TIME MANAGEMENT SKILLS IN HIGHER INSTITUTIONS: A CASE STUDY OF ELECTRICAL, ELECTRONIC & SYSTEMS ENGINEERING UNDERGRADUATE STUDENTS

NORBAHIAH MISRAN[1,2*], WAN MIMI DIYANA WAN ZAKI[1],
MOHD. FAIS MANSOR[1], HAMIMI FADZIATI ABD. WAHAB[1]

[1]Jab. Kej. Elektrik, Elektronik & Sistem, Fakulti Kejuruteraan & Alam Bina, Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor, Malaysia
[2]Pusat Penyelidikan Pendidikan Kejuruteraan & Alam Bina, Fakulti Kejuruteraan & Alam Bina, Universiti Kebangsaan Malaysia, 34600 UKM Bangi, Selangor, Malaysia
*Correspondence email: bahiah@ukm.edu.my

Abstract

Time management is an important skill that every student in higher education institutions should acquire since it is one of the key factors in assuring excellent achievement in academic. Students with poor time-management skills are far more likely to be stressed and, as a result, have a negative impact on the quality of life. Thus, this paper discusses this issue based on a study among students of Electrical, Electronic & System Engineering at Universiti Kebangsaan Malaysia according to year of study and then establishes the relationship with the student's academic performance. Data were collected using a set of questionnaire carried out on 272 undergraduate students from year one to year four for 2015/2016 session. These data were then analysed using ANOVA statistical inference and Pearson correlations. Results revealed that time management skills of the respondents were at moderate level and established a negative correlation with year of study. This study also found significant findings where time management skills have a positive but weak correlation with student's academic performance. These findings suggest the need for additional research to further refine the justifications of these measures. The university is also anticipated to provide a good platform for students to develop their time management skills at the early stage of their admission to university.

Keywords: Time management, academic performance, bachelor of engineering.

1. Introduction

Time is life. Allah SWT reminds us of the great signs that He created, including the alternation of night and day, so that people can juggle and manage it well. Many pronouncement of the oath by the time mentioned in the Quran shows the time is very important and must be appreciated by human beings. Dr. Yusuf Al-Qaradawi in his book entitled Time Management According to Islam [1] stated that there are three nature of time, namely 1) time has very rapid circulation, 2) the elapsed time could not be returned, and 3) time is very valuable but then cannot be owned by humans. The nature of such a time demands ingenuity of students to fill their time with things that are benefitted in accordance to their roles.

Students nowadays are facing a very challenging period. Teenagers are practically chaos and have always wanted to try all the new things; and the teens are also highly vulnerable. College students at campuses across the globe are prone to wasting time to modern technology such as mobile phones, video games, laptops and television as well as social networking such as Facebook and Twitter. Therefore, time management skills are the skills that must be grasped by students in higher education institutions therefore the distraction can be managed and controlled properly.

Success cannot be achieved without time management. Time management skill is one of the factors in determining student's achievement [2, 3]. It is a skill that any individual can learn and master with the right tools and strategies [4]. It can be developed with practice and repetition. According to [5], time management requires discipline. Lack of self-discipline in time management leads students to procrastinate continually and they can experience the punishment of stagnation and do not perform academically at their ability level. A university environment's flexibility and freedom is feared to derail students who have not acquired time management skills. Therefore, it is important to conduct a study to investigate to what extent the time management skills have been attained by students and its impact on students' academic performance.

2. Engineering Students and Time Management

Previous research conducted by Ali et al. [6] shows that university students from science field are more skilful in managing time as compared to the students from technical and medical fields. They also discovered that the time management skills can affect academic achievement. In addition, another research conducted to a group of students at Universiti Teknologi Malaysia (UTM) found that there is a significant relationship between their students' time management skills and academic achievements [7]. Researchers in [7] randomly distributed their self-administered questionnaire they developed, based on Lewis's Time Management Theory, to ten faculties at UTM Skudai.

During the teaching and learning process in the Faculty of Engineering and Built Environment (FKAB) Universiti Kebangsaan Malaysia (UKM), undergraduate engineering students have to experience a variety of learning activities that are not only limited to conventional teaching in classroom style. The students are now required to undergo a student-centered learning or Outcome Based Education (OBE) which involves individual and group assignments, problem-based learning [8], project-based learning [9], e-learning,

jigsaw technique, industrial-based problem solving and many more. Some of the learning activities require the students to be engaged with gadgets. For instance, to learn using iPad [10] means a higher level of self-control is needed so the students will not divert from their learning task on the gadget. Apart from that, they also need to involve in extra-curricular activities and events organised at their campus residences or dormitories. Therefore, it is an obligation to all students to have reasonable time management skills in order to meet nowadays learning needs. Otherwise, they will obtain many difficulties in learning and also in their daily life.

Findings from previous work regarding the time management and students' academic performances have raised questions about the time management skills of engineering students at UKM. Therefore, this work is conducted as an initial phase of a framework that later will recommend the most effective method to enhance the management skills among UKM undergraduate engineering students. At the current stage, this work aims to get a preliminary overview of the students' capabilities in managing time and to realize the correlation with their academic performance.

3. Research Methodology

The study was conducted using a quantitative approach to obtain feedback from respondents through a questionnaire. The questionnaire was developed consisting of two parts that are Part A and Part B. Part A composes of the respondents' demographics, while Part B consists of the Time Management Skills questionnaire. The questionnaire is adapted from instruments of Time Management Behaviour (TMB) Scale by Macan et al. [2].

The questionnaire in Part B must be answered using a Likert scale of five where score 1 is for never and score 5 is for very often. The questionnaire contains four independent variables, namely a) Setting Goals and Priorities, b) Mechanics of Time Management, c) Preference for Organization, and d) Perceived Control of Time. Variable a- Setting Goals and Priorities highlights the skills of having objectives in life and focus on the most important things first; variable b- Mechanics of Time Management deals with behaviour of organizing tasks and routine with systematic approach; variable c- Preference for Organization refers to general preference for organization of workplace and approach to projects; and variable d- Perceived Control of Time reflects the extent to which one believes he or she can affect how time is spent.

This paper discusses on the overall trend of time management score which is the average score of those four dependent variables and then established and expressed as Time Management variable.

The questionnaires were distributed to all students from 1st year to 4th year and their inputs were then analysed using Statistical Package for Social Science (SPSS). The analysis is performed using statistical inference to obtain the status of students' time management skills; and the Pearson correlation to understand the relationship between students' time management skills and their academic performance.

4. Results and Discussion

The questionnaires were distributed in class during first semester of academic session 2015/2016. Students were given enough time to understand and respond to the question. A number of 272 students have responded to the survey and the respondent demographic is provided in Table 1. The respondent distribution shows the percentage in terms of gender, race and most importantly, year of study. In this regards, the respondents consist of 76 of 1st year students (24.6%), 83 of 2nd year students (30.5%), 72 of 3rd year students (26.5%) and 50 of 4th year students (18.4%). Based on gender composition, 46.3% of the respondents are male and the remaining 53.7% are female students. Majority of students are Malay (80.1%) while the rest is composition of Indian (3.3%), Chinese (14.3%) and others (2.2%).

Table 1. Respondent profile.

		Number	Percentage (%)
Gender	Male	126	46.3
	Female	146	53.7
	TOTAL	272	100.0
Race	Malay	218	80.1
	Indian	9	3.3
	Chinese	39	14.3
	Others	6	2.2
	TOTAL	272	100.0
Year of Study	1st Year	67	24.6
	2nd Year	83	30.5
	3rd Year	72	26.5
	4th Year	50	18.4
	TOTAL	272	100.0

Table 2 shows the number of credit hour taken by the respondents during the time of survey, which states that the course loading is reasonably uniform among them.

Table 2. Number of credit hour taken by respondent during the time of survey.

Year of study	Credit taken
1st Year	19
2nd Year	22
3rd Year	19
4th Year	22

4.1. Time management skills status based on year of study

In Table 3, the mean of the score for all four variables in the questionnaire are shown as an indicator of students' time management skills. Based on the results, the mean score for 1st year students up to 4th year students is around 3.26 to 3.36 (3.32 < mean < 3.36). Meanwhile, the cumulative mean score for all students with the value of 3.32 with standard deviation, *s.d* = .37 indicates the overall time management skill of respondents is average at best.

Table 3. Students' time management skills according to year of study.

Time Management	*N*	Mean	Standard deviation
1st Year	67	3.36	.36
2nd Year	83	3.26	.36
3rd Year	72	3.35	.43
4th Year	50	3.32	.27
TOTAL	272	3.32	.37

ANOVA results shown in Table 4 further verifies the earlier finding whereby there is no significant difference (*p* = 0.327) in terms of time management skills for students in the same year of study and also in different year of study. These results also show that the overall score for respondents is moderate regardless of year of study. Therefore, it can be concluded that FKAB engineering students in general, regardless of their year of study, rarely utilise good time management skills and mechanics in their daily life.

The lack of time management skills by students as indicated by this study must be addressed by the faculty as it is the role of the faculty to develop these students to become well-balanced engineers in their career as well as in their day-to-day life with family and communities.

Table 4. ANOVA results of time management skill for students based on year of study.

	Sum of Square	Df	Mean Square	F	Sig.
Inter-group	0.468	3	0.156	1.156	0.327
Intra-group	36.166	268	0.135		
TOTAL	36.634	271			

Table 5 shows the correlation between the students' time management skills and their year of study. Based on the obtained results, it is found that the correlation between these two variables is low, negative and has nonsignificant relationship (*r* = -.008, *n* = 272, *p*>.01). A negative correlation clearly indicates that students' time management skills decrease as their year of study increases. This specific result is particularly unexpected and very much in contrast to the results obtained in previous research [11] which indicates that students have better

time management skills in their final year of study compared to their earlier year of study [6]. As for the reasons behind this surprising result, it can be speculated that it is due to the ever-increasing complexity of their program curriculum which also increases their commitment to out-of-lecture hall activities.

Table 5. Pearson Correlation between time management skills and year of study.

		Time Management
Year of Study	Pearson Correlation	-0.008
	Sig. (2-tailed)	0.892
	N	272

Table 6 explains in details about time management skill of the students in terms of the four variables i.e. a) Setting Goals and Priorities, b) Mechanics of Time Management, c) Preference for Organization, and d) Perceived Control of Time. It is evidence that the lowest skill that the students have is Preference for Organizations (mean = 3.105). This variable can be described as students prefer not to be organised and leaving their space in mess is not a problem. The second lowest score is in Mechanics of Time Management (mean = 3.119). This variable is for having systematic approach to organize daily routine i.e. planning, making list and scheduling. Students are found not to have a good attitude in that sense. However, students are fairly good at Setting Goals and Priorities (mean = 3.675), and Perceived Control of Time (mean = 3.381). From this table, we can conclude that faculty essentially need to give more attention to the mechanics of time management and also teach students how to organizing their life systematically.

Table 6. Total of time management skill score for each variable.

	N	Mean	Std. Deviation
Setting Goals and Priorities	272	3.675	0.505
Mechanics of Time Management	272	3.119	0.640
Preference for Organizations	272	3.105	0.580
Perceived Control of Time	272	3.381	0.542

4.2. Relationship between time management skills and students' academic performance.

The relationship between time management skills of the students and their academic performance based on Cumulative Grade Point Average (CGPA) result is also analysed in this study. Out of 272 students, 258 students have disclosed their latest CGPA result while 14 students did not provide their latest CGPA. It has been found from Table 7 that the relationship between time management skills and student's CGPA is positive but slightly weak ($r = .014$, $n = 258$, $p > .01$). This result is in-line with the result obtained by the researchers conducted by Ali et al. [6] and Ghafar and Choong [7]. Even though each of them established their methodology based on different time management theory, the findings give

similar trends. Ali et al. [6] found that the relation is significant but weak ($r = .127$ and $p<.01$). In [7], researchers analysed the students' management skill and established that students with high academic performance recorded high scores for each category that is probed in the questionnaire.

From this result, it can be implied that even though time management skills are important in determining student's academic performance, it is not the major factor as indicated by the weak correlation with student's CGPA. Having said that, a further study is required to investigate the main factors that contribute to students' academic performance of undergraduate engineering student at UKM.

Table 7. Pearson correlation between time management skills and CGPA.

		Time Management
Latest CGPA	Pearson Correlation	0.014
	Sig. (2-tailed)	0.828
	N	258

5. Conclusions

Time management skill is important in order to have a good quality life and learning environment for higher institution students. This study is to investigate the level of time management skills among the undergraduate students at the Department of Electrical, Electronic and System Engineering UKM and its relationship with academic performance. From the survey results, it is evidence that the time management skills of students are marginally moderate. However, findings show that the time management skills do not have strong relation with academic performance, which is very much in contrast to what we supposed because good time management should lead to a good quality of life. It is also surprising to learn that the time management skill is dispossessing as students further to upper year of study. This matter should be examined further to find out the factor that reasons it to happen to undergraduate engineering students of UKM.

Acknowledgement

References

1. Al-Qardhawi, Y. (2000). *Pengurusan masa menurut Islam*. Kuala Lumpur: Al-Hidayah Publisher.
2. Macan, T.H.; Shahani, C.; Dipboye, R.L.; and Phillips, A.P. (1990). College students' time management: Correlations with academic performance and stress. *Journal of Educational Psychology*, 82(4), 760-768.

3. Gortner-Lahmers, A.; and Zulauf, C.R. (2000). Factors associated with academic time use and academic performance of college students: A recursive approach. *Journal of College Student Development,* 41(5), 544-556.

4. Gerard, M. (2002). Negative influences of time management. Retrieved February 27, 2016, from www.eskishore.com/ tiometips52.asp.

5. Zainol, A.S. (2001). *Membina kendiri unggul berkarisma.* Kuala Lumpur: Pusat Ilmu Jelatek.

6. Ali, W.Z.W.; Yunus, A.S.M.; Hamzah, R.; Abu, R.; Tarmizi, R.A.; Nor, S.M.; Bakar, K.A.; and Ismail, H. (2008). Kemahiran pengurusan masa pelajar universiti tempatan: Status dan hubungannya dengan pencapaian. *Jurnal Teknologi,* 49(E), 49-64.

7. Ghafar, M.N.A.; and Choong, Y.W. (2002). Perkaitan antara pengurusan masa dengan pencapaian akademik pelajar UTM. *Jurnal Pendidikan Universiti Teknologi Malaysia,* 8, 71-92.

8. Mustapha, R.; Rahim, Z.L.A.; and Azman, M.N.A. (2014). Exploring the problems faced by technical school students in learning engineering courses. *Journal of Engineering Science and Technology*, 9(6), 690-701.

9. Al-Atabi, M.U.; and Chin, S.B. (2007). A case study in project based learning using flow visualisation. *Journal of Engineering Science and Technology*, 2(3), 290-297.

10. Eid, N.; and Al-Zuhair, S. (2015). Evaluation of the use of iPad in teaching general chemistry lab to freshmen students. *Journal of Engineering Science and Technology*, 10(2), 249-257.

11. Kwan, A.S.F.; and Ko, E.I. (2001). Students' learning difficulties and coping strategies. *Presented at The 26th International Conference on Improving University Learning and Teaching*. Johannesburg.