

Relationship between the Learning Styles Preferences and Academic Achievement

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Abstract. The individual learning differences that have been much explored relate to differences in personality, learning styles, strategies and conceptual of learning. This article studies the learning style profile exhibited by students towards the academic achievement in Malaysian Polytechnic. The relationship between learning styles of Polytechnic students and their academic achievement based on VARK learning styles model. The target population was international business students of Malaysian Polytechnic. By means of randomly sampling method, 103 students were selected as sample of research. By descriptive - survey research method and a questionnaire adapted from VARK Learning Style Index, required data were collected. According to the results, no significantly difference between learning style and academic achievement of students. Students academic achievement was quite similar to their individual learning styles. These facts reveal that each learning style has its own strengths and weaknesses.

1. Introduction

Learning approach has gotten considerable attention over the past several years. Learning approach has attracted strong advocates among learners looking for alternatives to traditional teaching methods. For many educators, there remain doubts about what learning approach is and how it differs from one advance to others. Students get into T Technical and vocational education in detail is directly affected and need to transform into various fields including curriculum. The planning and growth of the curriculum should be thinking in a big frame so that the curriculum was guided by ideas which were developed on the creativity, innovation, flexibility and comfortable with change [1]. Mohamad (2005) Efforts should be taken to acquire an education and training system that is efficient and responsive to meet the demands of the labour force that is versed and extremely skilled and equipped with positive values [2].

Learning style as ‘the way in which individuals begin to concentrate on, process, internalize and retain new and difficult academic information [3]. According to [4], the inability of schools and teachers to take account of preferences produces endemic low achievement and poor motivation. There are empirical researches as shown by [5],[6],[7] suggest that learning styles can enhance academic performance in several respects. Analyses of the learning styles of non-achieving students have revealed that, as a group, such students learn in a style and with instructional strategies that differ significantly from those of students who perform well in school [8].



An efficient education system should be provided to enhance students' achievement. Improving quality, access and equity in education should be continually strengthened [9]. Technical education system upgrading should be carried out carefully. Teaching and studying at polytechnic must also bring into account the different learning styles of students so that the process of teaching and learning could be implemented perfectly and give optimal benefits to students.

2. VARK Learning Style

Studying can be seen as a cognitive operation that involves submitting information and then processing that data. The way student learns can be affected by various element. These elements could be seen as dimensions of learning styles. Learning styles should be experienced as giving birth at least four general dimensions including 1) Cognitive – how individuals typically process data as they comprehend, remember, work out problems, remember and relate to others. 2) Affective – views learning as it pertains to a person's personality. Considers such characteristics as attention, emotion, motivation, incentive, curiosity, boredom, anxiety and defeat. 3) Physiological – views learning as it pertains to biological characteristics. 4) Psychological – views learning as it pertains to the inner intensity and identity of the person. It is important to teach to a diversity of learning styles [10].

An inventory of learning styles know as VARK [11]. The four modes in VARK are visual (V), aural (A), read/write (R), and kinesthetic (K). These modes are frequently referred to as a person's "sensory modality preferences." A person may show no preference, unimodal, or multiple modes of sensory preferences. According to [12], students with a visual preference learn best from presentation of materials using graphs, charts and diagrams; aural learners prefer to receive information through listening; read/write learners prefer to take in information through writing and reading from printed words; kinesthetic learners gain better understanding of materials through concrete examples and applications. Some studies have also been made to identify the relationship between VARK learning style preferences and student performance in university courses. For example, [13] found that a strong kinesthetic learning style had a significant negative relationship with performance in physiology courses among a sample of 64 students; but [14] found no significant relationship between VARK learning style preferences and course performance among a sample of 62 students studying soil management science. Other studies by [15] used the VARK inventory to assess the relationship between student learning styles and their performance among 211 students from a mix of introductory microeconomics and introductory macroeconomics courses.

Various instructional methods which are used for instructing the first year medical students include lectures, dissections, practicals, tutorials, etc. The students' preference for different teaching-learning methods had been attributed in the past to a number of reasons such as familiarity with the method, a positive outcome, etc. A less explored but perhaps a more significant factor could be the students' learning styles. Having knowledge of the learners' learning styles is a vastly underutilized approach towards an improvement in the classroom instructions. The learning style information can also benefit the students as it would help them in formulating the appropriate learning strategies for enhancing their learning.

More or less people with multidomain preferences may still have a weak preference for one or two domains. At the other remainder of the spectrum are those teachers who share equal preferences among three, or four, VARK domains. With a balanced set of preferences they prefer information arriving in an extensive diversity of domains. Students should have multidomain preferences that they may be able to match those with whom they are interacting. Matching is an important skill that students should be trained in how to match themselves among others in speech, body position, language etc. so they can be more effective. Students with multiple preferences need at least two modes if they are to learn effectively.

3. Methodology

A descriptive quantitative survey was applied to study the nature of the relationship between academic achievement and learning styles towards polytechnic students. The data were analysed to measure the

relationship between two variables that describes the strength of the relationship and also the significance of the study. Simple random sampling was used to select 103 students of international business course, in Malaysian polytechnic as a sample of study. An instrument adapted from VARK learning styles model. A set of questionnaires was used as a tool to collect data on students academic achievement. Descriptive statistics was used to analyze the students' preferences of the various VARK components, as well as their academic achievement. The Chi-square Test was applied to analyze the correlation between the learning styles and the most preferred teaching- learning methods.

4. Result and Discussion

The result of the data obtained from the study was analysed using descriptive and inferential analysis method. Descriptive analysis in the form of frequency and percentage was used to discover learning styles among students while the inferential analysis in the form of Pearson Chi-square test was used to assess the relationship between academic achievement and learning styles.

Table 1 : Distribution of VARK Learning Styles and Academic Achievement

<i>Cumulative Grade Point Average (CGPA)</i>	TENDENCY				Total
	V	A	R	K	
<i><2.00</i>	0	1	1	1	3
<i>2.01 – 2.49</i>	1	1	0	0	2
<i>2.50 – 2.99</i>	5	9	6	17	37
<i>3.00 – 3.49</i>	3	19	12	13	47
<i>3.50 – 4.00</i>	2	1	5	6	14
<i>Total</i>	11	31	24	37	103

Table 1 shows the distribution of VARK learning styles and academic achievement of students by classification with CGPA. For visual (V) domain of 2 respondents who were with CGPA 3.50- 4.00, 3 respondents with CGPA of 3.00-3.49, 5 respondents are under CGPA of 2.50-2.99 and only 1 respondent at level of CGPA 2.01-2.49. For aural (A) domain, only one respondent with CGPA 3.50-4.00, 19 respondents with CGPA of 3.00-3.49, and a total of 9 respondents in CGPA 2.50-2.99. Next is for read/write (R) domain, a total of 12 respondents under CGPA of 3.00-3.49, while 6 respondents get with CGPA 2.50-2.99. Finally, is for kinaesthetic (K), of 6 respondents who practised it lessons with CGPA 3.50-4.00, 13 of respondent remained with CGPA of 3.00-3.49 and 17 respondents with CGPA 2.50-2.99.

The study findings generally indicates that the highest domain of learning styles of student was domain kinaesthetic. These findings consistent with the findings of [16] who found out in their study on learning styles and academic achievement that the kinesthetic learners were the majority. The domain chosen may be explained by the cultural environment, students attitudes etc. According to [17], the cultural environment of the student will give an impact to the way of student receives and processes information in a teaching and learning process.

Table 2 : Pearson Chi-square Test

	Chi – square Test		
	Value	df	Sig.
Pearson Chi-square	14.536a	12	.268
Likelihood Ratio	15.609	12	.210
Linear by linear Association	.147	1	.701
N of valid cases	103		

A successful learner learns in several different ways. However, students with naturally one or two learning domain can improve significantly when taught through other learning domain. An analysis of findings showed that the relationship between two variables, namely VARK learning styles with students' academic achievement was not significantly difference among the VARK learning styles with student academic achievement. This is particularly present that these two variables have no relationship. Therefore, teachers should know the effective way of teaching to come closer in order to provide optimal learning environment for most students in their classrooms (Felder, 1995).

5. Conclusion

Through the findings obtained, researchers summarize that there is no significant relationship between VARK learning styles with students' academic achievement. The overall relationship is not have significant at level 0.268. The findings of this study in accordance with research carried out by Abd Wahab (2006) which stated that students' academic achievement is not due to their learning style. In enhancing the students' academic achievement, there are still many factors that need to be taken into account. It is hoped that the findings of this study can be used to improve the teaching practice and the performance of students. In view of the results of this study, it may consider learning style preferences when designing teaching courses to maximize learning success. However, the teachers can address each learning style at least some of the time in their teaching to increase the students' positive attitude toward the teaching and learning process. The learning process is not burdened if the new information to be presented in a style that tackle student's attention. If learning is made pleasurable, an academic achievement could be enhanced. The onus is on the teacher to understand the students' learning style rather than expecting the students to adapt to their style of teaching. Knowing students' preferred learning style will help to overcome the predisposition of many educators to treat all students in a similar way as well as motivate teachers to move from their preferred modes to using others. In so doing, they can reach more students because of the better match between teacher and learner styles. There is definitely a trend in teaching, to instruct all students in the same way in a lecture format because the need to cover the content, a long history of traditional lecturing, and perhaps due to their own preferences in learning which may not always be right. From the several studies, teachers may propose an alternative of learning approach by using multiple modes of learning styles domain in enhancing the academic achievement. This may require moving their modes of teaching and learn to use a variety of styles, which will positively affect learning. By utilizing a variety of teaching approaches, teachers will reach more students because of the better match between teacher and learner styles. In some cases, it may be difficult to tailor coursework to the individual learning styles of each student. However, in these situations, by being aware of their learning style, the students may contribute to their academic success by promoting self-awareness and their use of learning strategies that work for their learning style.

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