

# A Quantitative Research for Improving Reading Comprehension of First Year Engineering Students of QUEST, Pakistan Through Metacognitive Strategies

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## Abstract

This quantitative research investigates first year engineering students' reading comprehension using the different metacognitive strategies and scaffolding strategies. The research was undertaken at QUEST, Nawabshah, Pakistan. The respondents of this research were taken from four engineering departments including Mechanical Engineering, Energy and Environmental Engineering, Electrical Engineering, and Computer System Engineering. A set of questionnaire was used among 311 respondents. The data was analyzed using descriptive statistics to analyze research variables through SPSS 17 for producing the Percentages, *Mean* and Standard Deviation of the data. The results acquired from data suggested that the engineering respondents used their metacognitive strategies in order to make their comprehension easy to apprehend the meaning of reading passages. This research also revealed the average uses of twenty important categories on metacognitive strategies as reported by engineering respondents. The mean score for 'I often find that I have been reading for class but don't know what it is all about' category ( $M = 2.65$ ) was rated by the respondents of this research as the highest; while the mean score for 'reading instructions carefully before beginning a task' ( $M = 1.54$ ) was rated as the lowest. The results also showed that the respondents of this study revealed the average uses of the twelve important categories of scaffolding. However, the mean score for 'When studying this course I often set aside time to discuss the course material with a group of students from the class' category ( $M = 2.29$ ) was the highest for all respondents; whereas, the mean score for 'I ask teachers/students for help when they do not understand' ( $M = 1.37$ ) was the lowermost. However, no category of metacognitive strategies and scaffolding fell into low level of usage. To sum up, results are presented for developing effective reading strategies for engineering students to improve their reading proficiency.

**Keywords:** metacognitive strategies, reading comprehension, scaffolding, reading strategies

## 1. Introduction

Reading comprehension is very important skill for engineering students to ensure success in their personal and professional life. Reading is considered as an active process involving readers to perceive correct meaning of the reading materials. A number of researchers have asserted the importance of English in engineering education (Pritchard & Nasr, 2004; Venkatraman & Premak, 2007). English is considered as the most important international language for science students possibly to gain professional knowledge in the course of reading texts in English (Pritchard & Nasr, 2004). Joesba & Ardeo (2005) stressed that engineering students should be equipped with specific English skills, which will become valuable resources in their career; therefore, English reading comprehension ability is crucial in academic settings and their future career for engineering students. According to Mudray (2006), it is essential for engineering students to read in English fluently to absorb fundamental knowledge from textbooks and deepen professional knowledge at their workplace. However, there are still a considerable number of engineering students struggling with reading in English (Ward, 2009). Some researchers have attributed engineering students' reading difficulty to vocabulary knowledge and proposed lexical instruction (Mudray, 2006; Ward, 2009). Further, Alderson (2000) informed that the knowledge of