Developing the EFL Students' Reading Comprehension by Employing Herringbone Technique

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Abstract: This research aims to find out whether Herringbone Technique can develop EFL students' reading comprehension or not, especially in finding the main idea and supporting details in a recount text. The literature notes that Herringbone is known to be one of the techniques that can help students to find important information and main idea in a text by seeking for answers on six comprehension questions on a diagram, viewed such as a fish's skeleton. The sample of this research was 30 second grade junior high school students. The researchers employed simple random sampling to choose the sample. It further used the quantitative experimental approach with the pre-experimental design in the form of one group pre-test-post-test design.Pre-test was given before treatments, while post-test was given after the students were taught reading by using the Herringbone Technique. Each pre-test and post-test consisted of ten questions. The statistical formulas were used to analyze the data from the students tests' scores. The mean score of pre-test was 59 and the post-test was 76. Futhermore, the result of t-test was 10.15, while the critical value of 0.05 significant level was 2.045, with the degree of freedom of 29. Since t-test (10.15) was higher than t-table (2.045), this study concludes that this technique could increase the EFL students' reading comprehension.Despite in practice the researchers found that this technique decreased the students' efforts in note-taking, however it did not inhibited them in obtaining improved scores in their reading tests.

Keywords: Herringbone technique, reading comprehension, Recount text, EFL students

INTRODUCTION

EFL students in junior high schools are expected to be able to differentiate functional texts and short simple essays such as recount, descriptive, and narrative and further know the aspects of the texts such as grammatical features and generic structures. Besides that, students are projected to explore their thinking and identify what the author means. Unfortunately, for EFL learners in Indonesia, this is easily said than done. English teachers in the country still find their students struggling with difficulties in English reading comprehension and have implemented various techniques to help their students to improve their reading skills (Gani, Yusuf, & Susiani, 2016; Harida, 2014;

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Mudra, 2016; Satriyani, Moerdibjon, & Prayogo, 2016)

Linse (2005) outlines reading as a set of skills that requires making sense and interpreting meaning from the printed words. Reading is a complex activity that encompasses both of process and product. The process of reading involves the interaction between readers and the text and the product of reading is reading comprehension. This is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language (Caldwell, 2008). Therefore, reading comprehension is one's of ability to read, to get information and to gain meaning from the written text. Additionally, comprehension in reading can be reached when the readers know how to apply a set of skill and strategies to accomplish the reading purposes.

Moving back to the present study, the third researcher, who conducted her teaching internship in one of the junior high schools in Banda Aceh, found that the second grade students here were still facing problems in comprehending English reading texts, especially recount text; the text in which they were to become skilled at for their level based on the 2013 Curriculum, Indonesia's latest revised school curriculum. The average score of these students' achievement in the test of reading recount text was 60.6. Based on her preliminary evaluation on the tests, the students' struggles were mostly in two aspects of reading comprehension; they are finding main idea (with the average score of 55.7 on questions in this aspect) and supporting details (with the average score of 51.5 on questions in this aspect).In the interim, the standard passing score determined by the school is 75. Consequently, the main idea is the central thought or massage of the text which is formed by both the topic and idea (Mikulecky & Jeffries, 1988), whilst supporting details are more specific sentences that help clarify, prove or suggest the topic sentence by providing reasons, examples, studies, definitions, and many others

(Flemming, 2011). Thus, for the other three aspects of reading comprehension, which are reference, inference, and vocabulary, the students have passed and answered them well.

To overcome the problems mentioned above, the researchers had initially explored many kinds of reading techniques that can be applied in teaching reading, thus, they were specifically looking for one that could explicitly develop the students' ability in finding the main idea and supporting details of a reading text. Accordingly, they came across Herringbone Technique (hereafter, HT), which is one of the techniques recognized to help students in improving their reading ability, especially in finding the main idea and supporting details (McKnight, 2010). McKnight (2010) defines HT as a "graphic organizer that is used for establishing supporting details for a main idea". It is a tool to help students recognize the important relationships in the material of reading texts. This is done by answering the who, what, when, where, why, and how questions of a text (Balajthy & Lipa-Wade, 2003) on a visual diagram of fish skeleton (Thaler, 2008). It facilities the student with an interesting pattern, such as shown in Figure 1:
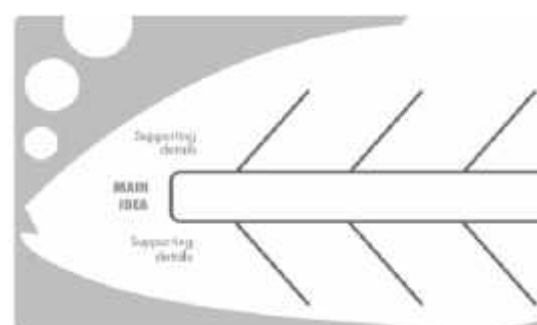

Figure 1: Herringbone diagram
(source: McKnight, 2010:51)

From Figure 1, it is seen that Herringbone consists of a short graphic organizer, and McKnight (2010) finds it as an effective way for establishing supporting details to find the main idea in a reading text. The fishbone pattern guides the students to make a statement which represent a topic sentence of the text in the graphic organizer (Young & Hadaway, 2006).

What is more, there are some procedures in implementing HT in teaching reading. (Edwards, 2004) proposes them as follows:

1. Students work in pairs or triads.
2. Choose a reading material which is appropriate with the reading level of the students.
3. Construct a visual diagram of the Herringbone with six basic comprehension questions (*who, what, where, when, why, and how*) and the main idea.
4. Students read, brainstorm and write the important information about the story in their notebooks, such as:
   a. *Who was involved in the text?*
   b. *Where did they do it?*
   c. *What did they do?*
   d. *When did they do it?*
   e. *Why did they do it?*
   f. *How did they do it?*
5. After a discussion, the students write the answers on the Herringbone outline.
6. Students further discuss the answers. Then they write the main idea on the Herringbone outline. The main idea can be written across the backbone of the Herringbone pattern.

The pattern of HT creates a framework for students to sort information from what they are reading. After the information has been retrieved, then the students summarize the information. The objective of this pattern is to ease them in understanding the whole information and identifying the main idea which is stated in the text during and after reading.

The literature has revealed various previous researches which used the HT to develop the EFL students' reading comprehension in the Indonesian classrooms. Among them are those conducted by (Margaretta, 2014; Solichah, 2015; Firda, Rasyidah, & Kasyulita, 2016) to test various types of English texts on their students by using this technique. Margaretta (2014) employed Herringbone technique to improve reading comprehension on descriptive texts for second grade students of a junior high school in Pontianak. Then there is Solichah (2015), who implemented HT to first grade students of a junior high school in Deket to comprehend narrative texts. Moreover, Firda, Rasyidah and Kasyulita (2016) studied the effect of HT towards reading comprehension in recount texts for second grade junior high school students in Rambah Hilir. These experimental studies revealed that the students' reading scores in their post-tests increased after the implementation of HT compared to their pre-tests before the technique was given as treatments. Thus, their research findings basically conclude that HT gave positive effect toward students reading comprehension. HT was also successful in developing their comprehension by increasing attention on detail information. This is because the interesting patterns of graphic diagram help students to organize and classify information on the assigned reading text (McKnight, 2010). From these success accounts, the researchers of this study then decided to apply HT to their students under study by formulating the following specific research questions:

1. Is there any significant difference before and after the students are taught reading comprehension through the Herringbone Technique in finding the main idea of a recount text?
2. Is there any significant difference before and after the students are taught reading comprehension through the Herringbone Technique in finding the supporting details of a recount text?

Based on the research questions above, the following hypotheses are proffered:

H_0 : There are no significant differences before and after the students are taught reading skill trough the Herringbone Technique in finding the main idea of a recount text.

H_a : There are significant differences before and after the students are taught reading skill trough the Herringbone Technique in finding main idea of a recount text.

H_0 : There are no significant differences before and after the students are taught reading skill through the Herringbone Technique in supporting details of a recount text.

H_a : There are significant differences before and after the students are taught reading skill trough the Herringbone Technique in supporting details of a recount text.

The findings of this study are expected to instigate English teachers to further understand the application of HT in the English classroom, especially for teaching reading.

METHOD

This research used the quantitative experimental approach with the pre-experimental design in the form of one group pre-test-post-test design. According to Creswell (2013), this design only involves one group, in which the group is given a pre-test, followed by treatments, and then a post-test. Additionally, the location of the research was SMPN 18 Banda Aceh. By random sampling, class VII-3 was selected as the sample; it consisted of 30 students with 14 female and 16 male students. Random sampling denotes that each student has an equal probability of being selected from the population (Creswell, 2013).

Research Instrument

The research instruments utilized in this study were tests, namely pre-test and post-test. Each of these tests comprised 10 questions, in which these questions fulfill two aspects in reading comprehension: 4 questions on the main idea, and 6 questions on the supporting details. The tests were in the form of multiple choice with four options (a, b, c, and d).The texts were taken from the textbook typically used for the junior high school level in Indonesia, *When English Rings the Bell*.

Data Collection

Five meetings were held to collect data from the pre-tests, treatments, and post-tests. The third author was the teacher during this experiment. The first meeting was the pre-test; the purpose of this test was to obtain the students' scores in reading comprehension prior to the treatments with HT. Here, the class starts with an introduction and followed by a 25-minute pre-test on a recount text.

Meanwhile, the second, third and fourth meetings were when the HT treatments were given based on the procedures proposed by Edwards (2004). Hence, the second meeting started with introducing the recount text to the students, which includes orientation, event, and re-orientation. The third researcher continued by explaining the concept of HT to the class. She then taught the recount text chosen for that meeting by using the HT. She firstly constructed a visual diagram of the Herringbone. And then, she told the students to record their answers on the diagram by filling in the answers to the six questions of: *Who was involved in the text? Where did they do? What did they do? When did they do it? How did they do it? Why did they do it?* (see Figure 2).
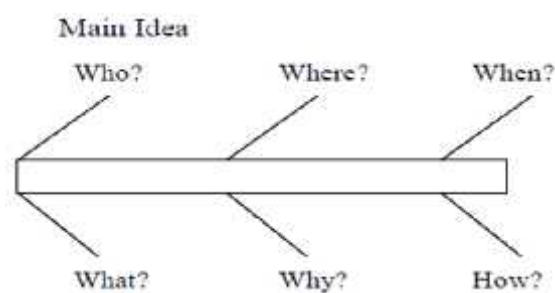

Figure 2: Herringbone Diagram (Taken from Solichah, 2015)

After all of the six questions had been answered, the students were to create the main idea sentence from the information that they had organized by writing the sentence across the diagram. Finally, she discussed the answers together with the students. The third and fourth meetings henceforth followed the

similar stages as in the second meeting, but with different topics of the recount texts.

Finally, in the fifth meeting, the post-test was given to the students and they were also given 25 minutes to complete the test. This was given to measure the students' scores in reading comprehension after implementing the HT in the reading class.

Data Analysis

The researchers quantitatively analyzed the data. First, they calculated the average score (mean) of the students' scores. Arikunto (2010) describes the formula of mean as follows:

$$M = \frac{\sum x}{N}$$

Where :
M = the mean score
$\sum x$ = the sum of the score
N = the number of sample

Before calculating the t-test, the researchers initially calculated the mean of difference (D) with the following formula:

$$D = \frac{\sum D}{N}$$

Where:
D = mean of difference
D = difference
N = number of sample

Then, the researchers used the following t-score formula (Arikunto, 2010):

$$t = \frac{D}{\sqrt{\dfrac{\sum D^2 - \dfrac{(\sum D)2}{N}}{N(N-1)}}}$$

Where:
t = t-count
D = mean of the differences
D = difference
D^2 = square of
N = number of students

Finally, to prove the hypotheses, the researchers compared the results of the limit

score in the measurement table of t-score by using the significant value of 5% (=0.05). There are two rules to compare the t-score. According to Bungin (2005), the testing criterion used for hypotheses results are:

If t-test>t-table, it means that the difference is significant and the hypothesis is accepted.

If t-test<t-table, it means that the difference is not significant and the hypothesis is rejected.

RESULTS AND DISCUSSION

Figure 3 below illustrates the students' reading scores in the pre-test. The Y axis represents the total of students while the X axis represents the scores of students.
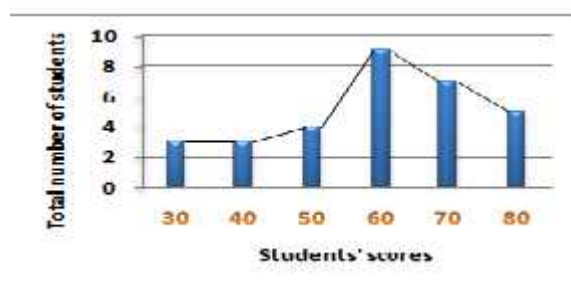

Figure 3: The Pre-test Scores

Figure 3 shows the students' pre-test scores, in which the highest score was 80 (achieved by 5 students) and the lowest score was 30 (achieved by 3 students). This depicts that the students' reading aspects in finding the main idea and the supporting details were still low.

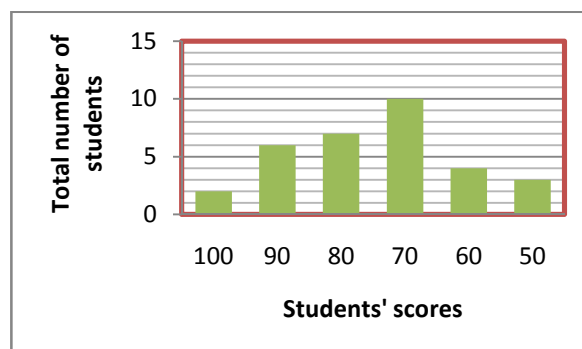Moreover, Figure 4 illustrates the students' scores from the post-test.

Figure 4: The Post-test Scores

Figure 4 shows that the highest score was 100 (achieved by 2 students) and the lowest score was 50 (achieved by 3 students). It can be concluded that the scores of the post-test is higher than the scores of the pre-test.

Likewise, the mean score was calculated to obtain the significant increase from the pre-test to the post-test. The mean of pretest score is59, whilst the mean of the pot-test score is76. This shows that the scores did increase from the pre-test (59) to the post-test (76). The difference of score between the tests was 17 and Figure 5 further portrays the improvement.
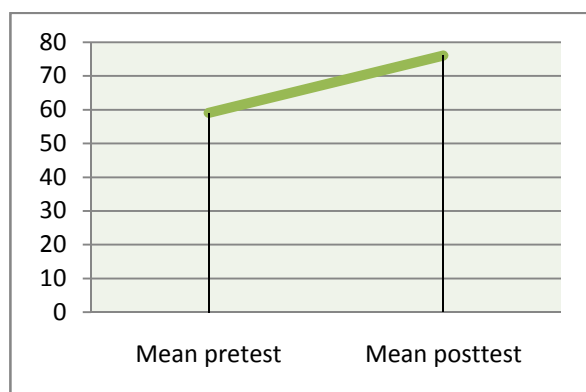

Figure 5: Mean Scores of the Pre-test and Post-test

To end with, the t-test formula was used to analyze the hypotheses and to find the significant differences. And the calculations show that the t-test result is higher than the critical result of t-table (t-test=10.15>t-table=2.045) (see Table 1). This means that the difference is significance and the hypothesis (Ha) is accepted. In view of that, the use of HT in teaching reading could develop and improve students' reading comprehension, especially in finding the main idea and supporting details of a recount text.

Table 1. The Improvement of Students' Pre-test and Post-test Scores

Test	Total score	Mean	T-Test	T-Table
Pre-Test	1770	59	10.15	2.045
Post-Test	2280	76		

However, despite of its advantages in developing students' comprehension in reading, the researchers did also find a disadvantage of this technique while it was implemented in the reading class. That is, when students learn the reading text through graphic representations, their efforts in note-taking were decreased. It is renowned that taking notes while reading is among the support strategy in metacognitive awareness of reading strategies that a reader can employ to better understand a text (Fitrisia, Tan, & Yusuf, 2015). It may not be the most efficient strategy since there are many others and they differ from one individual to another, but note-taking does assist readers in concentrating on the information they read and staying focus on the points relevant to the purpose of reading. It is a strategy that is applicable in managing information (Lo, 2013). Even though this slight drawback did not inhibited the students in improving their reading scores after the treatments, thus the researchers suggest that perhaps, in the future, teachers can apply the HT with note-taking alongside each other in the classroom practice for a more heightened development in reading comprehension.

CONCLUSION AND RECOMMENDATIONS

The study has found that the implementation of HT have developed the students' reading comprehension in an EFL classroom, specifically in finding the main idea and the supporting details. The data shows that the students' scores had increased in the post-test compared to the pre-test after the HT treatments were given to the students, in which the mean of post-test was higher than the pre-test (76>59). In addition, the t-test score was also higher than the t-table score (10.15>2.045) by the significant value of 5% (=0.05), therefore, Ha or the alternative hypothesis is accepted.

This study was conducted with a number of limitations, therefore, for future research, the researchers suggest that the use of a control group can be put into operation in the experiment so that a clearer comparison of those students treated with and without HT is

more well-defined. Larger samples, different level of students, and different school locations are also recommended in relevant prospective researches. It is also proposed that researchers expand their research by collecting students' responses on the use of HT in teaching reading, because their responses can foster teachers in formulating better lesson plans in using this technique.

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