

CRITICAL THINKING AND CREATIVE THINKING: STUDENTS' READING COMPREHENSION

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Abstract

The primary goal of this study was to examine the critical and creative thinking of students; simultaneously the retention of vocabulary, memorization and cognitive control in students. For accomplishment of research objective, a total of 60 participants from the KMC, University of Peshawar was taken, which was further divided into control group (30 participants) and experimental group (30 participants). A questionnaire was used to analyze the critical thinking and creative thinking efficacy among students. The outcomes of the study indicated that experimental group gives highly significant outcomes as compare to control group. In addition, the results reveled that students when clubbed with peers are more active. This study proves that there is a significant association between critical thinking and creative thinking.

Keywords: Critical thinking, creative thinking, reading comprehension, KMC

Introduction

One of the most important cognitive components of LSRW skills is reading. It is the complex process of decoding symbols to get the meaning and it is a tool for language learning, communication, idea sharing and information gathering. Reading is one of the most effective way for improving language skills, especially vocabulary and sentence structure. Reading is described as the ability to extract information from a printed page and understand it correctly (Grabe & Stoller, 2002). Descriptive comprehension is the process of acquiring and creating meaning from written language through interaction and participation (Snow, 2002). Reading comprehension in competitive exams has a great influence on crushing civil service exams in the current context.

Modern scholars have introduced new trends and theories that use a range of related concepts, such as critical thinking, prior knowledge, inference, and metacognitive skills, to provide theoretical models for understanding and conceptualizing in reading (Jadoon et al., 2022; Limbach and Waugh, 2010). It is clear that critical thinking plays an essential role in learning to read. Critical thinking is the process of objectively analyzing and evaluating objects to make decisions. Critical thinking differs from creative thinking because creative thinking is the result of a simple arrangement of current knowledge, the ability to reconstruct existing knowledge and experience, but critical thinking. Critical thinking is the consequence of going beyond existing knowledge.

According to Thomas (2010), creative thinking is a "problem-based learning ability". To determine the validity and validity of any knowledge, statement or belief, creative thinking requires complete, accurate, and objective examination (Beyer, 1985). Critical thinking develops a person's curiosity and sharp mind while forcing them to think rationally. Learning

to think critically involves using mental processes such as attention, classification, selection, and judgment (Cottrell, 2005). The aim of this study was to improve the critical thinking skills of medical students by making them read more. It also examined differences in group performance between heterogeneous and homogeneous groups. The experimental group had 20 teaching sessions and 30 students observed for research, including 30 medical students. The goal of choosing medical students is to help them improve critical thinking skills to help them solve problems in their profession. Critical thinking enhances learners' career growth and development, as well as their ability to pass a competition in which critical and creative thinking is used to answer the majority of problems about reading comprehension. "Focused and goal-oriented thinking" is a component of critical thinking; it is the process of reaching a decision using evidence presented in the text rather than conjecture (Nugent & Vitale, 2008; Ullah et al., 2022). Students lack critical thinking and creativity in this modern era when technology captures learners' attention. Therefore, cooperative learning has been implemented to improve student interaction in the classroom. It's not as improves their scholarly and proficient advancement, but their individual improvement, which helps in decision-making (problem-solving capacities) and makes them compelling humanitarians.

Method

Nasrabadi (2012) found an association between critical thinking attitudes and student achievement. Research shows a significant difference in the level of critical thinking between assimilation and convergence styles. Critical thinking works best in convergent, divergent, assimilated, and adaptive styles. Cooperative learning has been accepted as a way to train students to think critically to support their diverse development. The term "cooperative learning" refers to students working in groups. It helps students overcome their fear of learning new possibilities. It encourages students to be active and confident while improving their interpersonal relationships with others. Cooperative learning, according to Alavi, Wheeler, and Valacich (1995), is an activity in which a group of students work together to complete an assigned problem-solving task as a learning activity. Role playing, creating chronological graphic exercises, characterizing characters, describing scenes, and establishing a new theme using existing themes and characters are some of the activities. According to Mohanty and Roy (2013), group learning is excellent in multicultural contexts and large classes. The researcher constructed a question based on the scoring variables of recall, comprehension, critical thinking, and language retention. Each reading passage has 20 questions: five questions to measure their memorization skills, five questions to assess their comprehension, five questions to study application, analysis, and retention skills, their language and five questions to test their vocabulary memorization. After the collaborative experiment, three reading comprehension passages were presented for pre-test results, and post-test results were categorized under three other reading comprehension tests. The questions asked were: "Why do you think the protagonist made the decision to commit suicide? The Students were urged to discuss their thoughts with their peers and to study the material. Students produce significant improvements when they work in groups.

Participants

This study involved 60 participants; of whom 30 were used for experimental group and 30 participants for control group. Thirty men and thirty female have been considered to demonstrate the gender gap. All the 60 participants were students of KMC, Peshawar university students, whereas all these participants commenced learning English at the age of five.

Research Instruments

The instruments of this study contained collaborative instructions, questionnaire and test, that help in consolidating the outcomes of critical thinking. The measures for consolidating the outcomes are limited to understanding, memorizing, retention of vocabulary and critical thinking.

Analysis

Data was analyzed by using stata 17. The outcomes for pre and post tests have been taken from three texts comprehension and holding their perception about these text. The arithmetic mean formula has been employed to analyze the research 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 aforementioned equation, "x" shows the students' grades, whereas "n" reflects the number of members who took the test. Since the results about of the pre-test and post-test have been published the condition contains the control of three, which has been followed from three comprehension books.

Result and Discussion

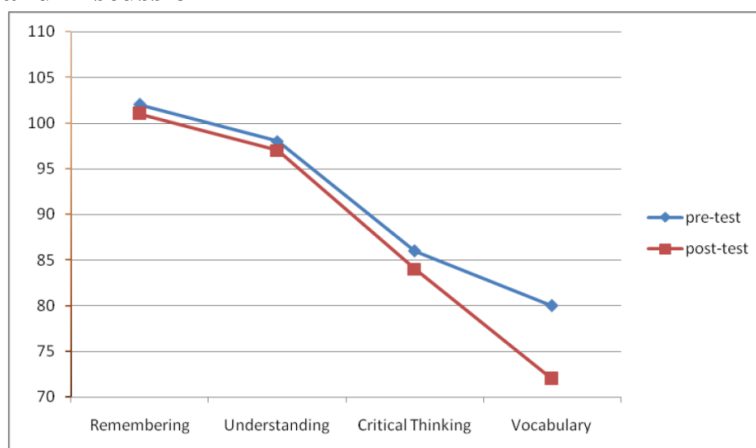


Figure 1: Control Group: Pre-test and Post-test Analysis

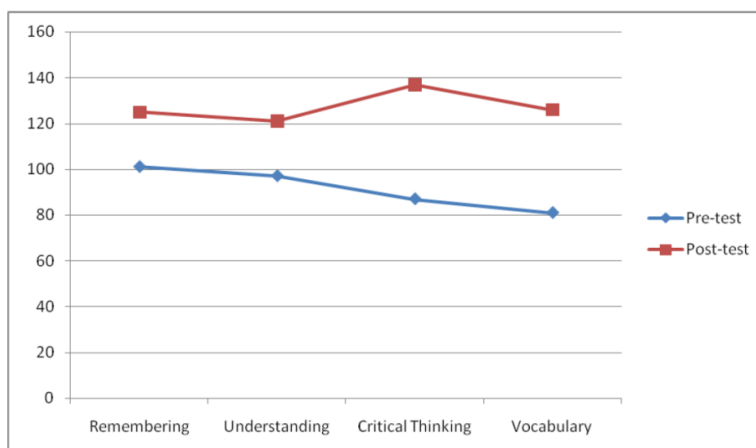


Figure 2: Experimental Group: Pre-test and Post-test Analysis

The aforementioned figure 1 and figure 2 elucidate that the students appeared a striking comes about, when they intentionally collaborate with their peer individuals in spite of working alone.

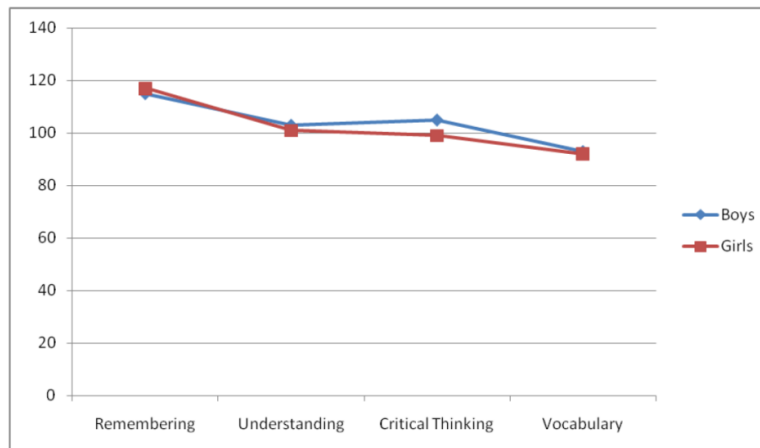


Figure 3: Analysis of Homogeneous Groups

The above figure 3 indicates that although students were clubbed with different gender in their peer group, but the outcomes indicated significant as heterogeneous group. This indicates that variation in gender does not limit learning process of students.

Table 1: Students Performance

Group	Variables	Remembering	Understanding	Critical Thinking	Vocabulary
Control Group	Pre-test	103	99	88	79
	Post-test	100	96	82	71
Experimental Group	Pre-test	100	96	88	80
	Post-test	126	122	136	125

The aforementioned table 1 indicates that students' performance in pretest is below in control and experimental group. Furthermore, after the instructional session, the numbers of post-test are high among the experimental group. The outcomes of the study indicated that group learning increase vocabulary retention of students and critical thinking, in addition to designing phrase has been marked between students.

Conclusion

The outcomes of current study indicated that better critical thinking will improve students' level. The outcomes also reveal that instructors have to discover or create material that enables students to decode the text meaning and navigate to critical thinking. The outcomes documents that students provide better results when they were with peer members. Furthermore, the study also indicated a correlation between creative thinking and critical thinking that documents that if students use collaborative learning strategies in reading text; their reading comprehension will be improved.

Future Research

Future researchers can analyze the level of creative thinking level and deploy collaborative method or any activity based method to forecast the creativity of students and their understanding level. Furthermore, future researchers can use same study with more participants to identify this research efficacy.

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