

**INVESTIGATION ON TIME MANAGEMENT PRACTICES IN MEASURING  
CALCULUS TEST 1 PERFORMANCE OF APPLIED SCIENCES STUDENTS UITM  
TAPAH, PERAK**

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**ABSTRACT**

The aim was to determine whether Time Management Practices (TMP) affect the Calculus Test 1 Performance of Applied Sciences (AS) students of UiTM Tapah, Perak. Precisely, the objectives are to investigate the relationship between AS students' TMP for each component which are Time Planning (TP), Time Attitudes (TA), and Time Wasters (TW) with their performance, to investigate which item in the TMP affect the Calculus Test 1 Performance and to identify the actual factors in their bad time management. 154 students from Part 2 were selected as our sample by using cluster sampling technique. "Time Management Scale" was developed by Britton and Tesser (1991) were used as research instruments. By using Pearson correlation analysis, Time Planning (TP) is the only item that has a weak positive linear correlation with their performance. Descriptive analysis shows that last minute study is the actual factors of AS students' bad management of time.

**Keywords:** Time Management; Time Management Practices; Applied Sciences; Calculus Performance; Academic Performances.

**1. INTRODUCTION**

**1.1. Background of Study**

Time management is the process of how to spend your time efficiently between specific

activities, it could be the academic task or personal matters. A good time management will surely improve one's life. For example, having a great productivity and efficiency life will create more opportunities to achieve the importance life career goals

We chose to do a study on Applied Sciences (AS) students in UiTM Tapah who has taken Calculus 1 course, given that the failure rate for this subject is quite high. They failed to graduate on time due to this course. Therefore, this study interested to investigate if their performance were being affected by poor time management skills which consist of Time Planning (TP), Time Attitudes (TA), and Time Wasters (TW).

Time Planning is how people plan their daily activities and prioritize on what should be done first. Having a good time planning will reduce stress and procrastination. Planning does not mean following a rigid, military-like schedule, it means making sure that all the works should be done on time. Time Attitudes are how people spend their time daily. Spending time in the right way such as following a daily schedule without procrastinating will improve their attitude towards time. Time Wasters are basically about how people spend their time doing irrelevant things until they neglect other important tasks that are beneficial to their life. Time is precious and limited; thus, we should appreciate it. One of the reasons why people waste their time is because they do not have a clear goal in mind.

This study was conducted to determine the relationship between AS students' time management practices for each item (Time Planning, Time Attitudes, and Time Wasters) and their Calculus Test 1 performance. Next, to investigate which item in the time management practices affect the Calculus Test 1 performance and last but not least, to identify the actual factors of AS students' bad time management.

## **2. LITERATURE REVIEW**

### **2.1. Time Management Practices**

Time management is the ability to use one's time effectively or productively especially at work. Excellent time management is measured based on good academic performance. Time management practices have been proven to be among of the top indicators towards achieving a high level of academic success and performance [1]. It has been confirmed that students' time management skills affect their GPA-course achievement. This finding shows that the time management skills among of the university students have a notable effect on their academic achievement [2]. The result shows that there is no significant correlation between time management skills and academic achievement [3]. However, students' math's achievement was not related to time management and this is contrary with a previous finding within the American

students in which a self-reported grade was positively related to time management [4]. The three factors in measuring a good time management are Time Planning, Time Attitudes and Time Wasters.

## **2.2. Time Planning**

Time planning is a process of planning and exercising conscious control of time spent on specific activities, especially to increase effectiveness, and productivity. Based on a previous study, the correlation between academic achievement and long-range planning is 0.182 and the significance value is equal to 0.047, which is significant at the 0.05 percent level. This result indicates that long range planning is significantly positive to be related to academic achievements [1].

## **2.3. Time Attitudes**

Time attitude is where the time orientation of a culture affects how it values time and the extent to which it believes that it can controls time. Result shows on the previous study that the correlation between academic achievement and time attitude is -0.046 and the significance value is equal to 0.621, which is not significant at the 0.05 percent level. This shows that time attitude is negatively correlated to academic achievement [1].

## **2.4. Time Wasters**

Time waster is someone who spends a lot of time doing something that is unnecessary, and it has been revealed in our study that the three top time wasters are: last minute study, last minute task and the usage of social media.

## **2.5. Purpose of Investigating Calculus Subject**

Calculus is a very difficult subject for some students since it involves complicated calculations. Applied Sciences (AS) students from UiTM Tapah have taken this subject. Apparently, a lot of them did not perform well since they are majoring in science's subjects and not mathematics. A lot of them needed to repeat this subject since they did not pass the paper. Some of them were required to extend the length of their study. A study from [5] performs a questionnaire survey on a random sample of 51 IX-standard students for information on their mathematical expectations. Among the students, 20% rated mathematics as an extremely challenging subject, 54% reported as medium problems, with only 10% regarding them as an easy subject. Roughly 42% do not identify how the problems in their textbooks can be solved [5].

### 3. METHODOLOGY

#### 3.1 Measure Development

All the students of Diploma in Applied Sciences in UiTM Tapah that has taken the Calculus subject in semester who are currently in semester 2, 3, 4, and 5 participated in this study. 154 students from semester 2 were chosen by using a cluster sampling method as our sample. The “Time Management Scale” was developed by Britton and Tesser (1991). It was adapted to Turkish by Alay and Kocak (2002) and was later used as data collection tools [6]. Questionnaire was distributed to our respondents to collect data. It includes a demographic section (six questions) and 35 items of the Time Management Questionnaire (TMQ) in section B up to section D. Section B is for Time Planning, Section C is for Time Attitudes and Section D is for Time Wasters. All items in Section B until Section D were measured on the Likert scale, where the answers under each item consists of “Always”, “Frequently”, “Sometimes”, “Infrequently” and “Never”. As for the scoring, 5 points were assigned for the answer to positive items "always" and 1 point was assigned to negative items "always". However, for the Section D the score is reversed. For example, those who responded for "never" received a score of five. Higher TMQ values are consistent with the improvement of time management practices.

#### 3.2 Data Collection Procedure

The data collection was conducted at UiTM Tapah in which the place and time are set to meet the students. They are given 10 minutes to answer the questionnaire.

### 4. RESULTS AND DISCUSSION

#### 4.1 Descriptive Analysis

**Table 1.** Frequency and Percentage of Gender

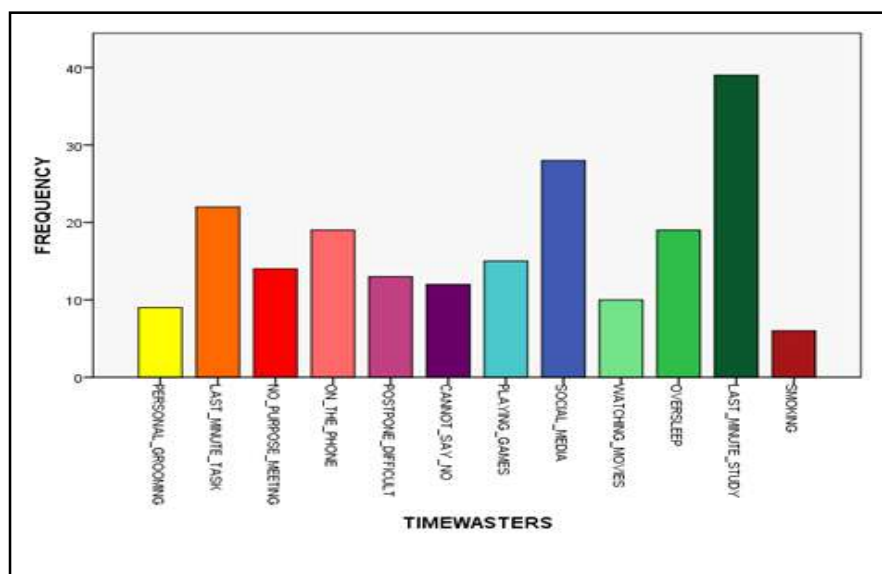
	GENDER	
	Frequency	Percent
Male	42	27.3
Female	112	72.7
Total	154	100.0

A total of 154 students from the Faculty of Applied Sciences were chosen to be our respondents. 42 (27.3%) of the respondents are male and 112 (72.7%) of the respondents are female.

**Table 2.** Mean and Mode of Calculus Test 1 Marks

Calculus Test 1 Marks (TEST1_MARKS)	
Mean	57.95
Mode	50

Table 2 shows that the mean for Calculus Test 1 Marks = 57.95. It indicates that the average Calculus Test 1 Marks for each student is 57.95 which are not too excellent. The mode for Calculus Test 1 Marks = 50 which means most of the AS students’ score 50 marks in this subject.



**Fig.1.** Simple bar chart for frequency of Time Wasters

Figure 1 explains the type of activities AS students do in Time Waster sections. It was found that the majority of AS students do *LAST\_MINUTE\_STUDY* (f=11) in which the question is "Do you usually study for a test the night before the examination?". Hence, it can be concluded that AS students do a lot of irrelevant activities throughout the day. Therefore, they have to study for a test the night before the examination. The second highest frequency is *SOCIAL\_MEDIA*, which represent item number 8, "Do you spend most of your time on social media?" This is a normal trend in nowadays today’s modern world. It was not only the teenagers or teenage students, but adults also tend to spend most of their times on social media. Moreover, everything is there whether to share one’s problems or happiness, seek information and so on. Thirdly, the item that was labeled as *LAST\_MINUTE\_TASK* comes as the third highest frequency item in the Time Wasters section with the question: "The night before a major

assignment is due, are you usually still working on it?" This is such an unhealthy habit and students should avoid this kind of practice/routine, so that no procrastination of task will happen take place in which it will lead to a low quality of work since they (the students) were rushing to complete everything in a short period of time. In short, Overall, the actual factor for AS students' bad time management are last minute studied followed by the usage of social media and doing a last-minute task.

#### 4.2 Correlation Analysis

From Table 3, the Pearson's correlation was performed on 154 students' data. All the assumptions were checked. Based on the result, there is a weak positive correlation between Time Management Practices (TOT\_TMQ) and Calculus Test 1 Performance (TEST1\_MARKS) since the coefficient was 0.113.

**Table 3.** Correlation between Time Management Practices and Calculus Test 1 Performance

	Calculus Test 1 Marks (TEST1_MARKS)	
	r	<i>p</i> – value <sup>o</sup>
Time Management Practices (TOT_TMQ)	0.113	0.164

The result indicates that there is no significant correlation between AS students' time management practices and their Calculus Test 1 performance since ( $p$  – value = 0.164 >  $\alpha$  = 0.05).

**Table 4.** Correlation between Time Planning and Calculus Test 1 Performance

	Calculus Test 1 Marks (TEST1_MARKS)	
	r	<i>p</i> – value <sup>o</sup>
Time Planning (TOT_TP)	0.309	0.000*

From Table 4, it shows that there is a significant weak positive correlation between Time Planning (TOT\_TP) and Calculus Test 1 Performance (TEST1\_MARKS) since ( $r$  = 0.309,  $p$  – value = 0.000 <  $\alpha$  = 0.05).

**Table 5.** Correlation between Time Attitudes and Calculus Test 1 Performance

	Calculus Test 1 Marks (TEST1_MARKS)	
	r	<i>p</i> – value <sup>o</sup>
Time Attitudes (TOT_TA)	-0.076	0.346

Table 5 shows a weak negative correlation between Time Attitudes (TOT\_TA) and Calculus Test 1 Performance (TEST1\_MARKS) since ( $r = -0.076$ ). The significant of Time Attitudes also shown to be insignificant to measure Calculus Test 1 performance ( $p - \text{value} = 0.346 > \alpha = 0.05$ ).

**Table 6.** Correlation between Time Wasters and Calculus Test 1 Performance

	Calculus Test 1 Marks (TEST1_MARKS)	
	r	p – value <sup>o</sup>
Time Wasters (TOT_TW)	-0.096	0.235

Table 6 shows that there is a weak negative correlation between Time Wasters (TOT\_TW) and Calculus Test 1 Performance (TEST1\_MARKS) since the coefficient was ( $r=-0.096$ ). Time Wasters found to be insignificant correlation with the Calculus Test 1 performance ( $p - \text{value} = 0.235 > \alpha = 0.01$ ).

## 5. CONCLUSION

In conclusion, one factor in Time Planning practices found to be significant in determining students' performance (Test 1 Performance). By using Pearson's Correlation analysis, it is revealed a significant weak positive correlation between Total Time Planning and Test 1 marks since the coefficient was ( $r= 0.309$ ), a weak negative correlation between Total Time Attitude and Test 1 marks since the coefficient was ( $r=-0.076$ ). Another weak negative correlation between Total Time Waster and Test 1 marks since the coefficient was  $-(r=0.096)$ . To summarize up the evidence presented, as a student we need to manage our time wisely so that we can accomplish a whole lot more in a shorter period of time, which leads to more free time, a lesser time being wasted, lowers our stressfulness and thus, help us to be more focused, which leads to a successful life. The benefits of a proper time management may improve us to another aspect of our life.

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