

The Impact of Teaching Critical Thinking through Reading Comprehension

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ABSTRACT

The main purpose of this study is to investigate the level of student's critical thinking; simultaneously the research also paved way for finding students' vocabulary retention, memory power (remembering) and understanding power. The study involves 60 participants of SRM institute of Science and Technology, in which 30 participants were considered as a control Group and 30 participants were taken as an experimental Group. Questionnaire was provided to investigate the efficacy of critical thinking among students. The study reveals that the experimental group provides a significant result than the control group. The Finding of the study reveals that (i) the Students involved in this study found to be more active when they are clubbed with their peer members; (ii) there is a significant correlation between critical thinking, creative thinking and understanding;

Keywords

Reading Comprehension, Critical thinking, Creative thinking, Collaborative Instructions.

Introduction

Reading is one of the essential cognitive components among LSRW skills. It is the complex process of decoding symbols to derive meaning and it is a mean for language acquisition, communication, to share ideas and to learn necessary information. Reading is one of the ways to develop language learning, mainly vocabulary and sentence formations. Reading has been defined as "the ability to draw meaning from the printed page and interpret this information appropriately" (Grabe & Stoller, 2002). Comprehension is defined as "the process of simultaneously extracting and constructing meaning through interaction and involvement with written language" (snow, 2002, p.11). In the current Scenario, 'Reading comprehension' in competitive exams plays a vital role to crash the public service examinations. Modern cognitivists have developed new trends and theories that provide theoretical models for explaining and conceptualizing reading comprehension by utilizing a set of related concepts, such as critical thinking, prior knowledge, inference-making, and meta cognitive skills (Limbach and Waugh, 2010). It is obvious that in the process of mastering a Reading Comprehension, Critical thinking plays an important role. Critical thinking is the objective analysis and evaluation of an issue in order to form a judgment. Critical thinking differs from creative thinking, whereas creative thinking is the result of a simple arrangement of the

existing knowledge, the ability to reconstruct the existing knowledge and the experience form the necessary elements of creative thinking and critical thinking is moving beyond the existing knowledge. Thomas (2010) describes creative thinking as a "problem based learning skills". Creative thinking is a careful, precise and objective analysis of any knowledge, claim or belief in order to judge its validity and worth (Beyer, 1985). Critical thinking does not only require a person to think rationally but also enhances inquisitives, keenness of mind. Critical thinking is a cognitive activity, associated with using the mind; Learning to think critically means using mental process such as attention, categorization, selection and judgment (Cottrell, 2005). The present study aims to develop critical thinking among engineering students through reading comprehension. It also focuses on variation in heterogeneous and homogeneous group performances. The study comprised of 30 engineering students with 20 instructional sessions for the experimental group and 30 students were observed for control group. The reason for selecting engineering students is to develop their critical thinking which will be useful to solve problem in their professional field. Critical thinking helps the learner to grow and develop in their profession and help the learners to take competitive exam, where critical and creative thinking holds the majority of questions in reading comprehension. Critical Thinking involves "Purposeful and goal-directed Thinking"; it is the

process of making the solution with the evidences provided in the text rather than assumption (Nugent and Vitale, 2008). In this technological era, students lack in critical and creative thinking, where the technology grabs the attention of the learners. Henceforth collaborative learning was adopted to make classroom interaction effective, among students. It not only intensifies their academic and professional growth but also their personal growth which helps them to take decision (problem- solving skills) and makes them a good humanitarian.

Methodology

Nasrabadi (2012) showed a positive relationship between critical thinking attitudes and student's academic achievement. The results showed that there was a significant difference between the levels of critical thinking of assimilating and converge styles. Also converging, diverging, assimilating and accommodating styles had the highest level of critical thinking. Henceforth, Collaborative learning was adopted for equipping the critical thinking skill among Students for their diverse development. Collaborative learning is defined as students working together in groups. It helps the learners to overcome their anxiety and fear for learning skills. It enforces the learners to be active, confident and also enhance their interpersonal relationship with the society. According to Alavi, Wheeler and Valacich (1995), collaborative learning is an activity which involves a group of students collaborating to accomplish the problem solving task given as learning activities. The activities includes role-play, making chart exercises in chronological order, character depiction, scene depiction, creating new theme using the existing theme and characters. Mohanty & Roy (2013) suggests that learning in group is beneficial for a multicultural atmosphere and large classrooms. The researcher framed a question based on the marking variables such as remembering, understanding, critical thinking and vocabulary retention. Each Comprehension passage consists of 20 comprehension questions, five questions to assess their remembering skills, five questions to check their understanding power, five questions each to investigate their applying, analyzing skills and five to test their vocabulary retention. 3 reading

comprehension text were given to get pre-test result, the post-test result were ranked based on another 3 comprehension test after the collaborative experimental session. The questions includes, why do you think the protagonist have taken the suicidal decision? The students were asked to share their opinion with their peer groups and asked to analyze the content. When the students work in groups, they provide a significant result.

Participants

A total of 60 participants were involved in this study, 30 participants were considered for the experimental group and 30 participants were observed as a control group. 30 males and 30 females were taken into consideration to show chase the difference among Gender. All of the Participants were ESL Learners majoring in Engineering at SRM University, Chennai, whereas all the participants started to learn English from the age of 5.

Research Instruments

The research instrument comprised of Collaborative Instructions, Questionnaire and test, which assisted the Researcher to consolidate the Result of Critical Thinking. The Variables for consolidating the results is restricted to Understanding, Remembering, Critical Thinking and Vocabulary Retention.

Data Analysis

The collected data was analyzed using Statistical Package for Social Science (SPSS). The result for the Pre-test and post-test result has been taken from 3 Comprehension texts, retaining their perception about the text. This research followed the mean formula to analyze the data.

$$\begin{aligned} \text{Mean, } \Sigma &= \left(\frac{x}{n}\right)^3 \\ &= \left(\frac{12+13+15+17+12+15+10+9+\dots}{30}\right)^3 \\ &= \left(\frac{360}{30}\right)^3 \end{aligned}$$

In the above mentioned equation “x” represents the marks scored by the students whereas “n” represents the number of students present for the test. Since the result of pre-test and post-test has

been monitored from 3 comprehension text, the equation includes power of 3

Result and Discussion Chart

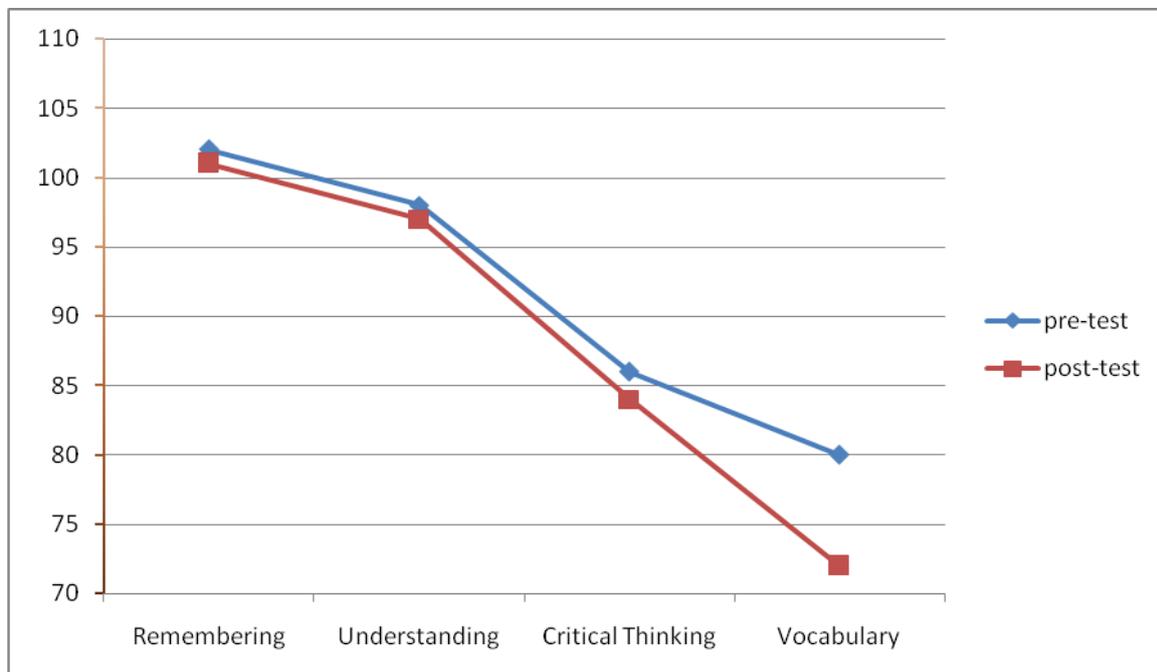


Figure 1 : Control Group: Pre-test and Post-test Analysis

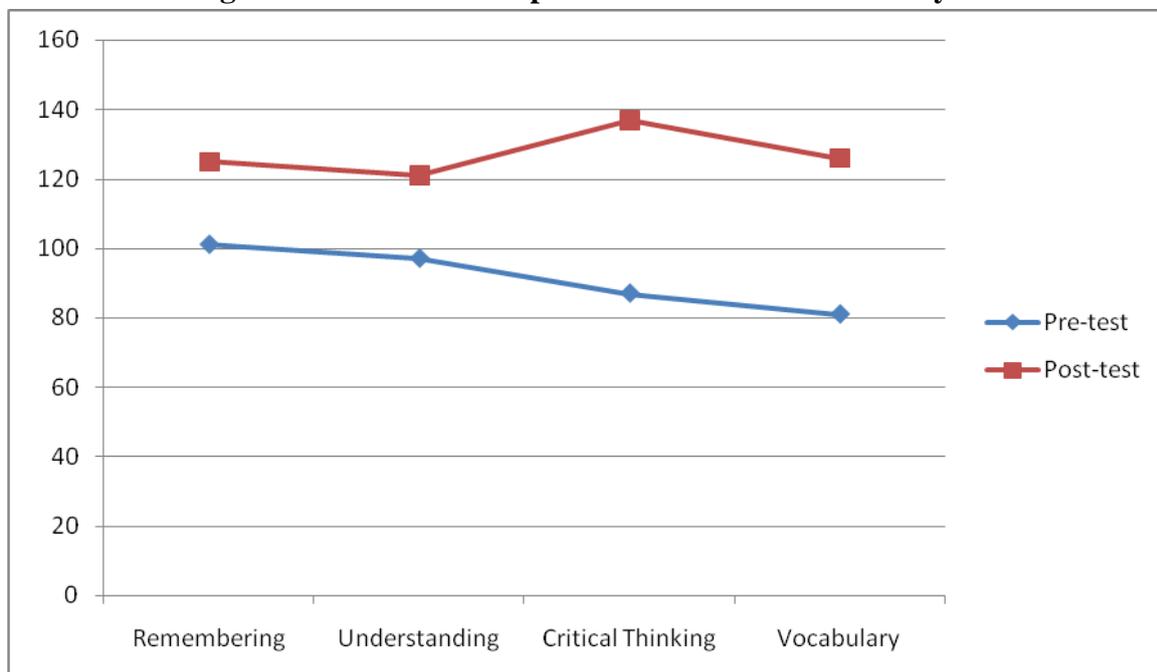


Figure 2: Experimental Group: Pre-test and Post-test Analysis

The above charts (fig 1 and fig 2) explicate that the students showed a notable results, when they deliberately collaborate with their peer members despite working alone.

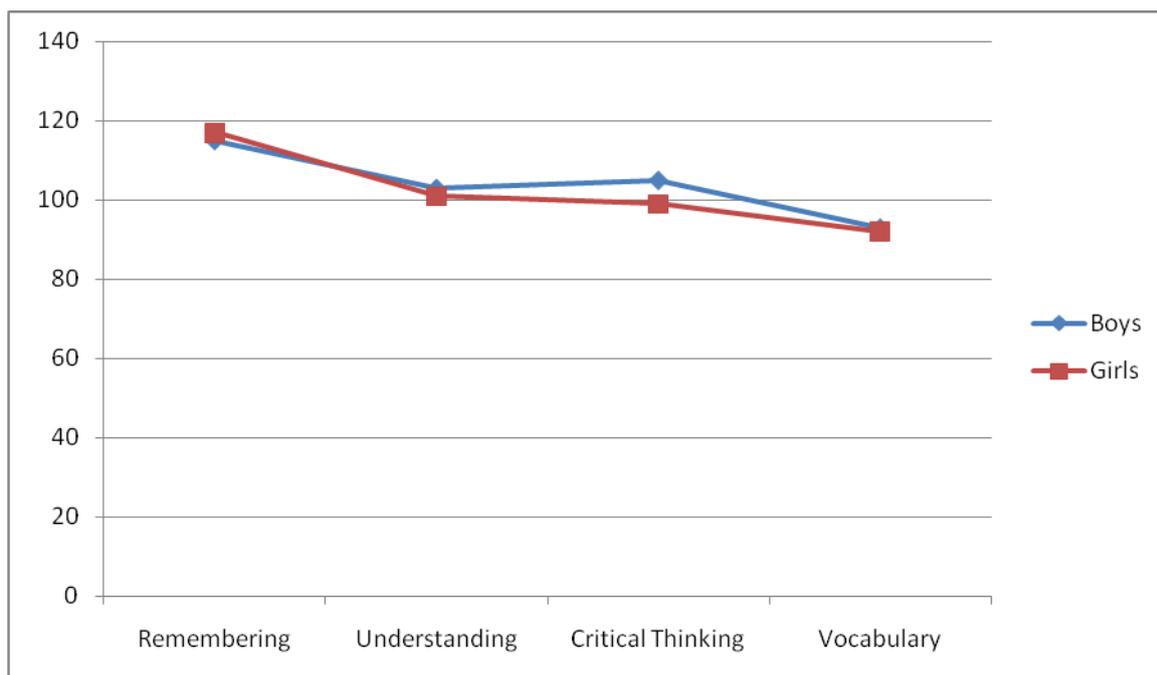


Figure 3 : Analysis of Homogeneous groups

Though the students have been clubbed with opposite- gender members of their peer group, they provided a significant result similar to heterogeneous group. This explicate that the gender- variation does not restrict the learning process of students (30 students) in SRM Institute of Science and Technology

Group	Variables	Remembering	Understanding	Critical Thinking	Vocabulary
Control Group	Pre-test	102	98	86	80
	Post-test	101	97	84	72
Experimental Group	Pre-test	101	97	87	81
	Post-test	125	121	137	126

Learners’ role

From the above mentioned table, it is explicit that the students’ performance in pre-test is underneath on both control and experimental group. Simultaneously, after the instructional session the score of the post-test seems to be lofty among the Experimental group. The researcher also traced that Collaborative learning enhanced Student’s vocabulary retention and critical thinking, in addition to that framing of phrases have been spotted among students.

The Learners served as an “Active Participants” with optimism and Enthusiasm. The Learners gained Team work skills and collared to monitor and evaluate their own learning. Collaborative Learning helped the Students to identify their flaws and rectify it with their peer- group members. The Learners took the role of a tutor, information sharer and Recorder. The Learners corresponded to the company of their peer members, while analyzing a text

Researcher’s role

In this study, the Researcher served as a facilitator, Instructor for planning and structuring the tasks. The significant role of the instructor is assigning students to the group, selecting appropriate materials, physical arrangement of the classroom, fixing an applicable timing for analyzing a text.

Conclusion

The study reveals that the improvement in critical thinking, will improve the level of students. It also reveals that the teachers has to find or create materials which enable the students to decode the meaning of the text and paves way to have a critical thinking. The result and feedback suggest that the students provided a significant

result when they are put with their peer members. Moreover, the study also finds a moderate correlation between creative thinking and critical thinking. Thus, if the students apply Collaborative language learning Strategies in reading their academic texts, their achievements in reading comprehension will be better.

This finding of the study also provides a recommendation for future researchers. The researchers may also investigate the level of creative thinking and could possibly apply collaborative approach or any Activity based approach to predict the understanding and creative power of students. Furthermore, this study constrains the limited number of participants; the future researcher may conduct the same research with the large number of participants to know the efficacy of this research.

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