

Towards a Cultural Sensitive Framework for the Investigation of Adult Learners' Approaches to Learning

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Abstract: The significant link between learning and knowledge economy is so crucial that the Organisation for Economic Co-Operation and Development (Organisation for Economic Co-operation and Development, 2001) has reconceptualized the term knowledge-economy to call it 'learning economy'. Ultimately, one of the main challenges of human resource development in the 21st century is to evaluate the significant learning attributes of the adult learners (Kearns, 1999; Lambert, 2001, July). Literature on Students' Approaches to Learning (Marton & Saljo, 1976), Biggs' 3 P Model (Biggs, 1987a) and Study Process Questionnaire (SPQ) (Biggs, 1987b) were used to conceptualize the study. However, studies have reported the weakness of the SPQ for cross cultural studies (Kember, Wong, & Leung, 1999; Tan, Pillay, & Fiona, 2004). Thus, this study acknowledges the importance of cultural issues in the study of learning approaches. The adapted version of SPQ, i.e. R-SPQ-2FM (Revised-Study Process Questionnaire-2 Factors Malaysia) which considered both etic and emic characteristics were administered on 532 Malay and 326 Chinese adult learners. To ensure rigor in the study, response bias pattern was first established with the two cultural groups. Secondly, seven moderating variables (e.g. Age, Work Experience) were included in the analyses for a more comprehensive understanding. Thirdly, SEM was used to examine the fine differences in the models of the two cultural groups. Results show that even in analysis within a country, there are interesting cross-cultural insights between Malay and Chinese adult learners, particularly in the Understanding and Memorizing Approach, Career/Achieve Motives constructs, the effects of 'work experience' and 'time spent on study' have on approaches to learning.

Keywords: Adult Learning, Life Long Learning, Educational Psychology, Cross-Cultural Methodology, Approaches to Learning

The Global Scene and Malaysia

The significant link between learning and knowledge economy is so crucial that the Organization for Economic Co-Operation and Development (OECD) 2001 has reconceptualized the term knowledge-economy to call it 'learning economy' (Falk & Smith, 2002). Employment in the knowledge-based economy is now characterized by the increasing demand for multi-skilled workers; independent and critical thinkers who can use knowledge as a commodity to survive in the intensified competition in the global scene (Robinson, 2001). When working for Shell, de Geus studied the common characteristics of the world's most enduring corporations, and concluded that these surviving corporations are similar to individual human beings. One of the four major common characteristics for corporate survival are an "ability to learn and adapt" (Stephenson, 1999). This intense focus on the importance to learn and adapt inevitably calls for a greater demand for knowledge-workers i.e. the adult learners, who see learning as part of their lives.

Establishing a K-economy essentially concerns the adult learners in Malaysia, as they are the main drivers who make crucial political, economic and social decisions in navigating the country to achieve *Vision 2020* (A long term plan to facilitate Malaysia to become a developed nation) (Shamsul, 1992). Focus on adults for growth has been noted by Merriam & Caffarelle (1999) who argue that it is important to meet the learning needs of the adults, as

they are the decision-makers over the next two decades who will shape the Information Society. Whilst the Malaysian government had launched the Knowledge-based Economy Master Plan 2002, to prepare the workers to be more skilful and be more competitive, the same amount of attention has not been given to exploring how Malaysian adult learners learn; and whether or not the educational policies and opportunities are adequate to cater to the needs of these adults (Merriam & Mohamad, 2000).

The current cross-cultural study is set in Malaysia, a multicultural country where the majority of the population is made up of the Malays and Chinese. Hence, this study is a humble attempt to adopt a culturally sensitive framework, with the aim of investigating whether the Malay and Chinese knowledge workers (i.e. the adult learners) who engage in professional development in Malaysia are equipped with the relevant ‘approaches to learning’, attributes relevant for the global economy. The research objectives are informed by the literature and the research questions are as follows:

1. What are the learning approaches of Malay and Chinese adult learners in Malaysia?
2. Are there any differences between the learning approaches for Malay and Chinese adult learners in Malaysia?

Investigation of Malaysian Adult Learners and Biggs’s 3P Model

Any attempt to study Malaysian adult learners’ approaches to learning is confronted with the widespread issue of the lack of understanding of specific learning theories which focus on the process of adult learning in the formal institutions (Merriam, 2001)—a preferred mode of professional development program in Malaysia. Merriam and Caffarella (1999) have frequently appealed to researchers to consider the complexity of the adult learning process by using a more holistic and comprehensive approach. Hence, investigation of Malaysian adult learning needs to take a rather different perspective to that of current adult learning theories that emerged in the West.

Biggs’ 3P Model, emerged from a focus on Students’ Approaches to Learning (Marton & Saljo, 1976), captures the strength of the whole learning system by arguing that teaching and learning are intertwined, where student factors, teaching context, on-task approaches to learning and the learning outcome are mutually dependent and form a dynamic system (Biggs, 2001). Biggs’ model highlights the functional relationships of what he calls the 3Ps of Presage, Process and Product Factors. The Presage Factors include variables such as values, and past learning experiences, variables which are significant in the investigation of adult learners. The second factors which he calls Process Factors include learning strategies such as problem solving and integration skills. The final factor in Biggs’ 3P Model is the Product Factors which consist of learning outcome variables. The three Factors form a total system in which an educational event is located. Such a systemic approach can be relevant for the investigation of adult learners, when considered carefully.

The Study Process Questionnaire (SPQ) and Its Limitations for Asian Adult Learners

Based on the theoretical underpinnings of the 3P Model, Biggs developed the Study Process Questionnaire (SPQ) (Biggs, 1987a) and the Revised-Study Process Questionnaire-Two Factor (R-SPQ-2F) (Biggs, Kember, & Leung, 2001) to investigate students’ approaches to learning in the formal settings. In R-SPQ-2F, Biggs, Kember & Leung (2001) operationalised two concepts of ‘Deep’, and ‘Surface’ to form a motive/strategy combination.

The combination of the motive/strategy index may indicate learners' general 'approaches to learning' which, according to Biggs (Biggs, 1987b), are relatively stable and do not change overnight.

There is however two issues with regard to SPQ or R-SPQ-2F when used on Asian adult learners that needs to be considered. Firstly, most of the studies, which have adopted the SPQ, have targeted full time students moving directly from secondary schools into university undergraduate programs. This group of students may display different motives and possibly have less implicit knowledge or experience in their Presage Factor than the adult learners. The exploration of the literature indicates there is little research data on adult learners, who being adults, would have more life and work experiences, than the typical 'school-leaver' full time undergraduate university learners (Richardson, 1995).

Secondly, approaches to learning measured by the SPQ appear to reflect only *general motives* in the Presage Factors (i.e. Surface or Deep Motives) to learn. They do not reflect explicitly how these motives may be related to cultural differences which may influence motives in the Presage Factor. These are critical variables in the investigation of different cultural groups in Malaysia. One of the widely acknowledged criticisms of the SPQ is that it has not been designed to capture cultural issues (Kember et al., 1999; Tan et al., 2004). Since SPQ is limited in its capacity to deal with this, there is a need to *adapt* SPQ to be relevant to the Malaysian adult learners' context, with the intention of providing a culturally sensitive framework for the investigation of Malaysian adult learners.

Adaptation of R-2F-SPQ-M --Consideration of Etic/Emic Characteristics

In cross-cultural studies (such as this one), concepts and phenomena are required to be equivalent in terms of importance and appropriateness. Cavusgil and Das (1997a) have argued that cross-cultural research can only be fruitfully analyzed when the researcher has objectively considered and included the relevant operationalized 'culturally sensitive' variables in the study. From a macro viewpoint, concepts developed in the West when applied in an Asian context should portray similar meanings and importance in the target culture. Hence, conceptual and functional equivalence are critical in cross-cultural study.

Nevertheless, most cross-cultural researchers presuppose that each culture is not so unique that comparison among cultures cannot be made (Cavusgil & Das, 1997b). Brislin (1993) argued that most important concepts are neither unique to one culture nor strictly universal. He argued that complex concepts are "often a combinations of a common etic¹ core plus culture-specific emic²" (p.74). In light of such view, it is essential for cross-cultural research which applies Western concepts in Eastern contexts to include both etic and emic components to enhance cross-cultural equivalence (Cavusgil & Das, 1997b; Hui & Triandis, 1985). Authors like Arce-Ferrer and Ketterer (2003) have called the process of combining etic/emic components 'scales tailoring'. 'Scale tailoring' can be carried out with relevant etic items chosen from the original measurement and emic items adapted or developed based on culturally specific characteristics. Put differently, researchers may want to consider the socio-cultural implications of existing theories (based on earlier research findings) and then adopt

¹ Investigate learning behavior from a position outside the target culture or system, using constructs that are identical or near identical from across a range of cultures

² Investigate learning behavior from within the target system, using constructs that are limited to a single culture

and adapt applicable constructs for the research issues under investigation (Cavusgil & Das, 1997a) to minimize construct contamination.

In the current study, suitable 'etic' items were initially selected from SPQ and R-SPQ-2F based on face and content validity. Secondly, new 'emic' items which form the 'Career Motives', 'Achieve Motive' and 'Understanding & Memorizing' subscales are added in the current study, guided by the current literature (See Dahlin & Watkins, 2000; Kember et al., 1999) and adult learning contexts in Malaysia. The newly adapted version of SPQ is named as 'Revised- Study Process Questionnaire-Two Factor Malaysia' (R-SPQ-2FM).

Many words and idiomatic expressions were changed and adapted to local colloquialisms, with the aim of increasing familiarity (Hinkin, 1998). For example, the original item #20 in SPQ "I find the best way to pass examinations is to try to remember answers to likely questions" was adapted to "I find the best way to pass the examination is to spot questions". The scoring scale was also changed. For instance, the labels for the five point Likert scales in R-SPQ-2FM were tailored to "1-this item is untrue of me" from the original SPQ "1- this item is never or only rarely true". These modifications are necessary to address cultural equivalence and enhance clarity.

Method of Validation

There are TWO main stages in the validation of R-SPQ-2FM. Since It has been adequately adapted to be culturally sensitive for Malaysian adult learners, authors like Floyd and Widaman (1995) argued that exploratory factor analysis (EFA) to be carried out first followed by confirmatory factor analysis (CFA) for more rigorous method in developing and refinement of the instrument.

In a similar vein, Hinkin (1998) has argued that whilst EFA allows a researcher to test the new scales for internal consistency and content validity, CFA enables the researcher to assess the quality of the factor structure by testing the significance of the overall model, which is not possible by EFA.

Sample

Sample Used for Stage One Analysis (EFA)-The Pilot Sample

Purposive sampling was adopted in the current study and 101 adult learners from the Klang Valley in Malaysia participated in the pilot study. These were adult learners who engaged with professional development programs either full time or part-time in the formal settings and hence are representative of the population of interest. They were 52.5% Malays, 47.5% Chinese and 73% females. Participants ranged in age from 21-51 and above and majority fall into the age range of 21-40. Sixty one percent participated in full time study and 72% are studying in a Masters program.

Sample Used for Stage Two Analysis (CFA)-The Main Sample

Similar demographic sample was involved in the stage two analyses. They were 858 participants, which made of up 62% Malays and 38% Chinese. There were 59.1% females and 83.9% of the participants ranged in age from 21-40. Seven-five percent of them participated in part time study and 71.4% of them were engaging in continuous development programs.

Validation of R-SPQ-2FM

Results of EFA-Stage One Analyses

Current EFA (performed with Varimax rotation) shows that there are only 4 factors extracted from R-SPQ-2FM (unlike the seven factors postulated by Kember et. al.,'s Model 5 (1999)). The factors are renamed as follows: Factor 1: Deep Approach (DeepA), Factor 2: Career Motive/Achieve Motive (CM/AM), Factor 3: Surface Approach (SurfaceA) and Factor 4: Understanding & Memorizing (U&M)

DeepA has 12 items, CM/AM has 5 items, SurfaceA has 8 items and U&M has 4 items. The reliabilities found are respectively: DeepA, $\alpha = 0.84$, CM/AM, $\alpha = 0.8$, SurfaceA, $\alpha = 0.75$ and U&M, $\alpha = 0.74$.

DeepA in the current study combines items of Deep Motive and Deep Strategies scales of SPQ and R-SPQ-2F, congruent with findings on other Malaysian secondary students when LPQ (Equivalent of SPQ for secondary school students) was administered (Watkins & Ismail, 1994). This is in contrast to other studies (See Fox, McManus, & Winder, 2001; Watkins, 2001; Zeegers, 2002) which found separate Deep Motive and Deep Strategies subscales. Similar pattern is observed in SurfaceA.

CM/AM also combines items from Career Motives and Achieve Motives, unlike what was postulated by Kember et.al.(1999). However, the U&M scale which was extracted supported Kember et.al.,'s (1999) proposal to include such scale in the investigation of cultural difference in learning, in particular when Asian learners are involved.

Results of CFA-Stage Two Analyses

The testing of the model for R-SPQ-2FM was guided by insights into approaches to learning, including arguments presented by Kember et al. (1999). For analysis derived from maximum-likelihood (ML) and also to reduce sensitivity to distribution, Hu and Bentler (1998) recommend using a 2-index strategy to evaluate Standardized Root Mean Squared Residual (SRMR) and Comparative Fit Index (CFI). This strategy has been shown to control both Type I and Type II errors (Kember, Biggs, & Leung, 2004). A good fit is indicated by $CFI > 0.95$ and a $SRMR < 0.08$. These indexes are also used in other SPQ and LPQ studies (see Biggs et al., 2001; Kember et al., 2004), thus making comparison feasible.

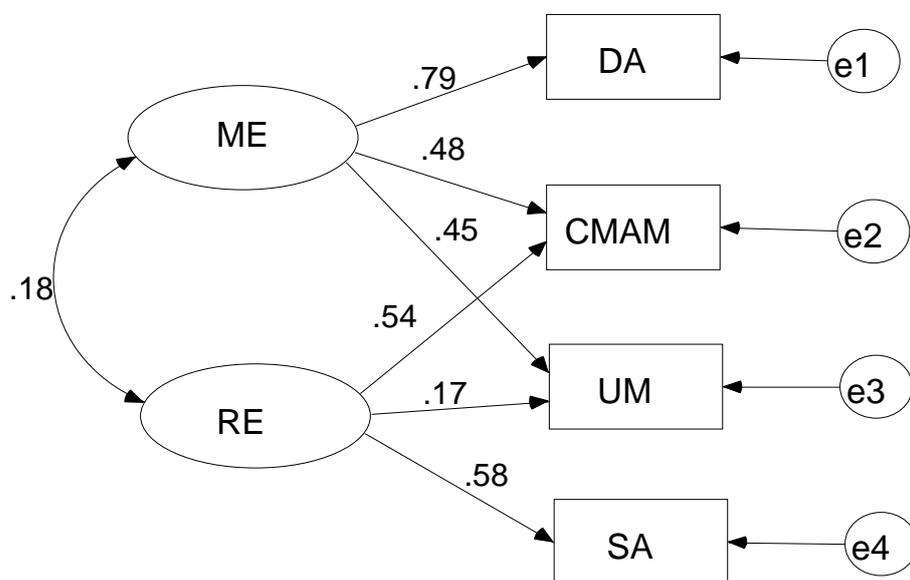


Figure 1: Latent structure of R-SPQ-2FM at scales level

Note: i) Observed Variables: DA=Deep Approach
 CM/AM= Career Motive/Achieve Motive
 UM=Understand & Memorizing
 SA=Surface Approach

ii) Latent Variables: ME = Meaning Orientation
 RE = Reproductive Orientation

iii) Measurement Errors e1 to e4

Note: i) Single headed arrows represent regression paths and are notated with standardized path coefficients; double arrows represent co-variances and notated with correlation coefficients; rectangular boxes represent observed variables and ellipses represent unobserved or latent variables.

The tested higher order model with standardized paths for R-SPQ-2FM is illustrated in Figure 1—containing two higher order latent variables, named as Meaning Orientation and Reproduction Orientation. Each latent variable is corresponded to the indicators (i.e. DA) which comprise the subscales or factors extracted in stage one by EFA. For this model, SRMR=0.0348, and CFI =0.966, which indicate quite a good fit to the data. All the paths from the constructs to the items were significant at 5% level or better. The standardized path coefficients range from 0.17 to 0.79, indicating that the items are good indicators of the four constructs/scales. A low positive correlation (0.18) was observed between meaning and reproduction latent variables, suggesting that there is consistency with the current findings and arguments of Kember et al., (2004) and Kember et al., (1999) studies. Considering i) the rigorous testing, ii) that the reliability of the data for the instrument in this forms is good and

iii) that the SRMR value is low, these results can be interpreted as an indication that the R-SPQ-2FM, used in the higher order two-factor forms with the 4 indicators, have good psychometric properties.

The Results

Demographic Data of the Main Sample

Table 1 provides a summary of the demographic data of the main sample. It is observed that female adult learners outnumbered the male adult learners in both groups, 56% for Malay and 63.1% for Chinese. Such gender disparity is consistent with the overall representation of the national survey of learners in the institutions of higher learning in Malaysia. There is a larger percentage of females currently studying in higher education institutions (Mohamad, 2001).

More than half of the respondents' ages ranged from 31 to 50 and most of them were engaging in either a degree or a diploma professional development course. The participants spent different amounts of time on their studies. About 30% of participants spent less than 5 hours a week on their studies and 50% of them spent 6-15 hours a week on their studies. Only about 22% of them spent more than 16 hours a week studying. The time distribution is important to illustrate the significance these participants attach to their professional development particularly when 70% of these adult learners were studying on a part-time mode.

When considering the financial support provided for professional development, there were more Malay adult learners (41.2%) who were sponsored compared to Chinese adult learners (11.1%).

Table 1: *Demographic Data of Malaysian Malay and Chinese Adult Learners in percentage*

	Malay (N = 532)	Chinese (N = 326)
	%	%
Gender		
Male	43.3	36.9
Female	56.7	63.1
Age		
30 & below	45.7	44.7
31-50	54.1	54.4
51 & above	0.2	0.9
Main language spoken		
Malay	98.7	0.9
Chinese	0.2	75.2
English	1.1	23.9
Self-sponsored	58.8	88.9
On scholarship	41.2	11.1
Part-time	74.1	78
Full-time	25.9	22

Courses		
PhD	13.6	3.7
Master	9.2	43
CPD	83.2	52.4
Others	4	0.9
Years of work experience		
< 5	22.2	33.5
6-15	61.7	45.6
>16	16.1	20.9
Hours spent studying		
< 5	31.3	29.9
6-15	47.3	48.1
> 16	21.4	22

However, it is interesting to note that despite this difference in sponsorship, when considering overall participation by the two cultural groups, there were more Chinese adult learners (33.5%) who enrolled in formal professional development programs after working for less than 5 years, compared to only 22.2% of Malay learners. Malay adult learners seem to be more inclined to enroll in formal professional development programs (61.7%) after working for 6-15 years but more Chinese adult learners (20.9%) engaged with formal learning after working for more than 16 years.

Given that most higher education professional development programs are conducted in the English language, proficiency may play a significant role in encouraging sustaining engagement in professional development. Thus exploring the language ability of those that enroll in professional development courses revealed that 98.7% of the Malay respondents used Malay as their main language whereas for Chinese, 75.2% of the respondents used Chinese as the main language and 23.9 % used English as the main language.

Addressing Response Bias

One of the complexities of cross-cultural research is the issue of response bias³. Despite this being an issue for educational and psychological measurement in many cross-cultural studies, scores of the data are very often compared at face value. These analyzes assume that there is no systematic bias in these data. One of the reasons cited for disregarding response bias is that analyzes of response styles requires tedious research effort (Herk, Poortinga, & Verhallen, 2004). Of the many response bias styles, acquiescence bias has been the concern and most researched response bias (Smith, 2004). According to Herk et al., acquiescence is “the tendency to agree rather than disagree with items, regardless of item content. It is also called agreement tendency or yea-saying” (p.343). Cheung and Rensvold (2000) have argued that cross-cultural differences in acquiescence response style can be explained in terms of social desirability—a belief that a higher score is a better score, or by a preoccupation with individual defects and deficiencies.

³ Response bias is a “systematic tendency to respond to a range of questionnaire items on some other basis than the specific item content” (Paulhus, 1991, cited in Herk et al., 2004, p. 17)

The more recent trend of thought by researchers such as Smith (2004) and Hemert, Vijver, Poortinga, and Georgas (2002) argued that these response patterns may not be bias per se but rather a form of communication style related to cultural characteristics. If such a perspective is taken, one must then approach the problem at the level of analysis. In these studies, researchers have found that acquiescence bias is closely correlated to cultural values. Studies have shown that respondents who favor in-group harmony within the high family collectivist cultures, high-powered distance cultures, high future orientation, and high uncertain avoidance cultures have consistently displayed acquiescence bias style (Smith, 2004). Interestingly, Hemert et al. (2002) have found link between social desirability and strategies for presenting “a good face” (p.122). In addition, Herk et al. (2004) have reported that studies focusing on response styles in different cultural samples are scarce and almost exclusively have employed students (not adults).

Authors like Cheung and Rensvold (2000) have advocated that demonstrating the data is free of response bias eliminates alternative explanations for observed cross-cultural differences. Conversely, demonstrating the existence of response bias adds caveats to the interpretation of a cross-cultural research data.

Studies on values in Malaysia have confirmed that Malaysians are a collectivist cultural group, where values such as ‘harmony with others’, ‘conformity’ and ‘care for face’ are highly appreciated (Abdullah & Lim, 2001; Fontaine, Eu, Thean Beng, & R. Vikrama, 2002, July; Hussin, 1997; Tan, 2006). The importance of such values in a Malaysian context may influence some of the participants to give inaccurate answers to ‘save face’ or to ‘conform’ to please the researcher. Such awareness was critical for the eventual administration and analyzes of the questionnaire

Considering the literature on response bias above, and also the methods suggested by Byrne and Campbell (1999), item response distribution analysis was carried out to initially identify the trend of response patterns among the Malay and Chinese adult learners in the current study prior to any further analysis.

Table 2 shows the response distribution pattern of both Malay and Chinese respondents. Although Table 2 reveals many interesting response pattern comparisons, the most obvious pattern is that Malay respondents tended to agree more than disagree and the Chinese respondents tended to disagree more than agree. In general, most of the items generated similar patterns of response, thus only a few items have been chosen for discussion. The few items that illustrate the general patterns are discussed below.

Table 2: *Response Distribution of Chinese & Malays in %*

Items of R-SPO-2FM	Chinese					Malay				
	1	2	3	4	5	1	2	3	4	5
S1	9.4	10.8	21.7	41.9	16.2	1.8	5.7	13.5	42.2	36.7
S2	1.1	5.4	18.4	49.8	25.3	0.2	1.8	15.9	54.1	27.8
S3	4	27.1	52.3	15.9	15.9	0.4	4.1	29.2	52.4	13.1
S4	4.7	9.7	32.1	37.5	15.5	0.8	3.1	18.2	46.1	30.6
S5	3.6	10.8	20.6	40.1	24.5	1.0	2.4	8.6	37.5	49.4

S6	55.6	18.8	17.3	7.6	0.4	46.3	17.8	22.5	10.6	2.2
S7	8.7	16.6	28.5	31.0	14.1	4.1	5.3	23.7	44.9	21.4
S8	1.8	10.5	28.2	47.3	11.6	0.8	5.1	27.6	53.5	12.0
S9	21.7	26.4	26.7	22	3.2	9.0	13.5	38.2	33.3	5.3
S10	2.9	6.5	28.5	48	13.7	0.4	4.1	21	51.8	22.4
S11	25.3	26.7	30.3	16.6	1.1	10.2	15.1	35.1	32.2	6.1
S12	2.9	10.1	34.3	42.6	9.4	1.2	6.1	33.7	44.7	14.1
S13	32.9	28.9	27.4	9.7	1.1	17.3	18.0	39.8	21.2	3.1
S14	7.2	25.6	37.9	24.5	4.7	4.5	15.7	38	34.7	6.7
S15	49.1	19.1	19.9	10.5	1.4	29.6	16.7	30	21.2	2.2
S16	7.9	27.8	39.7	20.9	3.6	2.0	14.3	41	35.7	6.9
S17	9.4	23.5	36.1	24.9	6.1	1.8	13.7	34.1	41.4	8.4
S18	13.4	20.6	28.5	26.7	10.1	2.2	4.9	20.2	48.2	23.9
S19	27.4	22.4	31.8	13.7	4	9.2	12.4	35.5	34.5	8.0
S20	1.1	6.9	18.1	55.6	18.1	0.0	3.1	20.6	54.3	21.2
S21	5.4	9.7	31.4	43.0	9.7	2.2	5.3	26.1	50.4	15.9
S22	39.4	25.3	24.2	9.0	1.8	22.4	17.6	39.6	18.6	1.4
S23	4.7	10.8	29.2	39.4	15.2	2.4	6.3	26.5	51.2	3.1
S24	22.4	19.9	31.8	18.4	6.9	16.9	19	29.8	25.1	9.0
S25	4.3	11.9	27.1	42.6	13.4	2.7	5.5	29.8	52.7	9.0
S26	1.1	2.9	15.2	49.5	30.7	1.0	2.9	13.5	50.8	31.4
S27	1.41	6.1	25.3	50.5	16.2	0	1.2	23.3	53.1	21.4
S28	4.7	13.0	33.9	35.7	11.6	3.3	9.4	37.8	39.0	10.2
S29	1.1	6.5	28.2	46.9	16.2	1.2	4.5	28.4	48.8	16.5

Note: % of missing values is not displayed in the table

For the R-SPQ-2FM instrument 33.3% of Malay respondents chose scale point 4 (True) for Item 9 compared to only 22% of Chinese respondents. The other interesting pattern can be seen in the responses to Item 18, where 48.2% of Malay respondents chose scale point 4 (true) and 23.9% chose scale point 5 (very true) compared to 26.7% and 10.1% of Chinese respondents respectively for the same scale. For the same item, 20.6% of Chinese respondents chose scale point 2 (slightly true) and 13.4% chose scale point 1 (untrue) compared to only 4.9% and 2.2% of Malay respondents. These differences in the ways participants from different cultural background respond to survey items can influence the final analysis and interpretation of the data.

Having established that there is different response pattern among the Malay and Chinese respondents, it is essential then to test whether such difference is significant. Hence, acquiescence indexes for both Malay and Chinese adult learners were calculated according to the method used by Herk et al. (2004), followed by an independent-sample t-test to compare the acquiescence indexes of Malay and Chinese cultural groups. The effect size (η^2)⁴ for the test was calculated to provide an indication of the magnitude of the differences between the groups (Pallant, 2001).

⁴ The formula for eta square = $t^2/t^2+(N1+N2-2)$

The results of the mean score for the acquiescence indexes for Malay and Chinese are 0.49 and 0.22 respectively. The higher acquiescence index for Malay respondents affirms the patterns of response distribution where there was a tendency for Malay respondents to agree more than disagree and visa versa. However, to determine whether the acquiescence index between the two groups is statistically significant, a two tailed t-test was conducted. The t-test result is summarized in Table 3. It shows a significant difference in the acquiescence indexes between the two cultural groups, Malay, $M=0.49$, $SD=0.240$; Chinese, $M=0.223$, $SD=0.247$; $t(858)=15.78$, $p<.001$. The magnitude of the differences in the means is large ($\eta^2 = .41$).

Table 3: *Independent Samples Test of acquiescence index for Malay and Chinese*

Acquiescence index	df	F	η^2
Malay =.49 Chinese = .22	856	2.12***	0.41

Note: *** $p<.001$, two-tailed t-test

Having established that the Malay acquiescence index is significantly greater than Chinese adult learners, it is then important to consider and integrate this difference in the analyzes of the cultural dynamics and not disregard response style difference (Smith, 2004). In view of above findings, the data was then analyzed and reported in accordance to the sequence of the research questions in the second part of this paper.

Research Question 1

RQ#1 What are the learning approaches of Malay and Chinese adult learners in Malaysia?

The summary in Table 4 shows that Malay respondents scored higher means for all of the four constructs, confirming the acquiescence response bias of Malay cultural group—that Malays have a tendency to give higher ratings than the Chinese who seem to be more conservative in rating their learning behavior. Nevertheless, the ranked means presented in Table 4 illustrate interesting differences between the Malay and Chinese groups. For Malay respondents, the construct CM/AM has the highest mean ($M = 4.01$, $SD =.63$), followed by DA ($M = 3.71$, $SD =.46$), U&M ($M = 3.69$, $SD =.61$), with SA showing the lowest mean ($M = 2.81$, $SD =.71$). The Chinese have U&M as the highest mean ($M = 3.54$, $SD =.74$), followed by DA ($M = 3.52$, $SD =.51$), CM/AM ($M = 3.38$, $SD =.84$) with SA the lowest mean ($M = 2.24$, $SD =.67$). The Chinese seem to rate Understanding and Memorizing most important compared to the Malay who saw career aspiration as the most important. However, both groups rated Deep Approaches to learning as the second most preferred learning approach. The above combination of U&M followed by DA by the Chinese and the CM/AM followed by DA by the Malays is an interesting pattern.

Table 4: *Mean, Standard Deviation, and Mean Ranking of Approaches to Learning for Malay and Chinese Adult Learners*

Independent Variables	Dependent Variables	M	SD	Ranking
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Cultural Groups

Malay (N=532)	DA	3.71	0.46	2
	SA	2.81	0.71	4
	CM/AM	4.01	0.63	1
	U&M	3.69	0.61	3
Chinese (N=326)	DA	3.52	0.51	2
	SA	2.24	0.67	4
	CM/AM	3.38	0.84	3
	U&M	3.54	0.74	1

RQ#1 provided some interesting approaches and priorities placed on those learning approaches by the participants. RQ#2 seeks to investigate if any difference existing between Malay and Chinese' approaches to learning and the extent of such difference between the two groups.

Research Question 2

RQ#2 Are there any differences between the learning approaches for Malay and Chinese adult learners in Malaysia?

For more rigorous comparative analyses, three analyses were performed. Firstly, MANOVA was used to identify mean differences between Malay and Chinese learners where the cultural group is the IV. The DVs are the four factors comprising approaches to learning. Secondly, seven moderating variables (gender, age, years of work experience, sponsored/non-sponsored learners, part-time/full-time learners, courses, and the numbers of hours spent on studying) were included in MANOVA with the intention of teasing out any moderating effects that might be happening in the comparison within groups and between groups. Finally the strength and directionality of the causal relationships was analysed using SEM, comparing models of Malay and Chinese cultural groups.

Results of MANOVA Comparing Total Difference Between Groups and Difference Between Groups on Each of the Approaches to Learning (the Dependent Variables)

Result of the one-way between-groups multivariate analysis of variance is summarized in Table 5. Statistically significant difference was found between Malay and Chinese cultural groups on the combined dependent variables, $F(4, 853) = 57.48, p < .001$ Pillai's Trace⁵ = .21; $\eta^2 = .21$.

Table 5 also present a summary of the MANOVA analysis when each DV was treated separately. These results show significant differences for all four DVs using a Bonferroni adjusted alpha level of 0.0125, DA: $F(1, 853) = 32.14, p < .001, \eta^2 = .04$; SA : $F(1, 853) = 134.06, p < .001, \eta^2 = .14$; CM/AM : $F(1, 853) = 153.89, p < .001, \eta^2 = .15$; U&M: $F(1, 853) = 10.42, p = .001, \eta^2 = .01$. Whilst there is significant difference between the groups for all four factors, the η^2 results indicate that dependent variables, DA and U&M both have only a small effect in explaining the differences on the independent variable (cultural groups). Thus,

⁵ Pillai's trace is used in the current study as it is a more robust analysis compared to the commonly used Wilks' Lambda value (Pallant, 2001).

the difference cannot be treated as very meaningful despite being statistically significant. In contrast, SA and CM/AM have large effects in explaining the differences in cultural groups and worth considering in the later analyzes and discussions of the possible influences.

Table 5: *Multivariate Tests for Approaches to Learning*

Effect	Pillai's Trace	df	F	η^2
Malay & Chinese Cultural Groups	.21	4	57.48***	.21
DA		1	32.13***	.036
SA		1	134.06***	.135
CM/AM		1	153.89***	.152
U&M		1	10.41***	.012

Note: η^2 = effect size, whereby .01 indicates small difference, .06 medium difference, .14 large difference (Pallant, 2001).

*** p < .001

Results of MANOVA Comparing Total Difference between Groups and Difference between Groups on Each of the Dependent Variables when Loaded with the Moderating Variables

As noted earlier, to have a deeper understanding of other possible extraneous influences on the dependent and independent variables, a MANOVA analysis was carried to explore if there were statistically significant differences between the Malay and Chinese cultural groups (IV) caused by the seven moderating variables and the effect size of such moderating effect on the four factors (DVs): Deep Approach, Surface Approach, Career Motives/Achieve Motives, and Understand and Memorizing approach in a combined score. A summary of this analysis is presented in Table 6.

Table 6: *Effects of Seven Moderating Variables on Factors of Approaches to Learning for Malay and Chinese Adult Learners with MANOVA*

Moderating Variables	Combined Dependent Variables (DA, SA, CM/AM, U&M)				
	Pillai's Trace	df	F	η^2	p value

Gender	Malay	.022	4	2.98	.022	>.05
	Chinese	.016	4	1.34	.016	>.05
Age	Malay	.073	16	2.44	.018	<.001***
	Chinese	.179	16	3.73	.045	<.001***
Work Experience	Malay	.032	4	2.05	.016	>.05
	Chinese	.132	4	5.50	.066	<.001***
Sponsored/ Non-Sponsored	Malay	.020	4	2.68	.02	>.05
	Chinese	.002	4	.168	.002	>.05
Part/Full time	Malay	.028	4	3.70	.028	>.05
	Chinese	.017	4	1.39	.977	>.05
Courses study	Malay	.23	12	10.75	.076	<.001***
	Chinese	.19	12	5.24	.88	<.001***
Hours spent Studying	Malay	.06	8	3.80	.30	<.001***
	Chinese	.32	8	1.25	.02	>.05

Note *** significant results

As shown in Table 6, four out of the seven moderating variables investigated, namely age, years of work experience, courses studied, and hours spent on studying, have significant moderating effects on the four main approaches to learning. It is interesting to note that age had differing influence on approaches to learning on CM/AM subscales for both Malay and Chinese cultural groups, Malay: $F(4, 532) = 4.80, p < .001, \eta^2 = .035$; Chinese: $F(4, 326) = 4.38, p < .001, \eta^2 = .052$. For the Malay cultural group, it is the younger age group (between 21 and 30) who scored the highest mean for CM/AM ($M = 4.14$) while the oldest age group (51 and above) scored the lowest mean ($M = 3.0$). A rather different pattern is observed for the Chinese cultural group. The oldest age group, 51 and above, scored the highest mean for CM/AM ($M = 3.58$) and the age group between 41 and 50 scored the lowest mean ($M = 3.02$). This implies that the younger Malay adult learners are more career- and achievement-orientated while it is the older group among the Chinese adult learners who view careers as a reason for their learning.

An analysis of the effect of 'years of work experience' on approaches to learning produced significant results for Chinese adult learners but *not* for Malay adult learners. The significant result for Chinese adult learners are evident in the effect work experience has on Deep Approach, Malay: $F(2, 532) = .29, p > .05, \eta^2 = .001$; Chinese: $F(2, 326) = 7.01, p < .001, \eta^2 = .043$. The Chinese adult learners viewed years of work experience as having a significant influence on their deep approaches to learning. A closer scrutiny of the data suggests that perhaps this influence gets stronger as the years of experience increases. For example, learners with more than 16 years of work experience had a higher mean for DA ($M = 3.71$) while those with less than 5 years of work experience tended to adopt less DA ($M = 3.42$). However, these results are quite the opposite in the case of Malay adult learners, where work experience had no significant impact on their approaches to learning.

Considering the effect of the types of courses the adult learners study, the results show significantly different impact on Surface Approach for both cultural groups, Malay: $F(3, 532) = .2651, p < .001, \eta^2 = .13$; Chinese: $F(3, 326) = 7.94, p < .001, \eta^2 = .07$. The exception in this analysis was the Chinese adult learners who were studying in PhD programs. This group was not affected by the moderating variable as much; in fact this group was more influenced by the U&M dependent variable. Whereas those (for both groups) who engaged in continuous professional development (CPD) courses such as undergraduate degrees or diploma level courses tended to subscribe to SA. However, the ‘courses studied’ moderating variable shows some interesting results when considering U&M approaches to learning. For Malay adult learners, there is a significant difference on the effect of this moderating variable on the U&M approach but such a result is not evident for the Chinese adult learners, Malay: $F(3, 532) = 12.49, p < .001, \eta^2 = .06$; Chinese: $F(3, 326) = 3.37, p > .05, \eta^2 = .03$. The Malay adult learners who undertook a PhD adopted the least U&M approach ($M = 2.95$) while those who engaged with CPD adopted the most U&M approach ($M = 3.75$). It is interesting to note that Chinese adult learners across all courses adopted the U&M approach but with no significant differences in the mean scores regardless of the courses they undertook, unlike their Malay counterparts. This phenomenon perhaps suggests that understanding and memorizing strategy is a fundamental learning approach for Chinese learners. Hence, it is rated important regardless of the types of courses studied (M ranged from 3.33 to 3.66). The significance of U&M approach for the Chinese adult learners is consistent with the finding in research question #1 where the U&M was rated as the most frequently used approach for the Chinese cultural group with the highest mean score.

The final moderating variable that has significant effect on learning approaches is the ‘number of hours spent studying’. This influence of this moderating variable was seen only on the Malay adult learners, Malay: $F(2, 532) = 10.17, p < .001, \eta^2 = .039$. Malay adult learners who spent more than 16 hours a week on their study scored a significantly higher mean for DA ($M = 3.84$) than those who spent less than 5 hours a week ($M = 3.60$). Such a pattern is not evident in Chinese adult learners, Chinese: $F(2, 326) = 3.64, p > .001, \eta^2 = .023$. This implies that for Malay adult learners, the more time they spent on learning, the more likely that they subscribed to DA. However, the same cannot be observed for Chinese adult learners, where the number of hours spent on learning did not have significant impact on the adoption of DA.

Comparing Approaches to Learning of Malay and Chinese using Structural Equation Modeling

Human learning is a complex process involving multiple variables operating at different levels and influencing each other. SEM has been recognized to be an analytical process that has the capacity to deal with complex issues (Hoyle, 1995) as it deals with multiple dependent relationships simultaneously while providing statistical efficiency. In some cases, one dependent variable becomes an independent variable in the subsequent dependence relationships, thus allowing the investigation of the overall structure of the relationships among the variables of interests. According to Hair et al. (1995), not only does SEM provide “a more systematic and holistic view of the problem” (p.617), but also it is “based on causal relationships, in which the change in one variable is assumed to result in changes in another variable” (p.626). Acknowledging the rigor of SEM over procedures like multiple regression, Kline (Kline, 1998) who argues that the “SEM family is [not only] one of the most inclusive statistical procedures used within the social sciences”(p.12), but it also brings a more macro-level perspective. In fact, authors like Kline (1998) and Cheng (2001) have consistently

stressed that SEM takes precedence over analyzes like multiple regression, path analysis and factor analysis. They argue that no matter how flexible these techniques are, their roles in modeling are rather limited.

Therefore, it is prudent to adopt a more rigorous and comprehensive analytical tool to fully address RQ#2. This research question seeks to compare models of R-SPQ-2FM of the Malay and Chinese adult learners. Since earlier results of instrument validation indicate that R-SPQ-2FM is best described with two higher-order latent variables with four indicators, modeling for the Malay and Chinese data is based on those findings. Figure 2 demonstrates the models of R-SPQ-2FM for the Malay and Chinese cultural groups.

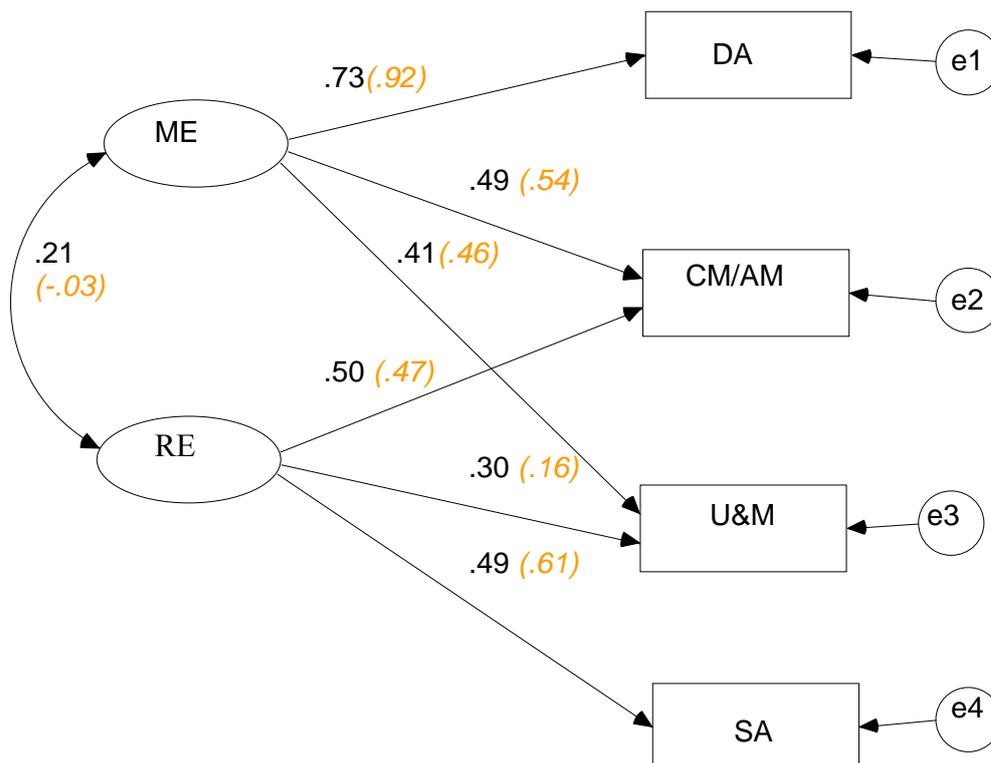


Figure 2: Malay/Chinese R-SPQ-2FM higher order latent Structure model. The standardized path coefficients and correlation coefficient for Malay are in black and for Chinese are in parentheses and italicised, and also in red

Note: i) Observed Variables : DA=Deep Approach
 CM/AM= Career Motive/Achieve Motive
 UM=Understand & Memorizing
 SA=Surface Approach

ii) Latent Variables: ME = Meaning Orientation
 RE = Reproductive Orientation

iii) Measurement Errors e1 to e4

Note: i) Single headed arrows represent regression paths and are notated with standardized path coefficients; double arrows represent co-variances and notated with

correlation coefficients; rectangular boxes represent observed variables and ellipses represent unobserved or latent variables.

Inspections of the fit indices of models for both cultural groups in Table 7 suggest that both groups fitted the two higher-order latent structure of the model adequately. Overall, all paths are significant at 1% level. Thus, the causal assumptions embedded in the models in Figure 2 (supported by the good fit indices shown in Table 7), are accepted as being good approximation of the relationships evident in the data.

Table 7: *Comparing Fit Indices for Malay and Chinese R-SPQ-2FM Models*

	SRMR	CFI	GFI
Recommended Values	$\leq .08$	$\geq .95$	$\geq .95$
Malay	.038	.96	.99
Chinese	.026	.99	.99

Firstly, it is worth noting that there is a weak negative correlation ($r = -.03$) between Meaning and Reproductive Orientations latent variable for the Chinese adult learners, compared to a weak positive correlation ($r = .21$) for the Malay cultural group. Both of the 'negative' and 'positive' patterns are consistent with the findings on approaches to learning studies where deep and surface approaches were found to have weak positive and negative correlations depending on the individual samples (see Biggs et al., 2001; Kember et al., 2004). Such data hints that Chinese may perceive Meaning Orientation and Reproductive Orientation learning as two extremes of a dichotomy, whilst Malay adult learners may perceive the two orientations as related.

Secondly, in scrutinizing the standardized path coefficients (β) of the Malay and Chinese models, they appear to show different strength of effects. For the Chinese model, the Meaning Orientation latent variable has a stronger direct impact on three of the four observed variables—Deep Approach, Career Motives/Achieve Motives, and Understand and Memorizing, each with a higher β value (ME→DA, $\beta = .92$, $p < .001$; ME→CM/AM, $\beta = .54$, $p < .001$; ME→U&M $\beta = .46$, $p < .001$), compared to their Malay counterparts (ME→DA, $\beta = .72$, $p < .001$; ME→CM/AM, $\beta = .49$, $p < .001$; ME→U&M $\beta = .41$, $p < .001$). In addition, the Reproductive Orientation latent variable has a stronger effect on Surface Approach but a much weaker effect on Understand & Memorizing for the Chinese model (RE→SA, $\beta = .61$, $p < .001$; RE→U&M, $\beta = .16$, $p < .001$) compared to the Malay model (RE→SA, $\beta = .49$, $p < .001$; RE→U&M, $\beta = .30$, $p < .001$). This is clearly evident in RE→U&M, $\beta = .30$ (for Malay) and RE→U&M, $\beta = .16$ (for Chinese).

Discussion

An Overview

An overview comparison of the learning approaches of both Malay and Chinese adult learners revealed that adult learners in Malaysia preferred a deep approach, consistent with other adult learners' studies across other nations (Biggs, 1987a; Zeegers, 2001). While there may be close similarities in the approaches to learning between the two cultural groups, SEM

has highlighted some subtle differences which are novel and have significant implications for explaining the learning behaviors of the two groups of adult learners. For instance, the differences are evident in the manner they go about engaging in deep learning. It was found in the current study that Chinese adult learners who tend to be more orientated towards comprehending the meaning of the learning material are inclined to adopt the three different strategies for learning—DA, CM/AM, U&M, while Chinese adult learners who are orientated towards reproductive learning are more likely to adopt a surface approach but *less* likely to adopt the U&M approach. The opposite patterns are observed for Malay adult learners. Malay learners who have the intention of acquiring meaningful learning are less likely to adopt DA, CM/AM, and U&M strategies, while the Malay adult learners who are reproductive-orientated learners are more likely to adopt CM/AM, and U&M approaches. Such multiple perspectives of learning behavior appear to attest the findings of Pillay et al. (2000), who found Malaysian secondary students flexible and hence more effective learners.

Research on social behaviors such as learning, particularly cross-cultural learning behaviors, are often more complex and involve multi-faceted factors. Hence, investigations which include moderating variables reveal that mediating factors can contribute to learning approaches. In the current study, the duration of work experience was found to have significant positive effect on deep approaches to learning for Chinese learners but not for Malay learners. This suggests that with extensive work experience, a Chinese learner is more likely to integrate these experiences into approaches to learning to enhance deep learning. The affirmative influence of work experience supports the findings of other studies where studies have shown that work and travel experience have positive impact on deep approaches to learning (Zeegers, 2001; Zhang, 2000). The adult learning literature widely acknowledges the positive influence of life experience including work experience on learning in particular. These experiences are considered significant schemas for elaborating learning and critical problem-solving ability (Merriam & Caffarella, 1999)—an essential issue in adult learners' Presage Factors. The 'richness' in the Presage Factors of adult learners appear to make them a distinctive group of learners. However, such a phenomenon is less evident for Malay learners where there is less influence of that work experience on their deep approaches to learning.

Perhaps the lesser appreciation of synthesizing work experience in learning can be explained by the strong effect of time on learning for Malay adult learners. The current study found that the more time spent on studying, the more likely Malay adult learners would be to adopt deep approaches to learning. Such a finding may have significant implications as it implies that Malay adult learners view 'time factor' as a significant aspect in engaging in deep approaches. Perhaps the Malay adult learners value the longer time spent on learning by slowly building up knowledge to appreciate deep approaches. However, that is not the case for Chinese adult learners where the duration of time spent on studying has no significant effect on Deep Approaches.

Taking into account the 'work experience' findings, it can be strongly implied that it is the synthesis of knowledge with work experiences which have a significant positive effect on Deep Approaches for Chinese adult learners rather than the duration of time spent on studying. For Malay adult learners, the length of time spent is more likely to make a significant difference on deep approaches to learning.

The following sections further elaborate distinctive differences of approaches to learning of the two groups by considering the different approaches.

Career Motives/Achieve Motives

In earlier studies, Biggs (1987a) used 'Achieving Approach' as a third approach but later argued that it could be factored into the Deep and Surface Approaches thus making this approach redundant (Biggs et al., 2001). However, the current study found Career Motives/Achieve Motives pertinent for the investigation of Asian adult learners. Though not well documented in many adults' learning approaches studies, the 'pragmatic perspective' of adult learners, in particular of Asian adult learners, seems congruent with the literature which argues that Asians appreciate realistic and practical values more than their Western counterparts (Wink, Gao, Jones, & Chao, 1997).

The concern for achieving good grades in order to secure a good job in the short or long term is also evident in studies by Cheng (2001) and McInerney (2004). Cheng for instance conducted a study on Hong Kong adult learners studying the Master of Business Administration (MBA) course, and maintained that there is a need to provide both extrinsic and intrinsic rewards to these part-time Hong Kong adult learners for them to effectively apply newly acquired knowledge and skills in their job. He argued that the effectiveness of the course is evaluated by the realistic transferability of the MBA knowledge and skills to workplace. Furthermore, while discussing the value of future goals, McInerney (2004) argued that there is a strong link between career motives and achievement motives, and stressed that there is no contradiction in having a future career orientation for performing a current task and being intrinsically motivated. Findings of this kind are critical to the investigation of adult learners, in particular when the 'pragmatic' Asian adult learners are involved. Very often, not only are these Asian adult learners more likely to adopt deep learning or motives (Biggs, 1987a; Zeegers, 2001), but also their pragmatic future career goals and achievement motives are of paramount importance in motivating them to learn. The findings of current study support the pragmatic approach.

Although both Malay and Chinese adult learners consider the pragmatic Career and Achieve motives important when engaging with professional development, the higher appreciation of CM/AM by Malay adult learners need to be analyzed in conjunction with the finding that they are more face conscious than the Chinese adult learners (Tan, 2006). Support for this view is evident in a study by Ng (2001) which stressed that the more face conscious the learners are, the more likely they are to be concerned with acceptance by social networks and others and thus have an extrinsic view of the purpose of education. Such learners see learning as a means to an end rather than a lifelong process. Thus, the face conscious Malay adult learners may be more likely to be focusing on short term and immediate career motives rather than the intrinsic view of life long learning.

The external pressures to achieve could be related to the Malaysian government's educational policies (New Economic Policy since 1971) (Department of Statistics Malaysia, 2000, July 7) to bridge the differential academic achievements of the different cultural groups. This policy has been carried out with the aim of improving the economic status of the Malay and to push for new Malay entrepreneurs (Hussin, 1997). Such aggressive and culturally sensitive policies unintentionally could form a powerful external pressure to influence Malay adult learners to perceive career and achievement factors as the main motivational force. The pressure of competition felt by the Malay adult learners is reflected in Westwood and

Everett's (1995) study comparing Malaysian managerial values. They found that Malay managers rated the value 'Ambition' higher than their Chinese and Indian counterparts but ranked 'Achievement' less important than their Chinese and Indian counterparts. The authors argued that the apparent paradox may be related to the strong social and political pressure on Malay to compete with members of other cultural groups. Hence, it is not unusual to find Malay adult learners more concerned with career and achieve motives than their Chinese counterparts in the current study.

Understand and Memorizing Approach

Whilst most conventional approaches to learning studies did not consider the pretext of cultural variation for the memorization construct (see Kember et al., 1999), the findings of the current study concurs with previous finding that memorization per se is not bad. It is what and how the content is memorized that are critical and different stages in memorization have been proposed (Dahlin & Watkins, 2000; Kember, 1996). The Asian approach to learning is 'understand and memorize' for meaning and may not always be rote learning and this approach can lead to deep understanding. Congruent with the literature on memorization and understanding (Dahlin & Watkins, 2000; Kember, 1996), study by Tan (2006) also revealed that memorization can lead to both deep and surface learning for both Malay and Chinese adult learners. Interestingly, her data found that the adoption of a memorizing approach by Malay learners is more likely to lead to surface approaches compared to their Chinese counterparts. The current study revealed that U&M as the most frequently used approach by Chinese and third most used approach by the Malay adult learners in this study. Also, earlier discussion points out that the Chinese adult learners who tended to understand the meaning of the learning content are more likely to adopt U&M approach compared to their Malay counterpart. Those who are less keen to understand the meaning are less unlikely to adopt U&M approach. Building on this argument, there is a strong hint that when a reproductive Malay learner memorizes, he or she appears to be more likely to adopt rote memorization, which is more probable to lead to surface learning. These learners perhaps progress slowly to the 'understand and memorization' stage, like what is proposed in the literature.

Findings such as this for Malaysian adult learners perhaps challenge the traditional cross-cultural studies on learning which often impose etic learning concepts on Asian learning research (Bempechat & Elliott, 2002; Li, 2002). Echoing the significance of considering cultural issues when investigating learners from different cultures are Biggs and Watkins (1996) and Pillay (2000) who found Asian learners to be flexible and strategic learners who would adopt multiple skills which could include memorizing skills to survive in a rather competitive learning environment. While the above studies focused on adolescents, it may be plausible to suggest that despite their age, Asian adult learners generally may be more likely to adopt a culturally familiar approach such as the "Understand and Memorization" approach to enhance learning.

One possible explanation for memorizing being a significant approach of Chinese adult learners is that the Understand and Memorizing approach has been a deeply rooted strategy practiced by Chinese learners because of their Confucian background. Firstly, memorization is an internalized and ingrained strategy for many Chinese learners with Confucian heritage as shown in the Dahlin and Watkins (2000) study. They found that Hong Kong students who were socialized to internalize memorizing skills and content from an early age would transfer these skills and content to a later stage of learning. A parallel effect may be happening amongst Chinese adult learners in Malaysia, particularly those who have had experienced the

Chinese educational system⁶. Considering 1) the current demographic data which reveal that Chinese is the main language spoken by the Chinese adult learners, and 2) other research findings which suggest the significant influence of culture on language and communication (Deborah & Debra, 2004; Weiss & Van, 2003), it may be reasonable to consider Malaysian Chinese adult learners to still hold strong to Chinese values and even prefer to adopt culturally familiar learning approaches. In this respects, the ‘Chinese educated’ Malaysian Chinese would have a stronger inclination to memorize to understand; as one of the effective means of learning the Chinese language characters is to practice repeatedly and memorize the four-character Chinese idioms. Past studies which did not consider the memorizing approach when inaccurately found adult learners to have failing long term and working memory have been criticized for being biased (Merriam & Caffarella, 1999). However, the current study which included the ‘emic’ interpretation of the memorizing approach found memorization for understanding to be a significant learning approach, particularly for the Chinese adult learners.

More insights about the learning behaviors of the two groups were revealed when investigating the memorization approach in relation to the moderating variable ‘courses’ which were undertaken by both cultural groups. It was found that the U&M approach was popular for Chinese adult learners who undertook all levels of courses, including adult learners who undertook a PhD. Hence, whilst both cultural groups adopted U&M approach, it could be a general deep rooted, familiar and favorable approach for many Chinese adult learners. Whereas for the Malay adult learners, the U&M approach was mostly adopted by learners who undertook continuous development program.

Conclusion

The current study found that compared to their Chinese counterparts, Malay adult learners are more likely to be influenced by external motives (career and achieve motives). There is also less likelihood for Malay adult learners who are meaning orientated learners to engage with a Deep Approach, Career and Achieve Motives, and an Understanding and Memorizing approach. They are more likely to adopt deep approaches when they spend more hours studying but less likely to integrate and capitalize on work experiences to enhance deep learning. On the other hand, Chinese adult learners are more likely to adopt memorizing approaches to enhance understanding. The Chinese learners who are meaning orientated are more likely to take on a Deep Approach, an Understand and Memorizing approach, and Career and Achieve Motives. They are also more likely to synthesize work experiences to acquire deep and new knowledge.

At ‘The Future of Work’ conference in Sydney, Buchanan (2001, April) called for rethinking of the cognitive abilities of future workers. Consequently, acquiring suitable *cognitive approaches* to learn appear to be just as important as acquiring of skills for Malaysian knowledge workers to facilitate the process of achieving Malaysia’s *Vision 2020*. Due to the complexity of adult learning, the literature search found a gap in the current literature for the investigation adult learning in a non-Western context. The results of this study provide evidence that adaptations of instruments with consideration of cultural issues are important in providing insightful data. Analysis of R-SPQ-2FM indicate that there are both ‘etic’ and ‘emic’ characteristics, unlike some of the cross-cultural studies which produce

⁶ “Chinese educational system” refers to schools where the medium of instruction is the Chinese language.

inconsistent findings as a result of imposed 'etic' instrument (Bempechat & Drago-Severson, 1999).

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