

Impacts of Reciprocal Teaching Technique on Academic Achievement of Students in Office Practice in Colleges of Education, Kwara State, Nigeria

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ABSTRACT

The study investigates the impacts of reciprocal teaching technique on academic achievement of students in Office practice in Kwara State, colleges of education, Nigeria. Two research questions were raised and answered while two hypotheses were tested at the 0.05 level of significance. The population of the study was 200 level of Office practice students in colleges of education, Kwara state, Nigeria. Purposive sampling technique was used to select a sample of 138 students who were grouped into treatment and control. The data were collected through programmed material (modules) for Office Practice which was divided into weeks, and Office Practice Achievement Test (OPAT) developed by researchers. The ANCOVA statistical tool was used to test the two hypotheses at 0.05 alpha level of significance. The results showed that reciprocal teaching technique improves students' academic performance. It was recommended that Business educators should use reciprocal teaching technique for teaching effectiveness and enhanced academic performance.

Keywords: *Reciprocal teaching, Conventional lecture methods, Academic achievement*

INTRODUCTION

The rate of failure and lack of prerequisite skills among office practice students in recent times is disturbing and points to the fact that students do not achieved enough from the courses they undertake. Many students can neither type without looking at the keyboard nor use computer systems independently. Apart from lack of computer skills and low speed and accuracy, many of the students find it difficult to drill shorthand (Fawale, 2022). This scenario has become a serious concern to stakeholders and everyone is searching for the possible cause of this ugly incident. The essence of every instructional activity is to bring about desirable changes in the learner. For office practice education, acquisition of office management/organization skill, proficiency in shorthand, business communication skills and technological skills constitute the hallmark of student's achievement (Ademiluyi, 2016; Leonardi, 2021). The researcher holds tenaciously to the view that office practice students have not performed or achieved very well if they do not show mastery of these skills.

Academic performance is the completion of specific work that is evaluated against specified standards of accuracy, completeness, cost, and speed. It also refers to the academic activity of studying and how effectively students adhere to the criteria established by the relevant authorities (Hacker & Tenent, 2002). A variety of factors, such as subject matter, teacher's goals, learning resources, teacher's skills and willingness to improvise in the absence of traditional teaching aids, follow-up activities, and individual learning styles of each student, influence the choice of a particular teaching method (Gomaa, 2015). According to Ademiluyi (2016), office education students are finding it more and more difficult to complete office education courses in colleges of education,

particularly those involving shorthand, office practice, and word processing. Business school lecturers have incorporated a number of tactics and ways to raise the bar for students' academic performance. Students find it challenging to advance in their skills because of their subpar academic achievement in office education (Muraina & Oladimeji, 2022). Based on the researcher's interaction with some lecturers and students at Colleges of Education, Kwara State of Nigeria, lecturers are not comfortable with mass failure in all these courses mentioned above. Studies suggest that reciprocal teaching technique can be used to address the situation. Reciprocal teaching technique is considered one of the most effective contemporary teaching methods to help students comprehend what they are being taught, especially for low-achieving students (Muraina & Oladimeji, 2022). This was the reason that pushed the current researcher to carry out this study. The study was guided by the following research questions.

- i. What is the impact of reciprocal teaching on academic performance of office practice students in colleges of education?
- ii. What is the impacts of gender on academic performance of office practice students using reciprocal teaching techniques in colleges of education?

The following research hypotheses were tested at 0.05 significant levels in this study:

- Ho1: There is no significant main impact of reciprocal teaching on academic performance of office practice students in colleges of education
- Ho2: Gender has no significant effect on the academic performance of office practice students taught using reciprocal teaching technique in colleges of education.

Reciprocal Teaching Method

The concept of reciprocal teaching was first developed by Annemarie Sullivan Palincsar and Ann L. Brown in 1984 (Fawale, 2022). Reciprocal teaching was developed as a technique to help teachers to bridge the gap for students who demonstrated a discrepancy between decoding skills and comprehension skills (Muraina & Oladimeji, 2022). Ismail, Ahmadi, and Pourhosse (2012) claim that reciprocal teaching method offers a successful example for teachers to encourage students' involvement in their learning and teach them how to read well. They argue that reciprocal teaching method facilitates communication between students and their teacher or between students themselves. After the teacher has modeled the procedure, students switch roles and use reciprocal teaching method to instruct one another. Through the use of sub-sections of reciprocal teaching technique, a teacher can provide an example and ensure that students have enough practice to develop the meaning of a text.

According to Hacker and Tenent (2002), reciprocal teaching is an approach in which small groups of students are taught comprehension-monitoring strategies through scaffolded instruction. According to Hacker and Tenent (2002), students practice and master the four main reciprocal teaching styles. First, the teacher summarises all the desired objectives for students through the work plan. Second, the teacher uses scripted dialogues to walk students through the entire procedure step by step. Thirdly, s/he invites the students to take part and fourthly coaches them on how to ask insightful questions, write adequate summaries, and other abilities. The instructor's leadership responsibilities gradually diminish. However, the role of students grows. Last but not least, in keeping with Rosenshine and Meister

(1994), students assume more responsibility for carrying out the entire procedure. Reciprocal teaching method helps students to immediately employ metacognitive thinking as they decipher the meaning of a text. However, this technique is used in cooperative groups where students collaborate with informational materials to better understand the subject matter. Poor academic performance in the Office practice field, according to Arepo (2015), can be linked to a number of issues, the main one could be the teaching methods employed during instruction.

This suggests that without utilization of effective teaching method, a student's understanding of business education topics may not be fully attained. According to Fawale (2022), poor academic performance in business education may be associated with a variety of issues. They include government's attitude toward secondary school business education subjects, a shortage of business education teachers, societal perceptions of the programme, poor teaching techniques employed by some teachers, and poor reading habits on the part of students. Office practice is one of the aspects of Business Education Programme at tertiary institutions level, colleges of education inclusive. Courses in office practice are skill courses that must be acquired through constant practice, and requires drillings every day. Ademiluyi (2016) reports that Office practice students in colleges of education increasingly finding office practice courses very difficult, most especially Shorthand, Office Practice, Word Processing, among others. To enhance standard of academic achievement, lecturers of business education have adopted series of methods and techniques. Students in office practice are having a terrible time, despite their efforts. Umoru and Oluwafemi (2018) claim that ineffective teaching practices utilized by teachers, who constantly prioritize

covering as much content as possible, are to blame for students' low academic achievement. As a result, students experience frustration, learning challenges, and a lack of active participation.

Methodology

This study employed quantitative research approach, with quasi experimental design. The experimental and control groups participated in pre and post-tests as part of the study's quasi-experimental research methodology. The population for the study comprised of 8,386 office practice students in Colleges of Education, Kwara State. Multi-stage sampling technique was used to select 90 respondents of this study. The first stage involved the use of simple random sampling technique to select two colleges of education in Kwara State. The second stage witnessed the selection of 3 schools in each sampled College. Fifteen office practice students were sampled in each school through balloting and this cut across different gender. On the whole, 90 university students were drawn for the study. However, the whole sample was grouped into two, one group formed treatment class and the other one served as control group. 40 test items with four alternative responses made up the researchers' devised Office Practice Achievement Test (OPAT) (A to D). It was face validated by two research professionals and pilot tested using 20 students (who were not selected for the sample) over a period of two weeks. The pre-test was provided to both the experimental and control groups; the control group received a copy of the instrument developed by researchers and used as a therapy throughout the four-week trial. In order to compare the academic performance of the two groups, post-treatment tests were given to both, and two weeks later, a delayed post-test was given to each group in order to ascertain any changes in learning. The study's research

questions were answered using the mean, and the hypotheses were evaluated using analysis of covariance (ANCOVA). Any technique with a greater mean was considered to be better than the others, and hypotheses were disregarded if the estimated F-value was less than F-critical at the 0.05 level of significance. However, if the estimated F-value was greater than 0.05 threshold of significance, the hypothesis was rejected.

Results

Research Question 1: What is the impact of reciprocal teaching on academic performance of office practice students in colleges of education?

Table 1: Mean achievement scores of the impacts of reciprocal teaching techniques on academic performance of Office Practice students'

Groups	N	Pre-test \bar{X}_1	Post-test \bar{X}_2	Mean difference \bar{X}_D
RT	45	22.8667	29.0000	6.1333
Control	45	20.7957	22.9892	2.1935
Total	90			

Table 1 shows that the mean post-test achievement scores increased; the mean difference in reciprocal teaching techniques and control group was also high (with mean difference of 6.1333 against 2.1935). Students taught through reciprocal teaching technique had higher mean score ($\bar{x} = 29.0000$) than control group ($\bar{x} = 22.9892$). This suggests that office practice students who were taught through reciprocal teaching technique benefitted from the teaching methods. Thus, the treatment was effective in favour of students exposed to RT.

Research Question 2: What is the impact of gender on academic performance of office practice students using reciprocal teaching techniques in colleges of education?

Table 2: Means and Standard Deviation of pretest and Posttest Mean Scores on Gender

Source	Sex	N	Mean	Std. Deviation
Pretest	Male	21	20.9008	5.05042
	Female	24	21.1260	5.37778
	Total	45	21.0161	5.21130
Posttest	Male	21	27.3058	4.81637
	Female	24	26.1732	5.26056
	Total	45	26.7258	5.26056

Table 2 shows the mean for pretest and posttest scores of male and female students exposed to the techniques. It shows that at pretest, the mean score for male students who attended experiment was 20.9008 and standard deviation was 5.05042 compared to female students whose mean score was 21.1260 and standard deviation of 5.37778. After intervention, the mean score for male students rose to 27.3058, with a standard deviation of 4.81637 while the mean score of the female students also raised to 26.1732 with a standard deviation of 5.26056. This outcome suggested that the treatment had positive impact to both male and female students.

Test of Hypotheses

Hypothesis 1: There is no significant difference between the pre-test and post-test performance mean scores of office practice students using reciprocal teaching and those taught using lecture method in colleges of education.

Table 3: ANCOVA Summary of the Difference between Lecture Method and Reciprocal Teaching Techniques on Students' Scores in Office Practice

Source	Type III Sum Squares	Df	Mean Square	F	Sig.
Corrected Model	2903.267 ^a	3	1451.633	147.415	.000
Intercept	902.830	1	902.830	91.683	.000
Pretest	1807.611	1	1807.611	183.565	.000
Treatment	616.523	1	616.523	62.609	.000
Error	1329.378	87	9.847		
Total	90133.000	90			
Corrected Total	4232.645	89			

Table 3 shows a one-way Analysis of Covariance conducted to test the effectiveness of Reciprocal Teaching Technique to improve students' academic performance against the control group. The covariate used in the analysis was the pretest score of both treatment and control group. It is clear in this table that there was a significant impact of Reciprocal Teaching Technique on students as compared to control group on the mean scores ($F(1,135) = 62.609$, $P = 0.000$). It can therefore be said that Reciprocal Teaching Technique is effective in improving students' academic

performance in office practice. The null hypothesis was therefore rejected.

Hypothesis 2: Gender has no significant effect on the academic performance of office practice students taught using reciprocal teaching technique in colleges of education.

Table 4: ANCOVA summary on impacts of gender on the academic achievement of office practice students using reciprocal teaching techniques in colleges of education

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	3666.263 ^a	7	458.283	34.562	.000
Intercept	3833.989	1	3833.989	289.144	.000
Pretest	1465.347	1	1465.347	110.511	.000
Gender	104.667	1	104.667	7.894	.035
Group	1968.272	2	656.091	49.480	.810
Gender*group	78.724	2	28.241	.118	.225
Error	3169.092	87	13.260		
Total	183974.000	90			
Corrected Total	6835.365	89			

Table 4 shows that there is no significant difference between the post-test mean achievement score of male and female students taught by using reciprocal teaching techniques $F(1,89)=7.894$, $P=0.35$ 53.6%. This implies that a student's academic performance was not much influenced by gender. Therefore, the null hypothesis was accepted.

Discussion of Findings

The Research Question 1 sought to determine the difference between academic achievements of students taught the office

practice by using Reciprocal Teaching and those taught by using conventional lecture method. Findings revealed that office practice students taught by using Reciprocal Teaching achieved higher scores than their counterparts who were taught by using conventional lecture method (CLM). This finding agrees with that of Afrizatama (2016) who reported that the Reciprocal Teaching gives the students positive response in learning. He went further asserting that question generation helps students to identify information from text and also gives the students more understanding. This finding concurs with that of Ahmadi and Gilakjani (2012), which confirm that reciprocal teaching encourages students to reflect on their reading process, create a plan of action, track their own reading to build their own knowledge, and self-evaluate their reading process.

The current researchers conceive that this could be possible because the strategy promotes critical thinking and self-learning skills, which allow students to make judgments and form self-opinion about what is being taught. Consequently, they are able to reproduce it whenever they are required to do so. The results on the second research question revealed that, after the intervention, the mean score for both male and female students increased. This finding suggests that the treatment was effective to both male and female students. This finding contradicts the findings of Nwaukwa and Okolocha's (2020), Kumar and Roshan (2006) and that of Hamdan (2017) who found that female students' scores were higher (and the difference was statistically significant) than those of males when taught office practice using think-pair-share technique. This could arguably be contributed by the fact that females are more social and disciplined than males. Although female students performed better than males, but the difference is

not statistically significant. Females seem to be versatile naturally when it comes to typing and office filling in colleges; this could be the reason for their good performance as compared to their male counterpart.

Conclusion

It is clear in this article that reciprocal teaching technique has a positive effect on students' academic performance in office practice. Thus, if business educators can use the technique in the teaching-learning processes, students may gain relevant knowledge and skills. This will probably help students majoring in business to demonstrate to perform better. Since the technique benefitted both male and female students, it is concluded here that the approach effective for all students in instructional delivery of office practice.

Recommendations

The following recommendations are given based on the study's findings:

1. For effective teaching and learning, business educators should apply reciprocal teaching strategy in teaching students for enhanced academic performance in office practice.
2. Educational stakeholders ought to support greater study on the effectiveness of the reciprocal teaching technique in order to spread knowledge of this technique for professional and teaching enhancement in schools.
3. Gender discrimination are to be avoided while handling students using reciprocal teaching method.

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