IMPROVING READING COMPREHENSION THROUGH HERRINGBONE TECHNIQUE TO THE ELEVENTH GRADE STUDENTS OF SMA LTI-IGM PALEMBANG

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Abstract: The Research is an attempt to improve the eleventh class students' skills in reading comprehension through herringbone technique at SMA LTI-IGM. This study used pre-test and post-test of experimental and control group. The writer used a written test to collect the data, the writer gave 45 minutes with 40 questions to 40 students in the pre-test and post-test, the class is taken two; experimental class and control class, the result of pre-test and post-test was analyzed by using t-test formula to find out whether there is any significant difference between those two groups. The F test formula showed there was significant difference between students' average score in the experimental group post-test and students' average score in the control group post-test.

Keywords: Reading comprehension, herringbone technique

Abstrak : Penelitian ini dilakukan untuk meningkatkan kemampuan pemahaman bacaan di SMA LTI-IGM. Penelitian ini mengunakan pre-tes dan post-tes pada group experiment dan control. Penulis mengunakan tes tertulis dalam pengumpulan data dengan 40 pertanyaan di 45 menit. Data penelitian di analisa menggunakan t-test formula untuk mendapatkan perbedaaan yang signifikan terhadap dua group. Hasil dari formula F tes menunjukan bahwa terdapat perbedaan yang signifikan terhadap rata-rata nilai siswa pada grup experimen dan grup kontrol.

Kata kunci: Pemahaman bacaan, teknik herringbone

1. INTRODUCTION

Language is one of the most important thing in communication. It is used as a mean of communication among the people all over the world. English which means international bridge media to enlarge students knowledge and compentence. Nowadays, there are great number of biooks; both science and fiction are written in English. According to Amran Halim cited in Saleh (1997, p. 2) in the position as a foreign language, English functions as (1) a lingua franca, a means of communication among nations, (2) a supplementary tool for developing Indonesia to become a modern language, and (3) an instrument for making use of modern science and technology for the benefit of the national development.

Saleh (1997, p. 2) states that English has been taught as a compulsory subject from the first year of Junior high school up higher level. Students are purposed to master the four language skills, namely; reading, speaking, listening and writing. Besides, they also should master the language components are taught ot support the development of those four skills.

According to Anderson cited in O'Mallley and Chamot (1990, p.33), Language comprehension is generally viewed in cognitive

theory as consisting of active and complex process in which individuals construct meaning from aural or written information.

Reading is about understanding written texts. It is a complex activity that involves both perception and thought. Reading consists of two related processes: word recognition and comprehension. Word recognition refers to the process of perceiving how written symbols correspond to one's spoken language. Comprehension is the process of making sense of words, sentences and connected text (Pang, Muaka, Bernbardt, 2003, p.6)

According to Cooper et al (1993, p. 135) reading is a process of constructing or developing meaning for printed text. To this, the reader brings prior knowledge or experience to the text. Moreover, Roma (2006, p.6) stated that reading comprehension is an active process that requires the construction of meaning from the incoming information and prior knowledge. Pang, Muaka, Bernbardt (2003, p.13) added that having poor prior knowledge generally aids comprehension.

Ruddell (2005, p.30) also stated that reading is the act of constructing meaning while transacting text. It means that reading is a process of transferring ideas and information from the writer to the reader as a form of communication. The reader"s ability to construct meaning from the text depends on his or her ability to use information available in text. It may be new information or already known.

To put good interest among students, the writer used narrative genre for the text. Commonly, narrative text is taught in the senior high school and assessed by students'

assessment. Anderson (2003, p.8) mentioned that "narrative is a piece of text which tells a story and, in doing so, entertains or informs the reader or listener."

Anderson and Anderson (2003, p.8) state that there are five parts of generic structure of narrative. They are:

1. an orientation (can be a paragraph, a picture or opening chapter) in which the narrators tells the audience about who is in the story, when the story is taking place and where the action is happening.
2. a complication that sets off a chain of events that influences what will happen in the story.
3. a sequence of events where the characters react to the complication.
4. a resolution in which the characters finally sort out the complication.
5. a coda that provides a comment or moral based on what has been learned from the story (an optional step).

For additional, Gerot and Wignell (1995:204) also stated that the social function of narrative is to amuse, entertain and deal with actual or vicarious experience in different ways. The writer wanted to connect between the text and students' achievement in reading comprehension, so that is why the writer used herringbone technique to enlarge student's capabilities in mastering the text whether it is general information or specific which used WH question.

The writer implements the Herringbone technique to the elevent grade students of LTI-IGM high school to improve students capabilty

in reading comprehension especially in organizing important information on the text as
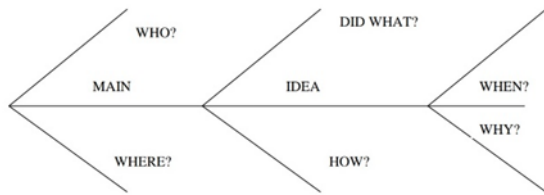
mentioned Tierney (1980, p.82) Herringbone technique is a structure outlining procedure designed to help students' organized information in a text chapter.

"Herringbone" comes from the words "herring" and "bone". "Herring" is a long silvery coloured fish which swims in large groups in the sea, or its flesh eaten as food (Walter, 2008) and "bone" is any of the hard parts inside a human or animal that make up its frame (Walter, 2008).

According to Tierney, Readence, and Dishner (1980, p.82) Herringbone technique is a structure outlining procedure designed to help students' organized information in a text chapter.

In Herringbone technique, the students are stimulated to develop their comprehension of the main idea through the use of visual diagram of a fish skeleton. The diagram enables the students to plot who, what, when, where and how questions. The Herringbone technique will assist students comprehend the text easily, students can organize the essensence of the text. By doing those questions, the students will assess the main idea of the text.

According to Tierney, et. al (1980, p.82) Herringbone format leads the students to obtain the important information on text by finding the

answer of: Who? What? When? Where? How? Why? The format can be observed on picture 1.

When the students understand the structure and they have been prepared enough in learning the information within the text, it means the students are ready to begin the process of reading and recording. The students are advised to read information and seeking answers, for instance;

a. WHO was involved?
b. WHAT did the person or group do?
c. WHEN was it done?
d. WHERE was it done?
e. HOW was it accomplished?
WHY did it happen?

2. RESEARCH METHODOLOGY

2.1 Method of the research

In this study, the writer used the true-experimental method. The true-experimental design is that is randomized pretest-postest control group design. True-experimental design is that subjects are randomly assigned to treatment groups (Fraenkle and wallen, 1993, p.247).

Treatmen t Group	R	01	X1	02
Control Group	R	01	X2	02

Where:

R: The randomized

01: The pre-test

X: The treatment

02: The post-test

The first step of this study was giving the pre-test to the students; both experimental and control groups in order to know their reading skill. When treatment; the experimental group treated by using herringbone technique. The writer used the strategy which usually used by the teacher of English in that school to the control group. The next step, the students of experimental and control group was given the post-test to determine the effect of the treatment. The steps in doing this research would be as follows:

1. Identifying and defining the problema
2. Formulating the hypothesis
3. Arranging the research proposal
4. Doing the experiment
    a. Taking the simple
    b. Giving the try out
    c. Giving the pre-test
    d. Giving the treatment
    e. Giving the post-test
5. Analyzing the data
6. Drawing conclusions, and
7. Writing the reports as a thesis

2.2 Variables of the study

There were two kinds of variables of this research: the independent variable and the dependent variable. According to Freankle and Wallen (1990, p.36), an independent variable is presumed to have an effect on, to influence somehow, another variable. The variable that the independent variable to affect is called the dependent variable.

The independent variable if this study was the use of herringbone technique, while the dependent variable was the students reading comprehension achievement at SMA LTI IGM Palembang.

2.3 Operational Definitions

The title of this research was "improving Reading Comprehension through Herringbone Technique to the eleventh grade students of SMA LTI IGM Palembang". To avoid misinterpretation, there were three terms that need to be explained: teahing, reading comprehension, and herringbone technique.

First, **Teaching** is facilitating and guiding the students to learn. In doing it, the teacher not only explaining all knowledge they know but also setting the situation in the classroom. In order, there is interactive process between the teacher and the students. So the students are involved in the activity.

Second, **Reading Comprehension** is the ability to construct or develop the meaning. In addition, reading comprehension refers to understanding or comprehending are unity.

Last, **Herringbone technique** (HT) is a form of fish's bone which designed to help the students in remembering the important of the reading text.

2.4 Population

According to Faenkel and Wallen (1993, p.80) population is the group to which a writer would like the result of the study to be generalized, and which includes all the individuals with certain characteristics. In this research, the writer took all the eleventh grade

students of SMA LTI IGM Palembang as the population of this study. The distribution of the whole population was presented in table 1.

TABLE 1
POPULATION OF THE STUDY

NO	CLASS	Number
1	XI IPA 1	40
2	XI IPA 2	40
3	XI IPS 1	35
4	XI IPS 2	34
5	XI IPS 3	35
6	XI IPS 4	37
7	XI IPS 5	33
8	XI IPS 6	32
Total		286

2.5 Sample

According to Fraenkel and Wallen (1993, p.59) a sample is researcher study to any group or which information is obtained. To get accurate data, the writer will use the cluster random sampling; the study of this technique will be done by taking samples from the eleventh grade students of SMA LTI IGM Palembang. Dealing with the cluster sampling used in this study will be done by selecting groups of individuals rather than single individuals (Fraenkel and Wallen, 1999, p.548).

All individuals in the cluster was included in the samples, the cluster was properly selected randomly from the large population cluster, it was done by writing the names of the eight classes in a glass and the writer took one of them randomly, and it was done twice. The

subject was taken as samples. Table 2 showed the sample of the study.

TABLE 2
SAMPLE OF THE STUDY

No	Class	Group	Number of student
1	XI IPA 1	Experimental Group	40
2	XI IPA 2	Control Group	40

2.6 Technique for collecting the data

The writer used a written test to collcect the data in this research. According to Arikunto (2006, p.223), test is a series of questions or exercises used to find out students skill, knowledge, and intelligence, attitude of an individual group. In this research, the test was administered twice as the pre-test and the post-test. The material of the test is in the form of 40 questions are multiple choices. The writer gave 45 minutes for doing the test. Firstly, the writer gave the pre-test. Then, after getting the result of the pre-test, the writer gave the treatment. Finally, after the treatment has been completed, the writer gave the post-test.

2.7 Validity

According to Fraenkel and Wallen (1993, p.127), "Validity is the most important idea to consider when preparing or selecting or selecting an instrument for use. Validity refers to the appropriateness, meaningfulness, and usefulness of the inferences a researcher make."

Validity was an appropriateness and usefulness of the test which was measured from the test scores. Validity relates to how well the

test content of the subject (the material and the indicator). In this study, the validity of the test material checked through the content validity.

TABLE 3

THE TEST SPECIFICATION

Objective	Indicator	Materials	Item	Types of test	Total Item
The students are able to understand and comprehend a reading text	1. The students are able to find main idea of the text.	Narrative text entitled "Bawang Merah dan Bawang Putih, The Wild Swans and Snow White	1,2,11,12	Multiple choice	4
	2. The students are able to give the meaning of the words based on the text		3,5,10,13,15,17	Multiple choice	6
	3. The students are able to find out the answer of WH – questions based on the text		4,6,7,8,9,14,16,18,19,20	Multiple choice	10
	4. The students are able to find some specific information on the text		21,22,23,24,25,26,27,28,29,30	True false	10
	5. The students are able to define the difficult words		31,32,33,34,35,36,37,38,39,40	Match	10

2.8 Reliability of the Test

Reliability coefficient is statistical formula used as one estimate of the reliability of a test, which used as a number of items in test, the main score, and its standard deviation. The following is Kuder-Richarson 21 (KR21) formula (Fraenkel and Wallen, 1993, p.149).

$$KR21 = -\frac{K}{K-1}\left[1 - \frac{M(K-M)}{K(SD^2)}\right]$$

in which:

KR21 = Kuder-Richarson reliability coefficient

K = Number of items in the test

M = Mean of the set of the test scores

SD = Standard Deviation

In calculating KR 21 formula, the standard deviation formula was used. Dealing with them, Fraenkel and Wallen (1990, p.136) write for research purpose, a useful is that reliability at least 0.70 and preferably higher. To prove the validity of the test material, the writer gave a try out test. The number of the students were 35 with $\sum$ of scores were 210 and $\sum$ of score squared is 1370 with means score is 6.

We could see the mean of the test score set (M) = 6 number item in the test (K) = 40, and the standard deviation (SD) = 6.25. The writer applied KR-21 to find out the reliability of the test, and the result was 0.88 which mean that the test material was valid, and the reliable was higher than 0.70.

2.9 Technique for analysing Data

To analyse the data, the writer used t-test in order to compare whether there is a significant difference between the mean of experimental group with the one of the control group. The formulation of t-test as follows (Hatch and Farhady, 1982, p.115)

$$t = \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}}$$

Where:

t   = the value by which the statistical significance of mean difference will be judged.

X_1 = the mean of group 1 (experimental group)

X_2 = the mean of group 2 (control group)

$S21$ = the variance of group 1 (experimental group)

$S22$ = the variance of group 2 (control group)

n_1 = the number of students in group 1

n_2 = the number of students in group 2

the result of the t-test was used to accept or to reject the null hypothesis. If the value of the t-obtained was lower the critical value, H_0 was accepted and H_1 was rejected.

3.   FINDING

When the writer finishes analysing the data classifying of experimental group and control group pre-test, the writer also analysed data of two mean scores between the two groups. To access whether there is any significant different between experimental group and control group, the writer applies t-test formula.

When the students have recorded their answer to the questions, they use the information to write a sentence about the main idea. The teacher should guide the students through this process until students are able to do it independently.

In collecting the data, the writer used written test, the tests include pre-test and post-test because according to Brown (1987. P219) a test is a method of measuring a person's ability or knowledge in a given area. Students were given the 40 questions in 45 minutes in pre-test and post-test, these cycles happen in the experimental group and control group. The pre-test is used to measure students' capability in asnwering the questions without treatment of the herringbone technique and the post-test is used to measure students' capability in score after they are given treatment of herringbone technique.

The writer hypotheses are formulated; (1) the null hypothesis (Ho) is that it is not effective to use herrringbone technique in teaching reading comprehension. (2) the alternative hypothesis (Ha) is that it is effective to use herrringbone technique in teaching reading comprehension. In testing the hypotheses, the writer use two criterias; (1) t obt > t table, Ho will be rejected and Ha will be accepted, oc = 0,05. (2) t obt < table, Ho will be accepted and Ha will rejected, oc = 0,05.

To test the hypotheses that are to accept the null hypotheses (ho) or to reject it, the writer applies the t-table. Since the number of sample was 40 as the degree of freedom (df) os 39(40-1), to reject the null hypotheses (Ho) in the 5% level of significance, for one-tailed test, the t-obtained should exceed 1.6684 as its critical value, if the t-obtained is the same as less than 1.684, the null hypotheses will be accepted and the Ha will be rejected.

In this study, the writer used the true-experimental method. That is the randomized pretest-posttest control group design. True-experimental design is that subjects randomly assigned to treatment groups (Fraenkle and Wallen, 1993, p.247). And writer use two kinds

of variables; independent and dependent variable. According to Freankle and Wallen (1990, p.36), an independent variable is presumed to have an effect on, to influence somehow, another variable. The variable that the independent variable to affect is called the dependent variable. The independent variable of this study is the use of herringbone technique, while the dependent variable is the students reading achievement at SMA LTI-IGM Palembang.

3.1 Experimental and control Group

Through the analysis, the writer found in the pre-test that the lowest score was 35 reached by one student and the highest score was 87.5 reached by one student also. The mean score was 64.12 with the total number of students are 40 students.

In the post-test, when students were given treatment of Herrringbone technique, significant difference was scored. One student reached the lowest score 50 and five students scored 95 as the highest score. The mean score was 77.81 by the total students were 40.

3.2 Control Group

In this group, the writer found that in the pre-test, the lowest score was 25 reached by one student and 85 for the highest score reached by one student. The mean score was 49.37 with the number of the students were 40.

While in the post-test, the writer found out significant difference after students were given treatment without herringbone technique, the lowest score is 35 reached by one student and highest score is 95 reached by one student. The

mean score was 60.37 and the total number of students were 40.

3.3 The significant different between post-test score of experimental and control group

After finding a score progress between experimental and control group, the writer uses t-test formula to find out the significant difference between the groups. The data of post-test scores of experimental group was 148.77 and the control group was 116.19.

The writer found out the homogeneity data by using F test. After analysing the data at the level of significance (α) 0.05, the F test was smaller than F table which is $1.28 <$ F table $= 1.69$. The degree of freedom (df) was 39 (40-1). It meant that variance of post-test between experimental and control group was homogenous.

3.4 Data analysis result of experimental and control group post-test score

After calculating the data, the writer found out that the t-obtained is 6.785, t-table value for $= 0.05$, df $= 39$ (40-1) is 1.684. Since the value of the t-obtained is higher than t-table or $6.436 > 1.684$, Ho is rejected and Ha is accepted. It means there is significant difference between students who are taught reading comprehension through Herringbone technique and the students who were taught without using herringbone technique.

4. CONCLUSION

From the result of the finding, the data analyzing by using F test formula level of significance (α) 0.05, the F test is smaller than F

table which is 1.28 < F table = 1.69. The degree of freedom (df) is 39 (40-1). It means that variance of post-test between experimental and control group is homogenous.

It could be interpreted that there is a significant difference between the students' average score in the experimental post-test which is 77.81 and the students' average score in the control post-test which is 60.37. It means that it is effective teaching reading comprehension through herringbone technique to the eleventh students of SMA LTI-IGM Palembang. It could be seen that the result of the t-obtained is 6.785, t-table value for = 0.05, df = 39 is1.684, Ho was rejected and Ha is accepted. It meant that it was effective teaching reading comprehension through herringbone technique to the eleventh grade students of SMA LTI IGM Palembang.

5. SUGGESTION

The writer's purposes wrote this research to motivate the writer himself and others whether teachers or other researchers so the writer draws his suggestion into two.

5.1 For teacher

Being a teacher is great way to change the learners knowledge, from the low level becomes better level. The teachers have important role in delivering the materials, they also have the responsibilty in upgrading students achievement in score by doing research to find out the appropriate technique for their students in learning English language. The writer hopes that there is a good connection between what the teachers teach in the class; in this case the materials related to the reading comprehension,

with their effort in doing research, at least classroom research, to find out better way in teaching the students. The writer hopes that by teachers doing the research becomes the reflection for them to be better materials faciliator and students obtain better knowledge.

5.2 For other researcher

The writer hopes that this research becomes another stimulant for other researcher to do other research related to reading comprehension. While researcher was digging more about text, they also tried improving students' interest in exploring what they like through text. by doing research, the result could be seen and learnt to improve and to enlarge others.

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