# A Study of Students' Perception toward Mathematic 

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Received: March 31, 2016
Accepted: May20, 2016


#### Abstract

The aim of this study was to examine the perception of MDAB students in Mathematics in three aspects which is the students' attitude in Mathematics, students' perception on their Mathematics lecturer and influence of peers towards Mathematics subject itself. This study also determined high ranking item within respective perception. There were 549 students taking Intensive Mathematics (MAT037) in Semester 1 June 2014 until Dec 2014 at UiTM Kelantan, but there are only 300 students participated in this study. The data collected were analyzed using means and one sample t-test by using a Statistical Package for Social Sciences (SPSS) version 20.0 for Windows. The finding shows that lecturers' teaching is most important perception toward mathematic subject. From student attitude, high ranking item is student perceived that Mathematic is useful in their life. Meanwhile, from lecturers' teaching, student believed that the mathematics lecturer expert in their field. For the last perception, peers, students will ask their peers when they do not understand about the subject.


KEYWORDS: Student attitude, Lecturers' teaching, Peers, Students' perception, Mathematics.

## INTRODUCTION

Concerns about attitude are not new. One of the major causes for this concern is attitude is an internal matter and difficult to understand. Attitude plays an important role to achieve the target in many things. When a person fails in their life, many people said that he probably has a bad attitude. In school, the teachers often state that the failure rate in subjects relates to the negative attitude such as laziness. For attitudes, once formed are enduring and difficult to change [1].

As in [2], the students' performance in certain subjects depends on their attitude towards the subject. Positive attitude towards the subjects will encourage a person to learn the subject much better. Generally, the attitudes influenced by many factors such as gender, personality and curriculum [3].

According to [4], students' attitudes need to be fostered throughout the process of teaching and learning in order to have a good achievement. The ability of students to use the knowledge is a measure of the effectiveness of teaching and learning processes. A positive attitude can motivate students' critical thinking, being active in the classroom, working together in groups, improve interaction and communication skills. All those kind of attitudes will boost up the performance of the particular subject especially in Mathematics. Besides, another reason that influences the perception of the particular subject is an educator or teacher itself. The teacher as a medium in teaching and learning process is encouraged to use a variety of teaching strategies and unusual learning activities [3], so that it will generate more interest and positive perception towards the subject. Teaching style used in the process of teaching and learning has a significant impact on students' interest and understanding of a subject. In highest educational level aspect, lecturers' teaching is one of the factors to determine students' achievement in a subject [5]. In another survey, in [6] states the appearance and presentation styles of teaching and learning play an important role in efforts to enhance students' understanding. When the students' perception of their teachers' is low, students' attitude towards Mathematics tends to be negative as stated in [7].

In addition, the lecturers and students should give their cooperation in teaching and learning process. The lecturers should try their best to educate the students. In order to encourage the students to practice their preferred learning approach, a conducive classroom environment needs to be implemented by the lecturer because perhaps not surprisingly shows a positive correlation with attitude [3] and perception. The lecturers are encouraged in making an effort to increase the use of materials and teaching aids to make the process of learning easily understood [8, 9]. The findings of the study conducted by [10] found that students' perception of teachers' knowledge of subject matter, attitude to work and teaching skills has a significant relationship to students' academic performance. Another factor which seems to be a significant determinant of perception towards Mathematics subject is the attitude of peers and friends [11, 12]. In reality, peers influence the individual's attitude and behaviors in several ways [13]. Spending more time with peers in college or university resisting the
attempts of parents to control the selection and association of these peers and make them become increasingly important especially in their studying life. Because peers are the most salient social referents in the college environment, they are a potent influence on perception of anything including the Mathematics subject. In summary, the author would like to study the perception towards Mathematics subject among MDAB students in several aspects such as students' attitude, students' perception on their Mathematics lecturer and influence of peers.

## LITERATURE REVIEW

There are a lot of students are not able to apply mathematical concepts and skills they have learned during their study. The difficulties of students to understand the basic concepts will affect mathematical learning. Therefore, this study had been conducted to see whether the students' perception of Mathematics will influence the performance in this subject thus reflect to their final grading.

In UiTM Cawangan Kelantan, Intensive Mathematics is a compulsory subject for student of Pre-Diploma program which is Commerce-MDAB (PD002). Based on the final exam analysis results, there were only $9.29 \%$ (51 out of 549) of students failed in this subject. According to the good performance of this subject, this paper intends to investigate the perception of students to their Mathematics subject in terms of students' attitude, their lecturer and peers towards the Mathematics subject. Figure 1 shows the overall result of this subject. Majority of students got A and most of them passed in this subject. With this good performance, there must be a critical success factors that lead to this kind of performance. The information on this result will base on their diploma final examination results and collected from their academic records in the university.


Figure 1: The result of MAT037 in Semester 1 June 2014 until Dec 2014
Based on Table 1, it shows the result indicator for each grade. The pass grade starts from A+ until C and the rest are failed.

Table 1: Result indicator

| Students' Result | Level |
| :---: | :---: |
| A + | Very good |
| A, A- | Good |
| B+, B, B- | Credit |
| C,+ C | Pass |
| C-, D+, D, E, F | Fail |

## METHODOLOGY

The study was conducted using a survey method. A structured questionnaire was given to all pre-diploma students in whom taking MAT037 in UiTM Cawangan Kelantan. This study is descriptive research that aims to describe a phenomenon that is happening.

## Population and Sample

The population of the research consisted of all full time pre-diploma students in Commerce-MDAB (PD002) from UiTM Cawangan Kelantan. There were 549 students taking Essential Mathematics (MAT037) in Semester

1 June 2014 until Dec 2014 at UiTM Kelantan, but only 300 students were involved in the survey. However, there are 225 students were returned the questionnaire for analysis purpose. The size of the sample was determined based on Krejcie and Morgan formula [14].

## Instrument

The research instrument was a questionnaire consisting of two parts namely Part A and Part B. Part A requested biographical information regarding gender, age, program of study and Mathematics result during last SPM. Part B consisted of 50 questions. The set of questionnaire with 50 items included the following: attitudes, lecturers' teaching and peers are based on a 5 point Likert scale (see Table 2). Positive items were rated from strongly agree (5), agree (4), neutral (3), disagree (2) and strongly disagree (1) while negative items were scored in the reverse order.

The Cronbach Alpha test was used to determine the reliability index of the instrument. The following Table 2 shows that items and Alpha Values ( $\alpha$ ).

Table 2: Distribution of items based on domain

| Variable | No. of Item | Alpha Values, $\alpha$ |
| :---: | :---: | :---: |
| Attitude | $1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,21,22,23$ | 0.85 |
| Lecturers' teaching | $24,25,26,27,28,29,30,31,32,33,34,35,36,37$ | 0.69 |
| Peers | $38,39,40,41,42,43,44,45,46,47,48,49,50$ | 0.51 |

## Data Analysis

Data collected were analyzed using Pearson's Product-Moment Correlation Coefficient (r) to measure the strength and direction of the relationship between perception of students to their Mathematics subject in terms of students' attitude, their lecturer and peers towards the Mathematics subject.

## FINDINGS AND DISCUSSION

The findings of this study were mainly based on the quantitative data gathered from the respondents using a developed set of questionnaires.


Figure 2: The gender of students
Figure 2 shows the proportions of gender among students. Most of them were female (171) and male (50).


Figure 3: The age of students

Figure 3 shows the proportions of age among students. Most of them were 18 years old ( $87 \%$ ).

## Mean Score

Table 3 shows the mean value of all variables (attitude, lecturer's teaching and peers)
Table 3: Mean score

| Variable | Minimum | Maximum | Mean | Std. Deviation |
| :---: | :---: | :---: | :---: | :---: |
| Attitude | 2.74 | 5.00 | 3.9826 | 0.40871 |
| Lecturer's teaching | 2.86 | 4.86 | 4.0073 | 0.40577 |
| Peers | 2.54 | 5.00 | 3.5997 | 0.40170 |

Table 4: Indicator for mean score [15]

| Mean Score | Indicator |
| :---: | :---: |
| 1 until 1.8 | Very weak |
| 1.81 until 2.60 | Weak |
| 2.61 until 3.40 | Moderate |
| 3.41 until 4.20 | High |
| 4.21 until 5.00 | Very high |

Based on Table 3, the results indicate that the mean score for lecturer's teaching was 4.0073 , followed by mean of attitude was 3.9826 and 3.55 and finally mean of peers was 3.599 . According to Table 4, it shows the indicators for mean score. If both tables were integrated, it can define that all the variables significant in determining students' perception towards the Mathematics subject.

Table 5: One sample statistics

| Variable | No. of Item | Item | Mean |
| :---: | :---: | :---: | :---: |
| Attitude | 10 | I think that Mathematics is useful in life. | 4.65 |
|  | 21 | I happy if my answer for particular exercise is correct. | 4.64 |
|  | 6 | I always attend to my class. | 4.52 |
|  | 22 | Sometimes, I pretend to understand what I learn in class. | 3.40 |
|  | 14 | My result in Mathematics is better compared with other subjects. | 3.39 |
|  | 9 | Before class, I always spent my time for screening the certain topic. | 3.38 |
| Lecturers' teaching | 25 | Lecturer is knowledgeable in Mathematics. | 4.61 |
|  | 24 | Lecturer always gives an exercise during class. | 4.56 |
|  | 37 | Lecturer discusses the test or quiz in the middle of the semester. | 3.16 |
|  | 36 | Lecturer return the test paper to students in the middle of the semester. | 3.14 |
|  | 33 | Lecturer always starts the class punctually. | 2.48 |
| Peers | 48 | I'm always trying to get the highest performance in Mathematics compare with friends. | 4.34 |
|  | 38 | I always ask my friends if I don't understand about the topic learned.. | 4.33 |
|  | 39 | I discuss the Mathematics with my friends. | 4.18 |
|  | 49 | I care if my friends got highest mark than me. | 2.75 |
|  | 45 | Friends make noise did not disturb me. | 2.12 |

Table 5 shows the mean value of selective items from 3 highest and three lowers from respective variables. For the first variable is students' attitude.

## Correlation

In determining the relationship between those variables and perception towards Mathematics, the Table 5 shows Pearson Correlation (r) value for each variable.

Table 6: The relationship between variables

|  |  | Attitude | Lecturers' Teaching | Peers |
| :---: | :---: | :---: | :---: | :---: |
| Attitude | Pearson Correlation, r |  | $0.529^{* *}$ | $0.295 * *$ |
|  | Sig. (2 tailed) |  | 0.000 | 0.000 |
| Lecturers' Teaching | Pearson Correlation, r | $0.529^{* *}$ |  | $0.309^{* *}$ |
|  | Sig. (2 tailed) | 0.000 |  | 0.000 |
| Peers | Pearson Correlation, r | $0.295 *$ | $0.309^{* *}$ |  |
|  | Sig. (2 tailed) | 0.000 | 0.000 |  |

** Correlation is significant at the 0.01 level (2-tailed)
Table 6: Indicator for Pearson Correlation [15]

| Mean Score | Indicator |
| :---: | :---: |
| 0.00 until 0.2 | Very weak |
| 0.21 until 0.4 | Weak |
| 0.41 until 0.7 | Moderate |
| 0.71 until 0.9 | High |
| 0.91 until 1.0 | Very high |

Table 6 displays the Pearson Product Moment correlation between variables in terms of students' attitude, their lecturer's teaching and peers towards the Mathematics subject. It can conclude that the relationship between attitude and lecturer's teaching are moderate ( 0.529 ). On the other hand, the rest relationship between peers and attitude ( 0.295 ) and lecturer's teaching and peers ( 0.309 ) are weak. Thus, all the variables are significant correlation at $99 \%$ confidence level.

## CONCLUSION

The results of this study indicate that the students' perception towards Mathematics is very high and encouraging. The finding also shows that the students' attitude, lecturers' teaching and peers are important factors in contributing the good results in Mathematics among the MDAB students.

Out of the three factors, lecturer's teaching is perceived as the most important factor. From the survey, we can conclude that most of MDAB students believe that their Mathematics lecturers are expert in teaching Mathematics. This result gives a very good perception toward the teaching ability of Mathematics lecturers in UiTM Cawangan Kelantan. This finding similar with the study conducted by [7]. Besides that, another important factor is the students' attitude. The result shows that the students have positive attitudes towards Mathematics. Most of them aware Mathematic is important in their life. This positive attitude makes them enjoy learning Mathematics and attending the classes. This result same with [4]. In addition to that, MDAB students also believe that peers may influence their perception towards Mathematics. Most of the students admit that they will discuss with their friend when they do not understand the subject. They also become more competitive in order to achieve a better result than their peers. The positive competition is good in the sense that it will motivate the students to perform their best in the examination. This study was conducted only to the students of UiTM Cawangan Kelantan and randomly selected samples of male and female students. Further research could be conducted to investigate on the aspects of student learning styles, skills and learning strategies, lecturers' perception towards students and level of satisfaction with the environment. In addition, future studies could perhaps improve the generalizability by using larger samples from different campuses throughout Malaysia.

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