



The Effectiveness of CIRC in Teaching Reading on Descriptive Text for Vocational High School Students

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Abstract

This study investigates whether students instructed adopting the Cooperative Integrated Reading and Composition (CIRC) method achieve higher reading proficiency compared to those taught with the Grammar Translation Method (GTM). The study focuses on effect of CIRC toward teaching reading on second-year students and employs a non-randomized pretest-posttest design within a quantitative research framework. 30 students in two groups serve as the experimental subjects. Data analysis is conducted using ANCOVA. Findings indicate that students taught with the CIRC method have an estimated marginal mean score of 73.587, while those taught with GTM have a score of 69.133. This suggests that the CIRC method leads to superior reading achievement. Based on these results, it is recommended that educators adopt the CIRC method to enhance reading skills.

Keywords: CIRC method, effectiveness, reading, teaching,

Introduction

Language plays a crucial role in communication, serving as a primary tool for interaction among nations worldwide. English is as a global lingua franca, holds significant importance and is intricately linked to various facets of human life. In Indonesia, English is considered as the first foreign language and is formally taught from elementary through university levels. A common concern is the ability of teachers to effectively implement suitable approaches, methods, strategies, or techniques in teaching and learning. Consequently, many students lack interest in learning English. Therefore, it is recommended that English teachers master diverse methods to enhance their teaching effectiveness. Harmer (2007) emphasizes that a qualified teacher is one who can appropriately match the method or technique to the material being taught.

The four core English language skills are speaking, listening, writing, and reading. Among these, reading is especially important in education, requiring consistent training for students to develop strong abilities. Indeed, students' academic success is largely dependent on their reading proficiency; deficiencies in this area can lead to difficulties or failure, while strong reading skills greatly improve their chances of succeeding. To foster better reading skills, the writer utilizes the Cooperative Integrated Reading and Composition (CIRC) method. This cooperative learning strategy actively engages students in the learning process and encourages interaction between students and the teacher, as well as among the students themselves. The writer posits that this method is more effective than traditional approaches, such as the grammar-translation method consistent in use by some teachers. The writer argues that the

traditional method's focus on individual translation hinders collaboration and limits the development of weaker students.

Methods

This research employs an experimental design, a type of scientific inquiry that examines the relationship between at least two variables to determine if there's a significant connection (Ary, Donald, 2017). These variables are categorized as independent and dependent. The independent variable is the one the researcher manipulates or changes, while the dependent variable is the outcome or effect that is observed due to this manipulation, without direct manipulation by the researcher. This study specifically examines the effectiveness of the CIRC method in teaching reading comprehension of descriptive texts to second-grade students, utilizing a quasi-experimental research approach. The selected design is a nonrandomized control group with a pretest and posttest. As defined by (Ary, Donald, 2017), this design is a type of quasi-experiment where participants are not randomly assigned to the experimental and control groups.

In this non-randomized control group, pretest-posttest design, both the experimental and control groups are given a pretest before any intervention, regardless of their prior academic standing. The researcher administers both a pretest and a posttest to each group. The experimental group receives the CIRC method as the treatment, while the control group does not receive any specific intervention and serves as a comparison to assess whether there is a significant difference in students' posttest achievement. To implement this experimental design, the researcher alters the teaching method to assess its effect on students' reading comprehension of descriptive texts. The teaching method employed (CIRC or GTM) serves as the independent variable, while students' achievement in reading comprehension of descriptive texts is the dependent variable. Two distinct teaching methods are applied: the CIRC method for the experimental group (EG) and the Grammar-Translation Method (GTM) for the control group (CG). Additional details regarding the implementation of these methods will be provided in the following sections (Grabe, 2009).

A. Research Variable

As mentioned earlier, this study concentrates on two main variables. The independent variable is varied by the researcher through the application of different teaching approaches for the students. One group, referred to as the Experimental Group (EG), is taught descriptive texts using the CIRC method. The other group, called the Control Group (CG), learns descriptive texts through the Grammar-Translation Method (GTM). The dependent variable, which is the outcome assessed as a result of this variation, is the students' reading comprehension achievement specifically related to descriptive texts.

B. Subject of Study

In doing this research, the researcher chooses the second grade vocational students population of the experiment. Then, the researcher takes two classes as the subject of experiment. They were consisted of 30 students.

C. Research Instrument

An instrument is required to evaluate students' reading comprehension levels during both the pre-test and post-test phases. Brown (2008), who defined a research instrument as a tool or facility used by researchers to collect data efficiently, yielding improved accuracy, completeness, and systematic results that facilitate easier processing. In this study, the researcher employs a test to measure student achievement. According to (Brown, 2008), a test

is a method used to evaluate an individual's ability, knowledge, or performance in a specific area.

For this test, the researcher developed multiple-choice questions accompanied by relevant texts to aid students in selecting their answers. The test comprises several short reading passages, each followed by a total of 30 questions, each with five possible answer choices. Clear and concise instructions are provided at the beginning of the test to ensure students understand the task before they begin.

D. Reliability

According to Brown (2008), A dependable test produces consistent and trustworthy results. Test reliability relates to how stable, dependable, or consistent test scores are over time. There are three main methods to evaluate a test's reliability: test-retest, equivalent forms, and internal consistency. In this study, the Spearman-Brown prophecy formula was employed to assess reliability. This formula is an equation that modifies the correlation between two halves of a test to estimate the reliability of the entire test. Before applying the formula, the researcher first calculated the Pearson product-moment correlation coefficient (Pearson's r) between the two halves of the test scores (Brown, 2008). Pearson's r is a statistical metric employed to assess the relationship between two continuous data sets and is computed using the following formula:

$$r_{\frac{1}{2}\frac{1}{2}} = \frac{\Sigma XY - \frac{(\Sigma X)(\Sigma Y)}{N}}{\sqrt{\left\{\Sigma X^2 - \frac{(\Sigma X)^2}{N}\right\}\left\{\Sigma Y^2 - \frac{(\Sigma Y)^2}{N}\right\}}}$$

Where the symbols are described as follows:

- $r_{\frac{1}{2}\frac{1}{2}}$ = Pearson r for the half test
- ΣX = sum of scores in X distribution
- ΣY = sum of scores in Y distribution
- ΣX^2 = sum of the squared scores in X distribution
- ΣY^2 = sum of the squared score in Y distribution
- ΣXY = sum of products of paired X and Y scores
- N = number of paired X and Y scores (subjects)

The next, the established correlation coefficient will be processed by using Spearman-Brown prophecy formula which formulated as follows:

$$r_{xx} = \frac{2r_{\frac{1}{2}\frac{1}{2}}}{(1 + r_{\frac{1}{2}\frac{1}{2}})}$$

The symbols are described as follows:

- r_{xx} = estimated reliability of the entire test
- $r_{\frac{1}{2}\frac{1}{2}}$ = coefficient reliability of odd and even score test

Brown (2008) It was noted that the Spearman-Brown formula is employed to estimate the reliability of the entire test. In this study, the combined reliability of the pre-test and post-test was determined to be .474. Additionally, the reliability coefficients for the pre-test and post-test scores within the control group (CG) and the experimental group (EG) were both .567. These reliability values were readily obtained using SPSS version 20.0 for Windows.

E. Validity

Brown (2008) defined test validity as the extent to which a test accurately measures what it is intended to measure. Brown also described the connection between reliability and validity as follows:

It was explained that although a test can consistently yield the same results (reliable), it may not necessarily assess what it is intended to measure (valid). Consequently, reliability and validity are separate but interconnected qualities of a test. In fact, reliability is a prerequisite for validity; a test cannot be considered valid unless it is first reliable.

There are three main methods for evaluating the validity of a test: content validity, construct validity, and criterion-related validity. In this study, the researcher used content validity to ensure that the test accurately reflects the content it aims to measure. The validity analysis was performed on a preliminary test comprising 25 reading comprehension questions.

The observed correlation coefficient (X) from the try-out test is higher than the two-tailed significance level, indicating that the test is valid. Valid tests should include various item types that accurately reflect the specific abilities being measured. To ensure the validity of the tests used in this research, the researcher created reading comprehension tests for both the pre-test and post-test using several descriptive texts or passages, each followed by related questions. Both tests consisted of 30 multiple-choice questions based on the vocational syllabus (Creswell, 2007).

a. Pre – Test

The main purpose of administering a pre-test is to evaluate students' current understanding of the material covered in the test passages. In this study, both Group 1 and Group 2 completed the same pre-test during the initial session. The results of the pre-test enabled the researcher to determine which group would function as the control group (CG) and which as the experimental group (EG). Later, in the second session, the researcher began teaching the selected content using the CIRC method for the experimental group and the grammar-translation method for the control group.

b. Treatment

The researcher employed various teaching methods. The experimental group was taught using the CIRC method, while the control group received instruction without employing the CIRC method.

c. Post – Test

After conducting the pre-test and implementing the instructional interventions, the researcher administered a post-test to both groups during the final session. This post-test aimed to assess the students' learning progress following the treatment and to compare the outcomes, thereby evaluating the research hypothesis. The scores from both the pre-test and post-test were analyzed to determine whether there was a statistically significant difference in reading comprehension of descriptive texts between second-grade students taught with the CIRC method and those taught with the Grammar-Translation Method.

F. Data Analysis

To analyze the research data, the researcher used Analysis of Covariance (ANCOVA), a statistical technique that allows for partial control of one or more variables. By adjusting for these variables, ANCOVA provides a more precise comparison of groups regarding the dependent variable. This method is employed to statistically control for the effect of an extraneous variable that is known to be correlated with the dependent variable. (Ary, Donald, 2017). The variable employed in this technique to modify the scores is referred to as the

covariate. (Ary, Donald, 2017) It indicates that ANCOVA is a more effective method, providing more interpretable results than merely comparing the scores of the two experimental groups. (Pallant, 2016) It is noted that ANCOVA is appropriate for a two-group pre-test/post-test design. When choosing a covariate, the researcher must verify that it is a continuous and reliable variable that has a significant correlation with the dependent variable. In this study, pre-test scores were used as the covariate to account for any initial differences between the groups. It is important that the covariate is measured prior to the intervention to ensure that the treatment does not influence the pre-test scores.

Results and Discussions

A. Presentation of Data Analysis

To analyze the data, a one-way ANCOVA will be used, including assessments of normality, homogeneity of variance, linearity, homogeneity of regression slopes, and the reliability of the covariates. Ultimately, this research aims to determine whether there is a significant difference in reading comprehension outcomes for descriptive texts among second-grade students who were taught using the CIRC method versus those instructed with the grammar-translation method.

B. Testing of Linearity

One of the necessary additional assumptions for ANCOVA, as highlighted by (Pallant, 2016), Linearity refers to the existence of a straight-line relationship between the post-test scores (the dependent variable) and the pre-test scores (the covariates) within each group. The following output presents the results of the linearity test conducted after adjusting for students' scores before and after the intervention. The legend accompanying the image offers essential information for interpretation. From the image, the initial observation is the presence of a straight line, indicating a linear relationship between the dependent variable and the covariate across all groups. Additionally, the legend displays the squared R value (R^2 Linear), which indicates the strength of this linear correlation.

C. Testing of the Homogeneity of Regression Slopes

The next assumption of ANCOVA examined is the homogeneity of regression slopes, which refers to the consistency of the relationship between the dependent variable and the covariate across different groups. Based on the similarity of the lines observed in the previous linearity output and the non-significant interaction term (Group * Pretest, $p = .678$) shown in the table, this assumption appears to be met, consistent with the linearity scatter plots.

Table 1. Levene's Test of Equality of Error Variances^a
Dependent Variable: Posttest

F	df1	df2	Sig.
.768	1	58	.385

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Group + Pretest + Group * Pretest

Based on table 1 shows Additionally, the assumption of equal error variances was assessed using Levene's test. The test yielded a non-significant result with a value of .385 ($p > .05$), indicating that the error variances are equal and that this ANCOVA assumption has been satisfied .

D. Research Assumption

The primary research question aimed to determine whether there were significant differences among the groups regarding their scores on the dependent variable. The analysis shown in the table above indicates that the independent variable (Group) has a significance level of .048, which is below the conventional threshold of .05. This suggests that the differences between the groups are statistically significant. To assess the practical importance of this finding, the effect size is examined through the partial eta squared value. The table reports a partial eta squared of .005, meaning that only 0.5% of the variance in the dependent variable can be attributed to group differences.

Additionally, the effect of the covariate was analyzed. The interaction between Group and Pretest yielded a non-significant result of .678 (greater than .05), suggesting that the covariate did not have a significant effect on the dependent variable. The partial eta squared for the covariate is .003, or 0.3%, indicating that it explains a very small portion of the variance in the dependent variable.

Finally, the table of estimated marginal means (corresponding to the Group table) shows the adjusted means for each group on the dependent variable after accounting for the covariate's influence.

Discussions

The researcher summarized the results of the ANCOVA as follows: The ANCOVA procedure was used to determine whether the Cooperative Integrated Reading and Composition (CIRC) method was more effective than the grammar-translation method for teaching reading of descriptive texts to second-grade vocational high school students. The two instructional methods served as the independent variable, while reading achievement after the intervention was the dependent variable. Pre-test scores were included as a covariate in the analysis. After confirming that all necessary ANCOVA assumptions were met, the analysis found a significant difference in post-test reading achievement between the two groups, despite the pre-test scores initially showing a significant difference. Consequently, the research hypothesis—which posited that students taught reading comprehension of descriptive texts using the CIRC method would achieve significantly higher learning outcomes than those taught with the Grammar-Translation Method at the second-grade level was supported.

Conclusions

After reviewing relevant literature, previous research findings, and the data analysis presented in the previous chapter, the researcher concludes that the Cooperative Integrated Reading and Composition (CIRC) method notably improves students' reading achievement, particularly their comprehension of descriptive texts. Implementing this effective teaching approach in the classroom creates a more engaging and meaningful learning environment for students.

Suggestion

Based on the aforementioned research conclusion, the researcher offers several suggestions intended to benefit teachers, students, and future researchers in related fields. For Teachers: This research can serve as a valuable resource for teachers seeking to expand their knowledge and enhance their classroom teaching skills. By incorporating innovative and interactive teaching methods, teachers can optimize the outcomes of their lessons. This is particularly relevant for English teachers in Indonesia, where a foreign language in Indonesia is English language. For Students: This research also holds benefits for students, who are central to the teaching and learning process. It highlights opportunities for them to significantly

improve their learning abilities and communicatively develop their skills, especially reading. Through collaborative learning and interaction with teachers and peers, students can gain greater confidence and security in their learning, enabling them to overcome academic challenges with less apprehension or fear of isolation. For Future Researchers: The researcher gained significant and practical insights from this study, including new experiences and effective strategies for addressing teaching and learning challenges in the context of English as a foreign language. Therefore, future researchers are encouraged to conduct more critical and impactful research aimed at solving educational problems in the country. Their research should prioritize goals that contribute to the improvement of teaching and learning practices in schools.

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