STUDENTS' PERCEPTION ON INDEPENDENT LEARNING AND POSSIBLE IMPACT ON THE STUDENTS' PERFORMANCE AT PRE – UNIVERSITY

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Abstract - Independent learning is always refers as 'student centred learning' that has been one of the major approach explored by many universities as a means of improving educational outcomes. Independent learning is also one of the essential elements of 'personalised learning' and as vital tool that promotes high quality and lifelong learning. It is not solely about students working alone to complete their task but educators is also playing an important role by designing classroom activities to support independent learning. This teaching and learning style benefited students in many ways such as take responsibility for their own learning, understanding of their learning, being motivated to learn and collaborating with teachers to structure their learning environment. This study examines on how students perceive independent learning concept and its possible impact on the students' performance at the Pre-University level. A questionnaire survey was carried out on 100 Foundation Year students aged 17 to 20 years old. The results of the analysis have revealed that majority, 85.7% of the Foundation students have positive perception on independent learning concept. By using SPSS analysis, the study confirmed that the independent learning had significant impact on students' academic performance. The surveyed questionnaires were also further analysed with factor analysis method to obtain required information. The findings revealed that, respondents agreed that the 6 independent learning attributes has yields with alpha coefficients ranged from 0.887 to 0.926 with 33 variables being measured. Among the important factors that contribute towards students' independent learning perception are coping strategies, non-book and internet, books, study skills, monitoring their learning and self-management. Majority students agreed that the students' performance at Pre – University is positively contributed based on their independent learning skill and practice. Thus, this study provides a valuable insight to recommend some avenue for future study in understanding the overall student perception and performance subject to independent learning and practice.

Keywords - Independent learning, Perception, Performance Impact, Pre-University.

I. INTRODUCTION

One important skill that should be developed at tertiary education level is to be able to learn independently. This skill is not only useful during students' life in university but also useful when the students enter the workforce. Employers would prefer to employ those graduates who are able to work independently with minimum supervision.

In order to train students to work independently, the educators believe that the curriculum must be designed in such a way that will develop and improve this skill. This research is designed to analyse students' perceptions onindependent learning concept and its possible impact on the students' academic achievement or performance at the Pre-University level.

Moore (1973) stressed that learning autonomy is one important component in independent learning, which is defined as the motivation and capability to control learning, to face challenges, to face and complete challenging learning process.Baird (1988) states that an independent learner should take charge of their own learning and provided autonomy. The independent learner will then be able to plan, manage and assess his own learning and therefore performs more efficiently.

Zutchi et al (2011) have identified the following skills that independent learners should possess:

1. Self-management skills, especially time-management skills
2. Critical thinking, including being aware of the underlying suppositions of one's thoughts and beliefs
3. Creative thinking, to identify worthwhile goals and methods of achieving them

They have stressed that these are the skills that should be improved in the teaching practice.

Zutchi et al (2011) have listed the following pedagogical elements which are important for supporting the development of these skills:

1. Giving students increased autonomy over the conversation about their learning and its execution including control of both content and process such as topics and sequence
2. Frequent customised feedback on student work, allowing changes prior to final assessment
3. A creative element allowing individualised engagement with the material being learned
4. Social learning, not just individual learning

There are various researches that looked at learner autonomy. Reinders (2010) have proposed a framework of skills that could be used by educators to increase learner autonomy. He has also stressed the educator's role in exposing students to the importance

of learning outside of classroom and for them to have the skill to do so. He has divided the approach to fostering autonomy into specialist and general approaches. The specialist approaches was defined as "deliberate programs and support structures that do not form part of regular classroom teaching". This includes learner training, strategy instruction, self-access, advising or counselling and specific tools. The general approach is said to begin from the learner and his action which can be stimulated, demonstrated and observed by the educator. This includes identifying needs, setting goals, planning learning, selecting resources, selective learning strategies, practice, monitoring progress and assessment and revision.

Ebata (2010) mentioned that developing learners' autonomy is essential in generating successful learners. Out of the many elements that develop learners' autonomy, there are three elements that he considers the most important - effective content and teachers, a student-centred cooperative learning environment and meaningful skills teaching. He believes motivation to learn will be higher for autonomous learners.

A research by Stoten (2014) focused on the impact of independent learning on students' attitudes and behaviours for A Level students. The findings reveal that there is still a lot to be done to realize fully the idea of independent learning. Even though a lot of effort has been put in for setting and reviewing targets which was supposed to provide them with a benchmark for judging their own performance and also to motivate them, the result shows that for the statement "I set my own learning goals", the students ranked it at 15th out of 30 statements and only gave a score of 3.14 out of a scale of 1 – 5. He concluded that there is a possibility that the students do not see the link between goal setting and independent learning. Another two statements related to motivation and effort were "I change my effort according to how I feel about the course" and "I tend to work harder if I think I will do well" only gained average scores of 2.66 and 3.18 and ranked at 28th and 18th out of 30 statements. This could be a sign that students so not change their attitude towards learning as some theory have suggested. Stoten (2014) also highlighted a statement "I prefer the teacher telling me what to do" scoring 3.5 and ranked 7th and the statement "I think it is the teacher's role to organise my learning" scoring 3.1 and ranked 9th. He considered the result surprising given the college's effort to promote independent learning over the past few years. He concluded that there was minimal change in the students' attitude towards independent learning. This could be due to the habits learnt at secondary school over a few years and the short period of time spent at college. He concluded that there may be resistance to change, particularly for students that came from a teacher led learning environment.

II. METHOD AND DATA COLLECTION

The study was conducted inone of the Malaysian private university. The data for these analyses include 100 respondents out of a reported 134 total foundation students, yielding a response rate of 75 percent.The sample size comprised of Foundation Year students aged 17 to 20 years old, who were both domestic and international students. Based on the secondary finding, a close-ended questionnaire was adapted from the second edition of "Teaching Today" by Geoffrey Petty Stanley Thornes was developed to generate primary source of data. The questionnaire contained three main sections; students' demographic background, students' Independent Learning Skills and Practice and Self Learning Skills and Self-management. A total of 100 questionnaires were distributed to the foundation students using stratified data sampling prior to foundation student lists of 2 programs (Business & Sciences). Respondents were given 24 questions for Independent Learning Skills and practice factor and 17 questions for self-learning skills and self-managementfactor. The factors are being examine based on a 5 point Likert scale where 1 represented "Can't or don't do", 2 represented "I do this Rarely", 3represented "I do this Sometimes", 4 represented "I do this very Often" and5 represented "I can do this well". During data collection, systematic random sampling approach was used to select the respondents randomly which represent the whole group of population of students that studied Year One Foundation Programmein 2015. The sampling frame was designed to obtain through random interviewed. SPSS was used to analyze the data. The quantitative data analysis focused on descriptive analysis, reliability test and exploratory factor analysis in order to evaluate the students perceive independent learning concept and its possible impact on the students' academic achievement or performance at the Pre-University level

III. RESULTS AND DISCUSSION

3.1. Respondents Demographic and Socioeconomic Characteristics

Most of the respondents are in the age range of 18 to 20 years old (σ= 0.490). Of these, 78% were Foundation in Science students, 22 % were Foundation in BusinessFrom an overall of 100 students being interviewed, the gender distribution of the students was quite uneven, with 61male visitors (61.0%) and 39 (39.0%) females. The data was gathered from two types of students nationality studied in first year foundation programme, domestic students was more dominant (98%) than international visitors (2%). The results show, that most of the

foundation students participated in this survey are locals.

3.2. Perception on independent learning and possible impact on the students' performance at Pre – University based on Students' Independent Learning Skills and Practise

The factor analysis has been carried out on all statements in order to examine the dimensionality, and to ensure that the questionnaire is able to measure the proposed factors adequately. The study by Hair et al (1992) recommends the minimum factor loading of equal or greater than 0.30 is required to determine an item in its respective variable. However, the factor loading of 0.40 is very important but if the value is greater than 0.50 represent the most significant (Hair et al., 2006; Zikmund et al., 2010). However, the final decision about which factors should be remained based on interpretability and consistency ofthese factors with the sound theory (Bandalos and Boehm-Kaufman, 2009)

3.3. Factor Analysis (Independent learning skills and practiceattributes)

Based on the students' perception on independent learning, factor analysis result shownthat all the factors measured have been loaded with favorable as stated in Table 1 below.

Table 1: The Result of Factor Analysis on Students' perception on independent learning and possible impact on the students' performance at Pre – University

Attributes	Factor Loading			
	Factor 1	Factor 2	Factor 3	Factor 4
Independent Learning Skills and Practise				
Coping strategies				
If I can't understand: I try harder	.820			
If I can't understand: I change resources	.758			
I recognize when I am stuck and change strategy	.736			
If I can't find suitable materials I ask a librarian	.703			
I have the courage to ask: a lecturer for help	.663			
If I can't find suitable materials I ask a fellow student	.658			
Non book and Internet				
I can find other non-book sources		.836		
I can find relevant journals		.813		
I have used a journal index		.773		
I print out only vital material		.714		
I search the internet for academic material		.651		
I search the internet for useful sites		.555		
I even read the material I print out!		.552		
Books				
I can find suitable books in the library			.823	
I can find the relevant sections using contents			.722	
I can find the relevant sections using index			.701	
Study skills				
I read in an interrogative way				.804
I skim read				.793
I make notes from my reading				.640
I make notes from my computer searches				.553
Eigenvalue	12.951	1.928	1.404	1.063
% Variance	23.231	19.671	16.405	16.106
Cumulative variance	23.231	42.902	59.307	75.413
Cronbach's alpha	0.926	0.920	0.887	0.905

Notes: Extraction method: Principle component analysis
Rotation method: Varimax with Kaiser Normalization (Rotation converged in 7 iterations)
KMO(Kaiser-Meyer-Olkin measure of sampling adequacy) = .869
Bartlett's test of sphericity: $p = .000$

3.4. Perception on independent learning and possible impact on the students' performance at Pre – University based on Students' Independent Learning Skills and Practice

The principal component methods were used to underline the dimensions of students' perception on independent learning and possible impact on the students' attributes. The factors with eigenvalues greater than or equal to 1.0 and attributes with factor loadings were reported. Table 1above illustrates the results of the factor analysis for this study. The overall significance of the correlation matrix was .000, with a Bartlett test of sphericity value of 5508.067. The Kaiser-Meyer-Olkin overall measure of sampling adequacy was .869. The eigenvalues suggested that all four factors solution explained by 75.41% of the overall variance. In order to test the reliability and internal consistency of each factor used, the Cronbach's alpha of each was determined. The results showed that the alpha coefficients ranged from .887 to .926 for the four factors. The four factors underlying the students' perception on independent learning and possible impact on the students' performance at Pre – University based on independent learning skills and practice were as follows;

Coping strategies (*Factor 1*) contained 6 attributes and explained 23.23% of the variance in the data with an eigenvalue of 12.95. The Cronbach's alpha value of .926, represents high stakes testing. Non book and Internet (*Factor 2*) accounted for 19.67% of the variance, with an eigenvalue of 1.928, and Cronbach's alpha of .920. Book (*Factor 3*) loaded with 3 attributes. This factor accounted for 16.41% of the variance, with an eigenvalue of 1.404, and Cronbach's alpha of .887.

Based on the analysis, non-books and internet (*factor 2*) contained 7 attributes. The factor explained 19.67% of the variance, with an eigenvalue of 1.928, and a cronbach's alpha of .920.Books (*factor 3*) contained 3 attributes. Two attributes from *factor 4* (I speed read and I produce mind map or other summaries) are dropped due to having less than 0.5 of factor loading and only one attribute from factor 1 (If I can't find suitable materials I ask a lecturer) are dropped due to having less than 0.5 of factor loading.

3.5. Factor Analysis (Self learning skills and self-management Attributes)

Based on the students' perception on independent learning, factor analysis result shownthat all the factors measured have been loaded with favorable as stated in Table 2below.

Table 2: The Result of Factor Analysis on Students' perception on independent learning and possible impact on the students' performance at Pre – University

Attributes	Factor Loading	
	Factor 1	Factor 2
SELF LEARNING SKILLS AND SELF MANAGEMENT		
MONITORING MY LEARNING		
I find an attractive and practical place to study	.821	
I make good use of my time	.810	
I choose tasks appropriate to the time bearing in mind tiredness etc	.765	
I apply new learning-to-learn action plans	.677	
I am responsive to the situation	.659	
If prevented from doing task X, then I do task Y instead	.636	
I make use of parallel working (doing X & Y together)	.630	
SELF MANAGEMENT		
I self-test my own recall of important facts		.862
I self-test my understanding		.694
I prepare well for a test		.657
I maintain concentration while studying		.646
I interpret the brief correctly and keep to it		.628
I am learning how to improve my learning		.604
Eigenvalue	10.969	2.007
% Variance	24.721	14.685
Cumulative variance	24.721	58.802
Cronbach's alpha	0.922	0.890

Notes: Extraction method: Principle component analysis
Rotation method: Varimax with Kaiser Normalization (Rotation converged in 7 iterations)
KMO(Kaiser-Meyer-Olkin measure of sampling adequacy) = .821
Bartlett's test of sphericity: $p = .000$

3.6. Perception on independent learning and possible impact on the students' performance at Pre – University based on Students' self-learning skills and self-management

The overall significance of the correlation matrix was .000, with a Bartlett test of sphericity value of 4506.941. The Kaiser-Meyer-Olkin overall measure of sampling adequacy was .821. Table 5 shows the results. The factor analysis yielded two factors with 13 variables. The eigenvalues suggested that all two factors solution was explained by 58.80% of the overall variance. In order to test the reliability and internal consistency of each factor used, the Cronbach's alpha of each was 0.922 and 0.890. The two factors underlying the students' perception on independent learning and possible impact on the students' performance at Pre – University based on self-learning skills and self-management were as follows;

Monitoring my Learning (*factor 1*) contained 7 attributes. the factor explained 16.11% of the variance, with an eigenvalue of 1.063, and a cronbach's alpha of .905.Self-Management (Factor 2) contained 6 attributes. Two attributes from *factor 1* (I complete my task on time and I make effective use of non-lecture time) are dropped due to having less than 0.5 of factor loading.Two attributes from factor 2 (I re-read tasks I am working on often and I think carefully about my learning strategies) are dropped due to having less than 0.5 of factor loading.

CONCLUSION AND RECOMMENDATIONS

There have been numerous and continuous efforts strategized to propel the independent learning practice in education industry especially in Malaysia. Meyer. B. et.al. (2008)found some evidences that independent learning significantly improved academic performance and students ability to manage their academic limitation. Thus, this study provides a valuable insight to recommend some avenue for future study in understanding the overall student perception and performance subject to independent learning and practice.

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