THE EFFECT OF THE PORPE STRATEGY
ON READING COMPREHENSION ATTAINMENT

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Abstract: The purposes of the research were to investigate the effect of the PORPE strategy on students' reading comprehension attainment scores, differences of the scores between the male and female students, and significance of group and gender effects on the students' scores. The non equivalent pre test and post-test design, one of the quasi experimental designs, was applied. The research subjects were 80 second semester students in the 2012/2013 academic year at English department of Sriwijaya State Polytechnic. To collect the data, 40 multiple choice questions of reading comprehension test were used. The data were analyzed with t-test and multiple regression test. The research findings showed that: (1) the application of the PORPE strategy could significantly improve students' reading comprehension attainment scores in the experimental group compared with the control group (54.63 – 71.13 against 52.88 – 60.13); (2) the male students' reading comprehension attainment scores were higher than the female students' scores; and (3) the sex and group had a significant effect on the attainment scores of the students.

Keywords: Reading comprehension, PORPE, t-test, multiple regression, outlier

INTRODUCTION

Reading skill is needed for study, work, and daily life; through reading, people can gain more knowledge, skills, and joy. California Task Force (2002) reports that the ability to read is crucial to the success of all students because it is the most important academic skill and the foundation for all academic learning; it is also essential to success in society. Furthermore, Krishnamoorty (2002) states that reading is one of the greatest pleasures, and reading also enhances many skills, e.g. thinking skill, language ability, and power of imagination. Moreover, Academic Cuesta (2003) confirms that reading is probably the most important activity we can do to "get ahead" in life.

Reading comprehension is essential, but it may be problematic for some readers. In order to get information from a text, the readers need to comprehend the text. However, as stated by McNamara (2007), readers may encounter any number of roadblocks in the path to comprehension. Furthermore, National Reading Panel (2000) informs that many readers are not aware of comprehension strategies and are not likely to develop them on their own. In might happen because, as stated by Kintsch (1998), reading comprehension is seldom taught although it is often tested.

To overcome such issues, it is important for teachers to teach reading comprehension strategies to their students. According to Cooper (1997), comprehension instruction begins at the pre-reading level and continues through all levels of the reading program. Cook & Mayer (1993) claims that teachers teaching the strategies should integrate their strategy instruction into their ongoing teaching. The students need to be familiar with some reading strategies because although one particular strategy may be very appropriate for one reader, it might not work for another. Moreover, National Reading Panel (2000) states that a reader uses various strategies to interact with and comprehend a text. Furthermore, Kintsch (1998) explains male and female students have different attitudes toward the implementation of reading strategies; female students use more strategies in reading than male students.

Therefore, students should be taught some reading strategies – how and what skills to be applied when reading a certain type of text – in order to enhance their comprehension.

One of reading strategies needs to be taught to students is the PORPE strategy. When students employ the steps of PORPE while they read and study, they behave like Baker and Brown's (1984) "effective readers" who are encoding information and regulating their own learning. The first three steps of PORPE – Predict, Organize, and Rehearse – involve students in the encoding processes of selection, acquisition, construction, and integration. The last two steps – Practice and Evaluate – involve the students in the metacognitive processes used to regulate and oversee learning. The five steps of the PORPE strategy operationalize the cognitive and metacognitive processes that effective readers engage in to understand and subsequently learn content material.

The problems of the research are formulated in these questions: (1) Do students who are taught by using the PORPE reading comprehension strategy show significant attainment scores compared with those who are taught by using traditional reading comprehension strategies? (2) Do female students attain higher reading comprehension scores than male students? and (3) Do group and gender have a significant effect on students' attainment scores? The main purpose of the research is to examine the effect of the PORPE reading comprehension strategy on the second semester students' reading comprehension abilities.

METHODOLOGY

In this research, the writers used one of the quasi-experimental designs, non equivalent pre-test and post-test design (Creswell, 2005). The design involved experimental and control groups; the experimental group was given a pre-test, a treatment and a post-test, while the control group was given a pre-test and a post-test without a treatment. The variables were the PORPE reading comprehension strategy (independent variable) and students' reading comprehension attainment scores (dependent variable). The subjects studied in this project were 80 students (four classes) in 2012/2013 academic year at English department of Sriwijaya State Polytechnic. They were divided into two groups: experimental and control groups.

The data were collected through a reading comprehension test consisted of 40 multiple choice questions. Before piloting the test, validity and reliability of the test were assessed. To obtain the content validity of the test, a set of questionnaires were distributed to nine respondents to determine the levels of difficulty and appropriateness of each item of the test. Downie and Heath (1974) inform that the analysis of the test item leads to three kinds of information: (1) the difficulty of the item, (2) the discrimination index of the item and (3) the effectiveness of the distracters. Because the test was in the form of multiple-choice items, the three kinds of information were necessary. To assess the reliability of the test, the split-half method was applied. It was found that the reliability coefficient of the test was 0.999. According to Wallen and Fraenkel (1991), for research purposes, a rule thumb is that reliability should be at least 0.70 and preferably higher. After finding out the correlation, the Spearman Brown formula was applied and the result was 0.99; it means the questions are reliable.

For analyzing the data, the writers used t-test (paired samples and independent samples) and multiple regression analysis. The Statistical Package for Social Sciences (SPSS) version 19 was employed to do all of the computations.

FINDINGS AND DISCUSSION

To examine more closely the group differences, t-test was presented and finally the multiple regression analysis was carried out to explore other possible factors that might affect the outcome of the experiment.

The pre-test (before treatment) is 53.75, while the post-test (after treatment) is 66.63. The second output is the result of correlation between two variables, producing value 0.773 with the probability below 0.05 (the significant output value is 0.000). It confirms that the correlation between the pre-test and post-test is really strong. From t-table, the obtained value is 1.990. Since t-obtained value is in the H_0 rejected region. It can be inferred that the two populations are not evidently identical.

The post-test for the experimental group is 71.13, and the post-test for the control group is 60.13. It can be said that the post-test value obtained by the experimental group is higher than that of the control group.

The mean difference is 11.000 (71.13 minus 60.13). From the F-test, it is obtained that the test for mean difference is done with Equal Variances Assumed. From 95% confidence interval of the difference and the column of Equal Variances Assumed, it is obtained that Lower (mean difference of low parts) is 6.859, and Upper (mean difference of up part) is 15.141. It means that the post-test difference between the experimental and control group is around 6.859 to 15.141, while the mean difference is around 11.000. The pre-test for experimental group is 54.63 and the pre-test for control group is 52.88. In short, the pre-test value obtained by the experimental group is higher than that of the control group.

F-obtained value with Equal Variances Assumed is 0.181 with probability 0.672. Since probability is bigger than 0.05, H_0 is accepted; in other words, both variances are identical. Since there is no significant difference from two variances, t-test with Equal Variances Assumed must be applied to differentiate Equality of Means.

T-obtained value for the pre-test with Equal Variances Assumed is 0.877 with the probability 0.383. Since the probability is bigger than 0.05, both means are identical. After being tested with F-test and t-test and known Equal Variances Assumed, the next step is knowing how big the difference is. From the output, it is clearly seen that the mean difference is 1.750.

From the F-test, the mean difference is calculated with Equal Variances Assumed with 95% Confidence Interval of the Difference and the column of Equal Variances Assumed. It is obtained that Lower (mean difference of low part) is -2.223 and Upper (mean difference of up part) is 5.723. It means that the pre-test difference between the experimental and control group is around -2.223 to 5.5723, while the mean difference is around 1.750.

To take into account the difference in reading test attainments, a multiple regression analysis was carried out. The multiple regression analysis explored the effects on the outcome test scores of the pre-test along with other factors that might contribute to students' progress. The multiple regression analysis is an analytic technique for assessing relationship among variables: one response and two or more explanatory variables. Thus, multiple regression analysis is expected to show the relationship between reading test outcome (response variable) and pre-test, experimental/control group and gender in the research.

Before analyzing the data using the multiple regression analysis, there were some steps done to fit an appropriate model analysis. The first step was deciding a form of the model to be used. The second was exploring and plotting the data to check, for example the distributions and outliers. The third was using a statistical usage to fit and estimate the chosen model; at this step, the model might need to be reformulated to fit the analysis. The last was interpreting the results of analysis.

The histograms, boxplots, and scatterplot show that (1) the distributions of pre-test and post-test attainment scores are approximately normal; (2) the males have higher scores

than the females' in the post reading comprehension attainment scores and there is no even an outlier found in the boxplot of post reading comprehension scores by the male; (3) the experimental group has higher scores than the control group's and there is no even an outlier in the boxplot; and (4) the scatterplot of post reading comprehension attainment scores is linear. Then a multiple regression analysis was applied.

The coefficient correlations between sex to pre-test and sex to post-test are 0.999 and 0.528 in which their significance levels are 0.192 and 0.000. The significance level of 0.192 indicates that the positive significant correlation between sex and pre-test does not occur, while the significance level 0.000 informs that there is a positive significant correlation between sex and post-test. In the long run, it can be inferred that sex and group significantly contribute to the post-test attainment scores.

CONCLUSIONS

Considering the results of the present research, it is obvious that the PORPE strategy can be an alternative teaching strategy for teaching reading comprehension at Polytechnics because it can increase the students' reading comprehension attainment scores. In addition, the PORPE strategy provides the students with opportunities to interact and help each other. Furthermore, the strategy can be easily adopted as it does not require any significant changes from the current conditions and situations of classrooms. Therefore, the PORPE strategy can be considered more appropriate and beneficial than traditional reading comprehension strategies in relation to raising the students' reading comprehension attainment scores.

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