

QUESTION AND ANSWER RELATIONSHIP AND READING COMPREHENSION DEVELOPMENT AMONG THE SOPHOMORE NURSING STUDENTS

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ABSTRACT

The research was administrated to answer the question “is there any significance improvement after they used the Question and Answer Relationship reading strategy?” The data were collected through pre-test and post-test, administered to 29 students and the data was analyzed by using T-test.

From the computation of the pre-test and post-test, the result showed that the participants' comprehension achievement was improved through QAR strategy and the score gained by the participants showed that there was a significant effect of QAR strategy. It is strong enough to improve the students' reading comprehension. The achievements showed that mean difference between pre-test and post-test is 8.7. The $t_{counted} = 6.37 > t_{table}$ = with significance level in 0.00. Standard error mean of the pre-test is 1.15446 and post-test is 0.77600.

The researcher hopes that the finding of present study could give some contribution to the improvement on the teaching reading especially for the faculty of Education at Universitas Advent Indonesia.

Most of us think of reading as a simple, passive process that involves reading words in a linear fashion and internalizing their meaning one at a time. But reading is actually a very complex process that requires a great deal of active participation on the part of the reader. (www.indiana.edu)

There are numerous ways of thinking about how to define reading various models conceptualize it as a bottom-up process (first learning sounds and words that comprise the language code), a top-down process (using whole words sentences, and contexts to support comprehension), and an interactive process (an interactive combination of top-down and bottom up processes). (<http://edweb.sdsu.edu>)

Reading is an active process (not a product, like history) in which readers shift between sources of information (what they know and what the text says), elaborate meaning and strategies, check their interpretation (revising when appropriate), and use the social context to focus their response. (www.siu.edu)

According to Anderson (1985) Reading is the process of constructing meaning from written texts. It is a complex skill requiring the coordination of a number of interrelated

sources of information.

Wixson, Peters, Weber, & Roeber (1987) said that reading is the process of constructing meaning through the dynamic interaction among (1) the reader's existing knowledge; (2) the information suggested by the text being read; a (3) the context of the reading situation. (Available at: www.itrc.ucf.edu)

Through comprehension strategy instruction, students learn a set of useful "tools" that allow them to improve their reading comprehension. To build higher order thinking skills you have to ask good questions. Research suggests that if you mainly ask factual questions, readers will learn to focus mostly on facts when they read. On the other hand, if you ask questions that demand higher-level thinking and use of background knowledge in combination with textual information, they will tend to think this way when they read (Duke & Pearson, 2002). (Available at: www.itrc.ucf.edu)

Questioning has long been used by teachers as a way to guide and monitor student learning. According to Armbruster, Lehr, & Osborn, (2001) questioning is effective for improving comprehension because it gives the students a purpose for reading, focuses attention on what must be learned, helps develop active thinking while reading, helps monitor comprehension, helps review content, and relates what is learned to what is already known. (www.itrc.ucf.edu)

According to Raphael (1986), question-Answer-Relationships help students to realize the need to consider information in the text and information from their own background knowledge. (www.itrc.ucf.edu) QAR serves five primary purpose: (1) Helps students monitor their comprehension of the text; (2) Provides a purpose for reading the text; (3) Allows students to assess their comprehension of the text, (4) Encourage, elaborative and critical thinking,(5) Helps refute the common misconception held by students that the tells all. (www.idialia.edu)

For that reason, the writer is trying to apply the method in teaching atmosphere at Universitas Advent Indonesia, especially for sophomore nursing students. That is why the research is entitled "QUESTIONS AND ANSWER RELATIONSHIP AND READING COMPREHENSION DEVELOPMENT AMONG SOPHOMORE NURSING STUDENTS".

The main problem, which directed this study, is;

"Is there any significance improvement after they used Question and Answer Relationship reading strategy?"

METHODOLOGY

The quantitative research method has been used in this study. For this research the researcher used Ouasi-Experimental design. With cluster random sampling method, means that the writer takes one class among the whole population and use the class as experimental group.

Research Design

This research design is stated as follows:

Table 1. Research Design

Sampling	Pre-test	Treatment	Post-test
	A0	T	A1

A0 = Students' reading scores in pre-test

A1 = Students' reading scores in post-test

T = QAR treatment

Participants

A group of participants who were chosen is sophomore nursing students at Universitas Advent Indonesia- This group was chosen because they have one .more similar characteristics in general. They have studied English since they were in Junior High School up to college; another reason is because of the limitation of the time and expense.

Instrument

To answer the problem of research, die researcher used pre-test and posttest as the instrument. Pre-test was used to find out the independent data and the post-test which was administered after treatment was to find out the dependent data in the research. Both tests were in the form of written test.

Pre-test For the pre-test the researcher took the material from TOPFL test (Test of English as Foreign Language).

Post-test The post-test used the same material as the pre-test. The reason why the researcher chooses the test because it is standardized test.

Data Analysis Procedure

In analyzing the data the researcher used T-test and to prove whether the null hypothesis is accepted or rejected. And the researcher analyzed the difference between pre-test and post-test.

The formula and procedure are as follows:

1. Finding the Mean \bar{X} :

$$\bar{X} = \frac{\sum X}{N}$$

$$\bar{X} = \text{Mean}$$

$$\sum = \text{Sum of scores}$$

$$X = \text{Individual Observation}$$

$$N = \text{The total number of observation}$$

2. Finding the Standard Deviation

$$S_D = \sqrt{\frac{\sum (X - \bar{X})^2}{N - 1}}$$

3. Finding Differences

$$(X - \bar{X})$$

4. Finding Differences Square

$$(X - \bar{X})^2$$

Finding the Significance

$$t_0 = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

\bar{x}_1 = Mean of Pretest

\bar{x}_2 = Means of Post-test

s_1 = Standard Deviation Pretest

s_2 = Standard Deviation Post-test

n_1 = Sum of Respondent of Pre Test

n_2 = Sum of Respondent of Post-test

Data Collection and Data Analysis

In analyzing the data, the researcher analyzed it from the pre-test and post-test score. The data analyzed is shown in table 3 next page. The pre-test and the post-test were administrated to 29 students. From the result of the pre-test it was found that the highest score was 39 and the lowest was 14. From the result of post test the highest score was 42 and the lowest score was 24. The mean score of pre-test was 25.3 and the post-test was 34. From the mean score of the pre-test and post-test, we could see that the mean difference is 8.7.

The result showed significant improvement between the pre-test and the post-test. Raphael's (1986) research with QAR has proven that when students are taught to use their strategy, their ability to answer question correctly improves. Raphael also found that through QAR, students developed a language for talking about the strategies they use to answer questions. (www.itrc.ucf.edu)

Table 2. Pre-test and Post-test

Participants	Pre-test	Post-test
1	39	42
2	37	36
3	35	41
4	34	41
5	33	37
6	29	36
7	29	39
8	29	30
9	27	32
10	27	34
11	27	34
12	25	31
13	25	32
14	25	36
15	25	34
16	25	36
17	25	34
18	25	36
19	23	34

20	22	24
21	22	30
22	22	32
23	21	26
24	20	30
25	29	36
26	18	29
27	16	35
28	16	33
29	14	37
Total	734	987
Mean	24.3	34.0
Mean Difference	8.7	
Standard Deviation	6.2	4.2
Standard error mean	1.15446	0.77600

(for standard error mean, see appendices page 53)

Pre-test

Calculating the mean

The calculated mean score of the pre-test is 25.3. This score is calculated to enable in finding the standard deviation of the pre-test.

$$\bar{X} = \frac{\sum X}{N}$$

$$\bar{X} = \frac{734}{29}$$

$$\bar{X} = 25.3$$

Calculating Standard Deviation

The standard deviation of post-test is 6.22. It means that the different score between the higher and the lower score was 6.22. It is calculated to find out the significance of the significant improvement.

$$S_D = \sqrt{\frac{\sum (X - \bar{X})^2}{N - 1}}$$

$$S_D = \sqrt{\frac{1082,21}{28}}$$

$$S_D = \sqrt{38.65}$$

$$S_D = 6.22$$

Post-test

The calculated mean score of the post-test is 34. This score is calculated to enable in finding the standard deviation of the post-test.

a. Calculating the mean

$$\bar{X} = \frac{\sum X}{N}$$

$$\bar{X} = \frac{947}{29}$$

$$\bar{X} = 34$$

b. Calculating Standard Deviation

The standard deviation of post-test is 4.18. It means that the different score between the higher and the lower score was 4.18. It is calculated to find out the significant improvement.

$$S_D = \sqrt{\frac{\sum (X - \bar{X})^2}{N - 1}}$$

$$S_D = \sqrt{\frac{489}{28}}$$

$$S_D = \sqrt{17.46}$$

$$S_D = 4.18$$

To answer question rose in chapter one "is there any significance improvement after they use Question and Answer Relationship?" the following computation has been computed by using T-test.

$$t_0 = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2} \right) \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Null hypothesis

$H_0 : \mu_1 = \mu_2$ means to say that there is no difference between mean of the pretest and post test.

$H_1 : \mu_1 \neq \mu_2$ means to say that there is difference between mean of the pretest post test.

Coefficient of significance (α)

The confidence level is 95% and the probability level is 0.05. The coefficient significance of the research is 0.025 (two tails significance). It is calculated to find out the t-table distribution:

$$1 - \alpha = 95\%$$

$$\alpha = 1 - 0.95$$

$$\alpha = 0.05$$

$$\frac{\alpha}{2} = 0.025$$

t Table Distribution (t (0.025), V)

The t-table distribution was ± 2.33 ; it means that the maximum limit of the H_0 accepted is in interval of -2.33 and 2.33. T-table is counted to find out the limit of H_0 is accepted or rejected.

$$V = (n_1 - 1) + (n_2 - 1)$$

$$V = (29 - 1) + (29 - 1)$$

$$V = 56$$

$$t = (0.025)(56)$$

$$t = 2.327 = \pm 2.33$$

t-counted2

From the computation bellow, the t-counted obtained is ± 6.22 , it means that the limit of H_1 accepted at the left side is -6.22 and at the right side is 6.22

$$t_0 = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

$$t_0 = \frac{25,31 - 34,03}{\sqrt{\left(\frac{(29 - 1)6.22^2 + (29 - 1)4.28^2}{29 + 29 - 2}\right)\left(\frac{1}{29} + \frac{1}{29}\right)}}$$

$$S\bar{x}_1 - \bar{x}_2 = \sqrt{\left(\frac{(28)38.65 + (28)17.46}{29 + 29 - 2}\right)\left(\frac{1}{29} + \frac{1}{29}\right)}$$

$$S\bar{x}_1 - \bar{x}_2 = \sqrt{\left(\frac{1082.20 + 488.88}{58 - 2}\right)\left(\frac{2}{29}\right)}$$

$$S\bar{x}_1 - \bar{x}_2 = \sqrt{\left(\frac{1571.10}{56}\right)\left(\frac{2}{29}\right)}$$

$$S\bar{x}_1 - \bar{x}_2 = \sqrt{(28.06)(0.07)}$$

$$S\bar{x}_1 - \bar{x}_2 = \sqrt{1.93}$$

$$S\bar{x}_1 - \bar{x}_2 = 1.93$$

$$t_0 = \frac{25.31 - 34.03}{1.39}$$

$$t_0 = \frac{-8.72}{1.39}$$

$$t_0 = -6.271$$

FINDINGS AND DISCUSSION

This research entitled “Question and Answer Relationship and Reading Comprehension Development among Sophomore Nursing Students.”

The research was conducted to answer the question “is there any significant improvement after they used Question and Answer Relationship reading strategy?”

Question and Answer relationship is a reading strategy which teaches students to identify four types of questions. It teaches the students to consider the need of information whether it is on the text or their background knowledge,

The data were collected through pre-test and post-test, conducted to 29 students and the data was analyzed using T-test. From the computation of the pretest and post test, the results showed that the participants' comprehension achievement was improved through QAR strategy and the score gained • the participants showed that there was a significant effect of QAR strategy is strong enough to improve the students' reading comprehension. The achievements showed that mean difference between pre-test and post-test is 8.7. The $t_{\text{counted}} = 6.27 > t_{\text{table}} = 1.96$ with significance level in 0.00. Standard error mean pre-test is 1.15446 and post-test is 0.77600.

The researcher hopes that the finding of present study could contribution to the improvement the teaching reading especially for the faculty of Education at Universitas Advent Indonesia.

CONCLUSION AND SUGGESTIONS

To answer the question which is presented in the statement of the problem: “is there any significant improvement after they used Question and Answer relationship reading strategy?” The researcher drew the conclusions as follows?

1. Question and Answer Relationship reading strategy succeeded on improving reading comprehension. It is shown by the mean of the pre-test is 24.3 (before the treatment) and the mean of post-test is 34.0 (after the treatment) which is significantly different with the level of significance at <0.05 .
2. Question and answer relationship helped the students to identify four different types of questions. Based on the categories they could realize the need to consider information in the text and information from their own background knowledge.
3. The variety of reading material and activities which was used to apply the strategy trained the students to be more capable in identifying different types of question and it also enable them to make their own questions.
4. Students' prior knowledge of the material which was given important part for the success of applying there are two QAR category questions which requires students' prior knowledge.

From the conclusion above, some suggestions is given as an effort to increase the uses and the effectiveness of Question and Answer Relationship In teaching reading.

1. For teacher
 - a. It is suggested that the teacher have to give a good understanding of QAR, especially on four QAR category question and the two major categories which are very essential part of the strategy.
 - b. The teacher should equip the strategy with various kinds of reading material and class activities. The variety of material and activities brought them into a higher level of comprehension.
 - c. Group activities and discussion would give a better understanding of the strategy and a well planed of this strategy would make this strategy more effective.
2. For other researchers who want to do more intensive study on this problem are suggested to do the research on a larger sample and have more extra time than what has been done.

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