Games and Simulation on Students’ Speaking Skill

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ABSTRACT
The objective of the research is to see the effectiveness of Games and Simulation in speaking skill on the seventh grade students at SMP Teknologi Pilar Bangsa. The technique applied in this research was quas-experimental research. In this research, there were two classes taught by using different techniques. The experimental class was taught by using Games and Simulation technique while the controlled class was taught by using conventional technique. Furthermore, this research was conducted through the following procedures: giving pre-test, applying treatments, and giving posttest. The sample of this research were 30 students of class 7.1 and 31 students of class 7.3. Normality test was tested by using chi-square. From the calculation of normality showed that the data are normally distributed population. The homogeneity test of students learning reading comprehension has homogeneous variance. Furthermore, the t-test showed that t-count of experimental class is 3.25, was higher than t-table. The t-test of control class is 3.25, was higher than t-table. It means that finding of this study shows that there is a significance difference in the result between students in class 7 as control class that were taught without games and simulation technique and students in class as experimental class that were taught speaking skill using games and simulation technique.

INTRODUCTION

English is an international language that use in global or whole the country and besides, Patel and Jain (2008:6) state that English is the concept of the English language as a global means of communication in numerous dialects, and also the movement towards an international standard for the language. The area of English has always become a special interest. It’s because of the importance of English in any scope of our lives. In the international relationship, English speaking ability is very important to be able to participate in the wider world of work. The speaking skill is measured in terms of the ability to carry out a conversation in the language. This reality makes teachers and parents think that speaking skill should be mastered by their student and children.
According to Wachidah (2013) in (Nur & Madkur), The 2013 English Curriculum seems to be the reactions or correction of the previous curriculum and the reality that has happened. The reality shows that most high-school learners can hardly use English in the real world even for simple purposes. It is also far below the nationally set standards of English Competence. Based on the definition the students should hardly use English in the real world even for simple purpose.

There are four important skills that students have to master in English. They are speaking, reading, listening and writing. Furthermore, the students have to master English components such as vocabulary, grammar, spelling and pronunciation. In current curriculum, the English literacy level of junior high school is the ability to use English for communication in daily life. It means that the objective of English teaching is the ability to speak English fluently according to Richards and Renandya (2002:208) “The functions of spoken language are interactional and transactional”

Thus, the researchers recognize that the fluency in speaking becomes the problem in learning English. Here, the using of appropriate techniques in teaching and learning English is one of the ways to solve the problem. It is needed in order to make the students be motivated in speaking English in the classroom and out of classroom. There are many techniques to make English teaching especially speaking is fun, interesting and active. One of the techniques they are gaming and simulation. Simulation is a technique for learning that can be applied to many different disciplines and types of learners. According to Ayudhya (2015:23), “Simulation is a technique for learning that can be applied to many different disciplines and types of learners”

Based on background and focus of the study, the researchers formulate the problem on whether there is any significant effect of games and simulation on the seventh grade students’ speaking skill.

METHOD

The researchers used quasi-experimental design and focused on nonequivalent control group design. The experiment study is involved into two groups there are experimental group and control group. To see the influence of this technique to the student’s speaking skill, the researcher compared the student’s post-test score in control class and experimental class to see whether there are students obtained score before and after treatment. The results of pre-test and post-test of both groups are compare in order to know that the treatment in experimental group gives more significance effect to the student’s speaking skill than the control group. The research design can be seen in the following table. Research design can be seen in the following table.

Table 1. Nonequivalent Control Group Design

| Group   | Pretest | Treatment | Posttest |
|---------|---------|-----------|----------|
| Experimental | Y₀  | X | Y"₀   |
| Control   | Y₁  |         | Y"₁    |

(Riadi, 2014:14)

Description:
X : Teaching learning using group work technique
Y₀ : Pretest gives in experimental class
Y₁ : Posttest gives in experimental class
Y"₀ : Pretest gives in control class
Y"₁ : Posttest gives in control class
RESULTS AND DISCUSSION

Table 2. Students Score of Experimental Class

| No | Participants   | Pre Test | Post Test |
|----|----------------|----------|-----------|
| 1  | Students 001   | 55       | 80        |
| 2  | Students 002   | 60       | 80        |
| 3  | Students 003   | 40       | 75        |
| 4  | Students 004   | 60       | 70        |
| 5  | Students 005   | 60       | 70        |
| 6  | Students 006   | 55       | 70        |
| 7  | Students 007   | 50       | 60        |
| 8  | Students 008   | 50       | 70        |
| 9  | Students 009   | 65       | 80        |
| 10 | Students 010   | 60       | 85        |
| 11 | Students 011   | 40       | 80        |
| 12 | Students 012   | 50       | 85        |
| 13 | Students 013   | 50       | 75        |
| 14 | Students 014   | 55       | 85        |
| 15 | Students 015   | 55       | 80        |
| 16 | Students 016   | 45       | 75        |
| 17 | Students 017   | 45       | 40        |
| 18 | Students 018   | 45       | 55        |
| 19 | Students 019   | 65       | 60        |
| 20 | Students 020   | 55       | 85        |
| 21 | Students 021   | 50       | 65        |
| 22 | Students 022   | 50       | 70        |
| 23 | Students 023   | 55       | 55        |
| 24 | Students 024   | 55       | 60        |
| 25 | Students 025   | 55       | 60        |
| 26 | Students 026   | 55       | 45        |
| 27 | Students 027   | 50       | 60        |
| 28 | Students 028   | 45       | 60        |
| 29 | Students 029   | 45       | 60        |
| 30 | Students 030   | 50       | 60        |
|    | **Total**      | **1570** | **2055**  |
|    | **Max Score**  | 65       | 85        |
|    | **Min Score**  | 40       | 40        |

Based on the difference between the score of pretest, it is known that the maximum score is 65, the minimum score is 40, the average score (mean) is 54.33, median is 54.5, mode is 57, variance is 41.22 and standard deviation is 6.42.

Table 3. Analysis of Data Centralization

| No | Analysis  | Symbol | Result |
|----|-----------|--------|--------|
| 1  | Mean      | $\bar{X}$ | 54.33  |
| 2  | Median    | $Me$   | 54.5   |
| 3  | Mode      | $Mo$   | 57     |
Table 4. Analysis of Data Distribution

| No | Analysis          | Symbol | Result |
|----|-------------------|--------|--------|
| 1  | Deviation Standard| $S$    | 6.42   |
| 2  | Variance          | $S^2$  | 41.22  |

Based on the score of posttest, it is known that the maximum score is 85, the minimum score is 40, the average score is 51.2, median is 63.5, mode is 49.5, standard deviation is 11.66, and variant is 135.89.

Table 5. Analysis of Data Centralization

| No | Analysis | Symbol | Result |
|----|----------|--------|--------|
| 1  | Mean     | $\bar{x}$ | 51.2   |
| 2  | Median   | $Me$   | 63.5   |
| 3  | Mode     | $Mo$   | 49.5   |

Table 6. Analysis of Data Distribution

| No | Analysis          | Symbol | Result |
|----|-------------------|--------|--------|
| 1  | Deviation Standard| $S$    | 13.09  |
| 2  | Variance          | $S^2$  | 171.27 |

Table 7. Students Score of Controlled Class

| No | Participants   | Pre-test | Post-test |
|----|----------------|----------|-----------|
| 1  | Students 001   | 20       | 45        |
| 2  | Students 002   | 40       | 65        |
| 3  | Students 003   | 40       | 60        |
| 4  | Students 004   | 70       | 65        |
| 5  | Students 005   | 70       | 70        |
| 6  | Students 006   | 70       | 70        |
| 7  | Students 007   | 70       | 60        |
| 8  | Students 008   | 55       | 70        |
| 9  | Students 009   | 70       | 50        |
| 10 | Students 010   | 50       | 55        |
| 11 | Students 011   | 50       | 55        |
| 12 | Students 012   | 30       | 70        |
| 13 | Students 013   | 40       | 60        |
| 14 | Students 014   | 55       | 55        |
| 15 | Students 015   | 30       | 45        |
| 16 | Students 016   | 30       | 60        |
| 17 | Students 017   | 60       | 45        |
| 18 | Students 018   | 60       | 50        |
| 19 | Students 019   | 60       | 65        |
Based on the calculation of pretest score in controlled class, the highest score is 70 and lowest score is 20. The range of data is 50, from the data (n) is 31. The number of class used is 6 and interval class used is 9. From the calculation above the central tendency data can be seen in the table below:

| Table 8. Descriptive Statistics of Pretest Score in Controlled Class |
|---------------------------------------------------------------|
| n | Mean | Median | Mode | Deviation Standard (S) | variance |
|---|------|--------|------|------------------------|----------|
| 31 | 56.8 | 59.65  | 66.25| 13.09                  | 171.27   |

Based on the table above, it can be seen that Mean is 56.8, Median is 59.65, Mode is 66.25, Deviation standard (S) is 13.09 and Variance is 171.27

| Table 9. Analysis of Data Centralization |
|----------------------------------------|
| No | Analysis   | Symbol | Result |
|----|------------|--------|--------|
| 1  | Mean       | $\bar{X}$ | 56.23  |
| 2  | Median     | $Me$  | 61.82  |
| 3  | Mode       | $Mo$  | 66.25  |

| Table 10. Analysis of Data Distribution |
|----------------------------------------|
| No | Analysis          | Symbol | Result |
|----|-------------------|--------|--------|
| 1  | Deviation Standard| S      | 13.09  |
| 2  | Variance          | $S^2$  | 171.27 |

Based on the score of posttest, it is known that the maximum score is 70, the minimum score is 45, the average score is 60.23, median is 58.67, mode is 56.72, standard deviation is 8.19, and variant is 67.
Table 11. Analysis of Data Centralization

| No | Analysis   | Symbol | Result |
|----|------------|--------|--------|
| 1  | Mean       | $\bar{x}$ | 51.2   |
| 2  | Median     | $Me$   | 63.5   |
| 3  | Mode       | $Mo$   | 49.5   |

Table 12. Analysis of Data Distribution

| No | Analysis          | Symbol | Result |
|----|-------------------|--------|--------|
| 1  | Deviation Standard | $S$   | 13.09  |
| 2  | Variance          | $S^2$  | 171.27 |

The result from experimental class and control class as the following:

Table 13. Normality Test of Pretest in Experimental Class

| Data | $X^2_{count}$ | $X^2_{table}$ |
|------|---------------|---------------|
| Experiment | 10.35 | 11.07 |

Based on the table above that $X^2_{count}$ is 10.35 and $X^2_{table}$ is 11.07. $X^2_{count}$ was smaller than $X^2_{table}$ so $H_0$ is accepted and based on the criteria of the data was normally distributed.

Table 14. Normality Test of Posttest in Experimental Class

| Data | $X^2_{count}$ | $X^2_{table}$ |
|------|---------------|---------------|
| Experiment | 7.75  | 11.07 |

Based on the table above that $X^2_{count}$ is 7.75 and $X^2_{table}$ is 11.07. $X^2_{count}$ was smaller than $X^2_{table}$ so $H_0$ is accepted and based on the criteria of the data was normally distributed.

Table 15. Normality Testing of Pretest in Controlled Class

| Data | $X^2_{count}$ | $X^2_{table}$ |
|------|---------------|---------------|
| Control | 7.28   | 11.07 |

Based on the table above that $X^2_{count}$ is 7.28 and $X^2_{table}$ is 11.07. $X^2_{count}$ was smaller than $X^2_{table}$ so $H_0$ is accepted and based on the criteria of the data was normally distributed.

Table 16. Normality Test of Posttest in Controlled Class

| Data | $X^2_{count}$ | $X^2_{table}$ |
|------|---------------|---------------|
| Control | 7.67  | 11.07 |

Based on the table above that $X^2_{count}$ is 7.67 and $X^2_{table}$ is 11.07. $X^2_{count}$ was smaller than $X^2_{table}$ so $H_0$ is accepted and based on the criteria of the data was normally distributed.
Table 17. The Result of Normality Test

| Data         | $X^2_{\text{count}}$ | $X^2_{\text{table}}$ | Result |
|--------------|-----------------------|------------------------|--------|
| Pre-test     |                       |                        |        |
| Experiment   | 10.35                 | 11.07                  | Normal |
| Control      | 7.28                  | 11.07                  | Normal |
| Post-test    |                       |                        |        |
| Experiment   | 7.75                  | 11.07                  | Normal |
| Control      | 7.67                  | 11.07                  | Normal |

Based on table 17 above, it can be concluded the data of experimental and controlled class were normally distributed. Homogeneity test are used to find out whether the data was homogeneous or not. Homogeneity test can be performed if the data was normally distributed. The formula used to test the homogeneity test is fisher formula.

Significant level $\alpha=0.05$, then the test criteria are:
If $F_{\text{count}} < F_{\text{table}}$, so data is homogeneous.
If $F_{\text{count}} > F_{\text{table}}$, so data is not homogeneous.

Table 18. Homogeneity Data of Pretest

| Data         | N  | $S^2$  | $F_{\text{count}}$ | $F_{\text{table}}$ |
|--------------|----|--------|---------------------|---------------------|
| Experiment   | 30 | 42.64  | 0.20                | 1.85                |
| Control      | 31 | 214.95 |                     |                     |

Based on the table above that $F_{\text{count}} = 0.20$ and $F_{\text{table}} = 1.85$. $F_{\text{count}}$ in pretest was smaller than $F_{\text{table}}$. Based on the criteria of homogeneity if $F_{\text{count}} < F_{\text{table}}$, so data is homogeneous.

Table 19. Homogeneity Data of Posttest

| Data         | N  | $S^2$  | $F_{\text{count}}$ | $F_{\text{table}}$ |
|--------------|----|--------|---------------------|---------------------|
| Experiment   | 30 | 145.09 | 1.48                | 1.85                |
| Control      | 31 | 98.28  |                     |                     |

Based on the table above that $F_{\text{count}} = 1.48$ and $F_{\text{table}} = 1.85$. $F_{\text{count}}$ in pretest was smaller than $F_{\text{table}}$. Based on the criteria of homogeneity if $F_{\text{count}} < F_{\text{table}}$, so data is homogeneous.

Hypothesis Test of Pretest in Experimental and Controlled Class

Table 20. Hypothesis Test of Pretest

| Data     | n  | $\bar{x}$  | $S^2$  | $t_{\text{count}}$ | $t_{\text{table}}$ |
|----------|----|-------------|--------|---------------------|---------------------|
| Pretest  |    |             |        |                     |                     |
| Experiment | 52.33 | 107.22     | -1.10  | 2.00                |
| Control  | 56.29 | 283.01     |        |                     |

Based on the data, it is concluded that $t_{\text{count}}$ smaller than $t_{\text{table}}$. Thus, $H_0$ was accepted and $H_1$ was rejected. Based on the criteria, if $t_{\text{count}} < t_{\text{table}}$, so there is no significance difference of students’ speaking skill who are taught by used games and simulation technique and who are taught without games and simulation technique.
Hypothesis Test of Posttest in Experimental and Controlled Class

Table 21. Hypothesis Test of Posttest

| Data       | n  | $\bar{X}$ | $S^2$ | $t_{count}$ | $t_{table}$ |
|------------|----|-----------|------|-------------|-------------|
| Posttest   |    |           |      |             |             |
| Experiment | 68.5 | 261.86 |      | 3.25        | 2.00        |
| Control    | 56.29 | 170.11 |      |             |             |

Based on the data, it is concluded that $t_{count}$ was higher than $t_{table}$. Thus, $H_0$ was rejected and $H_1$ was accepted. Based on the criteria, if $t_{count} < t_{table}$, so there is a significance difference of students’ speaking skill who are taught by used games and simulation technique and who are taught without games and simulation technique.

Regarding conducting the research, used of games and simulation as a technique in teaching speaking skill on the seventh grade students at SMP Teknologi Pilar Bangsa was effective. It was proved by obtained score of $t$-test. The $t$-test showed that $t$-count of experimental class is 3.25, was higher than $t$-table. The $t$-test of control class is 3.25, was higher than $t$-table. It means $H_1$ was accepted and $H_0$ was rejected. Since the $t$-count was higher than the $t$-table, there was a significance difference in the result between students in class 7 as control class that were taught without games and simulation technique and students in class as experimental class that were taught speaking skill using games and simulation technique. Thus, the research in experimental class with games and simulation technique can improve their speaking and more interesting than control class without games and simulation technique.

CONCLUSION

Subsequently conducting the research, the researchers concluded that the games and simulation technique in teaching speaking skill on the seventh grade students at SMP Teknologi Pilar Bangsa was effective. It is concluded that $t$-count was higher than $t$-table. Thus, $H_0$ was rejected and $H_1$ was accepted. Based on the criteria, if $t$-count < $t$-table, so there is a significance difference of students’ speaking skill who are taught by used games and simulation technique and who are taught without games and simulation technique. It means that games and simulation technique had effect to students’ speaking skill.

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