

Determinants of Students' Academic Performance in Higher Learning Institutions in Malaysia

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Abstract

In this era, competition is everywhere, especially for graduated students who are looking for a job. Graduated students need to equip themselves with the knowledge and soft skills required by the industry. In the industry's view, they recruit and select workers based on selective criteria such as academic qualifications, intelligent, communication skills and ability to work as a team. Therefore, the graduated students are supposedly preparing themselves accordingly. This study aims to identify the factors that contribute to students' academic performance in higher learning institutions in Malaysia. The exploratory factor analysis (EFA) was used in this study with a combination of the principal component extraction method and the varimax rotation analysis to extract the possible factors. The findings revealed that there are three factors that contribute to students' academic performance in higher learning institutions namely learning ability, learning effort and time management. In producing high-quality students, higher learning institutions must ensure all students' necessity to possess these skills as demanded by the industry. As a result, it will increase the number of employed graduates and reduce the unemployment rate among graduates in Malaysia as inspired by the Twelfth Malaysia Plan.

Keywords: Learning Abilities, Learning Effort, Time Management, Academic Performance, Factor Analysis.

Introduction

In the Twelfth Malaysia Plan, the government aims to achieve a high-income nation by emphasizing human capital development by 2025 (Economic Planning Unit, Prime Minister's Department, Malaysia, 2021). Thus, the education system needs to produce a high-quality and skilled human capital to feed the industry needs. Hence, higher learning institutions must ensure all the students must possess certain skills like communication, critical thinking, problem-solving and assertiveness skills before they graduate and ready to serve the industry. In 2021, the number of graduates in Malaysia increase by 4.7 percent to record 5.61 million students compared to the year 2020 which is 5.36 million students. Meanwhile, the number

of employed graduates rise by 5 percent as against 2020 to register 4.57 million students (Department of Statistic Malaysia, 2022). It shows that higher learning institutions succeed in producing a massive number of employed graduate students in 2021. However, a quite alarming issue is the high unemployment rate among graduates which represents 4.1 percent. Even though higher learning institutions are capable to produce many graduates, but there is still an issue of employment among graduates that need to take care of. Moreover, the government targets to achieve 86.7 percent of graduate employability in higher education to solve the issue of inefficient labor market by 2025 (Economic Planning Unit, Prime Minister's Department, Malaysia, 2021). To reach that target, higher education institutions play a crucial role in moulding and producing qualified students who enable to analyse and solve actual problems with creative and critical thinking (Idris et. al., 2012).

In this challenging world, competition is everywhere, especially for freshly graduated students who are looking for a job. Graduated students need to equip themselves with knowledge and skills to avoid being isolated from senior workers in the workplace. From the industry's perspective, they are not only looking for students who are excellent in their studies but also multi-tasking workers who are able to analyse and solve problems promptly. According to Malaysian employers, there are preferred to recruit graduates who possess certain criteria such as able to work as a team, high ICT skills, proficiency in English, interpersonal and communication skills, academic qualification, and work experiences (Gurvinder & Sharan, 2008; Maros, 2000; Venugopal, 2000).

Based on the above statement, excellent academic performance is also one of the key elements for graduated students to get a good job with a nice salary. There are many factors that contributed to outstanding students' academic achievement either from students themselves, students' efforts, parents' educational background, peers, university facilities, time management, environment, personal factors, and economic conditions (Ali et al., 2013; Tesfaye, 2019; Asrat et al., 2020). Therefore, the aims of this study is:

- to identify the factors that contribute to students' academic performance in higher learning institutions in Malaysia.

Literature Review

The literature review consisted of the elucidations to support the research objectives on determining the student academic performance in higher learning education culminating with previous research projects on similar issues.

Academic Performance

Academic performance is said to have a significant connection with academic success. It becomes one of the several important components in determining the student academic success (Masud et al., 2019) besides student's academic progress and student learning process (York et al., 2015). Generally, higher achievement in academic performance could portray someone's intellectual level, academic work quality and personality.

Students' academic performance can be influenced by many factors such as attitudes, learning abilities, motivation, family, friends, financial strengths and many more. In a previous study done among university students by Ali et al (2013), the higher education performance is depending upon the academic performance of graduate students. Their findings identify

students' effort, previous schooling, parent's educational background, family income, self-motivation of students, age of student, learning preferences and entry qualification of students as important factors that have effect on student academic achievement. This is also supported by Kapur (2018), whereby in her research among students in secondary schools in India, she found that attitude of students, school resources, leadership aspects, classroom environment, motivating and encouraging students, counselling and guidance services, developments of study skills and time management are the important factors that might determine the academic performance of students.

On the other hand, some studies found that student academic performance is influenced by the personal factors, social, psychological, environmental, and economic conditions of the country (Asrat et al., 2020). This considering the various characters of students as well as cultures for each country. This is agreed by Crosnoe et al (2004), stating that these variables are inside and outside school and may affect the students' quality of academic achievement. It included student factors, family factors, school factors and peer factors.

Learning Abilities

Learning ability is about the students' capability in doing their best in studies. Usually, it comes together with students' motivation in achieving their academic goal targets. Students are easily motivated when they know what they want in studies and life (Francis et al., 2004; Sivrikaya, 2019). A study conducted by Pintrich (2003), stated that motivation is the most important factor affecting the academic success or failure of an individual in the learning process.

According to Yurnetti (2017), she defined learning ability as an understanding of the concept of subject learning. In her studies, she found that the ability of the students in science is only on average 60% below the criteria mastery level for student Kota Padang. The disability of the student in understanding the concept of the subject is crucial as it reflects academic success. Furthermore, it leads to the prior prediction on student achievement (Kuncel et al., 2004; Hailikari et al., 2007).

In the learning process, a student must have always been motivated therefore he/she can get the best grade in academics. This includes passion in reading academic books, doing their best in assignments and examinations. Amrai et. al (2011) agreed that with motivation, people are stimulated to successfully complete an assignment, achieving a goal or a degree of qualification in their professions. Successful students who are motivated to learn are always ready to learn new subjects, keep doing revisions, good in balancing social and academic aspects and always put a priority in study than other things (Pintrich et al., 1990; Renchler, 1992; Ellis & Worthington, 1994; Sivrikaya, 2019).

Learning Effort

Most of the students believe that success in academics can be achieved if they put in lots of effort. According to Sivrikaya (2019), the student believes that teaching activities and goals can be realized with a certain effort and difficulty. If a learning activity will provide a benefit to the student, the student sees this activity as valuable and makes efforts. People are attracted to something if he/she find it interesting and start to pay attention to doing it. With the interest in students there will be encouragement to learn so that it will affect student

achievement. (Lastrri et. al., 2020). Learning effort has a broader definition. Some define it as a conscious attempt to achieve a particular goal through persistence over time (Meltzer et al., 2001).

The other factors that can contribute to the learning effort is student attendance. Students who put priority on class attendance appeared to be more successful in academics. Many researchers recognized that class attendance is an important aspect in improving student's performance (Collett et. al., 2007; Stanca, 2006; Chow, 2003). Students who never skip the class realize that attendance is very important therefore they will not leave behind, resulting in the highest grade in academics although they know no points are given for coming to class (Moore, 2006).

Opposed to this, Martins and Walker (2006) disagreed that efforts for attendance give effects to academic grades. This is also supported by Park and Kerr (1990) and Schmidt (1993) who found an inverse relationship between students' attendance and their course grades.

Time Management

Time management plays a vital role in improving students' performance. In the university education environment, the value of time management is indisputable. Students in higher education face challenges in managing their time properly for academic and non-academic activities (Khan et al., 2019). Procrastination and lack of prioritisation are huge obstacles towards effective time management for the students (Igweh et al., 2020). According to Macan et al (1990), college students may feel overwhelmed with the idea that they don't have enough time to do all their work well because they are attempting to read all the books and chapters they have been assigned, accomplish paper deadlines and participate in extracurricular activities.

Spending hours on social networking sites, not having a suitable schedule, organisation, guidance, targets, missions, objectives or vision, and lack of social involvement are the primary issues or limitations associated with time management (Hamzah et al., 2014). Students could experience distressing feelings of not having enough time to finish all their work in time. Consequently, students struggle to study for examinations and finish their assignment before the deadline which leads to poor results in their final examination. Therefore, every student should be able to manage their time effectively, which includes defining objectives and goals and using time management tools. Students should prioritize significant issues and keep their attention on those that are crucial to their achievement. In fact, according to a survey in Macan et al (1990) shows 67% of undergraduates said that their top personal need was to manage their time more efficiently.

The term "time management" refers to a group of behavioral skill sets that include planning, organizing, scheduling, and budgeting and are crucial for managing one's workload while also maximizing efficiency and production (Sansgiry et al., 2006; Adebayo, 2015; Rai, 2016). Time management is viewed as an all-encompassing process that is carried out through tasks and is highly dependent on high levels of human abilities and skills to positively impact individual achievement. Effective time management is one of the keys for students to get better academic performance then be judged by the number of tasks completed in that allotted period, and one must prioritize some jobs above others to distribute the necessary time to attain the desired performance (Tesfaye, 2019). Poor time management skills, such as

improper time allocation or last-minute preparation for exams, have frequently been identified as a major cause of poor academic performance by several researchers (Hamzah et al., 2014).

There have been many past studies on the relationship between time management and students' performance. A successful student is an efficient time manager and their performance depends on their ability to manage time spent. Another study reveals the significant relationship between undergraduate students' time management behavior and academic performance was done by Rashid et al (2020); Khan et al (2019) using Time Management Behavior Scale (TMBS) developed by (Macan et al., 1990). The study found that having good time management abilities is associated with improved academic accomplishment among students, while having poor time management skills may have the opposite effect.

Contrasted with the study done Alani et al (2020) that critically analyzes the factors impeding time management towards students' academic performance achievement. The empirical findings in this study show that none of the claimed time management-related elements had an impact on students' academic achievement. The only factors influencing the students' performance are their own efforts and self-control. Thus, the students' responsibilities are to manage their own time and they should establish their own plans to ensure they get great academic achievement.

Research Methodology

This cross-sectional study was conducted to investigate the factors affecting the student's learning abilities. A sample of 169 students was employed in the study from several faculties in UiTM. As the minimal sample size is 90 respondents, this sample size is regarded as sufficient (Heir et al., 2017, as cited in Ong & Mahmud, 2020). This study was carried out using online questionnaire instruments. There are six sections including a demographic section involving 33 items and measured using the 5-point Likert scale. Apart from the demographic profile in Section 1, Section 2 has six items on Student's Learning Abilities, Section 3 has seven items on Student's Attitude in Study, Section 4 has six items on Student's Time Management, Section 5 has seven items on Academic System in Universities and Section 6 has seven items on Lecturers. These five factors were initially summarized by Jumadi et al (2020) and 33 items were constructed accordingly. Table 1 shows the distribution of items in this survey and table 2 indicates the description of each item respectively.

The data analysis was conducted using IBM SPSS Statistics for Windows Version 26. The exploratory factor analysis (EFA) was used in this study with a combination of the principal component extraction method and the varimax rotation analysis. However, to run the EFA, a validity of sampling adequacy, Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity should be considered, the test must greater than 0.5 and significant respectively (Field, 2013). Then, the number of factors extracted can be identified with an eigenvalue greater than 1 and the percentage of variance explained more than 60%. While the factor loading and communalities values should be more than 0.55 (Heir et al., 2010, as cited in Ong & Mahmud, 2020). Lastly, Cronbach's Alpha test of reliability should be tested for internal reliability for extracted factors from EFA.

Table1

Distribution of Items in Survey

Section	Factor	No. of Items
2	Students' Learning Abilities	6
3	Students' Attitude in Study	7
4	Students' Time Management	6
5	Academic System in Universities	7
6	Lecturers	7
		<u>33</u>

Table 2

Item Description

Variable	Item	Code	Description
Students' Learning Abilities	1	LA1	I am able to understand each subject taken during the semester
	2	LA2	I always focus in class.
	3	LA3	I always discuss with my lecturer any issues related to the subject
	4	LA4	I always prepare myself for the subject before coming to the class
	5	LA5	I am always motivated to learn new subjects
	6	LA6	I am able to learn difficult subjects
Students' Attitude in Study	7	A1	I am able to understand each subject taken during the semester
	8	A2	I am always serious when it comes to my study
	9	A3	I always do a revision for every subject
	10	A4	I always give my priority to study first
	11	A5	I always make myself ready for the class
	12	A6	I know, I must do my revision if I skip the class
	13	A7	I always make an effort to attend the class
Students' Time Management	14	TM1	As a student, I know my priority is to finish my study first
	15	TM2	I am good at managing my time
	16	TM3	Too active in student activities lead me to less attention to my study
	17	TM4	I am disciplined in managing time
	18	TM5	I am good at balancing the time between study and student activities
Academic System in Universities	19	TM6	I do not procrastinate to complete my assignments given by the lecturer
	20	AS1	I am aware there is a study plan for my program
	21	AS2	I know I need to follow the study plan prepared by the lecturer
	22	AS3	The study plan guides me to score better in my subjects

	23	AS4	I know if I fail any of the pre-requisite subject, I have to repeat the failed subject first before taking the next subject
	24	AS5	I think students should be given an option to choose subjects they preferred in each semester
	25	AS6	I know if I have too many carried subjects, I have to extend my semester
	26	AS7	I can't register for my subject if overlapped classes happen
Lecturers	27	L1	My lecturer will explain the subject repeatedly even though it has been learned in the previous semester
	28	L2	My lecturer does concern if the class is overloaded or crowded with the students
	29	L3	My lecturer is always concern about the student's attendance and participation in the class
	30	L4	My lecturer always takes care of the students regardless they are a current year or extended students
	31	L5	Sometimes I did not understand what was taught and always sneered while being asked by the lecturers
	32	L6	I easily understand what lecturers teach in the class
	33	L7	I can easily coop with the lecturers' teaching style

Analysis

The analysis shows that the KMO of 0.912 is larger than 0.5 and Bartlett's Test of Sphericity significant ($\chi^2=3897.423$, sig. value < 0.01), hence both validity tests are accepted. This result concludes that the sampling is adequate and there is a substantial correlation in the data, thus EFA can be used for further analysis.

Table 3

The initial eigenvalues and percent of cumulative variance explained

Component	Initial Eigenvalues	Cumulative % Variance Explained	Decision
1	13.529	45.997	Accept to Extract
2	3.362	56.186	Accept to Extract
3	1.294	64.862	Accept to Extract
4	0.948	67.736	Reject to Extract

Table 3 indicates the initial eigenvalues and percent of cumulative variance explained. Based on the above table, there are 3 extracted factors from EFA which accomplish the two indicators of factor accepted which are eigenvalues more than 1 and the percentage of variance explained more than 60%.

Table 4

Summary of EFA

Variable	Cronbach's Alpha	Code	Loading	Communalities
Learning Abilities	0.937	LA1	0.619	0.560
		LA2	0.723	0.577
		LA3	0.743	0.608
		LA4	0.731	0.557
		LA5	0.800	0.685
		LA6	0.710	0.613
		A1	0.740	0.611
		A2	0.694	0.701
		A3	0.753	0.624
		A4	0.715	0.626
		A6	0.603	0.564
		TM5	0.658	0.685
		TM6	0.571	0.552
Learning Effort	0.916	A5	0.615	0.583
		A7	0.684	0.604
		TM1	0.673	0.583
		AS1	0.730	0.607
		AS2	0.804	0.733
		AS3	0.552	0.569
		AS4	0.770	0.601
		AS5	0.584	0.639
		AS6	0.565	0.621
		AS7	0.671	0.605
		L1	0.553	0.557
		L2	0.581	0.552
		L3	0.781	0.671
L4	0.707	0.584		
Time Management	0.788	TM2	0.571	0.600
		TM3	0.581	0.573
		TM4	0.571	0.679
		L5	0.568	0.603
		L6	0.610	0.582
		L7	0.553	0.553

Based on the summary in table 4, the EFA results in a range value from 0.552 to 0.800 for loading and a range from 0.553 to 0.733 for communalities are adequate to meet the rule of thumb of more than 0.55. This result shows the range close to 1, hence the items are best explained by the factors accordingly. Therefore, the variable of learning abilities and time management are retained, while the new variable of learning effort is introduced after considering all items on it. Lastly, the Cronbach's Alpha test of reliability for each factor, 0.937, 0.916 and 0.788 are met the requirement of minimum 0.7 which indicates the consistency of factors measuring the items.

Findings and Conclusions

The findings revealed that there are three factors that contribute to students' academic performance in higher learning institutions which included learning ability, learning effort and time management. In order to achieve excellent academic performance, students need to equip themselves with skills required by the industry as well as attain good grades in examinations. In addition, higher achievement in academic performance could portray someone's intellectual level, academic work quality, and personality. Based on Ismail et al (2011), stated that there are 15 criteria employers considered in hiring workers, especially for fresh graduate students such as good academic qualifications. Hence, it proved good academic qualification is important for university students to notch.

As mentioned before, learning ability is one of the factors that influenced students' academic performance in higher education. Learning ability is where students are capable of doing their best in their studies including motivating themselves in achieving what they want in their studies and life (Francis et al., 2004; Sivrikaya, 2019). High motivation to succeed in their study will lead students to obtain good results in examinations. Completing assignments and tasks given by the lecturers, the ability to learn new subjects, and being good at balancing study and social life also contribute to students' learning ability (Amrai et. al., 2011; Pintrich et al., 1990; Renchler, 1992; Ellis & Worthington, 1994; Sivrikaya, 2019). From here, we can see why the learning ability of students plays a vital role in explaining academic success.

A learning effort refers to whether a student tries harder to complete the tasks, ask for help if needed, and how well they participate and cooperate in class. For most university students, working and trying hard on completing tasks are linked in achieving positive learning outcomes including better grades in academic performance. For them, if they see the teaching activities in the classroom are valuable, they are willing to put extra effort into those tasks. According to Stipek (2002), engagement and participation of students take place when the instructors promote effort in the classroom by highlighting students' participation, setting high expectations on completing the assignments simultaneously encouraging students to support each other as team members. In fact, students who have a sense of efficacy, they will enjoy finishing the tasks and willingly to put extra effort into mastering the tasks.

Time management is challenging for university students who struggle to differentiate priorities in life such as academic studies and social life. Time management plays a vital role for students in maintaining harmony in studies and a balanced lifestyle. Effective time management brings plentiful benefits that will lead students to attain high academic performance. This statement is supported by Tesfaye (2019), where managing time wisely is a key for students to get better results in academic performance. Students also must be able to prioritize which tasks must be completed first among other tasks. Poor time management skills will cause students to attain poor academic performance such as last-minute preparation for exams, and improper time allocation between study and social life (Hamzah et al., 2014). If students fail to manage their time during studies, they will bring that attitude once they work in the industry. Thus, this is not the attitude needed by the industry.

In conclusion, we can see that learning ability, learning effort and time management of students will lead to higher academic performance among university students. This will result to high quality students produce by university. These factors are meant for the contribution

of this study to the industry while screening and looking for the right candidate for a job with the said qualities. At the same time, it also shows the significance of this study when it may influence the increases number of employed graduates and reduce the unemployment rate among graduates in Malaysia as inspired by the Twelfth Malaysia Plan.

Lastly, the researchers acknowledge that there are still other variables that influence students' academic performance among university students in Malaysia. These variables include parents' educational background, university facilities, classroom environment, counselling and guidance services, leadership aspects, and so on (Kapur, 2018). It would be interesting in future studies to focus on these variables by using different methods to analyze the result.

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