

A STUDY ON THE LEARNING APPROACH OF THE MALAYSIAN ADULT STUDENTS

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ABSTRACT

The purpose of this study is to identify the learning approach of the Malaysian adult students towards their continuing education. The findings of this study indicate that the adult students tend to adopt deep learning approach in their learning process. Test of significant differences reveals that there were no significant group differences in the mean scores of deep learning approach among gender, age group and years of work experience of the respondents. The use of flexible learning and problem-based learning methods were suggested in this study to provide more opportunities to the students to interact with the lecturers on the course material in a more practical and analytical manner. The combination of both flexible learning and problem-based learning method may encourage deep learning approach and most importantly able to transform those adopting surface learning approach to deep learning orientation. In addition, this study also provides recommendation to the higher education institutions to design their teaching and assessment method in such a way that they should not over-emphasized on formal assessment and authority centered. This is to ascertain that adult students' creativity, autonomy and self-initiative will not be discouraged in their learning process. For future research, this study offers validated measures of learning approach that can be used by future researchers in the similar research setting in Malaysia.

Keywords: *Learning approach, adult students, continuing education, deep learning approach, surface learning approach.*

1 INTRODUCTION

Continuing education and professional courses in Malaysia are specially designed for working adults to acquire new skills and knowledge without interrupting their career. This is to cater for the needs of specific skills and competencies required by the industries, public and private agencies from time to time. The Executive programs or professional courses offered by higher education institutions aim at providing lifelong learning and wide range of continuing education for adult students to learn new skills and knowledge specifically to excel in their careers. For examples, Executive Diploma programs and Executive development short courses that cover all aspects of managing an organization and prepare the participants to face the ever-changing market demands. This is in line with the objective of the National Higher Education Strategic Plan (NHESP) 2007-2020 that addresses the enculturation of lifelong learning. The NHESP is aiming at developing first class human capital through higher education institutions to enrich the learners' knowledge.

Thus, higher education institutions and universities play an important role in the development of human capital by enabling learning, reflecting and engaging citizens (Ehlers & Schneckenberg, 2010). In order to achieve the targets set by NHESP, higher education institutions have since started to provide opportunities to working adults to engage in technical and management courses such as engineering management, manufacturing management and professional supervisory management. These courses intend to prepare them to become more versatile and adaptable to various working environments. The courses were conducted in different modes of study such as distance learning, e-learning or part time study. However, in the process of promoting lifelong learning and continuing education, learning approach is important in achieving positive learning outcomes. This is owing to the fact that learning approach indicates the way a learner learns and later become an influential factor in determining the success of his or her professional development engagement (Zeegers, 2001).

2 LEARNING APPROACH

The concept of learning approach has been used in educational psychology to identify students' attributes in learning. According to Duff (2000), learning approach indicates how individuals respond to the learning environment with affective, cognitive and psychological factors. Learning approach is also associated with how students formulate strategies to solve their academic problems defined by their motives (Biggs, 1991). This is concurred by Biggs (1991) that the combination of strategy and motive is referred to as learning approach. The introduction of learning approach has started since 1976 by Marton and Saljo. Learning approach is regarded by many educators as the fundamental differences students used to engage in learning processes (Biggs, 1987). Marton and Saljo (1976) presented the concept of learning approach in the form of educational research where it is used to understand student's learning and their learning outcomes (Duff, Boyle & Dunleavy, 2002). The concept

by Marton and Saljo (1976) indicates that the student's motivation and strategies they use are related to their learning (Zhang & Stenberg, 2000). Generally, there are two types of learning approach identified by Marton and Saljo (1976). They are deep learning approach and surface learning approach which were later studied and revalidated by Biggs, Kembar and Leung (2001).

2.1 Deep Learning Approach

Deep learning approach is associated with the intention of understanding the subjects well, deep analysis of the content and construct the meaning of the study materials to be learned. For example, students treated the study materials as a structure of meaning; try to understand the content critically and look for its implications and underlying concerns. Therefore, students who adopt deep learning approach tend to relate new facts to their previous knowledge and link them to known concepts and principles. Further, they try to look into the logic of arguments and find evidence to support their conclusions. In the past, deep learning approach was treated by many researchers as powerful means of creating higher quality learning outcomes (Gijbels, Dochy, Van den Bossche & Segers, 2005; Zeegers, 2001).

This is because deep learning approach develops characteristics of linking course content to real life, incorporate new ideas and focusing on principles to solve problems. According to Biggs (1991), deep approach satisfies curiosity of the students when they personally involve in the task and relate it to their experience and other interesting items. The students will focus on the underlying meaning and seek understandings from the wider body of knowledge. Thus, individuals who adopt deep learning approach demonstrate intrinsic desire to learn (Entwistle, 1988). They contribute positively to their personal and professional development (Zeegers, 2001). According to Felder and Brent (2005), students should adopt a deep approach to the subjects that are important for their individual and professional development. In addition, deep learning approach is associated with the perceptions of students that teaching is good and goals are clear (Prosser, 2004).

2.2 Surface Learning Approach

Surface learning approach implies that students learn by relying on rote learning. They concentrate on memorizing contents of the teaching materials and accept the facts given without questioning. They are not able to distinguish the underlying principles and accept everything in the teaching materials (Felder & Brent, 2005). Their intention of study is merely to pass the examination. They re-produce the same contents and regurgitate whatever they memorized in the examination. Students with surface learning approach treat the university as a place to obtain certificates so that they are able to get desirable jobs, promotions and better remuneration. They prone to accept ideas passively, demonstrate an

extrinsic motivation to learn and focusing on other areas instead of understanding concepts and principles (Felder & Brent, 2005).

Whilst primary and secondary students may apply surface learning approach to answer questions at their level, adult students should use deep learning approach to analyze, synthesize and evaluate information at the broader sense of knowledge acquisition. Adult students were regarded as matured individual with practical experience and who has sufficient exposure in the workplace. If adult students adopt surface learning approach in every course they enroll in the universities, it may not help them in achieving the goal of lifelong learning. It will be just another situation where they aim to pass the examination, obtain certificates and leave the place of study as soon as possible. Hence, based on the above discussion, this study intends to identify the learning approach of the Malaysian adult students to better understand their disposition and perception of learning.

3 METHODOLOGY

The sample of this study consisted of adult students who enrolled in the Executive Diploma programs in one of the public universities in Malaysia. There were a total of 45 students in the class (18 males, 27 females, age range from 18 to 55 years old). The researcher used administered on-site method by Miller, Kets de Vries and Toulouse (1982) for data collection. Respondents were required to indicate their level of agreement on a Likert scale ranging from 1 (*Never*) to 5 (*Always*) with regard to their approach to learning. Items deployed in the questionnaire were adapted from Biggs, Kember and Leung's (2001) revised two-factor Study Process Questionnaire (R-SPQ-2F). The questionnaire consists of 20 items which comprised two different learning approaches: deep learning approach (10 items) and surface learning approach (10 items). The R-SPQ-2F questionnaire has been tested by Biggs, Kember and Leung (2001) with a sample of 495 undergraduates in one of the universities in Hong Kong. The test results indicate a good reliability coefficient ($\alpha > 0.6$) and an excellent goodness of fit.

4 RESULTS AND DISCUSSIONS

4.1 Profile of Respondents

Table 1 shows the profile of the respondents in this study. Referring to Table 1, it was found that 27 (60%) of the respondents were females and the remaining 18 (40%) were males. Thus, female adults were perceived to have higher interest than males in pursuing continuing education. Majority of the respondents were in the age of 26-35 (18, 40%) and 36-45 (17, 37.8%). Only few of them were in the age of 18-25 (9, 20%) and 46-55 (1, 2.2%). In terms of years of working experience, most of the respondents have worked for more than 10 years (27, 60%), followed by 6-10 years (10, 22.2%), 3-5 years (8, 17.8%) and none of them has

worked for 1-2 years. During the survey, the researcher found that most of the respondents have sufficient working experience but lack of professional qualifications. Therefore, it is essential for them to enrol in the professional courses in order to upgrade and qualify themselves to become professionals.

Table 1: Profile of Respondents

Item	Description	Frequency	Percentage (%)
Gender	Male	18	40.0
	Female	27	60.0
	Total	45	100.0
Age	18-25	9	20.0
	26-35	18	40.0
	36-45	17	37.8
	46-55	1	2.2
	Total	45	100.0
Years of Experience	1-2	0	0
	3-5	8	17.8
	6-10	10	22.2
	>10	27	60.0
	Total	45	100.0

4.2 Factor Analysis

Although the revised two-factor Study Process Questionnaire (R-SPQ-2F) has been validated and tested by Biggs, Kember and Leung (2001), it is necessary to re-examine its validity and reliability because the research is conducted in the Malaysian context where it has different cultural perspectives from the previous research. This is to reasonably ascertain that the items in the questionnaire are measuring the concept the researcher intends to measure. SPSS Statistics was used to conduct factor analysis in this study. Table 2 depicts the results of the factor analysis. The results indicate that the value of Kaiser-Meyer-Olkin for Measuring of Sampling Adequacy (KMO/MSA) was 0.732. It has exceeded the minimum value of 0.7 for a good factor analysis (Hutcheson & Sofroniou, 1999).

The Bartlett's test of sphericity was found statistically significant at $p < 0.001$ and supported the factorability of the correlation matrix. Principal component analysis revealed that there were 2 factors with 6 items and 4 items of strong loadings. Factor 1 was labeled as deep learning approach (6 items) and factor 2 was named as surface learning approach (4 items). Few items of the revised two-factor Study Process Questionnaire scale were discarded due to cross loadings. Based on the factor analysis results in Table 2, deep learning approach and surface learning approach contributed 34.335% and 22.599% of the common variance respectively with Eigenvalues of 3.434 and 2.260. The two factors cumulatively captured 56.935% of the variance. The factor loading values of the scale were in the range of 0.588 to 0.812.

Table 2: Factor Analysis and Reliability Test for Revised Two-Factor Study Process Questionnaire

Items	Description	Factor Loading	
		1	2
DA1	I find that at times studying gives me a feeling of deep personal satisfaction.	0.734	
DA2	I find that I have to do enough work on a topic so that I can form my own conclusions before I am satisfied.	0.812	
DA3	I feel that virtually any topic can be highly interesting once I get into it.	0.664	
DA4	I find most new topics interesting and often spend extra time trying to obtain more information about them.	0.824	
DA8	I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes.	0.596	
DA10	I make point of looking at most of the suggested readings that go with the lecturers.	0.588	
SA1	My aim is to pass the course while doing as little as possible.		0.633
SA3	I do not find my course very interesting so I keep my work to the minimum.		0.810
SA7	I find it is not helpful to study topics in depth. It confuses and wastes time, when all you need is just a pass in the exam.		0.701

Table 2: Continued

Items	Description	Factor Loading	
		1	2
SA9	I see no point in learning material which is not likely to be in the examination.		0.722
	KMO/MSA	0.732	
	Bartlett's Test of Sphericity (Sig.)	0.000	
	Eigenvalue	3.434	2.260
	Percentage of Common Variance (%)	34.335	22.599
	Cumulative Percentage (%)	34.335	56.935
	Reliability Coefficient (Cronbach's Alpha)	0.793	0.687

4.3 Reliability Test

The reliability test results were indicated in Table 2. The reliability coefficient (Cronbach's Alpha) for factor 1 (deep learning approach) and factor 2 (surface learning approach) was 0.793 and 0.687. Since the reliability coefficient of deep learning approach has surpassed the minimum value of 0.7 (Nunnally, 1978; DeVellis, 2003) and the reliability coefficient of surface learning approach was marginally near to 0.7, the measures were deemed reliable and consistent throughout the study.

4.4 Descriptive Analysis

Mean and standard deviation were used as descriptive statistics to analyze the level of responses from the respondents in accordance with the study process questionnaire. The mean and standard deviation of the validated measures of learning approach were tabulated in Table 3. As indicated in Table 3, the mean of deep learning approach (M=3.2593, SD=0.6757) is higher than surface learning approach (M=2.7389, SD=0.7869). The values of standard deviation for both variables were small and they indicate that the data tabulated were not far from the mean and the sample was homogeneous. The higher mean of deep approach (M = 3.2593, SD = 0.6757) denotes that the adult students tend to adopt deep learning approach in their learning process.

It can be explained that they seek to understand the course material thoroughly by interacting with the lecturers and their peers. They tend to relate the ideas they learnt to their experience and existing knowledge. In addition, they always attempt to examine the logic of an argument in their learning process (Enwistle & Ramsden, 1983; Beattie, Collins & McInnes, 1997).

According to Felder and Brent (2005), students who adopt deep learning approach use intrinsic motivation to learn with their intellectual curiosity. They have the desire to relate knowledge with personal experiences to form personal development (Entwistle and Ramsden, 1983). Deep learning approach shall result in high quality learning outcomes that are important for their professional achievement (Felder & Brent, 2005). On the other hand, the lower mean of surface learning approach (M = 2.7389, SD = 0.7869) indicates that the students disagree with surface learning approach and tend to refrain from using surface learning strategies in their learning process. A study of Biggs *et al.* (2001) claimed that surface learning approach is inappropriate in the process of learning as it did not reflect the student's learning experience. It is in fact a rote learning approach that focuses on memorization and avoids personal understanding (Tiwari *et al.*, 2006).

Table 3: Descriptive Statistics of the Study Variables

Factors	N	Mean	SD
Deep Approach (DA)	45	3.2593	0.6757
Surface Approach (SA)	45	2.7389	0.7869

Table 4 depicts the mean and standard deviation for each validated item of the deep learning approach scale. It was found that the mean values for most of the items were above 3.00 except DA8 (M = 2.80, SD = 1.179) where it reflects lesser agreement of the respondents in responding the question of "I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes". The highest mean value was obtained in item DA1 (M = 3.64, SD = 0.933) where it can be explained that the students find deep personal satisfaction at times of studying. Their personal satisfaction may come from their intrinsic motivation and intrinsic desire to learn. Other items of deep learning approach such as DA2 (M = 3.44, SD = 0.725), DA3 (M = 3.22, SD = 0.876), DA4 (M = 3.31, SD = 1.062) and DA10 (M = 3.13, SD = 0.944) were rated above 3.00. It shows that the adult students' disposition of learning was in line with deep learning approach.

Table 4: Mean and Standard Deviation for Deep Learning Approach

Item	Description	Mean	SD
DA1	I find that at times studying gives me a feeling of deep personal satisfaction.	3.64	0.933
DA2	I find that I have to do enough work on a topic so that I can form my own conclusions before I am satisfied.	3.44	0.725
DA3	I feel that virtually any topic can be highly interesting once I get into it.	3.22	0.876
DA4	I find most new topics interesting and often spend extra time trying to obtain more information about them.	3.31	1.062
DA8	I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes.	2.80	1.179
DA10	I make point of looking at most of the suggested readings that go with the lecturers.	3.13	0.944

Table 5 indicates the mean and standard deviation for each item of the surface learning approach scale. All items' mean were rated below 3.00 and therefore it is apparent that the respondents disagreed with the practice of surface learning approach. Items SA3 (M = 2.64, SD = 0.883) "I do not find my course very interesting so I keep my work to the minimum" was rated the lowest among other items such as SA1 (M=2.98, SD = 1.252), SA7 (M = 2.67, SD = 1.206) and SA9 (M = 2.67, SD = 1.000). Generally, it indicates that the adult students' disposition of learning was against surface learning approach that emphasized on rote learning.

Table 5: Mean and Standard Deviation for Surface Learning Approach

Item	Description	Mean	SD
SA1	My aim is to pass the course while doing as little as possible.	2.98	1.252
SA3	I do not find my course very interesting so I keep my work to the minimum.	2.64	0.883
SA7	I find it is not helpful to study topics in depth. It confuses and wastes time, when all you need is just a pass in the exam.	2.67	1.206
SA9	I see no point in learning material which is not likely to be in the examination.	2.67	1.000

4.5 Test of Significant Differences

The descriptive statistics show that the respondents preferred deep learning approach to surface learning approach. Thus, the researcher intends to examine if there are any significant group differences in the mean scores of deep learning approach among gender, age group and years of working experience of the respondents. Independent *t*-Test and One-Way ANOVA were selected for the test of significant differences. Table 6 indicates that there were no significant differences between male ($M = 3.47$, $SD = 0.622$) and female ($M = 3.12$, $SD = 0.684$) in the mean scores of deep learning approach. The *t* value was not statistically significant at the 0.05 level with $t(43) = -1.738$, $p = 0.084$. As for the age group and years of work experience, one-way ANOVA was employed to determine whether the mean scores of deep learning approach in the sample groups (i.e. age group and years of working experience) are significantly different.

Table 6: *t*-Test for Gender and Deep Learning Approach

Gender	N	Mean	Std. Dev	Levene's Test		<i>t</i> -Test	
				F	Sig.	<i>t</i>	Sig.
Male	18	3.47	0.622	0.108	0.744	-1.768	0.084
Female	27	3.12	0.684				

Table 7 depicts the results of one-way ANOVA for the age group (i.e. 18-25, 26-35, 36-45 & 46-55) and deep learning approach. The result of analysis was not significant at the 0.05 level with $F(15, 29) = 1.232, p = 0.305$. Therefore, there were no significant differences in the mean scores of deep learning approach among the respondent groups classified by their age. On the other hand, the results of one-way ANOVA for years of experience (i.e. 1-2, 3-5, 6-10 & >10) and deep learning approach were tabulated in Table 8. The F statistic, $F(15,29) = 0.718, p = 0.748$ was found not statistically significant at the 0.05 level. Therefore, it is apparent that there were no significant group differences in the mean scores of deep learning approach among gender, age group and years of working experience. In this study, the respondents were mainly drawn from the manufacturing industry with various levels and responsibilities.

Table 7: One-Way ANOVA for Age Group and Deep Learning Approach

Age Group	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.811	15	0.721	1.232	0.305
Within Groups	16.967	29	0.585		
Total	27.778	44			

Table 8: One-Way ANOVA for Years of Work Experience and Deep Learning Approach

Work Experience	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.303	15	0.487	0.718	0.748
Within Groups	19.675	29	0.678		
Total	26.978	44			

5 RESEARCH IMPLICATIONS

The purpose of this study is to identify the learning approach of the Malaysian adult students towards their continuing education. The findings of this study may provide recommendation the higher institutions to design their teaching and assessment methods so that they were not authority centered. According to Lizzio, Wilson and Simons (2002), inappropriate assessment caused students to adopt surface learning approach. The study of Lizzio *et al.* (2002) stated that student's perceptions of the appropriateness of assessment and quality of

the teaching are the strongest predictors of deep learning approach. Therefore, a good teaching and learning method should be applied in continuing education to produce positive learning outcomes and most importantly to transform those adopting surface learning approach to deep learning orientation. A deep approach guides students derive enjoyment from learning, apply the acquired knowledge in their workplace and try to relate the learning task to personal experiences beyond their study context (Tiwari *et al.*, 2006; Felder & Brent, 2005).

In order to provide an excellent learning environment, it is suggested that student's creativity, autonomy and self-initiative should not be discouraged. Interactive and innovative learning methods such as flexible learning (Wade, 1994) and problem-based learning (Barrows & Tamblyn, 1980) are recommended to use in the classroom. The combination of both flexible learning and problem-based learning methods may encourage deep learning approach. Flexible learning is commonly referred to as open learning. The open concept provides various choices of learning methods such as distance and contiguous modes. Wade (1994) stated that flexible learning will provide opportunity to the students to engage in learning activities that meet their own needs and at the same time taking greater responsibilities for their learning outcomes. On the other hand, problem-based learning emphasizes on the understanding and resolution of real-life problems in a real context (Barrows & Tamblyn, 1980).

According to Kwan (2000), those who practice problem-based learning believed that learning is most effective when students learn in the context that knowledge is to be used. This learning method is different from conventional lecture and classroom approach where students learn new knowledge only to apply in solving problems during the examination. In the problem-based learning approach, students will be presented with a scenario or situation where they were asked to solve problems in the situation. They start to learn when they try to solve the real-life problems by analyzing them, gathering information and providing possible solutions (Barrows & Tamblyn, 1980). This learning method is akin to action learning that generates interest and dynamic interactions in problem solving where it will lead to deep learning approach. In a study by Kwan (2000) explained that students learn whatever relevant to their learning objectives and it will be most effective when using scenarios of real situation that trigger the learning process.

Hence, whilst higher education institutions are actively offering the opportunity to the adult learners to further their education, it is important that higher education institutions should not over-emphasize on formal assessment and authority-centered. Since the adult students were matured and experienced, they should be given the opportunity to use their creativity, ideas and experiences to interact with their lecturers practically and analytically. By using this approach, it is believed that they will be more attentive and motivated to learn in the classroom.

6 CONCLUSION

In the process of creating knowledge-based economy, knowledge acquisition should be conducted in a more realistic, innovative and interactive manner so that adult students will become more independent, creative and dynamic in the near future. If higher education institutions emphasize on teaching and learning orientation that consistent with deep learning approach, it will certainly enhance the adult students' learning ability towards achieving the objectives of the National Higher Education Strategic Plan (NHESP) which addresses the enculturation of lifelong learning and development of first class human capital.

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