

Culturing Learning Approaches in Multicultural Class Rooms

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Abstract: Globalisation and internationalisation of education had seen significant development in Malaysia but has unfortunately lifted our focus away from our own internal education issues. The teachers with effective multicultural behaviours and attitudes display appropriate understanding and acceptance of different cultures by responding to its subtle differences and complexities. The teachers set the ground for efficient and effective multicultural training in their respective classrooms considering the diverse cultural perspectives of their students. There is a need to understand the cultural dimensions of Malaysian students mainly from the three predominant races: Malays, Chinese and Indians who co-exist and come together in a class from various cultural backgrounds. This study is based on the assumption that the three predominant races of Malaysian students may display different learning approaches based on their cultural characteristics.

Keywords: ethnicity, cultural dimensions, learning approaches, cultural awareness, perception, competencies

I. INTRODUCTION

One of the basic characteristics that separate humans from other animals is the development of culture (Wang, 2005). Wang (2005) later expanded on the same idea that cultural influence may be set subconsciously and people are usually ignorant of their own cultural characteristics. A typical Malaysian classroom represents the coexistence of multicultural values, attitudes and behaviours among students from diverse cultural backgrounds. Malveev (2002) believed the teachers with effective multicultural behaviours and attitudes display appropriate understanding and acceptance of different cultures by responding to its subtle differences and complexities. Cultural pluralism within its cultural context has an impact on learners' learning approach.

It is indeed a challenge to teach a multicultural, multireligious and multiracial class. Teachers who are show awareness and equip themselves with multicultural competencies regularly try to reassess the influence of culture on the learners' learning approaches. Cultural diversity of learners must be given due consideration and emphasis when conducting lectures, designing teaching and learning materials, and delivering contents.

Revised Manuscript Received on May 28, 2019.

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Understanding the cultural implications on learners' learning approaches can lead to conducive learning environment which focuses on building interpersonal relationship between the tutors and learners and learners with their peer groups from different cultural background (Sulkowski & Deakin, 2008). These researchers also ascertained the imperative need for educators to understand and accept cultural diversity of their students before they are treated merely as educational liabilities. Effective and successful teaching and learning can only take place when both the teaching and learning communities develop these multicultural attitude and disposition.

II. OBJECTIVES

The primary aim of this study was to:

- examine the cultural dimensions of three main ethnic groups in Malaysia.
- investigate stereotypical views attached due to cultural restraints.
- recognise the relationship between culture and learning approach in higher education.
- identify the influence of culture on learners' preferred learning approach.

III. LITERATURE REVIEW

There are various ways of analysing cultures. However, one of the most widely used and systematic method is still the cultural dimensions created by Geert Hofstede in the early 1980s (Cheung & Chan, 2009). By far the most widely referenced dimensions of cultural variability are those derived by Hofstede (1980, 1991). Hofstede (1980), a Dutch social psychologist, surveyed over 100,000 employees in subsidiaries of the multicultural IMB Corporation in 40 countries investigating questions about cultural values. Later on, Hofstede (1991) extended his database to include 64 countries, divided into 50 single countries and three multi-country regions. Determined empirically, the four dimensions by which the national cultures differed were power distance, individualism-collectivism, uncertainty avoidance and masculinity-femininity. Soon after the publication of the first study, Hofstede collaborated with Michael Harris Bond from the Chinese University of Hong Kong. Bond held similar research interest and was studying subjects in the Asia-Pacific region. From their collaborative research study emerged a new dimension named as long-term versus short-term orientation (Hofstede & Hofstede, 2005).



Hofstede & Hofstede (2005) identified the five measurable cultural dimensions and defined them as Power Distance (PD), Individualism versus Collectivism (IDV), Masculinity versus Femininity (MAS), Uncertainty avoidance (UAI) & Long-Term versus Short-Term Orientations (LTO).

PD is the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally. Typically, countries with high power distance where superiors are known to be display autocratic leadership style, employees avoid all kind of conflicts and readily succumb to their superiors (Hofstede & Hofstede, 2005). Highly power distant background agreed unquestioningly with their lecturers, respected and even feared them (Sulkowski & Deakin, 2008). The Chinese were found to be very reliant on their lecturers for information and did not show much interest in generating ideas on their own. Indian students were also found to be relaxed with authority (Deakin & Sulkowski, 2007). High PD background preferred didactic teaching styles and seemed uncomfortable with situations where they were asked to present their opinions openly (Chan, 1999; Newell, 1999). On the contrary less PD cultures, such as the British and New Zealanders preferred active learning and were found more comfortable in participating in classroom discussions (Butcher and McGrath, 2004; De Vita, 2001). There is a high tendency for dependency between subordinates and superior and the three highest scoring countries were Malaysia, Guatemala and Panama (Hofstede & Hofstede, 2005). On the other hand, insocieties which follow the culture of individualism (IDV), the bonds between the members are loosely linked, and members are expected to take responsibility of themselves and their respective families. However, in collectivist culture, the bonds between the members are strong, members are expected to work collaboratively in an integrated manner and they practice commitment and loyalty with their family. British students preferred to work alone whereas Germans and Asians students felt comfortable working in groups (Sulkowski & Deakin, 2008). China was found to be highly collectivist culture whereas British as highly individualist (Hofstede, 1980). Next, in masculine culture emotional role of the genders are clearly defined. Here the men are expected to be strong, hardworking, confident, stable and aggressive. Whereas, women in this culture are timid, humble, and enjoy finer things of life. In feminine culture, on the other hand, the emotional roles of the genders are vague and overlap with both genders displaying common and neutral characteristics like modesty and humbleness. Learners who belong to both masculine and individualist cultures are known to be self-reliant, confident and independent (Sulkowski & Deakin, 2008). Moreover, the members from uncertainty avoidance culture (UAI) dislike uncertainties and easily feel threatened and insecure in such situations. High UAI countries were found to be Greece, Portugal and Guatemala whereas the low scoring countries were Singapore, Jamaica and Denmark (Hofstede & Hofstede, 2005). Finally, the members from long term orientation(LTO) culture value endurance and prudence in return for rewards and virtues in the future. However, short term orientation (STO) value traditions and

social responsibilities in nurturing values of the past and present. East Asian countries which follow Confucian cultures are known to belong to LTO dimension.

Awareness and understanding of cultural complexities and differences of different culture helps the teachers to practice tolerance, flexibility when dealing with learners from different ethnic backgrounds (Hofstede, 2001). Teachers learn to adopt multicultural approaches in their teaching practices by selecting appropriate contents for class discussions. This will entail better participation and response rate from students from diverse cultural groups (Wiseman et al., 1989).

Conceptualisation of learning method can be best described by a model designed by Richards and Rogers (1986) which is an extended version of Anthony's (1963) tripartite distinction method analysis of approach, method and technique. Richards and Rogers (1986) further recognised distinction of the three basic interdependent components of this method analysis.

Several studies and publications discussed the various methods adopted for teaching which Douglas Brown's (2001) has described most distinctively and comprehensively. Classical methods or grammar translation method was used to teach in educational institutions in the eighteenth and nineteenth century. Direct method gained more popularity in the early twentieth century and came to be widely practiced. The linguistic and psychological theory propelled the audiolingual method towards the first half of the twentieth century. Carroll (1996) who introduced cognitive code learning approach (deductive learning) accentuated deliberate knowledge of rules and principles and its application. Soon in year 1972, Charles Curran inspired by Carl Roger's view on education propagated open interpersonal communication between learners and teachers and/or peer groups to overcome anxiety. The teacher's role is more of a counselor in this method, and it is primarily catered to the needs and interests of the learners. Later in 1979, Georgi Lozanov, a Bulgarian psychologist asserted that human brain is capable of retaining maximum amount of information given the right condition of mind, and he created "suggestopedia" method for learning that authorised learning in a relaxed state of mind. Caleb Gattegno (1972) introduced the silent way method which was also humanistic in nature and capitalised problem-solving approach to learning. The developer of Total Physical Response (TPR), James Asher (1977), recognised the significance of correlating with physical activity and supported the principles of psychomotor associations of learning acquisition. In 1983, Tracy Terrell developed the Natural Approach which emphasised on relaxed communication and acquisition process which is essential for "comprehensible input" in the knowledge acquisition (Krashen & Terrell, 1983). Nunan (1989) provides an overview of this approach and outlines its characteristics.

Anthony (1963) had defined “approach” as the act of assumptions that deals with the nature, learning and teaching. Richards and Rogers (1986) called approach “axiomatic” which is also correlative assumptions to the nature of teaching and learning and deals essentially with the nature of the subject matter that is being taught. On the other hand, Brown (2001) thought of approach as well understood theory of beliefs into the nature of a subject and its learning on its pedagogical applications.

Approach is the first step towards analysis of methods adopted for teaching and justifies the origin of any adopted method in delivery of knowledge. Hence, identifying the correct and appropriate phenomenal approach to teaching and learning is crucial for educators.

Several studies have recognised that both language and culture are “intricately intertwined” (Brown, 2001). Learners are unconsciously and unintentionally exposed to the culture of a particular subject during its learning process. The degree at which a learner adapts to a “new cultural milieu” will decide the success of its acquisition and awareness of acculturation process too (Brown 2001). Sulkowski and Deakin (2008) tested student’s values associated with education, teaching and learning and found that there is a positive correlation between culture and learning approaches. When learners are observed to be disproportionately lagging behind other students in a culturally diverse classroom, then culturally responsive instruction dictates an urgent need to understand and respond to such behaviour. Studies have also found that poor academic performance may be directly linked to the cultural dissonance between home and school (Cartledge & Kourea, 2008).

Both similarities and differences can be observed when looking at learning conceptions and approaches to learning of students in different cultures. Educators first need to identify the study and learning approaches adopted by students of different cultural background and suit their teaching approaches to the needs and interests of their culturally diverse learners. Culture, knowledge domain, learning conceptions and approaches are largely interconnected (Zhu, Valcke & Schellens, 2007). Students have preconceived understanding and knowledge of subjects primarily influenced by their cultural setup, and they try to approach new knowledge with already existing knowledge in order to form relation or identity. Learners may choose to learn and adopt information in their own way but certain attitudes and behaviours which govern these senses can be seen as superior than others (Bensor & Lor, 1998,1999, 2013).

Beliefs and attitudes are usually set on learners’ cultural background, and if teachers need to tackle their learners’ attitudes and beliefs, they have to address the underlying beliefs on which they are based (Bensor & Lor, 2002) i.e. to adopt an approach that does not challenge the learners’ set of ideas and assumptions. According to Sulkowski and Deakin (2008), if teachers do not attempt to bridge the cultural gap among these students, it would lead to obvious adversities in the personality of the learners. In order to understand other cultures, one must have definite understanding and knowledge about one’s own culture.

Teachers need to develop keen understanding and recognise their own cultural ethnocentrism and biasness before they form judgments about other’s cultural attitudes, behaviours and perspectives. It is important to realise that their worldview may not be universal nor our cultural norms absolute (Cartledge & Kourea, 2008). Teachers need to constantly and relentlessly test their own ability and recognise how their beliefs and behaviours can affect their teaching. Culturally responsive teaching demands adopting a variety of teaching strategies designed to suit the interest of the students to achieve favourable results (Gay, 2002; Ladson-Billings, 1994). Learning on the basis of “cultural approach” is the new dimension given to knowledge acquisition in this paper.

Among others, the challenge faced by culturally diverse learners is the mismatch between the teaching methods and the preferred learning approach, unsuitable assessment methods and conflicting views about communication and interaction strategies between lecturers, learners and peer groups (Sulkowski & Deakin, 2008). Research has shown that children who differ culturally are at greater risk of having their actions misperceived and judged unfairly (Cartledge & Kourea, 2008). Misconceptions about learner’s level of motivation, attitude towards learning and intellectual capabilities can develop, if educators fail to understand the cultural implications of students’ learning approach, perspectives and behaviours.

Parrish & Linder-VanBerschot (2010) also explored the importance of culturally based learning differences and recognised the need for cultural adaptation for more effective teaching and learning experiences in multicultural situations. Another study promoted discussion to raise awareness of the diversity of approaches to learning based on culture (Hunt & Tickner, 2015) among all educators. Joy & Kolb’s (2009) study identified strong impact of culture on the learning styles and examined the influence of culture dimensions on the learning preferences. They found that countries high in collectivist, uncertainty avoidance, gender egalitarianism etc. prefer more abstract learning while countries with high scores in collectivism, uncertainty avoidance and assertiveness prefer more reflective learning. The study established that students in their undergraduate level may show more culture based differences.

In a study conducted on medical students to understand the differences in their learning approaches found a higher mean scores for deep and strategic approaches for the partially problem based learning group (Abraham, Vinod, Kamath, Asha & Ramnarayan, 2008). This study did not account for cultural differences attributing to preferred learning approaches. On the other hand, non-problem based learning students scored higher for the surface approach and higher scores for surface approach related to students’ apprehension toward the examination. Another study (Ismail, Hassan & Muhamad, 2013) found surface learning approach was popular among the Malaysian Chinese while deep approach was adopted by the Malay students.

Culture is known to influence knowledge gaining approach (Abrahamson & Goodman-Delahunty, 2014). Another recent study found deep approach as an indicator for knowledge sharing, and surface approach for completing the task and gaining recognition (Adams, Clough & FitzGerald, 2018). Furnari (2018) in yet another recent study identified that the students employed surface approach to complete the minimum requirements of an online assignment. This approach allowed the learners to optimise time especially when they had limited intercultural experience and poor understanding of cultural differences.

Students from different area of study differ in their learning approaches with teachers playing a bigger role in engaging students for adopt and conceptualise deep approach. Deeper approach stimulates openness, diligence, transparency and confidence (Baeten, Kyndt, Struyven & Dochy, 2010).

Global education settings demand a need for internationalised orientation. Our educational institutions should attempt at accommodating students of different cultures in order for them to perform effectively in studies. Students' preferences and choice must be considered in order to ensure their confidence and well-being. Malaysian institutions largely cater to meet the need of three predominant races along with a large proportion of foreign students from different cultures.

IV. PROBLEM STATEMENT

Cultural awareness and competencies among teachers in Malaysia has been given very little emphasis. There are limited studies on culturally responsive teaching approach and fewer opportunities for developing such awareness in Malaysia. This research draws attention to this neglected area, and contributes to make it better known, discussed and practiced in educational institutions around the country. This study also expands Hofstede's (1984; 2001) cultural studies on Malaysia's diverse ethnic community of learners in universities. Malaysia with its diverse cultures and ethnicities has not been explored in depth, and very few studies have investigated the influences of cultural dimension of the different ethnic groups in Malaysia.

Several researchers have been recommending further studies to be conducted in this area. A study conducted in Australia concluded that "teachers must be culturally aware, considerate of students' culture, and inform students of cultural differences, thus promoting understanding" (Wang, 2014). Parrish & Linder-VanBerschot (2010) suggested future studies into the multicultural education to equip instructors with intended and unintended consequences of stereotyping. Hunt & Tickner (2015) also recommended sharing students' experiences and understanding the differences explicitly as constructive. Moreover, Cronjé's (2011) recommended more research to uncover the common cultural elements as emphasising commonality is more useful than overcoming differences. Abraham et.al.'s (2008) study on medical students found some significant difference in the learning approaches among problem based learning and non-problem based learning students' group but did not account for cultural differences attributing to preferred

learning approaches. Ismail, Hassan and Muhamad (2013) also suggested deeper study to understand the learning approaches used by various ethnic groups in Malaysia.

V. RESEARCH METHODOLOGY

This study adopted the quantitative method to gather data on the cultural dimensions (CD) of Malaysian Malay, Chinese and Indian students, and their relationship with the preferred learning approaches. The researcher will employ the survey method, a commonly used methodology, to learn about cultural characteristics of culturally diverse students. There are several models developed to predict behaviour of people from different cultural background, but the most influential and widely popular model based on Geert Hofstede (Hofstede & Hofstede, 2005) cultural dimensions is employed in this study. In order to elicit empirical evidence, the predications of each dimension and its behavioural characteristics extracted from Hofstede & Hofstede (2005) and Tait, Entwistle and McCune's (1998) was used as a basis for survey questions or evaluation guidelines.

The purpose of this section is to describe the research methodology used to investigate the cultural dimensions of Malaysian students and its relationship with the preferred learning approaches of the multicultural language learners. The desired results of this study were to understand how Malaysian students possessed different cultural dimensions and investigate how these cultural dimensions justified students' different learning approaches.

Participants

241 undergraduates from two private universities participated in the study. The cultural composition is reflective of the racial (70 Malays, 118 Chinese and 53 Indians) student population distribution in Malaysia. Table 1 presents the cultural population of students who participated in the study.

Table. 1 Cultural Population Distribution

Cultural Groups	No (%)
Malay	70 (27.5)
Chinese	118 (46.3)
Indian	53 (20.8)
Total	241 (100)

Instruments

Two instruments were employed in this study to assess the students' cultural dimensions and their learning approaches. To assess the students' cultural dimensions, a questionnaire was designed with the five behavioural characteristics extracted from Hofstede and Hofstede's (2005) cultural dimensions. The dimensions and interpretations are as follows:

- i) Power Distance (PD). A high score on PD would indicate that learners are students are wary of any conflicts, arguments or disagreements with their teachers who they perceive as authority and autocratic in nature. High scores would also reflect high signs of dependence between students and teachers



ii) Individualism (IDV) versus Collectivism. A high score on individualism would show a tendency to work alone or independently, to perform remarkably well in the assigned task, to have personal opinions on most matters, to put ones' idea before others without any hesitation, to demand equal treatment etc.

iii) Masculinity (MAS) versus Femininity. A high score would represent Masculinity, which demands exhibition of brilliance, determination assertiveness and responsibility. Clear distinction of gender roles to be understood and taboo related sensitive subjects to be avoided.

iv) Uncertainty avoidance (UAI). A high score reflects the need for writing and unwritten rules, relay on defined learning objectives and learning outcomes, a need for thorough preparation, good classroom management skills, maintenance of certain formality, precision and orderliness in classroom.

v) Long-Term Orientation (LTO) versus Short-Term Orientation. A high score reflects perseverance, constant hard work and accountability for money.

Tait, Entwistle and McCune's (1998) shorter version of the Approaches and Study Skills Inventory for Students (ASSIST- 18 items) was employed to assess students' learning approaches. ASSIST comprise three sub-scales: a deep, surface and strategic approach on a 5-point Likert scale (5-strongly agree and 1-strongly disagree). The three subscales are formed by adding the responses to the items in that subscale and dividing the total by the number of items in that scale to give a score out of 5. The Confirmatory Factor Analysis (CFA) using Structural Equation Modeling (SEM) was applied to test whether the factor constructs fitted with the sample. Figure 1 represents the factor structural model of approaches to learning for the 255 participants.

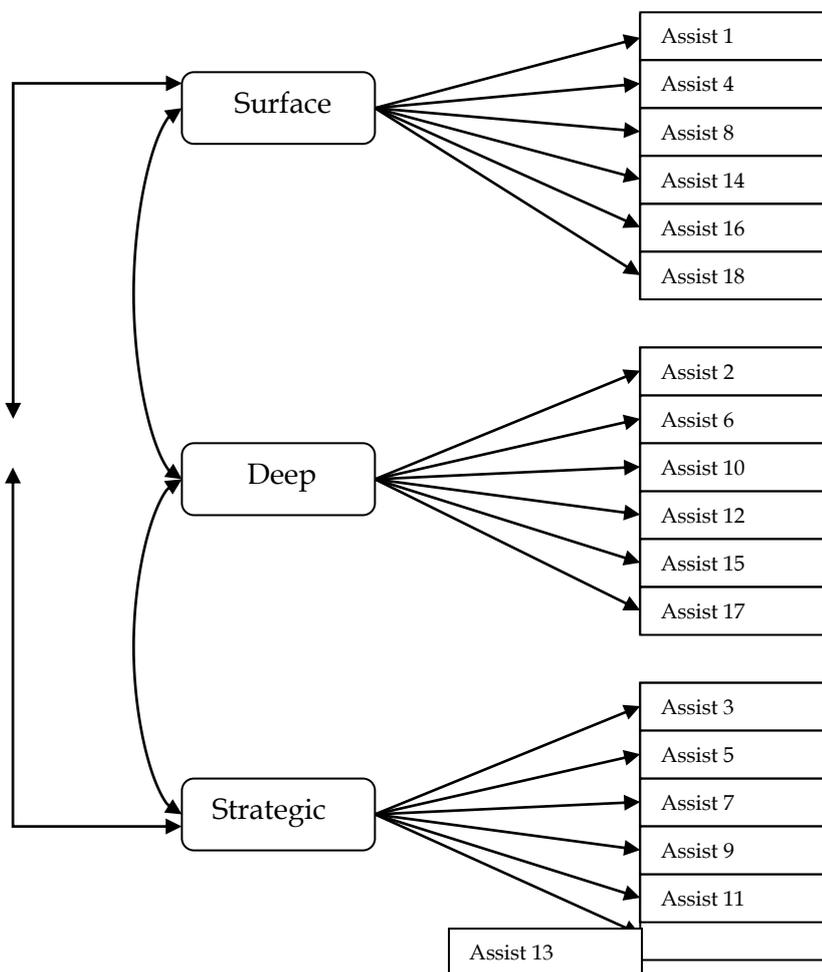


Fig. 1 Confirmatory Factor Analysis of Learning Approaches

For instance, as seen in the Figure 1, Surface Approach is calculated by adding D01 + D04 + D8 + D14 + D16 + D18. The other two subscales are scored in a similar formula. Each item is set as a variable and then a subscale total is produced by creating a new variable by summing the items. SPSS was used to analyse the data.

VI. RESEARCH QUESTIONS

The following research questions guided the study:

1. What are the cultural dimensions of the Malay, Chinese and Indian students?
2. Is there a significant difference in the cultural dimensions among the multicultural students?
3. What are the learning approaches of the Malay, Chinese and Indian students?
4. Is there a significant difference in the learning approaches among the multicultural students?



5. Is there a correlation between cultural dimensions and learning approaches of the multicultural students?
The significance level was set at 0.05 (=0.05)

VII. RESULTS

The results of the analysis in this section is organised in answer to the research question. The significance level is set at 0.05 (=0.05).

RQ1: What are the cultural dimensions of the Malay, Chinese and Indian students?

The five CDs of the three ethnic groups are presented as mean scores in Table 2. All three ethnic groups of students recorded lower mean scores for PD ($M < 3.0$) and conversely higher mean scores for IDV ($M > 3.3$) followed by LTO ($M < 3.4$). In comparing the CD by ethnicity, the Indian students recorded higher mean scores for IDV ($M = 3.65$), MAS ($M = 3.19$) and UAI ($M = 3.22$) and the Malay students for PD ($M = 3.0$) and LTO ($M = 3.40$). The Chinese students, however, recorded lower mean scores for all the 5 CDs.

RQ2: Is there a significant difference in the cultural dimensions of the multicultural students?

Table. 3 Cross tabulation between and Within Groups for Cultural Dimensions

Cultural Dimensions		Sum of Squares	df	Mean Square	F	Sig.
Power Distance (PD)	Between Groups	1.958	3	.653	2.801	.041
	Within Groups	58.720	252	.233		
	Total	60.678	255			
Individualism (IDV)	Between Groups	3.563	3	1.188	5.945	.001
	Within Groups	50.354	252	.200		
	Total	53.917	255			
Masculinity (MAS)	Between Groups	2.334	3	.778	2.903	.035
	Within Groups	67.531	252	.268		
	Total	69.864	255			
Uncertainty avoidance (UAI)	Between Groups	.357	3	.119	.470	.703
	Within Groups	63.727	252	.253		
	Total	64.084	255			
Long-Term Orientation (LTO)	Between Groups	.711	3	.237	.872	.456
	Within Groups	68.460	252	.272		
	Total	69.171	255			

In Table 3, the CDs are cross tabulated between and within the cultural groups, significant differences were found for PD ($p = .041$), IDV ($p = .001$) and MAS ($p = .035$) but not for UAI ($p = .703$) and LTO ($p = .456$) between and within the groups. A further analysis of the 3 CDs, i.e. PD, IDV and MAS was conducted and the results of the multiple

comparison of Tukey HSD are presented in Table 4. The multiple comparison test results in Table 4 show that the Chinese differed significantly from the Malays ($p = .005$) and Indians ($p = .003$) for IDV and from the Indians ($p = .041$) for MAS.

Table. 4 Tukey HSD Test Results for Power Distance, Individualism and Masculinity

Cultural Dimensions	Ethnicity	Ethnicity	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Power Distance (PD)	Malay	Chinese	.13030	.07283	.281	-.0580	.3186
		Indian	.05791	.08789	.912	-.1694	.2852
	Chinese	Malay	-.13030	.07283	.281	-.3186	.0580
		Indian	-.07239	.07982	.801	-.2788	.1340
	Indian	Malay	-.05791	.08789	.912	-.2852	.1694
		Chinese	.07239	.07982	.801	-.1340	.2788
Individualism (IDV)	Malay	Chinese	.22771*	.06744	.005	.0533	.4021
		Indian	-.03327	.08139	.977	-.2438	.1772
	Chinese	Malay	-.22771*	.06744	.005	-.4021	-.0533
		Indian	-.26098*	.07392	.003	-.4521	-.0698
	Indian	Malay	.03327	.08139	.977	-.1772	.2438
		Chinese	.26098*	.07392	.003	.0698	.4521
Masculinity (MAS)	Malay	Chinese	.11795	.07810	.433	-.0840	.3199
		Indian	-.10974	.09426	.650	-.3535	.1340
	Chinese	Malay	-.11795	.07810	.433	-.3199	.0840
		Indian	-.22769*	.08560	.041	-.4491	-.0063
	Indian	Malay	.10974	.09426	.650	-.1340	.3535
		Chinese	.22769*	.08560	.041	.0063	.4491



RQ3: What are the learning approaches of the Malay, Chinese and Indian students? approaches (LAs) and the results show a mean range of 3.0 to 3.65 points is recorded by all three ethnic groups.

Table 5 presents the results of the descriptive statistics for the Malay, Chinese and Indian students' learning

Table. 5 Learning Approaches

Learning Approach	Ethnicity	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					Surface	Malay		
	Chinese	3.0932	.52322	.04817	2.9978	3.1886	1.17	4.50
	Indian	3.3270	.61842	.08495	3.1566	3.4975	1.83	4.83
	Total	3.1836	.54286	.03393	3.1168	3.2504	1.17	4.83
Strategic	Malay	3.3667	.61030	.07294	3.2211	3.5122	1.50	4.67
	Chinese	3.3517	.58705	.05404	3.2447	3.4587	2.17	4.67
	Indian	3.5597	.63808	.08765	3.3839	3.7356	2.17	5.00
	Total	3.4134	.61534	.03846	3.3377	3.4891	1.50	5.00
Deep	Malay	3.6286	.48502	.05797	3.5129	3.7442	2.33	5.00
	Chinese	3.6596	.50936	.04689	3.5667	3.7525	2.50	5.00
	Indian	3.5881	.54655	.07508	3.4374	3.7387	1.83	5.00
	Total	3.6432	.51247	.03203	3.5802	3.7063	1.83	5.00

In general, all groups recorded a mean score of more than 3 points for the three LAs: *Deep* ($M=3.5 - 3.6$) followed by *Strategies* ($M=3.3 - 3.5$) and *Surface* ($M=3.0 - 3.3$). The highest mean score within each LA was recorded by the different groups: *Surface* (Indian: $M=3.3270$), *Strategies* (Malay: $M=3.3667$) and *Deep* (Chinese: $M=3.6596$).

In examining the LAs between and within groups, an Anova test was carried out and the results are presented in Table 6. The table shows that there were no significant differences between and within the groups for the three LAs, except for *Surface* learning between groups ($p=.027$). *Strategic* and *Deep* LAs are not significantly different between and within the groups.

RQ 4: Is there a significant difference in the learning approaches among the multicultural students?

Table. 6 Learning Approaches Between and Within Groups

Learning Approach		Sum of Squares	df	Mean Square	F	Sig.
Surface	Between Groups	2.687	3	.896	3.114	.027
	Within Groups	72.462	252	.288		
	Total	75.149	255			
Strategic	Between Groups	2.260	3	.753	2.013	.113
	Within Groups	94.293	252	.374		
	Total	96.553	255			
Deep	Between Groups	.480	3	.160	.606	.612
	Within Groups	66.491	252	.264		
	Total	66.970	255			

A further Tukey HSD test was also conducted to compare the different groups' LAs and the results are presented in Table 7. Significant difference was found for *Surface* learning and when a comparison is made between the ethnic groups, the only significant difference was between the Chinese and Indian students ($p=.044$). No significant difference was found between the other pairs of groups.

Table. 7 Turkey HSD Test Results for Learning Approaches by Ethnicity



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Learning Approach	Ethnicity		Mean			95% Confidence Interval	
			Difference	Std. Error	Sig.	Lower Bound	Upper Bound
Surface	Malay	Chinese	.09011	.08090	.681	-.1191	.2993
		Indian	-.14371	.09764	.456	-.3962	.1088
	Chinese	Malay	-.09011	.08090	.681	-.2993	.1191
		Indian	-.23382*	.08867	.044	-.4631	-.0045
	Indian	Malay	.14371	.09764	.456	-.1088	.3962
		Chinese	.23382*	.08867	.044	.0045	.4631
Strategic	Malay	Chinese	.01497	.09228	.998	-.2237	.2536
		Indian	-.19308	.11138	.308	-.4811	.0950
	Chinese	Malay	-.01497	.09228	.998	-.2536	.2237
		Indian	-.20805	.10115	.170	-.4696	.0535
	Indian	Malay	.19308	.11138	.308	-.0950	.4811
		Chinese	.20805	.10115	.170	-.0535	.4696
Deep	Malay	Chinese	-.03103	.07749	.978	-.2315	.1694
		Indian	.04052	.09353	.973	-.2014	.2824
	Chinese	Malay	.03103	.07749	.978	-.1694	.2315
		Indian	.07155	.08494	.834	-.1481	.2912
	Indian	Malay	-.04052	.09353	.973	-.2824	.2014
		Chinese	-.07155	.08494	.834	-.2912	.1481

RQ 5: Is there a correlation between cultural dimensions and learning approaches of the multicultural students?

dimensions and learning approaches of the multicultural groups and the results are presented in Table 8.

The Pearson correlation test results was conducted to examine if there is a correlation between the cultural

Table. 8 Pearson Correlation Test Results for Cultural Dimensions and Learning Approaches

		PD	IDV	MAS	UAI	LTO	Surface	Strategic	Deep
PD	Pearson Correlation	1	.274**	.151*	.259**	.186**	.174**	-.055	.107
	Sig. (2-tailed)		.000	.016	.000	.003	.005	.380	.087
	N	241	241	241	241	241	241	241	241
IDV	Pearson Correlation	.274**	1	.335**	.213**	.324**	.206**	.154*	.180**
	Sig. (2-tailed)	.000		.000	.001	.000	.001	.014	.004
	N	241	241	241	241	241	241	241	241
MAS	Pearson Correlation	.151*	.335**	1	.284**	.338**	.238**	.298**	.137*
	Sig. (2-tailed)	.016	.000		.000	.000	.000	.000	.029
	N	241	241	241	241	241	241	241	241
UAI	Pearson Correlation	.259**	.213**	.284**	1	.360**	.249**	.246**	.252**
	Sig. (2-tailed)	.000	.001	.000		.000	.000	.000	.000
	N	241	241	241	241	241	241	241	241
LTO	Pearson Correlation	.186**	.324**	.338**	.360**	1	.168**	.303**	.268**
	Sig. (2-tailed)	.003	.000	.000	.000		.007	.000	.000
	N	241	241	241	241	241	241	241	241
Surface	Pearson Correlation	.174**	.206**	.238**	.249**	.168**	1	.002	.064
	Sig. (2-tailed)	.005	.001	.000	.000	.007		.973	.310
	N	241	241	241	241	241	241	241	241
Strategic	Pearson Correlation	-.055	.154*	.298**	.246**	.303**	.002	1	.411**
	Sig. (2-tailed)	.380	.014	.000	.000	.000	.973		.000
	N	241	241	241	241	241	241	241	241
Deep	Pearson Correlation	.107	.180**	.137*	.252**	.268**	.064	.411**	1
	Sig. (2-tailed)	.087	.004	.029	.000	.000	.310	.000	
	N	241	241	241	241	241	241	241	241

***. Correlation is significant at the 0.01 level (2-tailed).*

**. Correlation is significant at the 0.05 level (2-tailed).*

The Pearson correlation among the CDs found that, in general, the correlation ranges from negligible relationship to moderately positive relationship. The moderately positive correlation was found between mainly between LTO IDV ($r = .324$), MAS ($r = .338$) and UAI ($r = .360$). Moderate

correlation was also found between MAS and IDV ($r = .335$). While the correlations among the other CDs were mostly weak, negligible correlation was found



between PD and MAS ($r = .151$) as well as LTO ($r = .186$).

The correlations among the three LA were also negligible or moderate: negligible relationship was found between *Surface* learning and the other two learning approaches (*Strategic*: ($r = .002$); *Deep*: ($r = .064$)) and more relationship was found between *Deep* learning and *Strategic* learning ($r = .411$).

As for the correlation between CDs and LAs, the relationship ranged from strongly negative relationship (*Strategic* learning and IDV ($r = -.055$)) to moderate relationship (*Strategic* learning and LTO ($r = .303$)). Negligible relationships were found between *Surface* learning and PD ($r = .174$) as well as LTO ($r = .168$), between *Strategic* learning and IDV ($r = .154$) and between *Deep* learning and PD ($r = .107$), IDV ($r = .180$) and MAS ($r = .137$).

VIII. CONCLUSION

This study set out to understand the impact of cultural dimensions of students on the preferred the learning approaches of the three predominant races of students from Malaysian private institutions of higher learning. The objective was to compare the learning approaches based on the cultural diversities of Malaysian university students and identify specific learning constructs these students prefer. The study found, Chinese students scores lowest among the other two cultural groups (Malays and Indians) for all the five cultural dimensions. Indian students recorded highest score for IDV, MAS and LTO followed by Malays for PD and LTO. Significant differences were also observed for only three of the cultural dimensions (PD, IDV and MAS) between and within the cultural groups where the Chinese differed significantly from the Malays and Indians for IDV scores and from the Indians for MAS scores.

Based on the preferred learning approach analysis among the three cultural groups, surface learning was largely popular with Indian students, while Malay students adopted strategic learning approach and Chinese students employed deep learning approach who were significantly different with the Indian group. This finding is in contrast with the study conducted by Ismail, Hassan & Muhamad (2013) that found Chinese students identified better with surface learning approach while Malay students used deep learning approach. There appears to be negligible correlation to moderately positive relationship between cultural dimensions of the three cultural groups and their preferred learning approach. The moderately positive correlation was found between LTO, IDV, MAS and UAI, moderate correlation was also found between MAS and IDV; however, the correlations among the other cultural dimensions (PD, MAS & LTO) were mostly weak. On the other hand, negligible relationship was found between surface learning and the other two learning approaches (strategic & deep) and better relationship was found between deep learning and strategic learning.

This research has avoided insights for educators to understand and appreciate the cultural diversity in classrooms and adjust their respective teaching styles to the needs and demands of a typical multicultural classroom. Further studies may identify the gender differences and

university experience (student's level of study and discipline) of the cultural groups in their cultural dimension and learning approaches scores. It would be also interesting to test the learning approaches adopted by different cultural groups based on the nature of the various course subjects (languages, core subjects, electives etc.).

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