Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 204 (2015) 172 – 182

Procedia
Social and Behavioral Sciences

4th World Congress on Technical and Vocational Education and Training (WoCTVET), 5th–6th November 2014, Malaysia

Dimension of Learning Styles and Students' Academic Achievement

Norasyikin Omar [a]*, Mimi Mohaffyza Mohamad[b], Aini Nazura Paimin[c]

[a] [b] [c]*Faculty of Technical and Vocational Education Universiti Tun Hussein Onn Malaysia, Parit Raja, 86400 Batu Pahat, Johor Malaysia*

Abstract

Individual learning styles are varying according to the tendency of each individual. An appropriate learning style could help students to achieve good academic record in any subject they learned. Therefore, this study aimed to determine the relationship between student achievement and learning style for technical and non technical subject. A total of 288 Diploma student enrolled in Electrical Engineering program participated in this study. Solomon Felder Learning Style Index was distributed to the participants and the Felder and Silverman model was used to interpret the data. Result showed that the electrical engineering students have an active type of learning style for the first dimension, the sensing for the second dimension, visual for the third dimension, and sequence for the fourth dimension. The result showed that there is no significant relationship between the dimensions of learning styles and academic achievement for Electrical Technology subject and only the second dimension has a significant relationship with academic achievement of the Polibriged subject. In conclusion, learning style is not the main factors to enhance students' achievement, but it can be used to identify the tendency of learning styles possessed by students.

Peer-review under responsibility of Faculty of Technical and Vocational Education, University of Tun Hussein Onn Malaysia.

Keyword : learning styles ; academic achievement ; technical; non-technical.

* Corresponding author. Tel.:+601110695984
*E-mail address:*hb140148@siswa.uthm.edu.my

Peer-review under responsibility of Faculty of Technical and Vocational Education, University of Tun Hussein Onn Malaysia.
doi:10.1016/j.sbspro.2015.08.130

1. Introduction

Student performance in learning can be influenced by several factors. The basic issues of student learning as explored by group of researchers were such as home background, learning environment, and government policies (Fabumi, Brai-Abu & Adenji, 2007; Yinusa & Basil, 2008).In other research, the finding syndicated that family background factors (Yinusa & Basil, 2008) and learning styles determined academic performance (Yahaya, Boon, Hashim & Wan Hamid, 2003). Francis and Segun (2008) concluded that the school environment and teacher-related factors were the dominant factors influencing achievements, especially if the student was highly self-motivated. Learners must observe and experience the required cognitive processes to learn them and know how, where, and when to use them. Proponents of learning styles maintain that adapting classroom teaching methods to suit students' preferred styles of learning improves the educative process (Felder, 1993). However, opponents of learning style theories maintain that little empirical evidence could support this proposition. Instead, the opponents believe that learning styles involve strategies that students are likely to apply to a given teaching situation. Each individual can fit different styles which results in students adopting attitudes and behaviors that are repeated in different situations (Ajzen, 2005).

There are various educational programs offered at university and college level in Malaysia including Technical and vocational education (TVE). Polytechnic is one of the technical institutions which supply human capitals to meet the needs of the local industries. The majority of the program offered at the polytechnics are engineering program. Students are expected to develop competencies in two different areas including technical (core and elective subjects related to engineering) and non-technical subjects (co-curriculum, languages, and Islamic or moral subjects).Technical based subjects that is Electrical Technology (ET101) are evaluated through several phases of evaluation including formative assessment in the form of assignments, quizzes, tests and group discussion activities as well as summative assessment through examinations (Ismail & Haron, 2012). Non-technical subjects based on the technical curriculum namely Polibriged (AR101) also assessed through examinations overall assessment involves several phases including continuous assessment which includes practical, quizzes, written tests, presentations, tutorials and problem-based learning (Mohd Ghazali & Azmi, 2011).

This study was conducted to identify any differences in the learning styles of engineering students for both, technical and non-technical subjects, based on Felder and Silverman Learning Style Model (FLSM) (Felder & Silverman, 1988). This study applied the FLSM model in order to see the pattern of learning styles for the electrical engineering students at the polytechnic. This study also investigated the relationships between the student's learning styles and academic achievement in a technical and non-technical subject. According to the lecturers, low performance in any of the technical and non-technical subjects can be one of the reasoning for the students to dropout from the engineering program in their first year of study. The conceptual framework as illustrated in Figure 1.

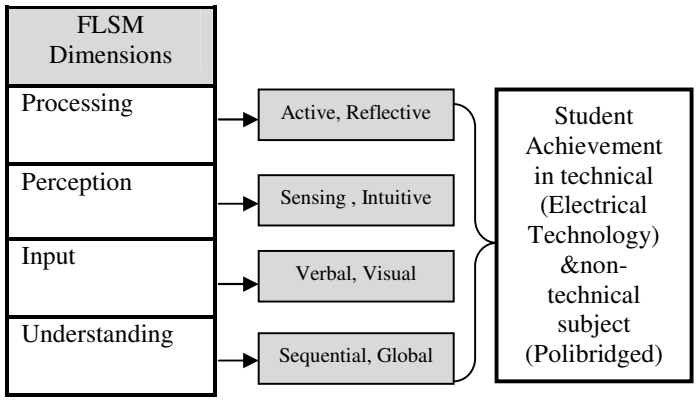

Fig.1.Conceptual framework