besides, it shows that English language education is not very effective there.

Considering the theories which suggest that educational multimedia in dictation has good effect toward students' listening comprehension, however, to prove the existence of the effect, a study must be carried out which intends to find out the effectiveness of educational multimedia in dictation toward listening comprehension with a title **"The Effect Of Using Educational Multimedia In Dictation On The Students' Listening Comprehension At Ma Darul Hikmah Pekanbaru"**.

## 2. METHOD

The design of this research was a quasi-experimental research. Creswell (2012: 309) clarifies that a quasi-experimental research occurs because many experimental situations in education need to use intact groups, but it is not randomly. This research had two variables namely education multimedia in dictation and listening comprehension. Education multimedia in dictation was the independent variable and listening comprehension was the dependent variable.

Students' listening comprehension was measured by using pre-test and post-test. The research participants was divided into two groups, namely control group and experimental group.

For the experimental group, it was given treatment by using educational multimedia in dictation. The reason of dividing into two groups was to investigate whether the treatment has effect toward students' listening comprehension of experimental group or not.

The research was conducted at MA Darul Hikmah Pekanbaru, located on Manyar Sakti street Pekanbaru. The research was conducted from July to August 2015.

The population of this research was the eleventh grade students of MA DARUL HIKMAH Pekanbaru in academic year 2014/2015. In this school, the grade XI consists of 6 classes where the total number of the students is 175. There were two classes of social major, three classes of social science major and two classes of religion major.

In this research, the sample was selected by using cluster sampling.

According to Singh et, al. (2006: 128), cluster sampling refers to randomly-selected groups, not individual. In cluster sampling, all the members of selected groups have similar characteristics. After doing observation for the population and asking to the English teacher, it found that class XI IIS 1 has similar characteristics to class XI IIS 2. As result, class XI IIS 1 and class XI IIS 2 were the sample of this research.

In order to obtain the data which support this research, the instruments used was listening comprehension test. In this study, the writer will take the data from the students' answers of both pre-test and post-test. The experimental group will be treated by using educational multimedia in dictation in teaching and learning process, but the control group just do as usual teaching and learning activities. The tests consists of questions which measures student's listening and reading comprehension both in the pre-test and the post-test. The questions of pre-test and post-test are similar. However, before giving the tests to the students, the questions of the test must be valid and reliable. According to Singh et, al (2006: 147), validity is an evaluation of the adequacy and appropriateness of the interpretations and uses of assessment results. It generally means that the instrument measures what it purports to measure. The validity of the test will be used a spreadsheet program SPSS (the Statistical Package for the Social Science) version 20. Singh et, al. (2006: 149) mention that reliability refers to the consistency of measurement, that is, how consistent test scores or other assessment results

are from one measurement to another. To measure reability of the test, it will use SPSS as well.

In finding reliability of instruments, the writer used Split-half formula by using SPSS 20. To determine the instrument whether it was reliable or not, the value of  $r_{\text{counted}}$  have to be compared with  $r_{\text{table}}$ .

If the value of  $r_{\text{counted}} > r_{\text{table}} =$  reliable;

If the value of  $r_{\text{counted}} < r_{\text{table}} =$  not reliable.

In this study, there are five indicators of listening comprehension and each indicator is provided by some questions. The listening indicators are: (a) The students are able to identify the topic/thema of the English spoken audio; (b) The students are able to get general understanding the English spoken audio; (c) The students are able to get specific/detail information of the English spoken audio; (d) The students are able to identify where suitable location according to the converstation/talk; and (e) The students are able to guess or predict what will happen or next response based on the English spoken audio which they have just heard.

The module used in this research was downloaded from the internet related to narrative text and narrative audio. The writer adapted the reading texts to combined them the technique of educational multimedia in dictation. Then the question were created based on indicators of listening comprehension and reading comprehension. The titles were: (1)The chickens take a holiday; (2) Lazy Jack; (3) Harry Potter at the

reptile house; (4) Good neighbours; (5) The princess and the pea; and (6) The lucky octopus.

### 3. FINDINGS AND DISCUSSION

The research was conducted at MA Darul Hikmah Pekanbaru, Riau. Its purpose was to investigate whether there is any significant effect of educational multimedia in dictation on students' listening and reading comprehension at Ma Darul Hikmah Pekanbaru. The design of this research was quasi-experiment. The participants were selected by using cluster sampling. The students of class XI IIS 1 were as the control group and the students of class XI IIS 2 were as the experimental group.

For the experimental group, the students were given some treatments by using educational multimedia in dictation as technique of teaching English. There were six meeting used in conducting this research. However, for the control group, they were not given any treatments. They were taught by using usual methods/techniques.

Before giving treatments to the experimental group, both control group and experimental group were given pre-test. The aim of giving pre-test was to make sure that the class of XI IIS 1 and XI IIS 2 were homogeneous. After giving pre-test for both groups, and after giving treatments only for experimental group, the post-test was given again for those groups. The purpose of giving post-test was to receive the data and then to be measured or investigated wheter the educational multimedia in dictation give effect or not toward students' listening and reading comprehension.



However, before the tests given, each question of the test should be valid and reliable. In order to make valid and reliable questions, the try out was conducted. The writer conducted try out in class XI MIA 3. Then, some rejected items were replaced or modified. If the questions were too easy, they should be replaced or modified with more difficult ones and vice versa.

The test consists of 15 items to measure students' listening comprehension. The test scores obtained from the students' responses were analyzed by using quantitative data analysis. Frequency counts, percentages, mean scores and standard deviation of the data were presented in the descriptive statistical analyses. The hypotheses developed by this study were tested using an independent sample t-test and a paired-sample t-test.

### 3.1 The Description of Using Educational Multimedia In Dictation

The treatment of educational multimedia was given in experimental class. There were 6 (six) meetings using this treatment. There are 6 (six) modules used in the treatment, namely *The chickens take a holiday*, *Lazy Jack*, *Harry Potter at the reptile house*, *Good neighbours*, *the princess and the pea* and *the lucky octopus*. Each meeting used only one module. All the genres of the modules are narrative. Each student was given a piece of paper with an incomplete text of the story, then the teacher played the recorded voice. The students listened to the audio and filled in the blanks based on what they heard. The audio was played 3

(three) times. After listening, the students are asked to read and comprehend the text. Then, the students answer the following questions related to the text.

At the first meeting, the module used was *The chickens take a holiday*. At this time, there were many students complained because they said they did not understand the words said by the speakers. They said that the audio is not clear and too fast. They looked confused because the teacher never gave treatment like this before.

At the second meeting, the module used was *Lazy Jack*. Similar to the first meeting, the students still looked confused. But, at this time the students had known what to do and the guide by the teacher helped them very much. The treatment ran well although the students still found difficulties in answering the blanks and reading comprehension questions.

At the third meeting, the module used was *Harry Potter at the reptile house*. The treatment used at this meeting was not only using speakers but also projector, because the a short video need to be presented. In the beginning, the students were amazed with the video and the did not focus to fill in the blanks. Then the teacher asked the students not to focus on video but they need to focus on listening. Then the students listened to the conversation from the video and in the end, they could manage to do listening and comprehending the story easily.

At the fourth meeting, the module used was *Good neighbours*. At this meeting the students could concentrate easily in listening to the

story and could fill in the blanks and answer the questions confidently.

At the fifth meeting, the module used was *The princess and the pea*. At this meeting, the students started to participate enthusiastically because they had understood what to do in the activities of educational multimedia in dictation. No students complained at this meeting. They seemingly enjoy the treatment. The activity of the treatment ran well.

At the sixth meeting, the module used was *The lucky octopus*. This was the last meeting of using the treatment. The students enjoyed the listening process and they are active in comprehending the text. They

listened to the audio concentrately and the activity of the treatment ran well.

### 3.2 Data Presentation of Students' Pre-test Listening Comprehension Between Control Class and Experimental Class

In the pre-test, questions related to listening comprehension are item number 1 to item number 15. The scores of listening comprehension pre-test between control and experimental class can be seen as follows:

**Table 1. Students' Pre-test Listening Comprehension Scores**

No	Participants	Pre-test Listening Comprehension Scores	
		Control Class	Experiment Class
1	Student 1	60,00	46,67
2	Student 2	60,00	26,67
3	Student 3	66,67	26,67
4	Student 4	46,67	20,00
5	Student 5	53,33	26,67
6	Student 6	46,67	73,33
7	Student 7	53,33	40,00
8	Student 8	40,00	60,00
9	Student 9	46,67	46,67
10	Student 10	26,67	40,00
11	Student 11	66,67	66,67
12	Student 12	60,00	40,00
13	Student 13	60,00	53,33
14	Student 14	33,33	26,67
15	Student 15	33,33	53,33
16	Student 16	20,00	26,67
17	Student 17	40,00	60,00
18	Student 18	46,67	46,67
19	Student 19	53,33	40,00

20	Student 20	33,33	53,33
21	Student 21	46,67	33,33
22	Student 22	46,67	53,33
23	Student 23	13,33	73,33
24	Student 24	26,67	66,67
25	Student 25	33,33	66,67
26	Student 26	40,00	66,67
<b>TOTAL</b>		<b>1153,34</b>	<b>1233,35</b>
<b>MEAN</b>		<b>44,36</b>	<b>47,44</b>

Based on table 1, It shows that the calculation of listening comprehension total pre-test scores of control class is 1153,34 and its mean is 44,36. Meanwhile, the calculation of listening comprehension total pre-test scores of experimental class is 1233,35 and its mean is 47,44. In control class, the highest score of listening comprehension pre-test is 66,67 and the lowest is 20,00. Meanwhile in experimental class, the highest score of listening comprehension pre-test is 73,33 and the lowest is 20,00.

### 3.3 Data Presentation of Students' Listening Comprehension Post-test Between Control Class and Experimental Class

In the post-test, the question battery related to listening comprehension are same with the pre-test, that is item number 1 to item number 15. The questions are the same but the batteries of answer are different. The scores of listening comprehension post-test between control and experimental class can be seen as follows:

**Table 2. Students' Post-test Listening Comprehension Scores**

No	Participants	Post-test Listening Comprehension Scores	
		Control	Experiment
1	Student 1	60,00	60,00
2	Student 2	60,00	53,33
3	Student 3	66,67	66,67
4	Student 4	46,67	53,33
5	Student 5	46,67	26,67
6	Student 6	46,67	73,33
7	Student 7	53,33	86,67
8	Student 8	40,00	73,33
9	Student 9	53,33	46,67
10	Student 10	26,67	80,00
11	Student 11	73,33	86,67

12	Student 12	66,67	60,00
13	Student 13	60,00	60,00
14	Student 14	40,00	73,33
15	Student 15	46,67	66,67
16	Student 16	33,33	60,00
17	Student 17	40,00	73,33
18	Student 18	60,00	66,67
19	Student 19	66,67	60,00
20	Student 20	40,00	60,00
21	Student 21	60,00	66,67
22	Student 22	53,33	80,00
23	Student 23	20,00	80,00
24	Student 24	33,33	93,33
25	Student 25	46,67	86,67
26	Student 26	46,67	73,33
<b>TOTAL</b>		<b>1286,68</b>	<b>1766,67</b>
<b>MEAN</b>		<b>49,49</b>	<b>67,95</b>

Based on table 2, It shows that the calculation of listening comprehension total post-test scores of control class is 1286,68 and its mean is 49,49. Meanwhile, the calculation of listening comprehension total post-test scores of experimental class is 1766,67 and its mean is 67,95. In control class, the highest score of listening comprehension post-test is 73,33 and the lowest is 20,00. Meanwhile in

experimental class, the highest score of listening comprehension post-test is 93,33 and the lowest is 26,67.

### 3.4. Hypotheses Testing

#### First Hypotheses

The result scores of students' listening comprehension scores between control class and experimental class were analyzed by using independent sample t-test. It is presented as follow:

**Table 3. The Analysis of Independent Sample T-test of Pre-test Listening Comprehension scores between Control and Experimental Group**

Subject	Research Groups	Mean	Standard Deviation	N	Df	T	Sig. (2-tailed)
Pre -test	Control Group	44,36	14,10	26	50	-0,729	0,469
	Experimental Group	47,44	16,25	26			

Based on table 3, the output of independent sample t-test shows that t-test result is -0,729 its degree of

freedom (df) is 50, standar deviation of experimental group is 16,25 and control group is 14,10. The result shows that the mean scores between both groups did not differ very much (44,36 for control group and 47,44 for experimental group).

In independent sample t-test calculation, effect size statistics provide an indication of the magnitude of the differences between two groups. The following calculation was used to determine how far the differences between the groups.

$$\begin{aligned}\tilde{\eta}^2 &= \frac{t^2}{t^2 + (n_1 + n_2 - 2)} \\ \tilde{\eta}^2 &= \frac{(-0,729)^2}{(-0,729)^2 + (26 + 26 - 2)} \\ \tilde{\eta}^2 &= \frac{0,531}{0,531 + 50} \\ \tilde{\eta}^2 &= 0,01\end{aligned}$$

Based on the calculation of listening pre-test between control class and experimental class result, it found that the magnitude of the

differences is very small, it is only 0,01.

Moreover, based on the analysis of table 4.24, value  $p = 0,469$ , it means that the 2-tailed value was bigger than 0,05 ( $p > 0,05$ ). It can be concluded that  $H_{a1}$  is rejected whereas  $H_{o1}$  is accepted. It means that the first hypothesis accepted is “*There is no significant difference on students’ mean score of listening comprehension pre-test between control group and experimental control group at the eleventh grade of MA Darul Hikmah Pekanbaru.*”

### Second Hypotheses

The analysis of listening comprehension pre-test and post-test scores of control group were analyzed by using paired sample t-test through SPSS 2.0. Its result is presented as follow:

**Table 4. The Analysis of Paired Sample T-test between Pre-test and Post-test of Listening Comprehension (Control Group)**

Subject	Research Groups	Mean	Standard Deviation	N	Df	T	Sig. (2-tailed)
Control Group	Pre-test	44,36	14,10	26	25	-4,546	,000
	Post-test	49,49	13,22	26			

From table 4 above, the output of paired sample test shows that t-test result is -4,546, its degree of freedom (df) is 25, mean score of listening pre-test is 44,36 and listening post-test is 49,49. By comparing the significance, if probability  $> 0,05$ , so null hypothesis ( $H_o$ ) is rejected and if probability  $< 0,05$ , alternative hypothesis ( $H_a$ ) is accepted.

Moreover, to find out the percentage of significant effect between pre-test and post-test

listening comprehension of control group, the formula eta-squared is used as follows:

$$\begin{aligned}\tilde{\eta}^2 &= \frac{t^2}{t^2 + (n - 1)} \\ \tilde{\eta}^2 &= \frac{(-4,546)^2}{(-4,546)^2 + (26 - 1)} \\ \tilde{\eta}^2 &= \frac{20,666}{20,666 + 25} \\ \tilde{\eta}^2 &= 0,45\end{aligned}$$

The result of data analysis based on inferential statistics shows that the category of effect size was

**modest effect** (0,45 is between 0,21 – 0,51).

Futhermore, to determine the percentage of students' listening comprehension improvement of control class is as follows:

$$\text{Improvement} = \frac{\text{Post-test mean score} - \text{Pre-test mean score}}{\text{Pre-test mean score}} \times 100 \%$$

$$\begin{aligned} \text{Pre-test mean score} &= \frac{49,49 - 44,36}{44,36} \times 100 \% \\ &= \frac{5,13}{44,36} \times 100 \% \\ &= 11,5 \% \end{aligned}$$

Based on the calculation, it was identified that after conducting 6 meetings without using treatment of educational multimedia in dictation in control clas, it could only improve

students' listening comprehension up to 11,5%.

Therefore, based on the second hypotheses testing,  $H_{02}$  is rejected and  $H_{a2}$  is accepted. So that, the second hypothesis accepted is : *“There is significant difference on students' mean score of listening comprehension between pre-test and post-test of control group at the eleventh grade of MA Darul Hikmah Pekanbaru.”*.

### Third Hypotheses

Similar to the result of listening comprehension pre-test and post-test of control group, the results of listening comprehension pre-test and post-test of experimental group were also analyzed by using paired sample t-test through SPSS 2.0. It is presented as follow:

**Table 5. The Analysis of Paired Sample T-test between Pre-test and Post-test of Listening Comprehension (Experimental Group)**

Subject	Research Groups	Mean	Standard Deviation	N	Df	T	Sig. (2-tailed)
Experimental Group	Pre-test	47,44	16,255	26	25	-7,418	,000
	Post-test	67,95	14,485	26			

From table 5 above, the output of paired sample test shows that t-test result is -7,418, its degree of freedom (df) is 25, mean score of listening pre-test is 47,44 and listening post-test is 67,95. By comparing the significance, if probability  $> 0.05$ , so null hypothesis ( $H_0$ ) is rejected and if probability  $< 0.05$ , alternative hypothesis ( $H_a$ ) is accepted.

Moreover, to find out the percentage of significant effect between pre-test and post-test listening comprehension of

experimental group, the formula eta-squared is used as follows:

$$\begin{aligned} \tilde{\eta}^2 &= \frac{t^2}{t^2 + (n-1)} \\ \tilde{\eta}^2 &= \frac{(-7.418)^2}{(-7.418)^2 + (26-1)} \\ \tilde{\eta}^2 &= \frac{55.026}{55.026 + 25} \\ \tilde{\eta}^2 &= 0,69 \end{aligned}$$

The result of data analysis is based on inferential statistics shows that the category of effect size was **moderate effect** (0,69 is between 0,51 – 1,00).

Furthermore, to determine the percentage of students' listening comprehension improvement of experimental class is as follows:

$$\text{Improvement} = \frac{\text{Post-test mean score} - \text{Pre-test mean score}}{\text{Pre-test mean score}} \times 100\%$$

$$= \frac{67,95 - 47,44}{47,44} \times 100\%$$

$$= \frac{20,51}{47,44} \times 100\%$$

$$= 43,2\%$$

Based on the calculation, it was identified that after conducting 6 meetings by using treatment of educational multimedia in dictation in experimental class, it could improve

students' listening comprehension up to 43,2 %.

Therefore, based on the third hypotheses testing,  $H_{03}$  is rejected and  $H_{a3}$  is accepted. So, it means that the third hypothesis accepted is : "There is significant difference on students' mean score of listening comprehension between pre-test and post-test of experimental group at the eleventh grade of MA Darul Hikmah Pekanbaru".

#### Fourth Hypotheses

The result scores of students' post-test listening comprehension scores between control class and experimental class were analyzed by using independent sample t-test. It is presented as follow:

**Table 6. The Analysis of Independent Sample T-test of Post-test Listening Comprehension scores between Control and Experimental Group**

Subject	Research Groups	Mean	Standard Deviation	N	Df	T	Sig. (2-tailed)
Post – test	Control Group	49,49	13,22	26	50	-4,800	,000
	Experimental Group	67,95	14,48	26			

Based on table 6, the output of independent sample t-test shows that t-test result is -4,8 its degree of freedom (df) is 50, standar deviation of control group is 13,22 and experimental group is 14,48. The result shows that the mean scores between both groups is different enough (49,49 for control group and 67,95 for experimental group).

In independent sample t-test calculation, effect size statistics provide an indication of the magnitude of the differences between two groups. The following calculation

was used to determine how far the differences between the groups.

$$\tilde{\eta}^2 = \frac{t^2}{t^2 + (n_1 + n_2 - 2)}$$

$$\tilde{\eta}^2 = \frac{(-4,8)^2}{(-4,8)^2 + (26 + 26 - 2)}$$

$$\tilde{\eta}^2 = \frac{23,04}{23,04 + 50}$$

$$\tilde{\eta}^2 = 0,31$$

Based on the calculation of listening post-test between control class and experimental class result, it found that the magnitude of the differences is small, it is 0,31.

Moreover, based on the analysis of table 4.24, value  $p = 0,000$ , it means that the 2-tailed value was

smaller than 0,05 ( $p < 0,05$ ). It can be concluded that  $H_{a4}$  is accepted whereas  $H_{o4}$  is rejected. It means that the fourth hypothesis accepted is *“There is significant difference on students’ mean score of listening comprehension post-test between control group and experimental group at the eleventh grade of MA Darul Hikmah Pekanbaru.”*

### 3.5 Educational Multimedia Could Improve Students’ Listening Comprehension

Based on hypotheses testing, the finding of this research proves that educational multimedia could improve students’ listening comprehension. However, although the students of control group had also improved their listening comprehension but the improvement was not as high as the students of experimental group did.

The students of control group were not given any treatments of educational multimedia, they just studied through conventional way. But students of experimental group

were taught by using educational multimedia in dictation, so that their improvement was much higher than students of control group was.

At the beginning of treatment, the experimental students felt strange and the said it was very difficult to comprehend what speaker said through multimedia tool. At that time, they said they cannot understand the pronunciation of recorded voice of native speakers. However, after doing this treatment for the third time and so on, they finally could enjoy the listening process and participated actively in the learning process by using these educational multimedia in dictation techniques. They looked enthusiastic and stayed focus when listening to the audio. They said that they started to understand what the speaker said little by little. They also kept asking the meaning of some words.

The comparison of listening comprehension between pre-test and post-test of control and experimental group is shown in the following table:

**Table 7. Comparison of Student’ Listening Comprehension Result Before and After Treatment**

Students of	The Mean Score of Listening Comprehension		Progress
	Pre-test	Post-test	
Control Group	44,36	49,49	11,5%
Experimental Group	47,44	67,95	43,2%

Based on table 7, it shows that control students’ listening improvement is 11,5% and experimental students’ listening improvement is 43,2% if compared with previous test. Although control students could also improve their listening comprehension up to 11,5%

but their progress was not as high as the progress belonged to experimental students, because the experimental students had improved their listening comprehension up to 43,2%.

Therefore, it can be concluded that the use of educational multimedia in dictation was proven could



improve students listening comprehension significantly.

#### 4. CONCLUSION

Based on the result of data analysis, the findings of this research are listed as follows:

1. There is significant effect of using educational multimedia in dictation on students' listening comprehension at MA Darul Hikmah Pekanbaru.
2. Based on the statement above, it can be concluded that the implementation of educational multimedia in dictation could improve students' listening comprehension especially in learning narrative audio and text.

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