EFFECT OF RECIPROCAL INSTRUCTIONAL STRATEGY ON SENIOR SECONDARY II STUDENTS' ACHIEVEMENT IN ENGLISH LANGUAGE COMPREHENSION IN IMO STATE

Eke Chiidngozi,

Ugochukwu P. N Amadi,

Udodirim A. Igwe

ekeogbu@yahoo.com
Curriculum and Educational Technology Unit, College of Education,
Michael Okpara University of Agriculture, Umudike

Abstract

This study investigated the effect of reciprocal instructional strategy on senior secondary II students' achievement in English language comprehension in Imo State. The study adopted a quasi-experimental control design, specifically the pretest posttest non-equivalent control group design. Two research questions were posed and one hypothesis was formulated to guide the study. One hundred and twenty SS II students were used for the study, using purposive sampling out of the population of 17,127 male and 18,178 female SS 2 students in government senior secondary schools in Imo State. Instrument used for the data collection was the English Language Comprehension Achievement Test (ELCAT). ELCAT was validated by three experts and the reliability coefficient using Kuder Richardson (K-20) formula was found to be 0.85. Mean and Standard deviation were used to answer the research questions while Analysis of Covariance (ANCOVA) was used to test the hypothesis at 0.05 significance level. The result revealed that there are significant differences in academic achievement of students taught English language comprehension using Reciprocal instructional strategies than students taught English language comprehension using lecture teaching method. It was recommended that efforts should be made by curriculum experts to incorporate Reciprocal instructional strategies into the teaching of English language comprehension among others. Teachers should be encouraged to use such innovative teaching strategy in the classroom for improved performance.

Keywords: Reciprocal Instructional strategy, academic achievement

Introduction

The decline in the academic performance of students in English language comprehension has been a major concern for educators, researchers, and stakeholders in the education sector in Nigeria. This is particularly evident in Imo State, where students' performance in English language comprehension in secondary schools has been less than satisfactory (Imo State Ministry of Education, 2020). One of the factors identified as contributing to this poor performance is the traditional teacher-centered instructional approach, which does not encourage active student participation and engagement in the learning process (Adeyemo, 2018).

Reciprocal instruction is an evidence-based instructional strategy that has been found to be effective in improving students' comprehension skills (Palincsar & Brown, 1984). Reciprocal Teaching is an instructional strategy that aligns with the core principles of constructivism, emphasizing the active construction of knowledge by learners through interaction with their peers, the environment, and the subject matter. Originating in the 1980s, this strategy was developed by Palincsar and Brown (1984) and it is grounded on the idea that learners can become effective monitors and directors of their own learning. According to constructivist theorists like Dewey (1933), knowledge is not simply transmitted to learners; instead, learners actively construct knowledge through their experiences, reflections, and interactions. Reciprocal teaching embraces this constructivist perspective by fostering an environment where students engage in collaborative dialogue, question their understanding, and co-construct meaning. Reciprocal instructional strategy is characterized by a dialogue between teachers and students, where students gradually take on the role of the teacher. The process involves four key strategies: predicting, questioning, clarifying, and summarizing. These strategies align with the cognitive processes of activating prior knowledge, generating questions, resolving uncertainties, and synthesizing information (Wale & Bishaw , 2020).

Reciprocal teaching involves interactive discussions between students and teachers. The teacher initially models the process, gradually transferring responsibility to the students. Students work collaboratively to predict, question, clarify, and summarize the content. Reciprocal teaching has been found effective in various educational settings. Research by Palincsar and Brown (1984) and subsequent studies have shown that this strategy improves reading comprehension, critical thinking skills, and meta-cognitive awareness. The reciprocal nature of the dialogue ensures that students actively engage with the material and each other. Reciprocal teaching is a dynamic instructional strategy rooted in constructivist principles. By fostering collaborative dialogue, questioning, and active engagement, this approach empowers students to become self-regulated learners. Implementing Reciprocal Teaching in the classroom aligns with the constructivist philosophy of facilitating knowledge construction through meaningful interactions.

The concept of Reciprocal instructional strategy was first developed by Palincsar and Brown in Wikipedia (2023). It was developed to help teachers to bridge the gap for students who demonstrated inconsistency between decoding skills and comprehension skills. It is an instructional activity involving teachers and students in a dialogue regarding segments of text for the purpose of constructing the meaning of text (Wikipedia, 2023). Reciprocal instructional strategy is a reading technique designed to promote students' reading comprehension. RIS facilitates a group effort between the teacher and students. It provides the students with four specific strategies: questioning, clarifying, summarizing and predicting (Palincsar, 1986).

Reciprocal teaching is a multi-component approach that combines four strategies into one cohesive structure of increasing comprehension text: predicting, clarifying, questioning and summarizing (Baker and Emerson, 2014). Reciprocal teaching uses the strategy of prediction, whereby students predict before reading, then employ those prediction during reading to check if they are correct (Wikipedia, 2023). This approach helps teachers to clearly scaffold learning,

to help students become more meta-cognitive about their reading and learning. Students become more active, reflective, and strategic readers. Reciprocal teaching is very effective in the context of small group collaborative investigation, which is maintained by the teacher (Wikipedia, 2023).

Currently, the research of Pilonieta and Medina from United States conducted on the use of reciprocal teaching in primary grades. The researchers adopted an age appropriate model for reciprocal teaching and call it "Reciprocal Teaching for the Primary Grades" or RTPG their research shows that even in younger children, reciprocal teaching actually benefitted the students and they show retention of the RTPG when re-tested six months later (Wikipedia, 2023). The use of this method allows children to boost their inferential understanding at word level, sentence and text level. It encourages children's individuality in terms of reading with understanding by allowing them to follow their teacher's examples and gradually assume their teachers role and style of questioning (Strickin, 2011). To use this method the teacher starts by demonstrating and showing when and how to use the method. Learners mastering the strategies that good readers use to grasp meaning from text-predicting, clarifying questioning and summarizing.

In using reciprocal teaching to teach comprehension, two students read a text together and take turns being the teacher. After a section of the text is read, one of the two will: summarize the section they read to the hearing of others, he/she asks two or more questions to the other to monitor his/her comprehension of what he/she summarized, he/she will clarify issues raised by the other member, the other can ask questions in the areas that were not well summarized, the other can use prompt to help player if he/she is stalked, he/she could go on to predict what could happen next or ask the other to predict what could happen next as he/she explains what he/she read, the other member of the group will take over and present the other section of the passage and the process continue until the end of the passage (Izuagba, Afurobi & Ifegbo, 2014).This is

why reciprocal teaching is usually interactive and student centered as every person must have read and understood the text before coming together for collaborative teaching which facilitates further learning and consolidation of knowledge and experience.

Furthermore, reciprocal teaching is action based strategy where students collaborate as they predict by questioning, inferring, clarifying questioning and comprehending a passage. The prediction phase involves students relating their own background knowledge to what they have gathered from the text. They try to predict what might happen next in the text or subsequent sections/chapters of the text. As students predict, they relate their prior knowledge to the new knowledge gained from the text, to form hypotheses in relation to the direction of the text and author's view points. This provides the rational for reading as they now read to find out if their predictions are correct or not. The questioning strategy is used to monitor and assess their understanding of the text. The students ask themselves questions. The key ideas are used to generate questions that the reader uses to monitor and assess his/her comprehension. Questioning provides a context for exploring the text more deeply as the learners' interact and share ideas there have generated from reading the text. Another aspect of reciprocal teaching is clarification. The learners clarify any section of the text that is not clear. These may include complex sentences or passage structure, unfamiliar vocabulary, obscure or technical concepts, vague references. Students can share they own thought on how they understand the material, if it will help their classmate. Clarifying motivates the reader to reread the text for better understanding. Summarizing has to with identifying important information, themes, and ideas within a text and being able to reiterate the content of the text in their own words. Summarizing help students have a good understanding of the specifics of a text (Izuagba, *et al*, 2014).
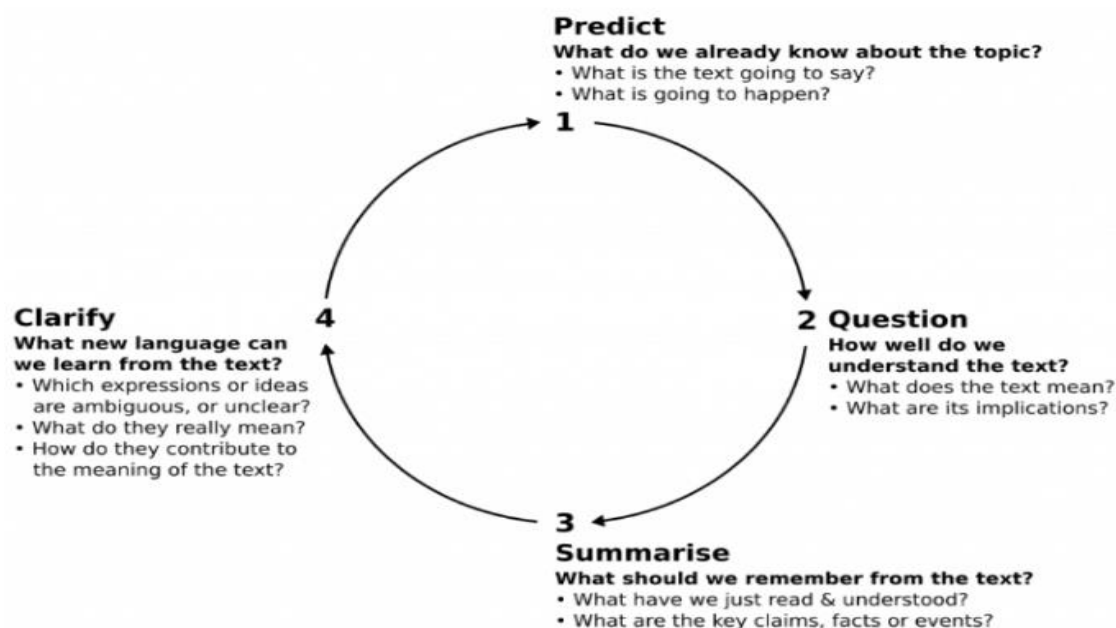
Predict
What do we already know about the topic?
• What is the text going to say?
• What is going to happen?

1

Clarify   **4**   **2 Question**
What new language can   **How well do we**
we learn from the text?   **understand the text?**
• Which expressions or ideas   • What does the text mean?
  are ambiguous, or unclear?   • What are its implications?
• What do they really mean?
• How do they contribute to
  the meaning of the text?

3
Summarise
What should we remember from the text?
• What have we just read & understood?
• What are the key claims, facts or events?

Figure 1:   Reciprocal   Reading: Process-oriented   reading   instruction.   Source:
www.matbury.com.

Reciprocal teaching:

Step 1: Scaffold student learning by modelling, guiding and applying the strategies while
reading. Read a section of the text aloud and model the four steps – summarising, clarifying,
questioning and predicting (predicting can be optional depending on the material).

Step 2: In groups of four allocate a role to each student, that is, summariser, questioner, clarifier
and predictor.

Step 3: Have students read a few paragraphs of a text selection. Suggest to students they use
note taking strategies such as underlining, coding, etc.

Step 4: The predictor helps the group connect sections of the text by reviewing predictions from
the previous section and helps the group predict what they will read about next by using clues
and inferences in the text. The questioner helps the group to ask and answer questions about the
text and reminds the group to use all types of questions (higher and lower order). The
summariser restates the main ideas in the text and helps the group state the main idea or ideas

in their own words. The clarifier helps the group find parts of the reading that are not clear and finds ways to clear up these difficulties.

Step 5: Roles in the group can be switch and the next selection of text is read. Students repeat the process in their new role. Repeat this process until text/topic selection is finished.

Teacher continues to guide the students in the use of the four strategies until they can use the strategy independently.

Considering the benefits and effectiveness of Reciprocal teaching strategy in improving English language comprehension of learners, as has been established in the above discussion. It becomes crucial to employ this strategy in teaching English language comprehension to learners. This current study is directed towards determining the effect of Reciprocal instructional strategy in students' academic achievement in English language comprehension.

Purpose of the study

The purpose of the study was to determine the effects of Reciprocal instructional strategy on Senior Secondary School II Students' academic achievement in English Language comprehension. Specifically, the study sought to:

1. find out the effect of Reciprocal Instructional strategy on senior secondary II students' mean achievement score in English language comprehension.

2. examine the effect of gender on the mean achievement score of senior secondary II students taught English language comprehension using Reciprocal instructional strategy.

Hypothesis

To guide the study, this hypothesis was formulated and tested at 0.05 level of significance:

HO₁: There is no significant difference in the mean achievement scores of senior secondary

II   students taught English language comprehension using the Reciprocal instructional

strategy and Lecture method+

Method

This study adopted a pre-test, post-test, control group experimental design to determine the effect of reciprocal instructional strategy and lecture method of teaching on students' academic achievement in English language comprehension. The experimental group adopted the reciprocal instructional strategy and the control group used the lecture method of teaching. The population of the study is 35,305 senior secondary school II in the 312 public secondary in Imo State in the 2022/23 academic session, (17,127 male and 18,178 female students) (Secondary Education Management Board, 2023)

One hundred and twenty (120) senior secondary students were purposively sampled. The three education zones in Imo state were listed and simple random sampling technique was used to select Okigwe Education Zone II by balloting.

In the second stage, all the schools in Okigwe Education zone were listed and purposive sampling was used in selecting two schools. Purposive sampling was used because the researcher's discretion was needed to select the schools that are appropriate for the study. The criteria for the selection were based on co-educational schools, availability of experienced English language teacher with years of teaching in each school and the number of students.

The English Language Comprehension Achievement Test (ELCAT) was used for data collection which consist of 25 multiple choice questions. The Pre-test Post test achievement test items were based on the English Language Comprehension Achievement Test (ELCAT) developed by the researcher in collaboration with four Senior Secondary II English language

teachers. The researcher in collaboration with the class teachers assigned lesson topics from the second term S.S.II English language curriculum to each sub-unit.

The instrument English Language Comprehension Achievement Test (ELCAT) was submitted to one expert in Curriculum studies, one expert in Measurement and Evaluation and one expect in English language from Michael Okpara University of Agriculture. The instruments were subjected to face and content validation. These experts were requested to judge the adequacy of the English Language Comprehension Achievement Test (ELCAT) in terms of representativeness: scope of coverage, content relevance, suitability and appropriateness of the instrument in accomplishing the research objectives and language use. The comments and suggestions of these specialists were finally used to improve the test items.

The content validity of the English Language Comprehension Achievement Test (ELCAT) Forms I and II were ensured through the use of the construction of test Blue-print and Item Analysis. This was achieved by ensuring that the test items reflected the specifications of the test blue prints. Thereafter, the test items generated were sent to two experts in Curriculum Studies (with English Language Education background), one expert in Measurement and Evaluation and the two experts in English Language from Michael Okpara University of Agriculture. The experts were required to observe whether or not the items were representative of the content and objective.

The reliability index for the instrument (ELCAT) was 0.84 established, using Kuder-Richardson (KR-20) obtained through trial testing. The English Language achievement Test (ELCAT) instrument were administered to 30 students who were not sampled for the study. The scores obtained from the trial testing were subjected to Kuder-Richardson (KR-20) formula to determine the internal consistency of the English language Achievement Test (ELCAT). The Kuder-Richardson (KR-20) was appropriate for determining the reliability of the English

Language Comprehension Achievement Test because the instrument required only one correct answer in every case. The following decisions rules were applied: for the analyses of research questions:

Accept any variable which computed mean is from and 2.5 and above and reject any variable that has below the cut-off mean of 2.5.

For testing the hypothesis: If p value is less than 0.05 the null hypothesis was rejected but if p value is greater than 0.05 the Null hypothesis was retained

Table 1   **Pretest-Posttest Mean achievement score and standard deviation of senior secondary II students' in English Language comprehension taught reciprocal instructional strategy and Lecture teaching**

		Pre test	Post test	Mean gain/loss
Reciprocal	Mean	11.62	20.64	9.02
	N	36	36	
	Std deviation	2.83	2.88	
Lecture method	Mean	11.62	13.35	1.73
	N	45	45	
	Std deviation	2.37	2.11	

Data in Table 1 showed the mean achievement score and standard deviation of senior secondary II students' mean achievement scores in English Language comprehension using Reciprocal instructional strategy and Lecture teaching method.

The data presented in table 1 indicated that the students in reciprocal instructional strategy group had a pretest mean score of 11.62 and standard deviation of 2.83 in their English Language comprehension achievement test; while their post-test means English Language comprehension achievement score was 20.64 with a standard deviation of 2.88; giving a mean pre-test/post-test gain score of 9.02, students in lecture group had a pretest mean score of 11.62 and standard deviation of 2.37 in their English Language comprehension achievement test;

while their post-test means English Language comprehension achievement score was 13.35 with a standard deviation of 2.11; giving a mean pre-test/post-test gain score of 1.73.

Table 2: Post-test mean score and standard deviation of male and female senior secondary II students taught English Language comprehension using Reciprocal instructional strategy and lecture teaching method

Source of variation	Type III sum of square	Df	Mean square	F	Sig	Decision
Corrected Model	698.689	2	349.345	12.564	.214	DO not
Intercept	582.510	1	582.510	20.950	.461	Reject Ho
POST	103.548	1	103.548	3.724	.019	
GENDER	638.840	2	319.240	22.976	.186	
GROUP	16.346	2	8.173	.163	.685	
Error	118.879	81	1.335			
Total	6243.000	84				
Corrected Total	184.972	80				

Data in Table 2 showed the mean achievement scores in English language and standard deviation of male and female students exposed to reciprocal instructional strategy and lecture teaching method. From the data, one can see that the male students in the reciprocal instructional strategy had a posttest mean score of 11.01 and post-test means achievement score in English language was 11.22 , with a posttest and retention mean difference of .21 while females in reciprocal instructional strategy had a posttest mean score of 10.46 and post-test means achievement score in English language was 10.58, with a post test and retention mean difference of .12; giving a male and female mean gain difference of .09 in favour of males while males students in the lecture instructional strategy had a posttest mean score of 7.01 and post-test means achievement score in English language was 7.05, with a posttest and retention mean difference of .04 while females in lecture instructional strategy had a posttest mean score of

6.34 and post-test means achievement score in English language was 6.43, with a post test and retention mean difference of .09; giving a male and female mean gain difference of .05 in favour of females. The male students exposed to Reciprocal had a higher mean gain score than their female counterparts.

A corresponding hypothesis formulated to further address the research question is:

H_{O1}: There is no significant difference in the mean achievement score of senior secondary II students taught English language comprehension using the reciprocal instructional strategy and Lecture teaching method.

Table 3. Analysis of covariance on the mean achievement score of senior   secondary II students in English language comprehension using the   Reciprocal Instructional Strategy and Lecture teaching method.

Table 3 showed that F – value of 0.157 at degree of freedom (2, 78) where P < 0.05. The   F

Source of variation	Type III sum of square	Df	Mean square	F	Sig	Decision
Corrected model	17.513[a]	2	8.756	1.575	.222	
Intercept	13.916	1	13.916	2.503	.123	Reject Ho
Pre-test	2.158	1	2.158	.388	.538	
Group	14.909	1	14.909	0.157	.011	
Error	183.487	78	2.352			
Total	4690.000	81				
Corrected total	201.000	80				

– value of 0.157 showed that there is a significance difference in the mean achievement score of senior secondary II students taught English language comprehension using the Reciprocal instructional strategy and Lecture teaching method. Thus the null hypothesis which stated that there is no significant difference among the mean achievement scores of senior secondary II students taught English language comprehension using the Reciprocal instructional strategy and Lecture teaching method was therefore rejected. It then implies that RPT instructional strategy was more effective in enhancing academic performance than the conventional method.

Conclusion

Based on the findings of this study the following conclusions were made, reciprocal instructional strategy was more effective than lecture method of teaching in enhancing students' academic achievement in English language comprehension. Therefore, it is pertinent teachers should be trained in the act of using reciprocal instructional strategy to teach in their classrooms. This instructional strategy will certainly increase students' achievement in English language comprehension both in internal and external examinations. This pedagogy build self-discovery and critical thinking in learners, which helps them to internalize knowledge gained. It was discovered that gender is not a significant factor in the achievement of students in English language comprehension.

Recommendations:

Based on the findings of this study, the following recommendations are proposed:

- A comparative study should be carried out using reciprocal strategy on achievement in Igbo language and English language comprehension since they are the two language subjects in south east secondary school curriculum

- Affective variables such as students' attitude should be reviewed to see if it affects students' academic achievement in English language comprehension

- This study could be replicated in other states of the country to find out the reciprocal strategies on achievement in different language areas such as Igbo, French, Literature in English, Yoruba etc.

- Teachers should receive training on how to effectively use reciprocal strategy in the class room to enhance learning.

References

Adeyemo, A. A. (2018). The impact of instructional strategies on students' performance in English language in senior secondary schools. *Journal of Research in Education,* 1(1), 1-   10.

Baker, J., Emerson, L. M. (2014) Reciprocal Teaching: Seeing is believing. Retrieved from www.education.wm.edu

Izuagba, A. C., Afurobi, A. O., & Ifegbo, P. C. (2014).*Constructivism: The pedagogy for 21stcentury classroom*. Owerri: Cel- Bez Publishing.Co. Ltd.

Ministry of Education, New Zealand (2017). Reciprocal teaching: A school wide core teaching and learning strategy. Retrieved from wwwreseargate.com.

Palincsar, A . S (1986). Reciprocal teaching. In *Teaching Reading as Thinking.* Oak Brook, IL: North Central Regional Educational Laboratory.

2.

Strinkin, K. (2011). Hands-on reciprocal teaching: A comprehension technique. *The Reading Teacher,* 64 (8): 620-625.

Wale, B. D., Bishaw, K. S (2020) Effects of using inquiry based learning on EFL students' critical thinking skills. *Asia- Pacific Journal of second and foreign language Education* 5(9) https://doi.org/10.1186/s40862-020-00090-2

Westera, J. (2014) Reciprocal teaching: A school wide core teaching and learning strategy retrieved from http//www.edgazettegovt.nz/articles

Wikipedia. (2023). Reading comprehension. Retrieved from www.wikipedia.reading comprehension.com.

3. .