

# Learning Style Preferences: Influence of Cultural Background among Business Students

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## ABSTRACT

*The study scrutinizes the learning style preferences of business students. It aims to analyze the influence of cultural background on the preference of learning style of these students. The students were divided into two categories based on cultural background namely Malaysian and International students who are currently enrolled in the business school. The sample size of the study is 406 students studying at the business school in five different programmes. The VARK questionnaire developed by Neil Fleming was utilized to assess the learning style preferences. VARK is an acronym of V(visual), A(ural), R(ead-write) and K(esthetic) (Fleming 2001). Descriptive statistics method was employed for data analysis. The outcome of the analysis is that cultural background does influence the preference for A(ural), V(visual) and K(esthetic) styles of learning. However, it does not play a role in deciding on the R(ead-write) learning style. The findings indicate that cultural background plays a significant role in influencing the learning style preferences of business students. Therefore, it draws attention to dimensions of learning diversity that may be present in business school.*

**Keywords:** VARK learning styles, cultural background, business students.

## INTRODUCTION

The emergence of numerous learning style models over the past 25 years has brought increasing attention to the idea that students learn in diverse ways and that one approach to teaching does not work for every student or even most students. Learning styles and learning style models among numerous others have offered descriptive typologies that range from relatively fixed student natural dispositions to modifiable preferences for learning and studying. However, in a review of recent literature on student learning preferences, the study found that too many teachers rarely vary their teaching methods, thinking that the method by which they were taught is best for everyone (McKeachie, 1995). Murphy, Gray and Straja (2004) alerted the researchers that it is important for educators to recognize that students have different learning styles to reflect, on the effectiveness of their methods of instructions and to consider accommodating other learning preference modalities. The purpose of this study is to determine the influence of cultural background on the preferred learning styles of business school students using the VARK learning styles model.

## LITERATURE REVIEW

### Learning Style

Learning style paradigms began to develop in the mid to late 1970s to identify the more external and applied modes of learning styles. Educational researchers had postulated that everyone has different learning styles (Collins, 2004; Winn & Grantham, 2005). These learning styles form a student's unique learning preference and aid teachers in the planning of small group and individualized institutions (Kemp, Morrison & Ross, 1998, p. 40). Gardner (1995) described learning style as "complex manner in which and the conditions under which learners most efficiently and effectively perceive, process, store, and recall what they are attempting to learn". According to Smith & Dalton (2005), learning style is a distinctive and habitual manner of acquiring knowledge, skills or attitudes through study or experience and an individual learner's style tends to be more stable across different learning tasks and contexts. More specifically, learning styles refer to how individuals learn in terms of their perceptions, processors, and preferences (Kolb, 1984). There are six well-known and widely available learning style instruments offered by Kolb, Gregorc, Felder-Silverman, Fleming, and Dunn and Dunn as well as the Entwistle and Tait (Revised). The following are the six measurement instruments invented by these researchers: Kolb Learning Style Inventory (LSI), The Gregorc Style Delineator (GSD), VARK Model, Index of Learning Styles (ILS), Productivity Environmental Preference Survey (PEPS) and Revised Approaches to Studying Inventory model (RASI).

### VARK Learning Style

The VARK questionnaire was developed by Neil Fleming, a New Zealand educator, to assess learning styles preferences (Murphy, Gray & Straja, 2004). VARK is an acronym made from the initial letters of four sensory modal preferences that are used for learning information: Visual, Aural, Read-Write, and Kinesthetic. It categorizes student learning based on the neural system that is preferred when receiving information, and can be used to guide instructors in their selection of learning and assessment strategies. VARK preferences can also be used to help learners develop additional and effective study skills to take in information and perform well in examinations (Zhang, 2002). Thus, this model has been adopted for the present study.

Constructs	Conceptual Definition
Visual	Preference for graphical and symbolic ways of representing information. It includes the depiction of information in maps, spider diagrams, charts, graphs, labeled diagrams, flow charts, symbolic representations and other devices that instructors use to represent what could have been presented in words. Fleming & Mills (1992)
Aural	Preference for aural information that is "heard or spoken". Students with this modality report that they learn best from lectures, tutorials, tapes, group discussion, speaking, web chat, and talking with peer learners. Fleming & Mills (1992)
Read-Write	Preference for displayed information. This preference emphasizes text-based input and output-reading and writing in all its forms. Students who prefer this modality are often addicted to Power Point, the Internet, dictionaries, quotations, and words. Fleming & Mills (1992)
Kinesthetic	Preference related to the use of experience and practice. This mode is the perceptual preference where learning happens when it is related to the experience and practice or simulated reality. It includes demonstrations, simulations, videos and movies of "real" things, as well as case studies, practice and applications. Fleming & Mills (1992)

### **Benefits of Understanding Learning Styles**

It has been widely documented and recognized that student success in the classroom depends not only on the intellectual abilities, skills and talents of the student, but also on the student's learning style (Kolb, 1984). The literature from both psychology and education has supported the proposition that understanding students' learning style is important to both the instructors and the students. Nolting (2002) asserts that research has shown that students who understand their learning styles can improve their learning effectiveness in and outside of the classroom (Dembo & Howard, 2007). According to Coman and Heavers (1998), if students approach studies using their preferred learning styles, they should be able to study for the same amount of time (or less), remember more, get better grades, raise their level of self-confidence, and reduce their anxiety as they tackle classroom life (Dembo & Howard, 2007, p. 9). A better understanding of learning style would help instructors and the learners (Reiff, 1992).

Over the last five decades, a number of educators have proposed that teaching would be more effective if faculty members took account of differences in students' learning styles (McKeachie, 1995). Supporting this view was the research study reported by Robotham (2003), claiming that everyone has a learning style and, if instruction is adapted to accommodate that style, it is anticipated that this will result in improved learning. Reiff (1992) also noted that a better understanding of learning styles by faculty can help reduce the students' level of frustration and improve instructional delivery methods. Suskie (2003) suggested that instructors should attempt to alter their teaching methods to give students with differing learning styles an opportunity to learn in an environment more conducive to their preferences.

Information about learning style can help faculty become more sensitive to the differences students bring to the classroom. It can also serve as a guide in thoughtfully and systematically designing learning experiences that match or mismatch students' styles, depending on the teacher's purpose (Acharya, 2002). When students are working in their preferred learning mode, they probably find that they are better able to concentrate on their study tasks. Thus, approaching a task from a student's preferred learning style results in a better fit or match. In other words, studying feels right (Dembo & Howard, 2007).

The present study looks into cultural background influence on preferred learning styles of business school students. The aim of the descriptive study is to determine the preferred learning styles between Malaysian and Non-Malaysian students using the VARK questionnaire. Based on the literature reviews, the research question for our study is:

**“Does cultural background influence the preferred learning styles of business school students?”**

### **Influence of Cultural Background on Preferred Learning Styles**

Distinct and diverse cultural values refer to respect for authority, commitment to family traditions, strong social hierarchy and male dominance. These traits are exhibited in family socialization patterns that are quite different from those of other ethnic groups. Research by Witkin (1976) has shown differences in the global and abstract functioning in different cultures especially in different modes of thinking. Bauder and Milman (1990); Dunn and Griggs, (1995); Reid (1987) supported that students from cross-cultural backgrounds may differ in their perceptual learning preferences from students belonging to mainstream cultures.

Lesser, Fifer, and Clark (1965), found that the pattern of mental abilities (e.g., visual, spatial, abstract, and numerical) displayed by middle-class and lower class Chinese children differed from the pattern displayed by middle-class and lower class Jewish children.

In the study of learning English in bilingual and ESL classrooms by Wong Fillmore (1986), Korean students were the most visual in their learning style preferences as compared to U.S. and Japanese students. Japanese speakers were the least auditory of all learners and were significantly less auditory than Arabic and Chinese speakers, who expressed a strong preference for auditory learning. Arabic and Chinese language groups were also strong visual learners (Reid, 1987). Most ESL students strongly preferred kinesthetic learning as a major learning style. However, Japanese speakers were significantly less kinesthetic than Arabic, Spanish, Chinese, Korean, and Thai speakers.

The limited extent of empirical investigations into the approaches to learning of Asian international students in Australia, (Niles, 1995; Volet & Renshaw, 1996), and the failure to consider cross cultural issues in learning has led to the emergence of stereotypical views about the learning behaviors of international students.

Popular among these views are perceptions of Asian students as ‘rote learners’, relying more on memorization than understanding, adopting mainly surface approaches to learning, and textbook dependent (Ballard & Clanchy, 1991; Kaputin, 1988; Phillips, 1990; Samuelowicz, 1987b.) Together with researchers such as On (1996), Volet and Renshaw (1996) and Wang (1992), Biggs (1995, 1996) point the anomaly in labelling Asian students as ‘rote learners’ whilst these students excel in their academic studies abroad.

Hence, this study intends to verify that cultural background has influence on the preferred learning style:

H1: Cultural background does not influence the preference for visual learning style.

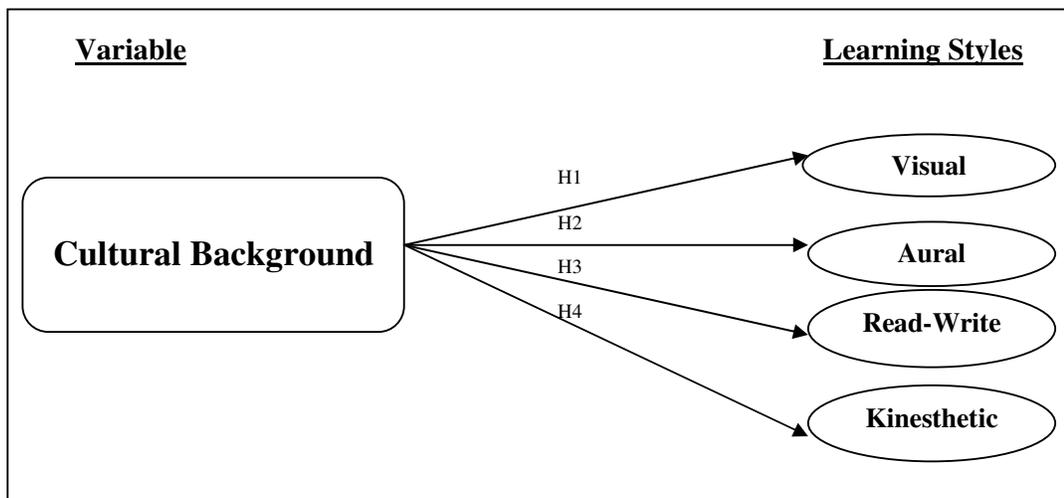
H2: Cultural background does not influence the preference for aural learning style.

H3: Cultural background does not influence the preference for read-write learning style.

H4: Cultural background does not influence the preference for kinesthetic learning style.

The developed conceptual framework for the study is shown in Figure 1 below. This framework provides the foundation of the study. The rectangle on the left-hand side represents a researchable variable and the ovals on the right-hand side represent constructs which are the learning styles based on Fleming’s VARK model. The solid lines are direct influences on the learning styles.

**Figure 1: Conceptual Framework**



## METHODOLOGY

The unit of analysis in this study is the individual because our conceptual framework is based upon the individual explanation of the phenomenon. Individuals involved in the study are business students in foundation and tertiary programmes. The study setting is non-contrived because the researchers used present classroom setting without making any changes to serve the purpose of the study. This is a cross-sectional study whereby a self-administered data collection was done only once and participants of the study were informed on the purpose of the study. Questionnaires were distributed by the researchers or their colleagues and collected immediately upon completion. The extent of researcher interference in the study is minimal.

The preferred learning style is measured by using structured questionnaires as instruments to find correlation between the constructs that were identified earlier (refer to Figure 2). A part of the questionnaire is adopted from the VARK questionnaire developed by Fleming. The questionnaire consists of 21 questions, which are divided into two different sections, Section A and Section B. Section A comprises the VARK questionnaire and section B covers demographic questions. The instrument is made up of 16 questions that indicate the learners' learning style preferences. Choices from '1' through '4' represent visual, aural, read-write and kinesthetic learning styles, respectively.

Section B includes demographic data, which were collected for use in the data analysis. Here, course currently taken comprise of Taylor's Business Foundation (TBF), Diploma in Business (DIB), University of South Australia (UniSA), University of Technology Sydney (UTS) and University of the West of England (UWE) programmes. Year in college includes first, second, third and fourth year of study, while ages from 17 to 18, 19 to 20, 21 to 22, and 23 and above are covered in the age group demography. Finally, cultural background is segregated into Malaysian and Non-Malaysian students.

The sampling design for this study is non-probability sampling. Sampling technique used is convenient sampling. The sample size of the study is 406 and such sample size is consistent with the sample size used by noted researchers, such as Baykan and Nacar (2007), and Lujan and DiCarlo (2005).

A quantitative research study was undertaken to seek answers for the research question and to verify the hypotheses with numerical data. The Statistical Package for Social Sciences (SPSS) software was used to process and analyze the data. Cronbach's  $\alpha$  to measure internal consistency and exploratory factor analysis (EFA) tests to ascertain the internal validity and convergence, were not applicable for VARK.

"Fleming (personal communication, January 2002) stated that "VARK does not have predictive validity because it was designed as an advisory tool for student and faculty development." VARK was not treated as a diagnostic or predictive tool. The following statements were made about VARK's reliability by the author. The questionnaire was not designed to be reliable in terms of consistency of scores over a long period of time. Instead, the questionnaire was designed to provide students with effective learning strategies to use on their learning preference(s)." (Zhang, 2002)

To measure the influence of cultural background on VARK learning styles, t-test was employed.

## RESULTS

The result section is divided into two parts which are the respondents' profile and the correlation analysis between cultural background and the VARK learning styles. The respondents' profile was obtained through

descriptive analysis such as frequencies and percentages. T-test was employed to measure the influence of cultural background on the preferred learning styles.

### Respondents' Profile

The respondents profile is displayed in Table 1. It mainly comprises the demographic of the business students such as gender, age, cultural background, year of study and course. The profile is described using frequency and percentage.

**Table 1: Respondents' Profile**

Variable	Frequency	Valid Percent (%)
<b>Gender:</b>		
Male	207	49.0
Female	199	51.0
<b>Age:</b>		
17-18 years	139	34.3
19-20 years	196	48.4
21-22 years	57	14.1
23 and above	13	3.2
<b>Cultural Background:</b>		
Malaysian	346	86.1
Non-Malaysian	56	13.9
<b>Year of Study:</b>		
First	253	62.3
Second	102	25.1
Third	39	9.6
Fourth	12	3.0
<b>Course:</b>		
TBF	124	30.5
DIB	39	9.6
UniSA	150	36.9
UTS	39	9.6
UWE	54	13.3

Out of the total sample of 406 students, 207 are males and 199 are females. From this sample, 34% are aged between 17-18 years, 48% are 19-20 years, 14% are 21-22 years, and 3% are 23 years and above. In the case of cultural background, 86% of the respondents are Malaysian students and 14% are Non-Malaysian students. Meanwhile, in the year of study, 62% are first-year students, 25% second year, 10% third year and 3% are fourth-year students. Finally, in regards to the course enrolled, 37% of them are from UniSA, 30% from TBF, 13% from UWE and 10% from the Diploma and UTS programmes, respectively.

### Influence of Cultural Background on Preferred Learning Style

In this section, each hypothesis is tested using series of t-test. The result of the analysis is presented in Table 2. It illustrates on the mean, standard deviation, t-test value, degree of freedom and p-value.

**Table 2: T-test on Cultural Background and VARK**

VARK scales	Cultural Background	Mean	Std. Dev.	t	Df	p-value
V(isual)	Malaysian	17.951	9.738	2.584	400	0.010**
	Non- Malaysian	14.375	8.746			
A(ural)	Malaysian	16.541	8.145	2.922	400	0.004**
	Non- Malaysian	13.214	6.172			
R(ead-Write)	Malaysian	16.697	8.093	1.066	400	0.287
	Non- Malaysian	15.464	7.575			
K(inesthetic)	Malaysian	10.824	6.621	3.056	400	0.002**
	Non- Malaysian	7.982	5.303			

**H1: Cultural background does not influence the preference for visual learning style.**

The t-test result ( $t = 2.584$ ,  $df=400$ ,  $p=0.05$ ) of this study has found cultural background plays a significant role in influencing the students preference for V(isual) learning style. Malaysian students were found to prefer V(isual) learning style compared to non-Malaysian students based on the mean for Malaysian of 17.951 (standard deviation of 9.738) and 14.375 for non-Malaysian (standard deviation of 8.746). Thus, H1 is supported.

**H2: Cultural background does not influence the preference for aural learning style.**

The study also indicated a significant cultural background influence on preference for A(ural) learning styles. Based on the result of the t-test ( $t=2.922$ ,  $df=400$ ,  $p=0.05$ ), it is found that cultural background is an important factor influencing preference for A(ural) learning style among business students. The means for aural learning styles of Malaysian and non-Malaysian are significantly different at  $p=0.05$ . Malaysians have been found to prefer A(ural) learning styles more than non-Malaysian on the mean of 16.541 (standard deviation of 8.145 )for Malaysian students and for non Malaysian students 13.214 (standard deviation of 6.172) . Therefore, H2 is also supported.

**H3: Cultural background does not influence the preference for read-write learning style.**

However, the results of the t-test in the table above seemed to indicate there is no significant influence on the preference for R(ead-Write) learning style for both Malaysian and non-Malaysian students . Thus, H3 is not supported.

**H4: Cultural background does not influence the preference for kinesthetic learning style.**

Based on the t-test there is a significant influence of cultural background on preference for K(inesthetic) learning styles. Based on the result of the t-test ( $t=3.056$ ,  $df=400$ ,  $p=0.05$ ), it is found that cultural background is an important factor influencing preference for K(inesthetic) learning style among business students. The means for K(inesthetic) learning styles of Malaysian and non-Malaysian are significantly different at  $p=0.05$ . Malaysians have been found to prefer K(inesthetic) learning styles more than non-Malaysian on the mean of 10.824 (standard deviation of 6.621) for Malaysian students and for non Malaysian students 7.982 (standard deviation of 5.303). Therefore, H4 is also supported.

Hence, cultural background is an important deciding factor in the choice of aural, visual and kinesthetic learning styles. The analysis also signifies that Malaysian business students preferred the above mentioned learning styles more compared to non-Malaysian students.

## **DISCUSSION**

Learning style practices in each of the countries varies due to different education systems. Therefore, in the case of the business school which consists of local and international students mainly from Asian and African countries such as Indonesia, Bangladesh, China, Nigeria and Tanzania, cultural background plays a crucial role in deciding the preferred learning style. Lesser, Fifer, and Clark (1965) established that the pattern of mental abilities (e.g., visual, spatial, abstract, and numerical) displayed by middle-class and lower class Chinese children differed from the pattern displayed by middle-class and lower class Jewish children. In the study of learning English in bilingual and ESL classrooms by Wong Fillmore (1986), Korean students were the most visual in their learning style preferences as compared to U.S. and Japanese students. Here, Japanese speakers were the least auditory of all learners and were significantly less auditory than Arabic and Chinese speakers, who expressed a strong preference for auditory learning. Arabic and Chinese language groups were also strong visual learners (Reid, 1987). In addition, most ESL students strongly preferred kinesthetic learning as a major learning style. However, Japanese speakers were significantly less kinesthetic than Arabic, Spanish, Chinese, Korean, and Thai speakers. According to Reid (1987), students whose previous education differed radically from the U.S. academic environment may benefit particularly from a discussion of learning styles, a self-assessment instrument, and experience with alternative styles that will help them function better in a university classroom.

Furthermore, in studies with Hong Kong students, Tang (1996) identifies strong spontaneous collaborative approaches adopted by Chinese students in researching and writing assignments. In addition, he also argued that the level of student-initiated collaboration is much higher amongst Chinese students than Australian students and the adoption of strong collaborative approaches to learning by Asian students has been frequently linked to the influence of Confucian cultural values which focuses on the group rather than the individual (Biggs 1996; Gatfield and Gatfield 1994; Niles 1995 and Tang 1996).

## **IMPLICATIONS**

The conceptual framework of the study exhibits the influence of cultural background on the learning styles based on Fleming's VARK model. The results illustrate that cultural background has an impact on the V(visual), A(ural) and K(inesthetic) learning styles of these students. Thus, cultural background is a crucial determinant factor when it comes to the A(ural), V(visual) and K(inesthetic) learning styles. Therefore, in preparing lectures as well as tutorial materials and other subject-related activities, emphasis should be given to clarity of instructions, and visual aids, making it comprehensible and to include examples representing various countries. This will enable students to relate the subject matter with real-life situations from their respective home countries, which eventually contributes to effective learning.

Students prefer aural learning style which indicates that the traditional teaching method is still preferred by students in the business school. This shows that both Malaysian and non-Malaysian business school students learn best through discussion, verbal explanation.

Hence, the traditional method of lecturing and conducting tutorials should be continued.

At the same time since the study also found both Malaysian and non-Malaysian students prefer V(visual) type of learning thus emphasis should also be given to the delivery materials as well as the delivery tools. The business students learn effectively by explaining things to others as well as through pictures, diagrams, flow charts, films and demonstration. Thus, the lecturers of business school should give more attention to the issues on how to teach both the visual and oral learners. Few of the business school lecturers would have

to modify their teaching styles. Lectures must include visual materials such as pictures, diagram and sketches. Perhaps using process flowcharts, network diagrams and information flowcharts should be used to illustrate complex subjects such as information technology, accounting, marketing, and finance as well as economics. Meanwhile, mathematical, statistic and economics functions should be illustrated by graphs. Films, video or live demonstration of working process should also be included in the business subjects wherever possible. However, in the case of tutorial session if the group consists of more Malaysian students, then group discussion, classroom activities, discussing articles and problem based learning rather will be more effective.

Kinesthetic is a learning that relates to the use of experience and practice. Such learning can be incorporated through activities like community work, field trips, team-building and co-curriculum activities. This is consistent with the business schools current curricular that encourages students to participate in activities such as Business Plan Competition, Community Work [Laos trip], Field Trips [Global Immersion Programme to Shanghai, Trips to Malaysian Central Bank, Malaysian Stock Exchange, Multinational Companies], internship with companies operating in Malaysia (L'oreal, HSBC, Citibank and KPMG). The business school also concentrates on first year experience activities in order to create good relationship among students and with lecturers. The good relationship is built through activities such as team building and workshop on study skills. Therefore, these activities should be continued to enhance kinesthetic learning.

## CONCLUSION

The fact that students learn in different ways and the possibility that students can adapt to a variety of instructional modes may come both as a surprise and a relief. These learning styles are adaptable, can be identified and modified in order to expose students to the concept of learning styles. Consequently, students should have the opportunity to assess their own learning style preferences and should be encouraged to diversify those preferences. If teachers can show students the variety and versatility of learning styles by providing experiences in different teaching styles, the resulting awareness and expansion of student learning styles may better allow students to meet the demands of academic teaching methods and assignments (Grasha, 1972). Thus, one goal of instruction could be to help students identify and assess their individual learning styles. Moreover, the understanding and use of different teaching styles by the instructor, as well as the awareness of individual learning styles by the student, may influence success in the classroom (Reid, 1987).

## Appendix A: The VARK Questionnaire Scoring Chart

Use the following scoring chart to find the VARK category that each of your answers corresponds to. Circle the letters that correspond to your answers, e.g., If you answered b and c for question 3, circle V and R in the question 3 row.

Question	a category	b category	c category	d category
3	K	V	R	A

**Table 1: Scoring Chart**

Question	a category	b category	c category	d category
1	K	A	R	V
2	V	A	R	K
3	K	V	R	A
4	K	A	V	R
5	A	V	K	R
6	K	R	V	A
7	K	A	V	R
8	R	K	A	V
9	R	A	K	V
10	K	V	R	A
11	V	R	A	K
12	A	R	V	K
13	K	A	R	V
14	K	R	A	V
15	K	A	R	V
16	V	A	R	K

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