



World Conference on Technology, Innovation and Entrepreneurship

Improving a Communication Skill Through the Learning Approach Towards the Environment of Engineering Classroom

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Abstract

The dominant pedagogy for engineering education, especially for numerical subject still remains “chalk and talk”. Recent years in engineering education have encouraged teachers to engage their students in various forms of communication. Therefore, this paper presents a learning approach towards the environment of the engineering classroom in improving a communication skill. The quasi experimental study was conducted involving the engineering students, which comprised one experimental group and one control group. The learning process covered a period of 8 weeks for teaching and learning in phase 1 and phase 2. In the learning process, students learn how to analyse the unstructured problem given among the small group members and develop an idea into the discussion. Through this approach, students acquire communication skills in generating the ideas. The role of learning approach used to enhance the capability of communication skills among students. This study was used to measure the influence of the communication skills towards the students’ academic achievement and to measure the percentage of the students’ acceptance of this learning approach. The results of this study show that the effects of this learning approach upon the capability of students’ communication skills and student learning approach were significant.

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Peer-review under responsibility of Istanbul Univeristy.

Keywords: Problem-based Learning; Communication Skill.

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1. Introduction

In recent years studies have been conducted in many countries to determine the technical and personal abilities required of engineers by today's industry (Henshaw, 1991; Lang et al., 1999). Today's engineering graduates need to have solid communication and teamwork skills, but they don't. They require to take in a wider view of the events that concern their profession, such as social, environmental and economic subjects, but they haven't. In the end, they are graduating with full knowledge of fundamental engineering science and computer literacy, but they don't know how to apply that in practice (Mills and Treagust, 2003)

The role of oral communication and social interaction in the teaching and the learning process towards the engineering classroom drew attention to studies (Barwell et al., 2005; Sfard & Kieran, 2001). The reform movement in education places considerable emphasis on the role that classroom discourse can play in supporting students' communication development. Passed on this emphasis on engineering, communication in the reform literature, it is important for teacher educators to be aware of teachers' conceptions of communication as a vehicle for developing learners' understanding, and realize how they can assist students develop patterns that foster communication development (Brendefur and Frykholm, 2000). Instructors have to develop students' communication by allowing scholars to research thoughts, deepen their understanding of these estimates, and establish links within and outside of ideas. As Cobb, Boufi, McClain and Whitenack (1997) have suggested, the current Central to these interests are various kinds of communication, both verbal and written, that allow learners to engage with peers and instructors in the cultivation of enhancing engineering knowledge.

2. Literature Review And Hypotheses

• *Communication*

The evolution of communication relates to the use of linguistic process in both instructor–student encounters and in peer group activities. Most institutions will likely prefer to embrace a more revolutionary attack by changing the underlying foundation of their educational approach to a new approach of learning utilizing a student centred strategy. Thus, a problem based learning approach was presented in order to foster communication development. But why use problem-based learning in Engineering?.

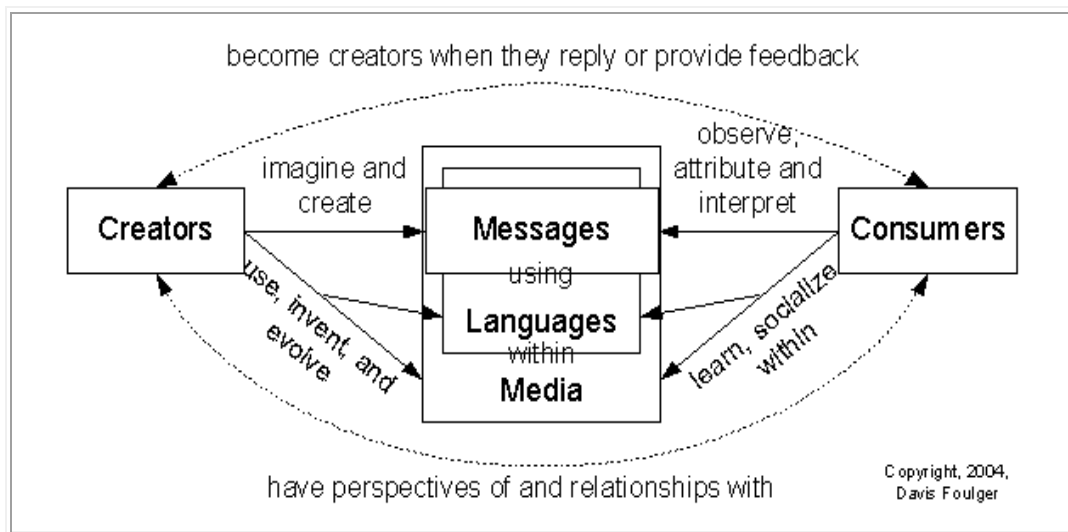


Fig. 1. A Ecological Model of the Communication Process

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