Investigating Students' Perception Towards Economics Education

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ABSTRACT

This paper investigates the perception and attitudes of non-business major students in Universiti Teknologi MARA (UiTM) towards economics education and their relationship on students' academic performance. One of the key performance indicators in the academic programme of the university is to achieve less than twenty percent failures in all subjects offered. A four-semester examination results revealed that students constantly obtained high failure rate in two economics introductory subjects. Using students taking these two economics courses as respondents, dimensions of attitudes towards economics education were identified through the use of an exploratory factor analysis. Four factors were extracted from a 26-item questionnaire identified as 'Value', 'Difficulty', 'Cognitive' and 'Affective'. Cronbach's Alpha for the four factors was acceptable. The findings suggested that there was no significant difference between male and female students on the four dimensions of attitude even though the achievement of female students' was higher than males. Students who did not perform were found to have a more negative attitude on the four dimensions of attitude compared to those who performed. Regression of the final exam scores on the four latent variables obtained from the factor analysis revealed that subject difficulty and gender, taken together, were significantly associated with students' achievement.

Keywords: *attitude, cognitive skills, factor analysis, reliability, multiple regression*

Introduction

Economics is not just for economists as it is relevant to everybody's day-to-day life. It offers choices that have an impact on almost every aspect of our life. It is also important to individuals in making decisions that can maximise their satisfaction; to business organisations in maximising profits; and to governments in providing a high standard of living for their citizens.

Learning economics can be interesting, yet, many students find it difficult to grasp the subject when first introduced to it. Most programmes at Universiti Teknologi MARA (UiTM) main and branch campuses require students to learn economics as part of the faculty's requirement.

There are eight economics papers offered at UiTM Pahang for business and non-business students. Some of them are categorised as core papers and some are not. From April 2006 to October 2007 semesters, two economics papers, namely, ECO120 and ECO108 showed relatively high failure rates as shown in Figure 1. Both subjects are taken by non-business students. Nevertheless, it is compulsory for all students to pass the papers (minimum of C grade) in order to complete their diploma or bachelor programme. There has been no research conducted by UiTM to investigate the critical factors in determining students' achievement in economics subjects.

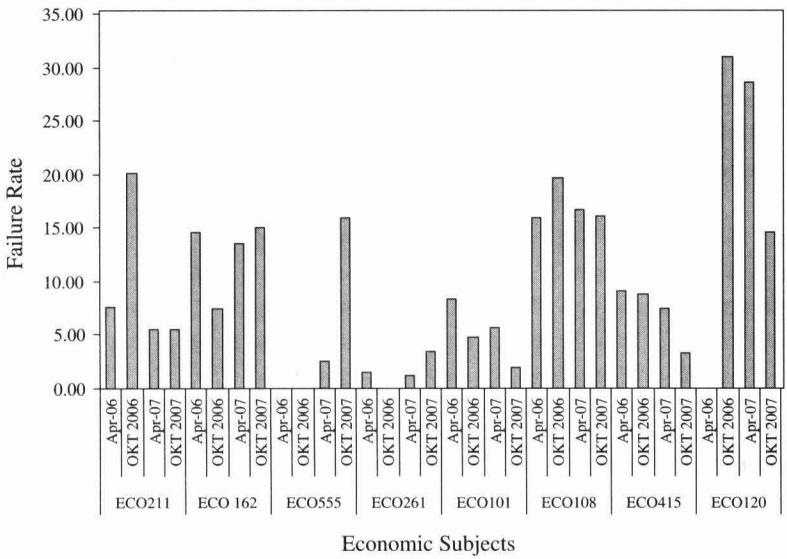

Figure 1: Failure Rate for Eight Economics Subjects in Four Semesters (April 2006-October 2007) at UiTM Pahang

Students enrolling in the economics classes have to learn ten major topics throughout the semester. The syllabus for both courses covers principles of microeconomics and macroeconomics. Table 1 shows the list of major topics covered in the syllabus for both introductory economics subjects.

Table 1: Syllabus Content

Principles of Microeconomics	Principles of Macroeconomics
Chapter 1: Nature of Economics	Chapter 6: National Income Accounting
Chapter 2: Demand and Supply-Introduction	Chapter 7: Money
Chapter 3: Concept of Elasticity	Chapter 8: The Banking System
Chapter 4: Production, Costs and Revenue	Chapter 9: Inflation
Chapter 5: Market Structure	Chapter 10: International Trade

In this study, the researchers aimed to examine the underlying factors contributing to students' attitudes towards economics education and suggest solutions to overcome the high failure rate. It is hoped that this would help achieve one of the quality objectives of the university, that is, to gain less than 20% failures in all subjects offered. Dimensions of attitudes towards economics education that contribute to students' achievements in economics introductory subjects were identified by the use of exploratory factor analysis. In general, the aim of the factor analysis was to summarise the inter-relationships among a set of variables in a concise but conceptually accurate manner (Phipps and Clark, 1993).

Literature Review

Students have to acquire certain conceptual and analytical thinking skills in learning economics since the subject deals with theories, assumptions and calculations. Ziegert (2000) claimed that understanding economics is not only a process of gathering information, but also making sense of the information, building conceptual models and using them to evaluate and analyse different situations and alternatives. According to Johnston, James, Lye and McDonald (2000), to learn economics successfully, students not only need to have ability in both abstract thinking and in application, but they also need to be able to express complex ideas

logically and fluently. They believe that the development of these diverse aspects of thinking is challenging for students and may be the reason why students often view economics as a difficult subject. On the other hand, Mogab and Sellers (2004) and Oliver (2008) view introductory economics courses as one of the most difficult courses because of the three aspects needed in mastering the subject: theories, analysis and application. These three aspects then rely on a basic understanding and prior knowledge of general economics theory which are normally provided at the high school level. They also highlight that it is necessary for students to have four cognitive skills (knowledge, comprehension, application and analysis) to perform well in economics).

Research conducted by Benedict and Hoag (2002) found that more than 38 percent of their samples were anxious about taking economics. Females were found to be more anxious than male students and non-business students were found more anxious compared to business students. They concluded that the main reason for students to be anxious was because of the course reputation (that is, when students using information provided by senior peers to develop anchors about their potential success in economics.

Bachan and Barrow (2004) looked into the role of comparative subject difficulty and student aptitude in influencing the choice between Economics and Business Studies at A-level. The study discovered that if A-level students were given the option to choose between Business Studies or Economics, only students with more ability in terms of their average General Certificate of Secondary Education (GCSE) score and math, were likely to select Economics. In a more recent study, Bachan and Reilly (2005) found that if the sample of Business Studies candidates had studied Economics, almost 40% of those who obtained a grade C or better in the Business subject, would not have done so in Economics. And in contrast, 12% more Economics candidates would have achieved a grade C or better if they had taken Business Studies. These results actually reflect the greater difficulty of Economics as a subject.

There is a lot of research highlighting the importance of math skills and basic economics to be mastered by students in order to do well in economics courses. Ballard and Johnson (2004), for example, administered a very basic mathematical test to college students taking principles of microeconomics and found that the math test scores had a strong and significant effect on performance in the economics course. The result was further confirmed when they found that students who were required to take a remedial math course did significantly worse in the economics

course than did students who were not required to take the remedial math course. The result was consistent with a study conducted by Bachan and Reilly (2003) who found that performance in GSCE mathematics had a strong influence on A-level achievement in Economics.

In order for students to excel in economics, it is also very important for them to have the right attitudes and perceptions toward economics courses. These would help them to learn economics in a more enjoyable manner, and eventually ease the learning process. This was confirmed by Karstensson and Veddar (1974) in their research on students' attitudes. They found a statistically significant and positive relationship between students' pre-course attitude and the course grade in economics when investigating students' interest in the subject and its usefulness to college and post-college work.

In order to obtain insights into the dimensions of attitude towards economics, Phipps and Clark (1993) applied factor analysis to the 28-item Survey on Economic Attitudes (SEA) which was generated by Soper and Walstad in 1983. According to Phipps and Clark (1993), the application of factor analysis was an appropriate method for determining attitude dimensions; as indicated by the results of the analysis. They revealed that there were three dimensions influenced directly to high school students' attitudes toward economics – enjoyment of economics subject, usefulness of economics, and difficulty of economics. Their factor score analysis also indicated that males enjoy economics relatively more than females, but were not significantly different from females regarding perceived difficulty or attitude toward usefulness.

According to Hodgin (1984), attitude towards economics could also be influenced by informational messages about performance in economics. If their senior peers provided positive information on the subject and performed well in economics, it could create positive attitude and perception towards economics and lessen the level of apprehensiveness so that the students can enjoy the lesson more. As a consequence, it looked like the less apprehensive the students, the more they would enjoy the subject, and the greater they would perform in economics. Many researchers (Myatt & Waddel, 1990b; Brasfield et al., 1993; Durden & Ellis, 1995; Anderson, Benjamin and Fuss, 1994) found a positive and significant relationship between exposures to high school economics to students' grades in college principles courses. On the other hand, studies by Ballard and Johnson (2004), Palmer et al. (1979) and Reid (1983) indicated that prior knowledge in economics had a negative or no impact at all on students' performance.

Methodology

The research analysis had two purposes. One was to design an instrument to measure students' perspective towards economics education by using statistical tools of factor and reliability analysis. The study would identify groups of variables (factors or latent variables) that could be measuring aspects of the same underlying dimension in measuring attitudes towards economics. The other was to examine potential differences between groups such as passed-failed students and gender. Thus, the overall design of the study was causal comparative together with correlational elements.

The data used in this study were drawn from a sample of students at UiTM Pahang, Jengka who enrolled in the introductory economics courses (ECO120 and ECO108) during July-November 2007 and December 2007-April 2008 semesters. The sample consisted of 121 students from Diploma in Office Management and Technology and 85 students from Diploma in Wood Industry. The total number of participants in the survey was 206 students.

Based on the literature review, a 26-item questionnaire was constructed to measure students' perceptions on factors that affected their attitudes towards economics education. Participants were asked to rate each item on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items were a mix of positively and negatively worded statements. During data entry, the negative statements were reversed into positive statements. Thus, a higher score indicated a more positive attitude towards the economic subjects. Respondents who answered the questionnaire were requested to provide their students' identification number so that their responses could be traced to their final examination score at the end of the semester.

The second data source was the final examination results provided by lecturers teaching ECO 120 and ECO 108 during July-November 2007 and December-April 2008 semesters. Students' achievement was measured based on their final examination scores. The examination paper comprised three main sections; Section A (multiple-choice questions-20 marks), Section B (structured questions including calculations and concepts-40 marks) and Section C (essays-40 marks).

The data from the questionnaires and the final examination scores were analysed using the Statistical Package for Social Sciences, Version 16.0. Procedures used included factor and reliability analysis, descriptive statistics, independent samples t-test and correlation analysis. The

researchers also used ordinary least squares (OLS) to regress the final exam scores on the factors (latent variables) obtained from the factor analysis.

Factor Analysis

Table 2 lists the 26 items in the questionnaire together with their mean score and standard deviation. The lowest mean score is for Item 17, "I have basic knowledge in economics prior to taking this subject" while the highest mean score is associated with Item 23, "Economics will be utilized in my professional career". The results imply that the students' had a rather positive perception on the usefulness of economics in their future career. They were able to relate the application of economics in their field of study, that is, wood technology and office management. Nevertheless, their main concern was their little or zero knowledge regarding economics before taking up the subject.

Table 2: Means and Standard Deviations of Scores on the Manifest Variables

Item	M	SD
1. Economics subjects are not difficult.	3.07	1.119
2. There are not many graphs to be learnt.	2.83	1.227
3. The graphs help me to understand better.	3.18	0.974
4. There are not many topics to be learnt.	2.39	1.144
5. Easy to understand economic concepts & theory	2.83	0.962
6. Level of English used is appropriate.	3.09	0.968
7. Level of Mathematics used is appropriate.	3.31	1.041
8. I understand economic formulas	3.12	0.949
9. Most students will find economic subjects easy.	2.80	0.879
10. I like economics since it is an easy subject.	2.66	0.995
11. Economic subjects are very interesting and enjoyable	3.05	0.999
12. I am capable of understanding this subject.	3.31	0.847
13. I can pass economics even though there were many cases of failure.	3.39	1.035
14. I feel comfortable with economics subject.	3.24	1.087
15. I adore economics subject.	3.18	0.795
16. I do not feel nervous or frustrated during tests or exams.	2.84	1.107
17. I have basic knowledge in economics prior to taking this subject	2.34	1.353
18. I have a strong mathematical background	3.34	1.134
19. I am good with the English language	3.18	0.960
20. Knowledge about economics from other sources helps my understanding	3.31	1.065
21. Knowledge of economy will help me get suitable job in the future.	3.34	0.843
22. Economics subject is relevant to me.	3.50	0.972
23. Economics will be utilised in my professional career	3.75	0.950
24. Economics will be very useful in my future career.	3.57	1.038
25. Economics will be very useful in my everyday life.	3.59	1.017
26. I will be using economics throughout my life.	3.27	0.813

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.846 which was greater than the recommended minimum of 0.50 by Kaiser (1974). In fact, values between 0.80 and 0.90 were considered 'great' (Hutcheson & Sofroniou, 1999). Bartlett's Test of Sphericity was statistically significant (Chi-Square = 3126.777, df = 325, $p < 0.000$). Thus, the correlation matrix was not an identity matrix. These tests implied that factor analysis was appropriate. The measure of sampling adequacy for individual variables from the Anti-Image Correlation Matrices ranged from 0.692 for item 9 to 0.915 for item 12. All the values were well above the bare minimum level of 0.5.

The principal axis factoring method was used to extract factors. Since there was no theoretical basis that the factors were correlated, an orthogonal rotation using Varimax with Kaiser Normalization was applied on the initial factors. An output called Reproduced Correlations indicated that only 55 (16%) residuals were greater than 0.05. Therefore, the fit of the model was considered good. The Anderson-Rubin method was applied to calculate factor scores so that no multicollinearity existed (that is, the factors were uncorrelated with each other).

Using Kaiser's criterion of retaining factors with eigenvalues greater than one, six interpretable factors were obtained from the analysis. This was compared to the scree plot, a graph of each eigenvalue (Y-axis) against the factor related with (X-axis) as proposed by Cattell (1966). Looking at the point of inflexion of the scree plot, it indicated that the data may have four underlying factors.

The rotated factor matrix which is a matrix of the factor loadings for each variable onto each factor is shown in Table 3. Loadings of less than 0.40 are not shown in the rotated factor matrix since they do not represent substantive values (Steven, 1992). The four interpretable factors accounted for 35.9%, 6.04%, 4.69% and 3.62% of the variance in the data for a total of 50.25% (before rotation) and 15.09%, 13.84%, 12.84% and 8.49%, respectively (after rotation).

Factor 1 is labeled 'Value or usefulness of economics' with loadings from 0.478 to 0.711. It includes items such as "Knowledge of economy will help me get suitable job in the future" (0.711), "Economics will be very useful in my everyday life" (0.705) and "Economics will be utilized in my professional career" (0.656). This factor which has the highest percentage of explained variance implied that non-business students regarded knowledge of economics as essential in their future career and everyday life even though they were majoring in wood technology or office management programmes.

Factor 2 is labeled 'Difficulty of economics subject' with loadings from 0.464 to 0.693. It includes items such as "I adore economics subject" (0.693), "I understand economic formulas" (0.557) and "Most students will find economic subjects easy" (0.53). Factor 3 is labeled 'Cognitive or Knowledge and skills required in economics subject' with factor loadings ranging from 0.406 to 0.767. Among the items included are "Level of English used is appropriate" (0.767), "I am good with the English language" (0.609) and "Level of Mathematics used is appropriate" (0.569). Factor 4 is labeled 'Affective or Enjoyment of learning economics' with factor loadings from 0.428 to 0.725. Items included are "I do not feel nervous or frustrated during tests or exams" (0.725), "I feel comfortable with economics subject" (0.569) and "Economics subjects are very interesting and enjoyable" (0.452).

Among the items listed in Table 3, four items were loaded on two factors. "The graphs help me to understand better" and "I like economics since it is an easy subject" were loaded on both Factors 1 and 3. "Easy to understand economic concepts & theory" and "Level of Mathematics used is appropriate" were loaded on both Factors 2 and 3. Item 20 is dropped from the list due to low factor loading.

Table 3: Rotated Factor Matrix

Item	Factor loadings			
	1	2	3	4
Factor 1: Value or usefulness of economics				
21. Knowledge of economy will help me get suitable job in the future.	0.711			
25. Economics will be very useful in my everyday life.	0.705			
23. Economics will be utilized in my professional career.	0.656			
24. Economics will be very useful in my future career.	0.577			
22. Economics subject is relevant to me.	0.553			
3. The graphs help me to understand better.	0.531		0.416	
26. I will be using economics throughout my life.	0.523			
10. I like economics since it is an easy subject.	0.478			
Factor 2 : Difficulty of economics subject				
15. I adore economics subject.		0.693		
17. I have basic knowledge in economics prior to taking this subject.		0.631		
8. I understand economic formulas.		0.557		
9. Most students will find economic subjects easy.		0.530		
1. Economic subjects are not difficult.		0.498		
5. Easy to understand economic concepts & theory.		0.486	0.405	
2. There are not many graphs to be learnt.		0.464		

(*continued*)

(continued Table 3)

Factor 3: Cognitive or Knowledge and skills required			
6. Level of English used is appropriate.			0.767
19. I am good with the English language.			0.609
7. Level of Mathematics used is appropriate.		0.424	0.569
12. I am capable of understanding this subject.			0.566
13. I can pass economics even though there were many cases of failure			0.459
18. I have a strong mathematical background			0.406
Factor 4: Affective or Enjoyment of learning economics			
16. I do not feel nervous or frustrated during tests or exams.			0.725
14. I feel comfortable with economics subject.			0.569
11. Economic subjects are very interesting and enjoyable			0.452
4. There are not many topics to be learnt.			0.428

Extraction Method: Principal Axis Factoring
Rotation Method: Varimax with Kaiser Normalization
Rotation converged in 10 iterations

Reliability Analysis

Reliability which describes the internal consistency of a set of items was measured by Cronbach's Alpha and item-total correlations. In general, reliabilities of less than .60 are considered to be poor, those in the 0.70 range, acceptable, and those over 0.80, good (Sekaran, 2003). The factor and reliability analysis results are summarised in Table 4.

Table 4: Factor and Reliability Analysis Results

Factor	Label	Item Number	Cronbach's Alpha
1	Value or usefulness of economics	21, 25, 23, 24, 22, 3, 26, 10	0.851
2	Difficulty of economics subject	15, 17, 8, 9, 1, 5, 2	0.821
3	Cognitive or Knowledge and skills required	6, 19, 7, 12, 13, 18	0.843
4	Affective or Enjoyment of learning economics	16, 14, 11, 4	0.736
	Overall		0.927

Findings and Discussion

Factor analysis was applied to the 26-item questionnaire where four factors were extracted as the latent variables for 25 items with one item being dropped due to low factor loadings. Reliability analysis shows that the internal consistency of the four factors was good and acceptable. Comparison between male and female students, passed and failed students, and regression analysis on the four factors towards students' achievement in the economics subject was carried out.

Two hundred and six students participated in the survey where 150 (72.8%) were females and 56 (27.2%) males. The number of students who passed the subject was 179 (86.9%) and 27 (13.1%) failed the subject. The descriptive statistics for the four factors extracted are presented in Table 5.

Table 5: Descriptive Statistics of the Four Dimensions of Attitudes

Factors	Mean	Std. Deviation
Value or usefulness of economics	3.372	0.669
Difficulty of economics subject	2.896	0.739
Cognitive or Knowledge and skills required	3.270	0.749
Affective or Enjoyment of learning economics	2.894	0.816

(A higher score of the mean indicates a more positive attitude)

From the results in Table 5, it is observed that, in general, students tend to be neutral (neither agree or disagree) on the usefulness of economics in their future career and everyday life (given the mean of Factor 1 = 3.37 which is close to 3 (neutral) in the 5-point Likert scale). The same trend is demonstrated in cognitive skills where students tend to be neutral on the perception that they possess the skills required in terms of mathematical and language skills. Nevertheless, students tend to agree that economics subjects are somewhat difficult and not that enjoyable. These findings reveal the general perspectives of non-business students towards economics education at UiTM Pahang.

To compare the attitudes towards economics education between gender and passed-failed students, an independent sample t-test was performed on the mean score for each of the four factors. Table 6 shows the comparison between male and female students and Table 7 shows the comparison between passed and failed students.

Table 6: Comparison of Male and Female Students

Factor and Final Exam Score	Mean (Male)	Mean (Female)	t-value	Sig.
Value or usefulness of economics	3.348	3.381	-0.311	0.756
Difficulty of economics subject	2.883	2.901	-0.158	0.875
Cognitive or Knowledge and skills required	3.258	3.275	-0.145	0.885
Affective or Enjoyment of learning economics	2.978	2.863	0.894	0.372
Final examination score	54.98	61.83	3.96	0.000

From the above findings in Table 6, none of the t-values is significant at the 0.05 or 0.01 level for the four factors. Thus, there is no evidence that there is a difference in the perception of male and female students on the four dimensions of attitudes towards economics. This is inconsistent with a study by Phipps & Clark (1993) who reported that males enjoyed economics relatively more than females, but were not significantly different from females regarding perceived difficulty or attitude toward usefulness of economics. With regard to final examination performance, female students' achievements were significantly higher than male students. (p-value < 0.05).

Table 7: Comparison of Passed and Failed Students

Factor	Mean (Passed)	Mean (Failed)	t-value	Sig.
Value or usefulness of economics	3.469	2.727	-5.783	0.000
Difficulty of economics subject	2.994	2.243	-5.229	0.000
Cognitive or Knowledge and skills required	3.382	2.543	-5.840	0.000
Affective or Enjoyment of learning economics	2.996	2.222	-4.836	0.000

The findings shown in Table 7 indicate that the mean score for students who passed economics subjects is statistically higher than those who failed in terms of their perspectives on the four factors of attitudes towards economics education. In other words, students who did not perform tend to have a more negative attitude on the four factors as indicated by the mean score of 2.727, 2.243, 2.543 and 2.222 respectively (lower than 3 in the 5-point Likert scale). Students who passed the economic subjects seemed to have a more positive perspective towards the usefulness of economics and the cognitive skills required but were

quite neutral on the difficulty of economics subject and the enjoyment of economics. From this survey, it indicates that there is enough evidence to associate negative attitudes towards economics with low achievement in economics subjects.

To examine relationships, an intercorrelation table among all measures was produced as shown in Table 8.

Table 8: Pearson Correlations among Factors

Variable		(2)	(3)	(4)	(5)
Final Exam Scores	(1)	0.228**	0.313**	0.262**	0.257**
Value or usefulness	(2)	-	0.624**	0.685**	0.548**
Difficulty	(3)	-	-	0.657**	0.590**
Cognitive Skills	(4)	-	-	-	0.545**
Affective	(5)	-	-	-	-

Note: ** Correlation is significant at the 0.01 level (2-Tailed)

The correlation analysis shows that students' academic performance, as measured by their final exam scores, is significantly related to all of the four dimensions of attitude towards economics subjects. Although the results are significant, the magnitudes of the correlation coefficients indicate a relatively moderate relationship. The percentage of variance in explaining the final exam scores ranged from about 5.2% to 9.8% as the values of r^2 would indicate.

A stepwise regression analysis was performed to predict students' achievement whereby Tables 9 and 10 were produced. It is observed from Table 9 that subject difficulty was entered in the first step and gender the second. Subject difficulty was the strongest predictor of academic achievement in economics as it could explain 9% of the variance in the final exam scores. Gender added 6.5% of the variance to the prediction of academic achievement. Although gender was a weaker predictor than subject difficulty, they added significantly to the prediction of academic achievement. (p-value < 0.05). These two variables taken together explained 14.7% of the variance in students' achievement in economics subject. Further research to determine other variables (such as learning styles, teaching styles, and absenteeism) that may increase the percentage of explained variance should be conducted.

Table 9: Stepwise Multiple Regression of Students' Economics Achievement on the Five Dimensions of Attitude

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.300[a]	.090	.085	10.799	.090	19.885	1	201	.000	
2	.394[b]	.155	.147	10.432	.065	15.408	1	200	.000	1.899

a. Predictors: (Constant), Difficulty
b. Predictors: (Constant), Difficulty, Gender
c. Dependent Variable: Final Exam Scores.

Table 10: Stepwise Multiple Regression with Regression Coefficients and Collinearity Statistics

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	46.491	3.074		15.126	.000	1.000	1.000
	Difficulty	4.609	1.034	.300	4.459	.000		
2	(Constant)	48.401	3.009		16.088	.000	1.000	1.000
	Difficulty	4.554	.999	.296	4.561	.000		
	Gender	-6.467	1.648	-.255	-3.925	.000	1.000	1.000

a. Dependet Variable: Final Exam Scores.

The regression model obtained as shown in Table 10 is as follows:

Achievement in Economics = 48.401 + 4.554 (subject difficulty) – 6.467 (gender) where female = 0 and male = 1

All the regression coefficients were significant at the 0.05 level of significance. This implies that subject difficulty and gender, taken together, are significantly associated with students' achievement as measured by their final exam scores.

Before the findings from the multiple regression analysis were accepted, residual plots were produced to ascertain the assumptions of the residuals being normally distributed; there were equal variances and their independence of each other was satisfactory. There was no problem of multicollinearity since none of the tolerances was less than 0.10 and none of the variance inflation factors (VIF) was greater than 10 as shown in Table 10.

Conclusion and Implications

The exploratory factor analysis approach has produced four underlying factors from a 26-item questionnaire focusing on certain themes, namely, Value, Difficulty, Cognitive Skills and Affective. "Value" represents students' perception on the usefulness of economics, "Difficulty" represents students' perception on difficulty of subject matter, "Cognitive Skills" represents students' perception on basic skills required to excel in economics such as Mathematics and English and "Affective" represents students' perception on the enjoyment of learning economics. Internal consistencies of the constructs for each underlying variables were found to be good as indicated by the Cronbach's Alpha value.

The findings from the survey revealed that academic achievement of non-business major students in economics paper was related to students' attitude on the four underlying variables where there was a significant difference in the attitude between students who performed and students who did not perform. Students who performed had a more positive attitude than non-performing students on the four underlying variables. Correlational values between students' achievement and the mean score for the four underlying variables were statistically significant with moderate strength and positive values. This indicates a positive correlation between students' final exam scores and their attitude scores on the four underlying variables. In other words, the more positive outlook towards the economics subject, the higher the economics achievement would be. A stepwise regression chose subject difficulty and gender as the variables that significantly explained the variance of the students' achievement as measured by the final exam scores.

The results of this study pose some challenges to economics educators and perhaps lecturers from other fields as well at UiTM Pahang. Strategies to lower failure rates may include exposing students to the application of economics in the real world and its relevance to their future career even though they are not majoring in business programs. The goal is to make them aware of and appreciate the usefulness of the subject they are studying. Data from the real world should be integrated in the teaching content. Further analysis should be undertaken to determine factors that contribute to subject difficulty such as topics which need a lot of calculation, or long questions that require good English writing skills and general knowledge of national and global economics issues. Cognitive skills in learning economics should be provided to weak

students in mathematical calculations and English writing. Strategies in making the classes more enjoyable and interesting through some innovative teaching or learning styles should be adopted. Certain extra curricular activities or educational visits should be conducted to make economics more enjoyable to the non-business students.

As mentioned earlier, further research should be conducted to determine other variables (such as learning styles, teaching styles, and absenteeism) that may have direct effects to the academic performance of students in economics subjects.

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