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Reading In Tandem: Improving the Level of Reading Comprehension of Grade 11 Students in Basic Calculus

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Abstract — The researchers determined the viability of the reading in tandem strategy to improve the reading level of Grade 11 students in basic calculus at Naguilian National High School. This study sought to answer the following questions: (1) What is the level of reading comprehension of Grade 11 students in basic calculus in pretest and posttest? (2) Is there a significant difference in the level of reading comprehension of Grade 11 students in basic calculus in pretest and posttest? (3) What are the impressions of the students in using the reading in tandem intervention? The study utilized a quasi-experimental One-Group Research Design with nine learners in basic calculus under instructional level. Results showed significant improvement in reading comprehension post-intervention, indicating the effectiveness of the reading in tandem strategy.

Keywords — Quasi-experimental one-group pretest-posttest research design, reading comprehension, reading in tandem intervention/strategy, independent reader

I. Introduction

The COVID-19 pandemic caused significant disruption to traditional education, leading to learning losses and regression in students' reading abilities. The Department of Education (DepEd) has committed to addressing these learning losses. In the context of global and national concerns about reading proficiency, studies have highlighted the critical link between reading comprehension and academic performance, particularly in subjects like mathematics. At Naguilian National High School, 9 out of 43 Grade 11 STEM C students were identified as instructional readers, prompting the implementation of a reading in tandem strategy. This study aims to evaluate the effectiveness of this intervention in improving their reading comprehension in basic calculus.

II. Methodology

Participants

The study involved nine Grade 11 STEM C basic calculus students (four males and five females) identified as instructional readers based on the Phil-IRI pretest results for the school year 2022-2023.

Data Gathering Methods

A quasi-experimental One-Group Research Design was employed. A 20-point pretest and posttest were administered to assess reading comprehension levels. The test items were sourced from the first four Self-Learning Modules in Basic Calculus, prepared and validated by La Union Schools Division Office.

Intervention

The reading in tandem strategy paired nine instructional readers with nine independent readers of the same gender. The intervention was conducted over four weeks, with sessions held 60 minutes after class on Mondays, Wednesdays, and Fridays. Reading materials were approved by the English Department Head and School Head.

Data Analysis

Frequency, percentage, and weighted mean were used for descriptive statistics. A t-test was conducted to compare pretest and posttest scores. Narrative analysis was used to assess students' impressions of the intervention.

III. Results and Discussion

Reading Comprehension Levels

Before the intervention, all nine students were at the frustration level. Post-intervention results showed significant improvement: 1 student remained at the frustration level, 6 students moved to the instructional level, and 2 students reached the independent level.

Reading Comprehension Level	Pretest	Posttest
Independent	0	2
Instructional	0	6
Frustration	9	1

Statistical Analysis

The t-test results indicated a significant difference in pretest and posttest scores (p-value < 0.000001), with the average score increasing from 6 to 14.

Reading In Tandem	Mean	p-value	α	Decision	Interpretation
Pretest	6	0.000001	0.05	Reject Ho	Significant
Posttest	14				

Student Impressions

Students reported positive experiences with the reading in tandem intervention, noting improvements in confidence and reading abilities. One student, however, remained at the frustration level due to shyness and low confidence.

Discussion

The significant improvement in posttest scores supports the effectiveness of the reading in tandem strategy in enhancing reading comprehension. The paired reading approach fostered a supportive learning environment, increased motivation, and provided immediate feedback, contributing to the overall success of the intervention. However, individual differences in confidence and motivation highlight the need for additional support for some students. The findings are consistent with existing literature on the benefits of peer-assisted learning and the critical role of reading comprehension in academic success.

IV. Conclusion

The reading in tandem intervention significantly improved the reading comprehension levels of Grade 11 STEM C students in basic calculus. The strategy proved effective in transforming instructional readers into independent readers, demonstrating its potential for broader application.

V. Recommendations

1. Careful planning and observation of learner attitudes during tandem reading.
2. Gradual increase in pretest and posttest points for better performance analysis.
3. Development of group reading support and restrictions to prevent misbehavior.
4. Implementation of the reading in tandem strategy in other grade levels.

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