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Reading Comprehension and Metacognitive Strategies in First Year Engineering University Students in Pakistan

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Abstract

The paper investigates the use of metacognitive strategies by first year engineering students at the time of classroom practice on reading text. The study was conducted in four engineering departments of a university in Pakistan. Data was collected through focus group interviews of first year engineering students. The researchers developed interview questions which were validated by two experts at university Malaysia Sarawak. Students were divided into 8 groups and each group had 5 informants. The data was recorded in audio-tape and organized gathered data through NVivo version 8 for interpretation of the results. The most important themes were generated through data analysis including thinking through images of the texts, selecting the main ideas, selecting the topic sentences, scanning of the texts, summarizing of the texts, and Questioning. The study contributed theoretically by giving the most promising results which showed that more than half of these groups used metacognitive strategies in classroom reading practice while less than half of groups did not use strategies and remained poor in reading comprehension. This study proposed to develop reading comprehension courses and syllabus based on reading strategies for engineering students.

Keywords: metacognition, strategies, reading comprehension

1. Introduction

Metacognition is defined as the knowledge and the regulation of students' learning processes (Flavell, 1979). Metacognitive knowledge denotes about the present knowledge of students based on their own cognitive processes. However, metacognitive regulation indicates about the strategies used to supervise their own learning (Flavell, 1979). According to Grotzer and Mittlefehldt (2012), metacognitive knowledge and metacognitive regulation are known as the most essential components used in the activities to study in reading comprehension and problem solving. Chi et al. (1989) found the benefits of metacognition for learning and informed that students, who used metacognitive strategies involving them into self-explanations and in self-monitoring activities, remained better problem solvers as compared to those who did not involve them into such activities. Further, Zimmerman and Schunk (2011) identified metacognition as an important element of self-regulated learning which mostly has been investigated in experimental settings with controlled variables and environments. Flavell (1979) divided metacognitive knowledge into three variables: knowledge of person, task, and strategy. The benefits of metacognitive activities for learning have been observed. For instance, Chi et al. (1989) found that students who engaged in self-explanations, engaged in more self-monitoring activities, and tended to be better problem solvers. White and Frederiksen (1998) found that low achieving students showed learning gains when engaged in metacognitive reflection. Metacognition has also been identified as a critical component of self-regulated learning (Butler et al., 2011). However, very little is known about how students use metacognitive strategies in engineering.