

Cooperative Instructional Strategies and Performance Levels of Students in Reading Comprehension

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ABSTRACT Using the Think-Pair-Share Method (TPSM) and Reciprocal Teaching Method (RTM) as cooperative methods, the study was used to investigate the comparative effects of these two methods on students' performance levels. The quasi-experimental design of non-equivalent and non-randomized pre-test, post-test control group was employed in the study. Ninety-six (96) students were sampled for the experimental groups and forty-eight (48) students were sampled for the control group. Two main researcher-designed instruments were used for the study. Reliability index was determined through a test-retest procedure of two weeks interval. Reliability coefficient of 0.88 and 0.90 were obtained using Pearson Product Moment Correlation Coefficient and Guttman's Split-half statistics respectively. Data was analyzed using Analysis of Covariance (ANCOVA) for the two null hypotheses generated at 0.05 level of significance level. The findings indicated that the Reciprocal Teaching Method (RTM) of cooperative instruction was the most effective method of teaching reading. This was closely followed by the Think-Pair-Share Method (TPSM) ($F_{cal} = 3.29$ significant at 0.05) while the Conventional Instruction Method (CIM) was the least. There was a significant effect of the TPSM and the RTM methods on reading comprehension of students of high, average and low performance levels. It was concluded that these methods were superior to the conventional method and therefore should be used in schools.

INTRODUCTION

One of the prominent features of learners in the school system that influence activities is their distinct characteristics in terms of age, height, sex, home background, interest and ability. Okobia (1994) asserts that children differ in terms of intellectual abilities. While some are above average, some are of average intelligence and some are dull. Again, some children also exhibit differences in terms of verbal reasoning, numerical ability, clerical speed and accuracy, language usage, space relation and mechanical reasoning. Arua (2003) states that students' reading abilities are often grouped into three according to performance levels: frustration, instructional and independent. A pupil operating at the independent level needs no help from the teacher. He/she is able to read the text for pleasure, and between the lines. At the instructional level, the pupil needs the teachers' help. He/she is able to read along the lines. It is referred to as the ideal level. The frustration level implies that no amount of help from the teacher will enable the pupil to comprehend the text. The text is too difficult for pupils at this level to process.

In a study by Oyetunde (2003) on how secondary students' process print findings showed that majority of the readers were at the frustration level using narrative expository texts. In his opinion, since children differ in their abilities and

performance levels, it is necessary that teachers should organize them into small groups in such a way that instruction is provided on a small level that will be of benefit to each student.

In a study by Isuigo-Abanihe (2002) on qualitative evaluation of reading instruction of primary schools in Abia State, a sample of 20 teachers from 10 primary schools and 698 pupils participated. A two-stage qualitative observation procedure was adopted for data collection. Results indicate that in none of the classes were learners observed reading nor discussing in small groups. According to her, this practice offered little or no opportunity for the average ability and poor readers to interact with the text. The large class sessions offered the weaker pupils opportunity to observe their stronger counterparts excel.

Webb in Gillies and Ashma (1992) found that high ability students gave more help to their peers in mixed ability groups than they did in uniform ability groups. Conversely, medium-ability students gave and received more explanation in uniform ability groups than they did in mixed ability groups.

Gillies and Ashma (1992) in their study on effect of gender and ability on students behaviour and interactions in classrooms based work groups, had 440 participants in the study, 6 children each participated and worked on class-based activities in small groups structured so that all

the members had to cooperate in order for the group to achieve its academic objectives. Contrary to expectation and the findings of other researchers, the effects of different ability and gender compositions in the group on the members' behaviour and interaction were minimal. Findings showed that the group members, irrespective of gender and ability, had more time to work together; they became more responsive to the needs of each other and gave more explanations to assist each other's learning so that all groups achieved comparable learning outcomes.

Slavin and Tanner (1979) cited in Oladunjoye (2003) assert that cooperative discussions improve students' recall of text content. When students read a text together and explain the concepts to each other and evaluate each other's explanation, they engage in high-level critical thinking or critical comprehension.

Alebiosu (2001) conducted a study on cooperative learning and students' effective learning outcome in chemistry classrooms employed the STAD and Jigsaw II models of cooperative instruction. The study adopted a pre-test post-test quasi experimental control group design involving 250 SS II Chemistry students. The results showed that STAD had the highest adjusted post test mean score followed by Jigsaw II while the least was the conventional method.

Again, the ability levels of students have been found to play a major role in their achievement and so it is equally included as a variable. The ability of a learner is a construct which many researchers have found to affect the achievement of learners (Aremu 2001). It has been discovered that learners of varying ability levels perform differently depending on the types of methods and materials used for instruction. Ande (1990) cited in Aremu (2001) opines that this area of study has been a long time area of interest in actual research. But, most researchers rather than find which ability of learners perform better and what can be done to improve those who are not performing, have concentrated on providing approaches and materials that suit individuals' abilities.

Reyes (1984) and Green (1990) observe that low ability pupils need special attention in their work because usually their level of motivation towards learning is very low and attitude to learning is usually negative. Aremu (2001), therefore, suggests that there is need to develop strategies, methods and materials that can increase motiva-

tion and attitude of such learners. Webb (1992) suggests that for children to feel successful, they need to become aware of their unique learning abilities and strengths so that they may apply these effectively while working to strengthen the lagging areas.

Statement of the Problem

Researchers, such as Jegede et al. (2003), have lamented that discussion as a method of teaching reading is never mentioned in many English Language course books, syllabuses and teachers' manuals. Therefore, many reading teachers know little or nothing about the potentials of discussion as used in Cooperative Instruction.

Studies on cooperative instructional methods have focused on comparing cooperative, competitive and individualistic methods on students learning outcome. The works of Okebukola (1984, 1985, 1986) compared the efficacy of cooperative, competitive and individualistic methods on students' performance in science. Mabekeje (2007) examined the effect of cooperative and competitive goal structures on attitude to and achievement in English language. Results indicated that the cooperative classroom was well-suited for second language learners when compared to competitive learning. It was also discovered that cooperative learning helped students to communicate, collaborate, solve problems and think critically. Alebiosu (2001) conducted a study on cooperative learning and students' affective learning outcome in Chemistry employing Students Teams Achievement Divisions (STAD) and JIGSAW II methods of cooperative instruction. Findings of the study revealed that learners taught with STAD out-performed all other groups. This was closely followed by Jigsaw II while the least was the conventional method. All these studies indicated that the cooperative classroom was well-suited for second language learners. However, these studies did not utilize the two cooperative instructional methods used in this present study. These studies did not examine the effects of the two methods on the performance levels of students as investigated in this study. There seems to be little or nothing for now on cooperative instructional methods using Think-Pair-Share and Reciprocal Teaching, to the best of this researcher's knowledge.

There is, thus, the need to fill part of this gap and find out the effects of these methods on stu-

dents' reading performance in Nigerian schools particularly in Ekiti State of Nigeria.

To this end, the study planned to answer the following questions:

1. Would performance levels have any interaction effect in the performance of students in reading comprehension in the TPSM?
2. Would performance levels have any interaction effect in the performance of students in reading comprehension in the RTM?

Research Hypotheses

The following hypotheses were tested at 0.05 level of significance:

H01: There is no significant difference in the effect of the TPSM on reading comprehension of students of high, average and low performance levels.

H02: There is no significant difference in the effect of RTM on reading comprehension of students of high, average and low performance levels.

METHODOLOGY

A quasi-experimental design of non-equivalent and randomized pre-test, post-test control group was employed in this study. This design is chosen because it is similar to the pre-test post-test control group design of the true experimental design except for the lack of randomization. The target population was all junior secondary school III students from three (3) schools in Ado-Ekiti, Aramoko-Ekiti and Ikere-Ekiti Local Government areas in order to eliminate interaction effects among the students. Through stratified random sampling technique, a school was selected from each of the three senatorial districts in Ekiti State. The sample for the study was 144 students purposively sampled from the three

schools in the target population. The reason for using purposive sampling was that the students who participated in the study were more than 144 but the authors chose only those who were consistent throughout the period of the study. The study adopted intact class approach. The Reading Comprehension Test (RCT) was used for stratifying the students into performance levels of high, average and low based on their performance. This helped to ensure that students whose scores were within the upper 25% were regarded as high performance students, the average performance students were those whose scores were within 50% while the low performance were those below the bottom 25%. At the end, only students who were regular in class were used for the experiment. Two research instruments were developed for this study. They are the Cooperative Instructional Guides for Teachers (CIGT) and Reading Comprehension Test (RCT) for students. In order to establish the reliability, the test re-test method was adopted for a period of two weeks interval. At the end, the scores of two tests were correlated using Pearson Product Correlation analysis and a reliability coefficient of 0.88 was obtained. Data collected were analyzed using Analysis of Covariance (ANCOVA) and Scheffe Post-hoc test.

RESULTS

Hypothesis One

There is no significant difference in the effect of the TPSM on reading comprehension of students of high, average and low performance levels.

The data in Table 1 reveal that there is significant difference in the reading comprehension of students exposed to TPSM based on performance levels since the $F_{cal} = 27.28 > F_{tab} =$

Table 1: ANCOVA showing the effect of TPSM on performance levels of students reading comprehension

Source	SS	Df	MS	Fcal	Ftab	Significant	D
Pretest	53.74	1	53.74	69.35		.000	
Groups	116.30	1	116.30	105.08		.000	
Performance	6.35	2	3.17	4.10		.000	S*
Performance	21.22	1	21.22	27.38	3.11	.000	S*
by groups							
Error	69.74	90	.77				
Corrected total	341.83	95					
Total	9862.00	96					

S*=significantly different.

Table 2: Effect of RTM on students performance levels using ANCOVA

Source	Sum of squares	Df	Mean square	Fcal	Ftab	Significant	D
Pretest	26.23	1	26.23	10.66		.002	
Groups	100.18	1	100.18	40.73		.000	
Performance	10.19	2	5.09	2.07		.132	
By groups	15.71	2	.7.85	3.29	3.11	.046	S*
Error	218.87	89	2.45				
Corrected total	793.33	95					
Total	12234.00	96					

S*= Significantly different at $p < 0.05$

3.11. The data also show that the treatment produced significant effect in the post-test scores of the students at low, average and high performance levels when the pretest scores were used as covariates. Hence, the hypothesis is rejected.

Hypothesis Two

There is no significant difference in the effect of RTM on reading comprehension of students of high, average and low performance levels.

Table 2 shows that there is significant difference in the effect of RTM on reading comprehension of students of high, average and low performance levels, since the $F_{cal} = 3.29 > F_{tab} = 3.11$. The hypothesis is rejected. Therefore, there is a significant effect in the performance of students exposed to RTM, irrespective of their performance levels. To determine the direction and quality of difference in the effect of RTM, a post hoc test was carried out using Scheffe's Multiple Range Test. The result of the post hoc test is presented in Table 3.

In Table 3, the result of Scheffe's multiple range test reveals that the mean score of low performance students ($\bar{x} = 10.10$) differs significantly from average performance students ($\bar{x} = 11.87$) and the high performance students ($\bar{x} = 14.56$). The data also show a significant difference between the mean scores of average and high performance students.

DISCUSSION

There was significant difference in the effect of TPSM on reading comprehension of students of high, average and low performance levels but it was in favour of low and average performance students. There was significant effect of the RTM on reading comprehension of students of high, average and low performance levels. The results further revealed that Think-Pair-Share Method

Table 3: Scheffe's Multiple Range Test on students performance levels

	Mean	Low	Average	High
Low performance level	10.10			
Average performance level	11.87	*		
High performance level	14.56	*	*	

had significant impact on low, average and high performance students. As rightly observed by Johnson and Johnson (1999), when learning task involves complex learning and problem solving skills, cooperation leads to higher achievement especially among students with low performance. Another possible reason for this as stated by O'Donnell (2002) is that this cooperative method enhances social interaction that is important for learning because higher mental functions, such as reasoning, comprehension and critical thinking, originate in social interactions and are then internalized by individuals. Thus, cooperative instruction using TPSM provides the social support and scaffolding that students need to move learning forward. The RTM had significant effect on the reading comprehension of students of low, average and high performance levels. This confirms the observation by Aremu (2001), that ability is unstable and controllable, that is, hard work, study, practice, knowledge can be increased and thus performance can be improved. The fact that students in this group were exposed to various techniques could possibly have influenced their performance. Teachers have observed that even normal achieving or above average students profit from strategy instruction because it allows them to read and understand more challenging texts. Also, students with more experience and confidence help other students in their group to decode and understand what is being read; students with more experience in question-

ing stimulate deeper thinking and understanding in their more academically adept peers (that is, weaker-students).

CONCLUSION

Findings from this study have established the superiority of Cooperative Instruction using Reciprocal Teaching and Think-Pair-Share Methods over the Conventional Instructional Method, irrespective of levels of performance. Also, it was established that the three levels of reading comprehension can be better influenced when learners are exposed to either Reciprocal Teaching or Think-Pair-Share methods.

RECOMMENDATIONS

The results emanating from this work could be of great importance to the English language teachers, teacher trainers, curriculum planners, textbook writers, publishers and the government. Therefore, it is recommended that teachers should use cooperative instruction in teaching reading comprehension in order to enhance the performance of learners especially the low and average achievers.

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