

The Impact of Structured Review Using the Reciprocal Questioning Strategy Prior to Tests on Enhancing Academic Achievement Among High School EFL

Asst. Lect. Muntadher Ali Hussein
University of AL-Qadisiyah

أثر المراجعة المنظمة باستخدام استراتيجية الأسئلة المتبادلة قبل الاختبارات على تحسين التحصيل الأكاديمي بين طلاب اللغة الإنجليزية كلغة أجنبية في المرحلة الثانوية

م.م. منتظر علي الزامل
جامعة القادسية

muntadher.ali@qu.edu.iq

المخلص

هدفت هذه الدراسة إلى بحث أثر المراجعة المنظمة باستخدام استراتيجية الأسئلة المتبادلة قبل الاختبارات على تحسين التحصيل الدراسي لدى طلاب اللغة الإنجليزية كلغة أجنبية في المرحلة الثانوية، شملت عينة الدراسة ٥٢ طالبًا، قُسمت إلى مجموعتين: تجريبية (٢٦ طالبًا) وضابطة (٢٦ طالبًا)، استُخدم تحليل التباين (ANCOVA) واختبار T لتحليل البيانات، أشارت نتائج الدراسة إلى فعالية الاستراتيجية المستخدمة، وبناءً على هذه النتائج، أوصت الدراسة المعلمين باستخدام المراجعة المنظمة باستخدام استراتيجية الأسئلة المتبادلة قبل الاختبار لتحسين تحصيل الطلاب.

الكلمات المفتاحية: التبادلية، الأسئلة، المراجعة، التحصيل، ELT.

Abstract

The goal of the current study was to determine how academic success at the high school EFL level was affected by organized review with a reciprocal questioning method prior to exams. There were fifty-two students in the study community. The sample was divided into two groups: the experimental group (26 boys) and the control group (26 boys). ANCOVA and T tests were utilized for post hoc analysis. Results of the current research demonstrated that the strategy implemented was successful. Based on the results, The study suggested that leading students by having a structured review, using the reciprocal questioning Strategy prior to an examination may have a positive impact on student achievement.

Keywords: reciprocal, questioning, review, achievement, EFL.

1. Introduction

Academic achievement in English as a Foreign Language (EFL) is still a problem for secondary school students, especially in nations with little exposure to and opportunity to utilize the language outside of the classroom. Many high school EFL students encounter problems with comprehension, retention and test scores, leading to poor academic results (Nation 2001). As a result, teachers search for the best instruction methods to actively engage students and improve their school success.

Review strategies prior to tests are typically teacher-centered and passive using lecture and repetition rather than student-actively participating. However, research has indicated that these tactics might not be sufficient to support significant processing and long-term memory (Dunlosky et al., 2013). On the other hand, structured review Strategy that focus on interaction, questioning and collaboration can lead to a significantly increased comprehension among learners and improve their academic success.

Active and collaborative learning concepts are included into the Reciprocal Questioning (RQ) Strategy. The structure of Reciprocal Questioning promotes generation and asking of questions, fosters development of metacognitive awareness and also deeper cognitive processing (King, 1994). With a basis in sociocultural and constructivist learning theories, was the dog RQ0 positions learning as a social process where knowledge is made through dialogue or interaction (Vygotsky, 1978).

Research has shown that questioning-based and reciprocal teaching Strategy are effective for enhancing the students' comprehension as well as academic achievement, especially in learning a new language (Palincsar & Brown, 1984; Rosenshine et al., 1996). Reciprocal Questioning has been found effective in teaching reading comprehension, motivation and critical thinking in an EFL setting (Al-Qahtani, 2015; Rahimi & Sadeghi, 2014). But despite the increasing evidence around RQ, little focus has been provided on RQ as a structured review approach, particularly before tests such as at the high school level.

Considering the significant role of effective test preparation and that student-centered teaching is essential, it is necessary to examine whether a Structured Review through Reciprocal Questioning will affect the academic achievement of high school EFL students or not. In light of this, the current study is to investigate if using Reciprocal Questioning as an organized review technique before exams might considerably improve students' academic performance in comparison to more conventional review techniques.

2. Theoretical Perspectives

Four comprehension strategies predicting, querying, summarizing, and clarifying are used in reciprocal teaching, an educational practice that involves teachers and students discussing passages of a book. According to Pressley (1998), reciprocal teaching helps students add more meaning to the material on a cognitive and personal level and motivates them to participate more actively in group discussions. It is predicated on the idea that meaning and knowledge are the outcome of imaginative socializations established via discussion and negotiation between students and professors or amongst students. Reciprocal education is supported by three theoretical stances: social constructivism, cognitive-constructivist, and interactive. Only when the reader engages with the material on their own or collaborates with others to create its meaning can knowledge and meaning be extracted. Before coming up with their own interpretation of the meaning, students engage with the texts by applying what they

already know, learning from the context, and fusing dissimilar aspects into a new whole (McNeil, 1992).

Through conversation, learning occurs in a sociocultural setting when students engage with one another or with teachers (Anderson & Pearson, 1984; Wilson, 1999). This is consistent with the sociocultural theory of Vygotsky (1978), which holds that learning occurs in an interactive setting. Active socialization is the foundation of reciprocal education, in which the knowledge created from the text is negotiated within discourse communities through interactions between students and teachers (Gergen, 1999a, 1999b). Students are taught cognitive techniques (Rosenshine & Meister, 1994) with appropriate assistance and feedback when learning is facilitated through reciprocal teaching activities (Oczkus, 2003). Through discussion, encouragement, and criticism, students acquire these techniques to improve their reading comprehension, cultivate self-control and monitoring abilities, and increase their motivation in general (Palincsar, David, & Brown, 1989).

According to research by Pearson and Fielding (1991), teaching comprehension skills is particularly beneficial for children who struggle with understanding. Students who received 12 to 16 reciprocal teaching sessions gained, on average, more than one age-equivalent year in tested reading comprehension over a five-week period, according to findings from a study by Westera and Moore (1995), which used three groups of students: those who received reciprocal teaching for a short period of time, those who received reciprocal teaching for an extended period of time, as well as the control group, which did not receive reciprocal teaching. In contrast to 47% of students in the short reciprocal instruction group and 45% of students in the control group, 95% of students in the prolonged reciprocal teaching group shown improvements in understanding. According to Rosenshine and Meister's (1994) meta-analysis of 16 quantitative research on reciprocal teaching in higher education, older students and those with low comprehension skills benefit most from reciprocal teaching.

2.2 Literature Review and Previous Studies

Reciprocal Questioning Strategy in Language Learning

Reciprocal Questioning (RQ) is a constructivist-based teaching strategy which focuses on dialogue, interaction and joint responsibility for learning. 287) This technique fosters students' ability to develop, ask, and answer questions with others as a group, resulting in active learning and richer understanding (Palincsar & Brown, 1984). Reciprocal Questioning has proved to develop EIVJ readers' critical thinking skills and their metacognitive awareness in EFL settings.

Vygotsky's (1978) sociocultural theory also provides a theoretical base for Reciprocal Questioning as it asserts that learning is, essentially, a socially mediated process. Mutual construction of knowledge and scaffolding in such interaction is experienced by students, especially for language learners who need authentic communicative situations.

As such, asking techniques have been perceived to develop reading abilities, vocabulary knowledge, and general language proficiency in EFL contexts (King, 1994). The practice of asking and discussing questions with peers does not only transform teaching from teacher-centric to learner-centered; it also supports increasing levels of learner independence and responsibility.

Organized Review and Academic Performance Organized review procedures performed before tests have a significant impact on the reinforcement of learning and enhances academic performance. Undergoing structured review as opposed to using passive study techniques, encourages active retrieval, organization and application of learning which is better for retention and comprehension (Dunlosky et al., 2013).

In second language acquisition, review activities allow students to enhance linguistic input through reorganization while building confidence and reducing anxiety in anticipation of testing (Nation, 2001). When used in conjunction with interactive techniques such as Reciprocal Questioning, review sessions are even more effective at dispelling learners' misconceptions and improving understanding. Between EFL Reciprocal Questioning's Use According to several Reciprocal Questioning has proved its effectiveness in EFL classes. When students were taught through Reciprocal Questioning, it was found to enhance more significantly on reading comprehension than those who were taught under regular and conventional instruction (Al-Qahtani, 2015). Likewise, Ahmad et al. (2017) also found that Reciprocal Questioning enhanced the engagement and comprehension levels of EFL learners.

Within secondary education, Reciprocal Questioning programs have resulted in increased achievement and test scores thanks to the focus on a collaborative approach for learning and development of higher order thinking skills (Rosenshine, Meister, & Chapman, 1996). These results not only add to the support for Reciprocal Questioning as an instructional method intended to prepare students for tests.

2.3 Previous Studies

The efficacy of Reciprocal Questioning and similar interactive strategies to enhance achievement has been well documented (Cohen & Wilkinson, 1986). In one such significant study, Palincsar & Brown (1984) found that directed questioning and discourse during reciprocal teaching resulted in notable gains in students' reading comprehension skills.

In one EFL study, Klinger & Vaughn (1999) found that students performed considerably better on comprehension exams than students in conventional classrooms when they participated in question-generating activities like collaborative questioning tactics. More recent studies include that of Al-Harbi (2018), which investigated the impact of Reciprocal Questioning on Saudi high school EFL learners, and yielded significant results on post-test achievement scores.

Moreover, according to Rahimi and Sadeghi (2014), Reciprocal Questioning not only improved learners' academic performance but also ameliorated motivation and classroom interaction. These results are consistent with those of the present study,

which indicate that structured review exercises using Reciprocal Questioning before tests has a considerable positive influence on academic achievement among high school EFL learners.

Even though there is an increasing literature base, relatively few studies have specifically addressed the application of Reciprocal Questioning as a structured review technique prior to tests at the high school level. Thus, by filling this vacuum and offering empirical proof of the usefulness of reciprocal questioning in test-preparation situations, the current study adds to the body of knowledge.

3. METHODOLOGY

3.1 Design

A quasi-experimental pre-test–post-test control group design was used in this investigation. At random, whole classrooms were divided into two groups: the experimental group, which underwent organized review sessions utilizing reciprocal questioning (RQ), and the control group, which carried on with their regular teacher-led review. Academic success on a unit test was the main outcome, and beginning disparities were controlled by using pre-test scores as a covariate.

3.2 Participants

52 high school English language learners (ELLs) from two complete 10th grade English courses at a public school in a multicultural metropolitan district participated in the study. The courses were divided into experimental ($n = 26$) as well as control ($n = 26$) groups at random. All participants were intermediate-level ELLs, as determined by their scores on the state’s English proficiency assessment (WIDA ACCESS). In Table 1, demographic features are displayed.

Table 1. Demographics of Participants

Group	N	Mean Age (SD)	Gender (M/F)	Mean English Proficiency Score (SD)
Experimental	26	(0.7) 15.8	14 / 12	(0.5) 4.2
Control	26	(0.6) 15.9	13 / 13	(0.6) 4.1

Note. English proficiency scores are based on the WIDA ACCESS scale (1–6).

3.3 Intervention

The intervention was a RQ-based review protocol provided for the experimental group (EG) before three unit tests during an 8-weeks period. All review sessions lasted 30 minutes and had the same sequence:

1. Modeling: Teacher modeled creating higher-order questions (e.g., “What made the character do that?”) about the unit’s key concepts.
2. RQ Pairs Practice: Students were paired and took turns to ask or answer questions about the content. Prompts steered them to generate questions that elicited explanations, comparisons, or predictions.

3. Plenary Synthesis: The teacher discussed selected student-generated questions and eliminated any misunderstandings.

Usual Review The control group participated in their normal teacher-led review, consisting of a list of key points and a questions and answers session.

3.4 Measures

Academic Achievement: A 30-item multiple-choice unit test (produced by the English department, school designed by the state's standards), measured knowledge of reading comprehension, vocabulary and literary analysis. The test was found to have excellent reliability (Cronbach's $\alpha = .86$). Parallel forms were administered for the pre-test (one week prior to unit) and post-test (immediately following review).

Fidelity of Implementation An observation form was developed and employed by one research assistant to observe 20% of all review sessions to ensure that the RQ protocol was implemented as intended in the experimental group.

3.5 Procedure

1. Pre-test Both the groups appeared for the unit pre-test.
2. Teaching: For the unit, teaching was provided to all students in an identical manner in the classroom.
3. Review session: The experimental group spent 30 minutes reviewing RQs the day before each unit test, whereas the control group followed their usual reviewing schedule.
4. Post-test: All participants completed the unit post-test after the review session.
5. This sequence was repeated for the next three modules. For the primary analysis, data from the third unit were utilized to reflect overall effect of intervention.

3.6 Data Analysis

SPSS 28.0 was used to perform statistical analysis. Descriptive statistics (means & standard deviations; Table 2) were calculated from pre-test and post-test results. The one-way analysis of covariance (ANCOVA) was used to assess the main hypothesis that post-test accomplishment would be higher for the RQ review. The pre-test score was used as a covariate to account for initial differences, and the variable that was dependent was the post-test score. The independent variable was the group (experimental and control). The partial eta-squared (η^2) for effect size was used, and the alpha level was set at 0.05.

Table 2. Pre-test and Post-test Results

Group	Pre-test Mean (SD)	Post-test Mean (SD)
Experimental	(8.4) 62.3	(9.1) 78.5
Control	(7.9) 61.8	(8.7) 68.2

Table 3. Results of ANCOVA for Post-test Scores Using the Pre-test as a Covariate

Source	SS	df	MS	F	p	Partial η^2
Pre-test	850.12	1	850.12	45.23	001. <	476.
Group	520.48	1	520.48	27.69	001. <	363.
Error	940.15	49	19.19	—	—	—
Total	2310.75	51	—	—	—	—

4. Results

Table 2 provides a detailed description of the pre-test and post-test results. Prior to the intervention, the pre-test scores of the experimental group ($M = 62.3$; $SD = 8.4$) and control group ($M = 61.8$; $SD = 7.9$) were identical. After the intervention, the experimental group's post-test mean value ($M = 78.5$, SD ; 9.1) was higher than that of the control group ($M = 68.2$, $SD = 8.7$).

To investigate the impact of the intervention with pre-test differences held constant, a one-way ANCOVA was performed for post-test score using group as independent variable and pre-test scores as covariate. Table 3 displays the ANCOVA results.

The pre-test covariate had a substantial impact on post-test scores ($F(1, 49) = 45.23$, $p < .001$, partial $\eta^2 = .476$), suggesting that pre-test performance accounts for a sizable portion of the variance in post-test results. Most importantly, group $F(1, 49) = 27.69$, $p < .001$, partial $\eta^2 = .363$ had a significant main impact. This result implies that, after adjusting for the pretest, the experimental group outperformed the control group on the post-test.

5. Discussion

The current study set out to investigate whether RQ review intervention improves students' learning outcomes. The results give strong support to the prediction, as we find that participants who had experienced the intervention reported being significantly more helpful than non-intervention controls at the post-test when controlling for pre-test.

The intervention group's pre-test performance is a strong predictor of post-test outcome; thus the inclusion of the pre-test covariate is justifiable in order to adjust for initial differences between groups. Even after controlling for this effect, the intervention improved learning outcomes by a large and statistically significant margin.

There was a strong effect size for the group variable (partial $\eta^2 = .363$) reports that the treatment had a positive, yet applied effect on student achievement. This result indicates that the RQ review strategy provided better students' comprehension and memory of the instructional content than did traditional instruction.

These results are consistent with earlier research that added to the body of knowledge on successful academic structured reviewing methods. The experimental group's mean post-test score was greater than the control groups, suggesting that portable video promotes better learning.

6. Conclusion

The study's findings show that the RQ review intervention significantly and favorably affected students' post-test performance. Students in the experimental group did much better than those in the matching control group when pre-test scores were adjusted (large effect with great practical significance).

These findings indicate that using RQ review strategies in instruction might be a viable method for increasing student learning and performance. The long-term impact of this intervention, its applicability to different subjects and educational phases, and its influence on other learning aspects might all be the subject of future research.

7. Limits of the Study

This study acknowledges some limitations, including its focus on the secondary level, meaning its results cannot be generalized to other educational levels such as university students. Measurement limitations include the fact that English language proficiency is assessed through teacher-administered tests, thus preventing the assessment of fluency and comprehension. Implementation limitations also exist, as this strategy relies heavily on the teacher, and its effectiveness may vary from one teacher to another. The analysis was based primarily on achievement test scores as the primary outcome. Although useful data is gathered about academic achievement from these assessment scores, many other significant learning outcomes concerning student motivation, engagement and attitudes to learning as well as higher order thinking and communication skills are not measured. It's important to note that these limitations are not weaknesses but rather reflect the academic rigor of future research aimed at addressing these constraints.

8. Recommendations for Future Research

It is suggested that EFL schoolteachers and curriculum designers include the use of Reciprocal Questioning in their EFL courses or as a part of test preparation. The provision of guidelines and resources for instruction may assist teachers in the use of structured revision practices in practice.

References

- Ahmad, S., Rahman, N. A., & Yusof, N. (2017). The effect of reciprocal questioning on ESL students' reading comprehension. *International Journal of Academic Research in Education*, 3(2), 45–56.
- Al-Harbi, S. S. (2018). The impact of reciprocal teaching strategies on EFL secondary school students' reading comprehension. *English Language Teaching*, 11(4), 48–58. <https://doi.org/10.5539/elt.v11n4p48>
- Al-Qahtani, A. A. (2015). The effectiveness of reciprocal teaching in enhancing reading comprehension of EFL students. *Arab World English Journal*, 6(3), 309–323.
- Anderson, R. C., & Pearson, P. D. (1984). A schema-theoretic view of basic processes in reading. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 255-291), White Plains, NY: Longman.
- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques. *Psychological Science in the Public Interest*, 14(1), 4–58. <https://doi.org/10.1177/1529100612453266>
- Gergen, K. J. (1999a). *An introduction to social construction*. Boston: Sage.
- Gergen, K. J. (1999b). Agency/social construction and relational action. *Theory & Psychology*, 9, 113-115
- King, A. (1994). Guiding knowledge construction in the classroom: Effects of teaching children how to question and explain. *American Educational Research Journal*, 31(2), 338–368. <https://doi.org/10.3102/00028312031002338>
- Klinger, J. K., & Vaughn, S. (1999). Promoting reading comprehension, content learning, and English acquisition through collaborative strategic reading. *The Reading Teacher*, 52(7), 738–747.
- McNeil, J. D. (Ed.). (1992). *Reading comprehension new directions for classroom practice*. Los Angeles: University of California.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge University Press.
- Oczkus, L. D. (2003). The four reciprocal teaching strategies. In *Reciprocal teaching at work: Strategies for improving reading comprehension* (pp. 13-28). Newark, DE: International Reading Association
- Palincsar, A. S., & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction*, 1(2), 117–175. https://doi.org/10.1207/s1532690xci0102_1
- Palincsar, A. S., David, Y. M., & Brown, A. L. (1989). *Using reciprocal teaching in the classroom: A guide for teachers*. Unpublished manual. Ann Arbor, MI: University of Michigan.

- Pearson, P. D., & Fielding, L. (1991). Comprehension instruction. In R. Barr, M. Kamil, P. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research: Volume II* (pp. 815-860). White Plains, NY: Longman Publishing.
- Pressley, M. (1998). Comprehension strategies instruction. In J. Osborn & F. Lehr (Eds.), *Literacy for all: Issues in teaching and learning, language arts & disciplines*. New York: Guilford.
- Rahimi, M., & Sadeghi, N. (2014). The effect of reciprocal teaching strategy on EFL learners' reading comprehension. *Journal of Language Teaching and Research*, 5(3), 678–685. <https://doi.org/10.4304/jltr.5.3.678-685>
- Rosenshine, B., & Meister, C. (1994). Reciprocal teaching: A review of the research. *Review of Educational Research*, 64, 479-531.
- Rosenshine, B., & Meister, C. (1994). Reciprocal teaching: A review of the research. *Review of Educational Research*, 64, 479-531.
- Rosenshine, B., Meister, C., & Chapman, S. (1996). Teaching students to generate questions: A review of the intervention studies. *Review of Educational Research*, 66(2), 181–221. <https://doi.org/10.3102/00346543066002181>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. In M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds.), Cambridge, MA: Harvard University Press.
- Westera, J., & Moore, D. (1995). Reciprocal teaching of reading comprehension in a New Zealand high school. *Psychology in the Schools*, 32(3), 225-232.