

## The effectiveness of using multiple intelligence activities in listening comprehension and improving students' interest

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Received: 25 August 2016; Revision: 1 October 2019; Accepted: 30 October 2019

### Abstract

This study aims to find out (1) the effectiveness difference between the use of multiple intelligence activities and the conventional activities in listening comprehension, and in the students' interest in learning English. This study used the quantitative method. The study design was quasi-experimental with the pre-test and the post-test group design. The experimental class used 5 categories of multiple intelligences namely; linguistic intelligence, logical/mathematical intelligence, visual intelligence, musical intelligence, and naturalist intelligence. This study used a listening comprehension test and a questionnaire as the research instruments for collecting the data. The technique of the data analysis in this study was MANOVA. The result shows that: (1) the use of multiple intelligence in listening comprehension is more effective than the conventional activities with sig 0.000; (2) the use of multiple intelligence activities in students' interest in learning English is more effective than the conventional activities with sig 0.000

**Keywords:** multiple intelligences, listening comprehension, students' interest

**How to Cite:** Alilath, A., & Widyantoro, A. (2019). The effectiveness of using multiple intelligence activities in listening comprehension and improving students' interest. *LingTera*, 6(2), 111-118. doi:<https://doi.org/10.21831/lt.v6i2.10625>



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## INTRODUCTION

Nowadays, people use the language for various purposes such as business, education, information and tourism. Therefore, it has become a means of communication that makes people understand each other easily. English as an international language points out that people of the world cannot deny the fact of English as a dominant language used and taught in the world. This fact offers several advantages. The most common advantage goes to people who can speak English, who will have the better chance in academic access than those who cannot.

According to Noom-Ura (2013) in her research, shows that Thai students had problems in eight items. First, students do not have enough time to practice English by themselves. Second, students are lack of opportunity to use or to practice English outside. Third, Thailand students have inadequate knowledge and skills of English. Fourth, students always think in Thai and translate their idea to English. Fifth, students

have problems in the writing skill. Sixth, students are less tolerance for practicing English. Seventh, students have problems about listening and pronunciation. The last, students are lack of confidence in speaking English. Furthermore, there are two problems in learning and teaching in Thailand. First, Some English teachers are not graduated from the English major. Second, the teacher always focuses on grammar and writing instead of teaching listening and speaking. In fact, if students can understand and speak well they will enjoy and feel happy when they learn more than focusing on the grammar and writing because writing and grammar can make them bored in learning.

Yala Rajabhat University is one of the universities in Southern part of Thailand that provides English major both education and liberal arts. Every year Yala Rajabhat University send their students for internship program depending on their major. Students from the education major must go to schools for pre-

teaching for one year and students from the liberal arts go to tourism places for practice tour guiding or being receptionist. As a result, students who graduated from English major should have a good communication ability in English and other skills because the language is going to be used in their work in the future.

Based on my informal interview with the teacher who teaches in the English major especially in basic listening and speaking subjects, the researcher found that the learners had difficulties in learning listening skills. The learners had a difficulty to concentrate when they heard conversations on audio that the teacher used for teaching listening and it makes them take a long time to answer. Moreover, the teacher also told the researcher that the students have lack of vocabularies. This fact makes the students feel of listening as a hard skill to learn. The big problem that students also face with it is they cannot find main ideas, recognize details from situations while they were listen.

Listening is very important to be concerned more in Thai teaching and learning process. The importance of listening stated by (Morley, 2001) says that listening comprehension is a basic tool for teaching structure and allow new vocabulary consider in context of communication discourse. (Vandergrift, 2007) cited in (Buck, 2001) says that listening should be focused in the early of learning and teaching second language because it will create four different types of advantages: cognitive, efficiency, utility, and affective.

Dunkel (1986) also points that developing proficiency in listening is the key of achieving proficiency in speaking. In addition, listening exercises will help the learners' attention to new forms in the language like vocabulary, grammar and others.

Listening is the ability of identifying and understanding the words that utterance by the speaker for delivers the information. So listening comprehension pays an important role in facilitating the langue learning process.

Besides, the problem about the learning English itself, materials or teaching activities in classroom also effect to the students in learning English. Teaching process can help the students in acquiring knowledge easier.

Teaching listening is difficult for teacher to apply in classroom but today, there are various, strategies, theories, techniques and approaches founded by researchers that believed can help teacher easier in teaching listening skills and

make the learners more interested in learning. One of that is multiple intelligences.

Multiple intelligence theory was found by Howard Gardner in the early 1980s (Gardner, 1993). This theory focuses on the students interesting in their leaning, and demonstrating their knowledge. Gardner proposed eight kinds of intelligences, which are: (1) linguistic, the ability of using language both verbal and non-verbal; (2) logical/mathematical, the ability of math and reasoning; (3) spatial, the ability of using pictures, drawing, diagram and tactile puzzles,(4) kinesthetic, the ability of movement whole body; (5) interpersonal, the ability of enjoyment with communication, leadership, and the like; (6) intrapersonal, the ability of enjoyment with self-motivation, awareness of the own feelings more than other; (7) naturalistic, the ability to enjoy natural world; and (8) musical, the ability to perceive, discriminate music forms and the like (Stanford, 2003; Taase, 2012).

According to Abdi, Laei, and Ahmadyan (2013), students who are taught by multiple intelligences have higher achievement score than the students who are taught by traditional instruction. AL-Zyoud and Nemrawi (2015) studies about the efficiency of multiple intelligence theory in developing the academic achievement and self-academic of students with mathematical learning disabilities in the areas of addition, subtraction and multiplication. The result shows that there was significant difference between two groups on the aptitude test. The students who are instructed by MI have a good attitude and the self-academic scales also different from the other group.

The studies above show that using multiple intelligence in teaching will help students in learning processes. In addition, in learning the language interest is also important for the learners since they are supposed to be motivated while learning. Students' interest is an important role in learning and, it is a reason for the learners who want to learn because they feel happy and enjoy while the learning. Krapp (2002) mentions that interest is the interpreted by the content of the specific motivational variable that has an importance to influence the learning and the direction of human development. It depends on the needs of individuals influenced by experiences or limited period of time. Regarding to the information above, the researcher study the effectiveness of using multiple intelligences activities in listening comprehension and students' interest in learning English language.

**METHODS**

This research was quantitative research. The design of this research was quasi experimental. There are two groups of this study, one for the experimental group and one for the control group. The experimental group was the group that used the treatment activities in the form of multiple intelligence in listening. On the other hand, the control group used the conventional activities that the teacher always taught in the class. This study administered the pre-test, and the post-test for both groups. The participants were 78 students of English liberal art at Yala Rajabhat University. The sample of the research was student English liberal art students which consisted of two classes.

The researcher used a random sampling to determine two classes which would be the experimental class and one class which would be the control class. The instruments of this study were listening comprehension test and questionnaires. Listening comprehension test was adapted appropriately with multiple intelligence activities. The test was multiple-choice test. The researcher divided the test into 5 parts based on multiple intelligences and listening types. There were 50 items of listening comprehension test. The researcher divided test into 2 parts, 25 items for pre-test and 25 items for post-test.

For questionnaires the researcher designed the questions based on (Hidi & Renninger, 2006). They explain that interest have two factors namely: individual factor and situational factor. The searcher designed questionnaires into 2 parts; interest in learning listening and general interest in learning English. There were 28 items of the questionnaires in this study.

The validity of the instruments used content validity. The content validity examined whether the test items and questionnaires of this study are related to the teaching activities or not. The listening comprehension test and questionnaire are given to expert judgment to validate the content of the test and questionnaire.

By examining the reliability of the test and questioners, the researcher used alpha Cronbach. The output of listening comprehension test was 0.920. In addition the output of questionnaire was 0.882. It was indicated by correlation coefficients the output of the listening comprehension and questionnaire were categorized into the very high category. The technique of data analysis were normality test, homogeneity test, and MANOVA. The searcher used SPSS 20 to analysis the data.

**FINDINGS AND DISCUSSIONS**

Experimental class was the class that the researcher applied multiple intelligence activities as the treatment. The Table 1 shows the result of listening comprehension test.

Table 1. The students taught by multiple intelligence activities

| No.Data               | Pre-test | Post-test |
|-----------------------|----------|-----------|
| 1. Highest Score      | 20       | 23        |
| 2. Lowest Score       | 9        | 12        |
| 3. Mean               | 13.54    | 15.90     |
| 4. Standard Deviation | 2.937    | 2.683     |

The Table 1 shows the results of the pre-test and the post-test of experimental class that was analyzed by SPSS 20. The highest score of pre-test in this class is 20 and the lowest score is 9. The mean of pre-test is 13.54 and the standard deviation is 2.937. In contrast, the results of post-test of this class has 23 as the highest score and 12 as the lowest score. The mean is 15.90 and the standard deviation is 2.683

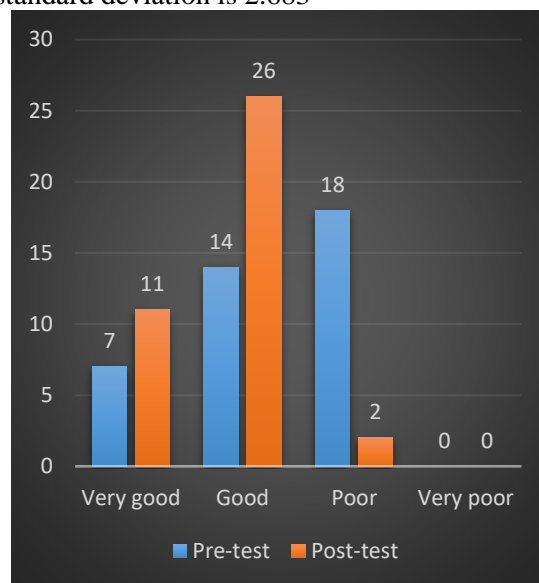


Figure 1. Frequency for pre-test and post- test in the experimental class

The Figure 1 shows the result of frequency for pre-test and post-test in the experimental class. The highest frequency of pre-test were 18 students or 46.1% for the poor category. There were 7 students or 17.9 % for the very good category and 14 students or 36% in the good category. On the other hand the highest frequency of post-test in this class were 26 students or 66.75% for the good category. There were 11 students or 28.8% for the very good category and the lowest frequency was the poor category, there were 2 students or 5.1%. Control class was the

class that researcher applied conventional activities in teaching process.

Table 2. The student achievement taught by Conventional activities

| No. | Data               | Pre-test | Post-test |
|-----|--------------------|----------|-----------|
| 1.  | Highest Score      | 18       | 18        |
| 2.  | Lowest Score       | 7        | 9         |
| 3.  | Mean               | 11.28    | 13.69     |
| 4.  | Standard Deviation | 2.982    | 2.397     |

This Table 2 shows the results of the student achievement who were taught by Conventional activities (The students used their own textbook). The highest score of the pre -test and the post-test was 18 score. The lowest score of the pre-test was 7 and the post-test was 9. The Mean of the pre-test was 11.28 and the post-test was 2.397. The standard deviation of the pre-test was 2.982, on the other hand the standard deviation of the post-test was 2,397.

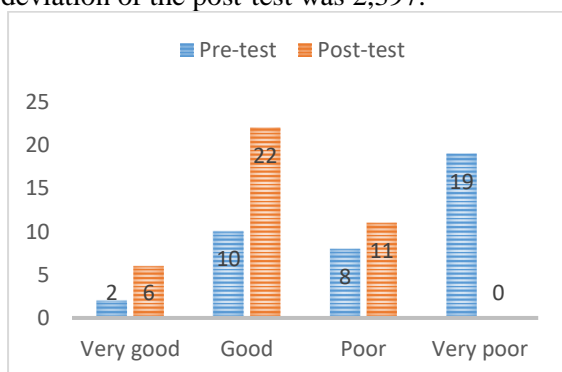


Figure 2. Frequency for pre-test and post- test in the control class.

Figure 2 shows the data of frequency of the listening comprehension test for control class. The higher frequency of the pre-test were 19 students or 48.8 % for the very poor category but for the post-test, the higher frequency were 22 students or 56.4 % for the good category. There were 2 students or 5.1% for the very good category for the pre-test and for the post-test there were 6 students or 15.4 % in the same category. There were 8 students or 20.5% in the poor category for the pre-test. There were 11 students or 28.2% for the post-test in the poor category.

The second instrument was questionnaires that use for measuring the students' interest in learning English. There were 2 parts of questionnaire. The first part was personal interest and the second part was general interest in learning listening. Both personal interest and general interest contained 2 factors namely individual factors and situational factors. There were 28 items of questionnaires for measuring

the students' interest in learning English. The Table 3 shows the result of the pre-test and the post-test of using questionnaires before and after learning the listening comprehension activity for the experimental class and the control class.

Table 3. The questionnaires for students' interest in English for the experimental class

| No. | Data               | Pre-test | Post-test |
|-----|--------------------|----------|-----------|
| 1.  | Highest Score      | 96       | 105       |
| 2.  | Lowest Score       | 63       | 84        |
| 3.  | Mean               | 80.08    | 94.92     |
| 4.  | Standard Deviation | 7.176    | 5.723     |

Table 3 shows the description of data from questionnaires that were applied to the experimental class students. The higher score for questionnaire in the pre-test was 96 while the post-test was 105 scores. The lowest score of questionnaire in the pre-test was 63 scores in contrast the lowest score of the post-test was 84 scores. The standard deviation of the pre-test was 7.176 otherwise the post-test was 5.723.

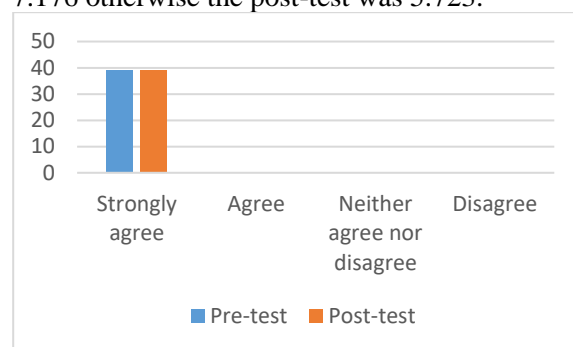


Figure 3. Frequency of students' interest for pre-test and post- test the experimental class.

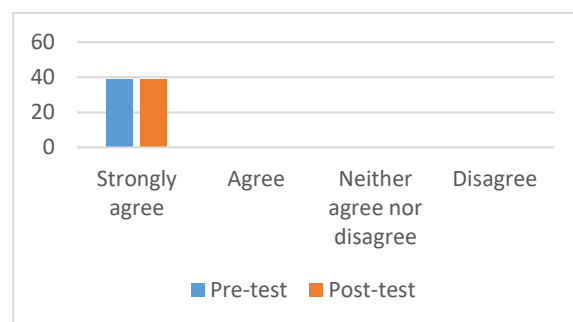


Figure 4. Frequency of students' interest for pre-test and post- test the control class.

Figure 3 shows the results of frequency and percentage of the students' interest in listening comprehension that was measured by questionnaires. The frequency and percentage of the students' interest in the experimental class were 39 students or 100% in very good category for the pre-test and the post-test.

Figure 4 shows the results of frequency and percentage of the students' interest in listening comprehension that was measured by questionnaires. The frequency and percentage of the students' interest in the control class were 39 students or 100% in very good category for the pre-test and the post-test.

Table 4. The questionnaires for students' interest in learning English for control class

| No. | Data               | Pre-test | Post-test |
|-----|--------------------|----------|-----------|
| 1.  | Highest Score      | 91       | 99        |
| 2.  | Lowest Score       | 60       | 76        |
| 3.  | Mean               | 80.13    | 89.26     |
| 4.  | Standard Deviation | 6.895    | 5.915     |

Table 4 shows the description of data from questionnaires that were applied to the control class students. The higher score for questionnaire in the pre-test test was 91 while the post-test was 99 scores. The lowest score of questionnaire in the pre-test was 60 scores in contrast the lowest score of the post-test was 76 scores. The standard deviation of the pre-test was 6.895 otherwise the post-test was 5.915.

Normality test is done by using One Sample Kolmogorov Smirnov with the level of significance at 5% ( $\alpha$  0.05) by SPSS 20 program. For the output of the results, look at Asymp. Sig. If the score less then Sig 5% or 0.05 ( $< 0.05$ ) it means that the data is not in normal distribution, in contrast if the score bigger then Sig 5% or  $> 0.05$  it means that the data is in normal distribution. The normality test is used with both of the pre-test and the post-test of the listening comprehension test and students' interest questionnaire.

The output of normality test in both of the experimental class and the control class for the pre-test and the post-test in the listening comprehension test. It could be concluded that the data distribution of the experimental class and the control class were all normal because Kolmogorov- Smirnov Z and Asymp. Sig.  $> 0.05$ . The experimental class for pre-test had sig. ( $p$ )  $> 0.05$ .  $P = 0.458$  and post- test  $P = 0.081$ . The control class also had sig. sig. ( $p$ )  $> 0.05$ . The pre-test had

$p = 1.163$  and the post -test was  $p = 0.700$ .

The output of normality test of the students' interest in the learning listening. The results showed that the pre-test and the post-test of the experimental class and the control class were normal because all the data had sig. ( $p$ )  $> 0.05$ . The pre-test in the experimental class had  $p$

$= 0.792$  otherwise the post-test had  $p = 0.613$ . The pre-test of the control class had  $p = 0.373$  and the post-test had  $p = 0.847$

Homogeneity test is aimed to determine the level of homogeneity of the experimental class and the control class being homogenous. The data is homogenous if the score of significance  $> 5\%$  (0.05), in contrast if the score of significance less than 5% (0.05) the data is not homogenous. The homogeneity test of the pre-test and the post-test were presented in the table as follows.

Table 5. The output of homogeneity test of listening comprehension

|           | Levene Statistic | df1 | df2 | Sig. |
|-----------|------------------|-----|-----|------|
| Pre-test  | .016             | 1   | 76  | .899 |
| Post-test | .142             | 1   | 76  | .707 |

The Table 5 shows the output of homogeneity of the listening comprehension test of the experimental class and the control class. The homogeneity test of the pre-test had sig = 0.899 it means the data was homogenous because sig of the pre-test had more than 5% (0.05). The post-test had sig 0.707 which means the data also homogenous because it had more than 5% (0.05).

Table 6. The output of homogeneity of students' interest in learning English for Pre-test

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| .124             | 1   | 76  | .726 |

The Table 6 shows the output of homogeneity of the listening comprehension test of the experimental class and the control class. The homogeneity test of the pre-test had sig = 0.726 it means the data was homogenous because sig of the pre-test had more than 5% (0.05).

Table 7. The output of homogeneity of students' interest in learning English for Post-test

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| .014             | 1   | 76  | .907 |

This Table 7 shows the output of homogeneity of students' in learning English for the control class. The homogeneity test of the post-test had sig = 0.907 it means the data was homogenous because sig of the post-test had more than 5% (0.05).

There were 2 hypotheses. Hypothesis in this study as follows:

The first hypothesis argues that there is effectiveness difference between the use of multiple intelligence activities and conventional



activities in listening comprehension. After analyzing the data using MANOVA test, the researcher found that the first hypothesis had effectiveness difference between the use of multiple intelligence activities and conventional activities on listening comprehension. Furthermore, it could be concluded that the students in the experimental perform better on listening skills than the students in the control class

The Second hypothesis argues that there is effectiveness difference between the use of multiple intelligence activities and conventional activities in students' interest in learning English. After analyzing the data using MANOVA test, the researcher found that the second hypothesis had effectiveness difference between the use of multiple intelligence activities and conventional activities on students' interest in learning English. Furthermore, it could be concluded that the students in the experimental perform better on students' interest than the students in the control class. It is indicated from the table 8.

Table 8 shows that p value of the interest was 0.000, it means Ho is rejected because Sig < 0.05. In addition, for knowing the significant difference of the experimental class and the control class on listening comprehension could be seen on the score of corrected model. The p

valve was 0.000, it means there was effectiveness difference between the experimental class and the control class in students' interest in learning English.

Table 8 shows the output of MANOVA to answer the first hypothesis in this study. In this study used SS Type III for knowing the significant difference of the listening comprehension for the experimental class and the control class. The output shows that p value of the listening was 0.000, it means Ho is rejected because Sig < 0.05. In addition, for knowing the significant difference of the experimental class and the control class on listening comprehension could be seen on the score of corrected model. The p valve was 0.000, it means there was effectiveness difference between the experimental class and the control class in listening comprehension.

Table 9 shows that p value of the interest was 0.000, it means Ho is rejected because Sig < 0.05. In addition, for knowing the significant difference of the experimental class and the control class on listening comprehension could be seen on the score of corrected model. The p valve was 0.000, it means there was effectiveness difference between the experimental class and the control class in students' interest in learning English.

Table 8. The output of MANOVA

| Tests of Between-Subjects Effects |                    |                         |    |             |           |      |  |
|-----------------------------------|--------------------|-------------------------|----|-------------|-----------|------|--|
| Source                            | Dependent Variable | Type III Sum of Squares | df | Mean Square | F         | Sig. |  |
| Corrected Model                   | Listening          | 94.821 <sup>a</sup>     | 1  | 94.821      | 14.650    | .000 |  |
|                                   | Interest           | 4253.538 <sup>b</sup>   | 1  | 4253.538    | 105.233   | .000 |  |
| Intercept                         | Listening          | 17073.282               | 1  | 17073.282   | 2637.886  | .000 |  |
|                                   | Interest           | 597362.513              | 1  | 597362.513  | 14778.746 | .000 |  |
| Class                             | Listening          | 94.821                  | 1  | 94.821      | 14.650    | .000 |  |
|                                   | Interest           | 4253.538                | 1  | 4253.538    | 105.233   | .000 |  |
| Error                             | Listening          | 491.897                 | 76 | 6.472       |           |      |  |
|                                   | Interest           | 3071.949                | 76 | 40.420      |           |      |  |
| Total                             | Listening          | 17660.000               | 78 |             |           |      |  |
|                                   | Interest           | 604688.000              | 78 |             |           |      |  |
| Corrected Total                   | Listening          | 586.718                 | 77 |             |           |      |  |
|                                   | Interest           | 7325.487                | 77 |             |           |      |  |

Table 9. The output of MANOVA

| Multivariate Tests <sup>a</sup> |                    |         |                       |               |          |      |
|---------------------------------|--------------------|---------|-----------------------|---------------|----------|------|
| Effect                          |                    | Value   | F                     | Hypothesis df | Error df | Sig. |
| Intercept                       | Pillai's Trace     | .996    | 8932.241 <sup>b</sup> | 2.000         | 75.000   | .000 |
|                                 | Wilks' Lambda      | .004    | 8932.241 <sup>b</sup> | 2.000         | 75.000   | .000 |
|                                 | Hotelling's Trace  | 238.193 | 8932.241 <sup>b</sup> | 2.000         | 75.000   | .000 |
|                                 | Roy's Largest Root | 238.193 | 8932.241 <sup>b</sup> | 2.000         | 75.000   | .000 |
| Class                           | Pillai's Trace     | .620    | 61.295 <sup>b</sup>   | 2.000         | 75.000   | .000 |
|                                 | Wilks' Lambda      | .380    | 61.295 <sup>b</sup>   | 2.000         | 75.000   | .000 |
|                                 | Hotelling's Trace  | 1.635   | 61.295 <sup>b</sup>   | 2.000         | 75.000   | .000 |

b. Exact statistic

Table 9 shows the output of MANOVA. In this study used SS Type III for knowing the effect of the multiple intelligence to students' interest in learning English. It could be seen on Wilks' Lambda. The p value was 0.000, it means there was effectiveness difference between the experimental class and the control class in students' interest in learning English.

### Discussion

Listening is a complex activity, which covers decisions about how much information and how to interpret the information. The students need to understand and find the main point of the information for understanding messages that sending from the speaker. Multiple intelligence activities need to be applied to facilitate the students in listening comprehension.

Multiple intelligence activities are beneficial to help the students in learning listening because there are various activities in multiple intelligence theory. It makes the students enjoyable in learning various ways and materials that provided by the teacher.

Multiple intelligence activities provide benefits for the students in listening skills. In learning process multiple intelligence theory is one the alternative tools that can be used in learning and teaching process, (AL-Zyoud & Nemrawi, 2015) in (Armstrong, 2009) explain that multiple intelligences theory can influence the student's learning process in classroom through learning environment that considers student's needs. Phillips (2010) in (Gardner & Moran, 2006) argues that multiple intelligences theory encourages the students in collaboration and interaction. The students can work together and using the weakness and strengths to combine their ability in learning activities. In collaboration the students become aware of their own ability. Moreover, Ibnian and Hadban (2013) explain that Christison & Kennedy purposed MI theory can be used in the classroom as follows: (1) MI as a tool to help the students develop and appreciate their own strengths and weakness of learning, (2) as a tool to develop their own intelligence, (3) as a guide to give various ways for students to learn and to demonstrate their learning, and (4) as a guide to develop lesson plans that address the full range of learners need .

There are relevant studies supporting the finding of the research. The use of multiple intelligence is written by (Abdi et al., 2013) entitled *The effect of teaching strategy based on Multiple intelligences on students' academic*

*achievement in science course*. The finding shows that there is a significant difference between the achievement levels of the students who had taught by multiple intelligence and the students who taught by conventional teaching activities. The students who taught by multiple intelligence become more successful than conventional activities because the students are offered a variety ways of learning, they become actively engaged in their leaning process. Furthermore, the second study is written by (Sariolghalam, Noruzi, & Rahimi, 2010). *The title is the enigma of Howard Gardner's multiple intelligences theory in area of organizational effectiveness*. The result shows that a manger who has a good MI can manage the situation and run the business more successfully than the others.

### CONCLUSION

The two classes: experimental class and control class show a significant difference related to the students' listening comprehension skills. Based on the research conducted, the experimental class is a significant difference from the control class with sig 0.000. The students' interest in learning English also a significant difference form the control class with sig 0.000. In general, based on the students' listening comprehension and students' interest for the both classes had an improvement. Listening comprehension skills for the experimental class was improved from poor category to good and very good category. In contrast the control class was improved from very poor category to poor, good and very good category.

Suggestions for EFL teachers as following; before applying the multiple intelligences theory in the learning process, the teacher should study about the multiple intelligences first because it will help him/her know the appropriate ways to apply multiple intelligences theory. The teacher needs to know "how to select appropriate materials with multiple intelligences theory in learning process. The teacher should build a good environment in learning process. The teacher needs to know the weakness and the strength of multiple intelligences of the students. The teacher should guide the students about their ability according to multiple intelligences. Teacher should believe in the students' ability, do not judge their ability in one side. For the other researchers as followings. (1) Try to compare the multiple intelligences theory with another theory for finding the best theory in learning process, (2) Try to study the weakness and the strength of

multiple intelligences in the students and develop their skills suitable with their ability, and (3) For future research can apply multiple intelligences theory in other level of learning process. Through the use multiple intelligence activities, the students will know the ability of themselves and develop their own strength ability in learning listening and other skills. In addition, the students can apply multiple intelligences theory in every subject.

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