

The Regression Analysis of Factors Contribute to University Students' Academic Performance

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Abstract: Malaysia Education Blueprint 2015-2025 (Higher Education) mainly highlighted sustaining the quality of higher education in this country. One of the crucial focuses is concerned with improving the graduate's academic performance. Align with the Government's aim UiTM has taken a progressive action to blend the current environmental scenario and higher education reform as espoused by the Minister of Education. The UiTM Strategic Plan 2025 was established to improve its performance as well as the quality of Bumiputera's education quality. This study reports on assessing the various outer factors related to university students' academic performance concentrating on the relationship between teaching and learning approaches, family and peer influences and student's financial with academic performance among UiTM's students. A theoretical framework was constructed to examine the relationship between variables. Next, a quantitative study has been carried out to gather the respondent's feedback. An adapted survey consisting of 25 items with 5 point Likert scale was distributed to 497 respondents using the convenience sampling procedure. Data were then analyzed using the Statistical Procedure for Social Science (SPSS) to test the hypotheses. The result confirmed the hypothesis in determining the significance between the constructs. Family and peer influence was identified as the most influence factor on student academic performance ($r = 0.584$, $p = 0.000$, $p < 0.05$). The result also revealed that the teaching and learning approach and family and peers influence the student's academic performance.

Keywords: *UiTM, teaching and learning, family and peer influence, financial, academic performance.*

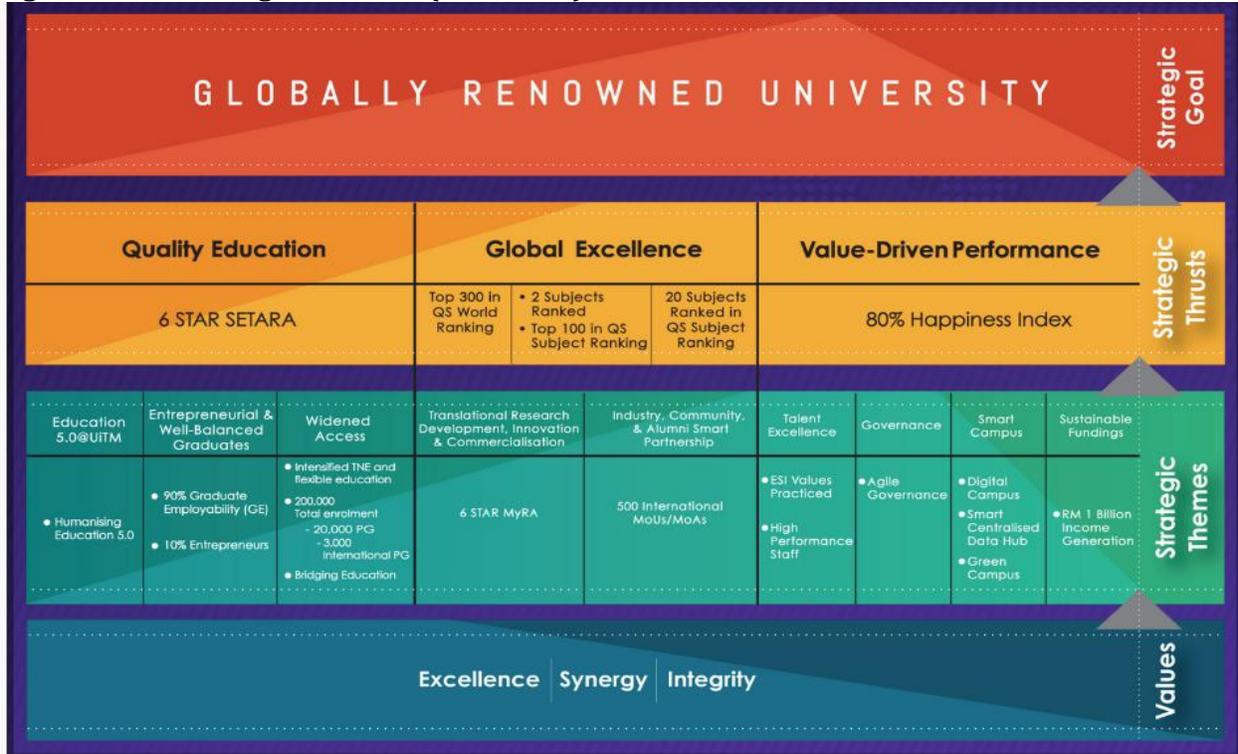
1. Introduction and Background

Academic performance is one of the main indicators in measuring the student's performance. Realizing this concern UiTM has highlighted 22 key initiatives (KI) in the UiTM Strategic Plan 2025 and the first initiative is focusing on students' academic quality. This project outlined the strategy to Embark on Forward Thinking Assessment for Student Learning Progress and Development through evidenced-based practice, data-driven learning, learning experience and learning analytics. The main objective of this strategy is to continuously enhance the quality of students' performance. Demonstrated in UiTM Strategic Plan 2025 (UiTM 2025) (Figure 1) the key initiatives its strategic goal UiTM aims at becoming Globally Renowned University by 2025. It anchors on three (3) Strategic Thrusts including Quality Education, Global Excellence and Value-Driven Performance. Then each strategic thrust is associated with identified Strategic Themes. Focusing on Strategic Thrust 1 UiTM has strategized six (6) areas of concern consisting of 6 STAR SETARA, 200,000 students' enrolment, Education 5.0, balanced student nurtured with ESI and I-DART values and entrepreneurial skill and mindset. All the areas will significantly contribute to the student's life-long learning process as well as their academic performance. The role as an academic institution UiTM continuously emphasizes the quality of teaching and learning activity.

Apparently, the teaching and learning approach is one of the factors that influence the academic performance of university students. Teaching and learning styles play a crucial role in the academic world. A well-developed teaching and learning styles can help students enhance their learning and thus encourage self-directed learning (Ab Razak, et al (2019). Educators should be able to recognize the crucial factors that positively contribute to the student's academic performance including the learning and teaching styles, environment, resources, technology, their level of knowledge, financial stability, personality and other influencing factors. Nevertheless, little attention is paid to the compatibility of the educators' teaching style with students' learning styles, which play a vital role in how much knowledge the students can gain from the material presented in class (Aldajah, Haik & Moustafa, 2014). Ramli (2020) states in his research, that a student who is in a learning environment that has access to reasonable infrastructure and environmental services can learn comfortably to achieve better academic performance. Because of this situation, it is vital for

the UiTM as the education provider to adapt to the newly emerged technology and review and change the curriculum into an integrated competencies curriculum and more active teaching-learning along with the changing era to improve and maintain students' high academic performance (Imran et al 2019).

Figure 1: UiTM Strategic Plan 2025 (UiTM 2025)



In June 2022, the Ministry of Higher Education Malaysia revealed that a total of 17,613 public university students dropped out, while 5,165 students stopped their studies without mentioning a reason in 2021. The ministry also added that personal or family issues, as well as financial difficulties, led to these circumstances (Free Malaysia Today, 2022). According to Amy, George, John and Cynthia (2017), lower academic achievement can lead to high dropout rates. The root causes of student academic struggles in Malaysia need to be addressed proactively and constructively to prevent low academic performance among its students. Based on the highlighted issues this study attempts to answer the following research hypothesis:

- H1a, There is a significant positive relationship between teaching and learning approaches and academic performance among respondents.
- H2a, There is a significant positive relationship between family and peer influences and academic performance among students.
- H3a, There is a significant positive relationship between student's financial and academic performance among students.

2. Literature Review

This study adapts the Theory of performance (Elger, 2012) and the Family Stress Model (Conger & Conger, 2002). Elger's theory intended to explain that many factors contribute to academic performance. As a result, an individual's performance level is particularly equal to the achievements, which encourages succession through grades. One of the components is "Environment"; one's surroundings generally affect individual performance. This would mean the environment surrounding an individual's life could impact one's performance ability, which is described as learning and teaching factors in this study. However, these situations could have either a positive or negative influence. Also, a student's mental and physical well-being is highlighted as being an aspect that contributes to performance (Elger, 2012).

According to Mallika et al. (2022), many researchers have shown an interest in investigating all the variables that influence students' academic performance in university, and many studies have attempted to establish a direct causal relationship between various factors and students' academic performance. Previous studies have highlighted various factors that impact academic performance, including teaching and learning approaches, family and peer influences, and the student's financial situation (Ab Razak et al., 2019). The family Stress Model suggests that financial problems can significantly influence individuals' well-being and functioning, including their academic performance for university students. This theory suggests that financial constraints and concerns create stress and strain on individuals, which can manifest in various ways that impact their educational outcomes (Conger & Conger, 2002). Financial issues can also affect students' access to educational resources and opportunities. For instance, students facing financial constraints may be unable to purchase necessary textbooks, attend extracurricular activities, or participate in internships or research opportunities that could enhance their academic performance.

Academic Performance: The term student academic performance can be described as how well a student is performing in their academic endeavors, such as their grades, test scores, and overall knowledge and understanding of the material (Hamann, Pilotti & Wilson, 2020). In Malaysia, higher education systems such as universities use Grade Point Average (GPA) as a means to measure student's grades for each semester based on marks calculated from each course taken. This grade is obtained by multiplying and dividing marks by number of credit hours taken. To calculate the rest of the semester, Cumulative Grade Point Average (CGPA) are measure of academic performance by the sum of total grade points for all semesters, divided by total credit hours for all course codes. As a recognition, students who excel in acquiring above GPA of 3.5 in a semester are awarded the 'Dean's Award' also known as 'Dean's Honors' and 'Vice Chancellor Award' as a reward for a CGPA of 3.5 at the end of the academic year.

However, this can differ according to the grading system in the university, for example, Universiti Malaya and Universiti Putra Malaysia allow a GPA of 3.7, with at least 15 credit hours to be awarded with 'Dean's Award', while Universiti Teknologi Mara and Universiti Malaysia Sarawak allows GPA 3.5 with at least 12 credit hours to be awarded (HEP Universiti Malaya Regulation, 2019; Universiti Malaysia Sarawak, n.d.). An excellent academic performance for university students is not just essential for meeting requirements in completing their studies; it also impacts on student's ability to apply knowledge in their chosen field and better transition into industry. Strong academic record can open doors to opportunities such as internships, scholarships, graduate programs or job opportunities and provide students with a competitive advantage over their peers (Camacho-Morles et al., 2021).

Teaching and Learning: Academic performance is thought to be significantly influenced by teaching and learning strategies, and it is acknowledged that these strategies can aid students in enhancing their learning and promoting self-directed learning. According to evidence, not everyone learns in the same way (Maya, Luesia, and Perez-Padilla, 2021). As stated by Kaufman (2018), "the beliefs held by teachers about their preferred ways of teaching and learning" are the conceptions about teaching and learning. These include what teaching and learning are, as well as what teachers' and students' duties are. Traditional and constructivist ideas of teaching and learning were divided into two categories by various academics. The traditional model, also known as teacher-centered teaching, emphasizes learning via obtaining knowledge from textbooks and teachers by viewing the teacher as a presenter of knowledge and the student as a recipient of knowledge or a passive learner. Contrarily, conceptual conception, also known as student-centered instruction, emphasizes the value of experience and active learning processes that foster discovery, collaboration, and critical thinking by treating the teacher as a mentor and the student as a willing participant.

Research shows that students and educational institutions must understand the ideal teaching and learning approaches. Students should customize these approaches to meet their distinctive learning demands because they typically have preferences for how they prefer to learn or comprehend a subject. Assessing students' ideal learning techniques or styles is crucial for enabling flexibility in educators' pedagogical approaches (Azlan et al., 2020). According to Kapur (2018), a positive learning environment fosters a sense of involvement, safety, and belonging while supporting students' needs, interests, and ambitions. Numerous studies have employed standardized methods to recognize and comprehend the learning styles and preferences of their students, but none have examined the relationship between the teaching style and the

unique preferences of the students and academic success. In addition, studies by Chetty et al. (2019) demonstrate that when teachers and students have similar approaches to learning, students learn more, retain more knowledge, and perform better.

Therefore, more research is required to examine the connection between the academic performance of university students and teaching and learning. Additionally, Newton & Salvi (2020) claim that one of the shortcomings of the study on teaching and learning techniques is the absence of analysis of the alignment of teaching and learning approaches. The purpose of this essay is to look into how academic achievement among university students and teaching and learning interact. The necessity of identifying the most productive teaching and learning modalities will be demonstrated to those working in the education sector and it will encourage further discussion in the classroom about the issues brought on by inadequate preparation of students' instruction and learning resources.

Family and Peers Influence: The influences of family and peers are important to university students as they may boost their academic performance. According to Jie, Xue, Wangshui, Gong and Zhiming (2018), students who have stronger social support from family and peers in the university have better academic achievements and a lack of social support from family and peers may contribute to mental health disorders, especially depression, among university students (Alsubaje et al., 2019), and this situation may affect their academic performance. Therefore, family and peers play a vital role by providing social support that can inspire students to stay motivated to face all challenges and problems associated with academics. As an impact, students will be motivated to work harder during learning to improve academic performance. Additional research is necessary to test the relationship between family and peers' influences and student's academic performance.

Moreover, there is a need to investigate this issue because there has been a significant amount of research done by other countries mostly on the influence of family and peers on student's academic performance Olufemi, Adediran & Oyediran (2018). Thus, the purpose of this research is to investigate the university student academic performance which is affected by family and peers' influence factors. This research will show how family and peers influence university students' academic performance.

Students Financial: Sala (2022) defines financial problems for students as a circumstance in which the student is unable to pay school fees in the short or long term. This situation is where individual stress is being brought on by money worries. Financial hardship is something that many individuals are dealing with, and it may have a big influence on things like motivation, academic performance, and mental health. Next, student's financial problem also refers to the difficulties or challenges faced by students related to their financial circumstances including the inability to afford educational expenses, high tuition fees, living costs and other financial obligations associated with pursuing higher education (Perman, 2019). Student's financial problems including trouble paying tuition fees, a lack of financial help and living expenses, are the study's final independent variable. A student's financial problems can have a negative impact on a student's academic performance, according to various studies that have looked into the relationship between a student's financial problems and academics.

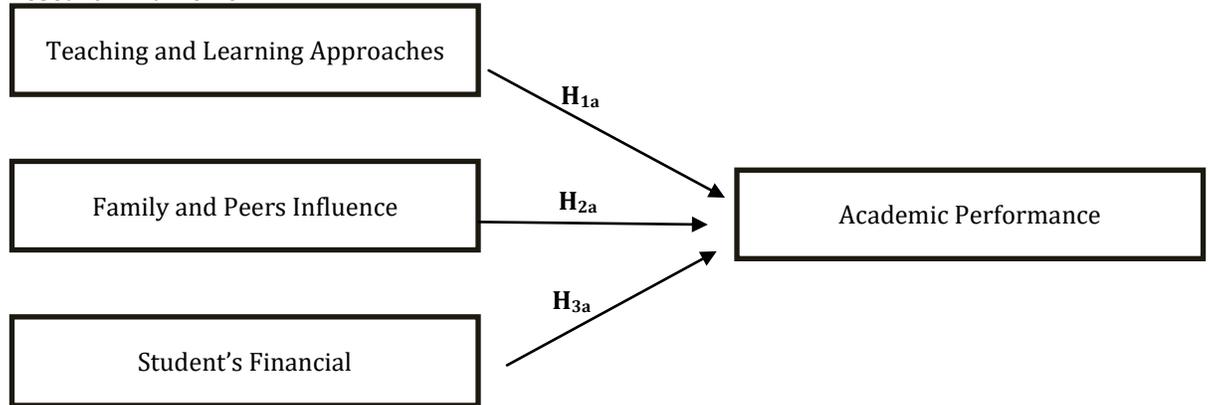
Financial stability has several benefits, including a sense of security and peace of mind. However, financial struggles are common and are expected to worsen among university students, particularly those who come from low-income families. In Malaysia, financial problems among university students are a major issue that must be solved since they contribute to a variety of problems, including health concerns and academic performance Norazla, Yusuf & Al-Majdhoub (2020). Financial difficulties among students have become worse these days due to the increased, cost of living. To survive, students must work part-time to support their living expenses. As a result, their bodies will be exhausted from work, and they will lose focus during class. According to other studies done in the Philippines, students who had financial difficulties would work part-time while studying to sustain their personal and school needs (Acbang et al., 2019).

This situation becomes worse when this financial problem affects their academic performance. Another study done by (Carréon et al., 2019) mentioned that students' finances are one of the factors that affect student's academic performance as it may lead to academic failure. Therefore, additional research is necessary to test

the relationship between a student's financial and academic performance. In addition, there has been some research done on student financial and academic performance in a few places, so there is a need to investigate this issue. Thus, the purpose of this study is to investigate university students' academic performance, which is affected by student's financial factors. This research will show how students' finances affect university student's academic performance, which is the primary issue in this case.

Research Framework: The Research framework is a diagrammatical representation that shows the relationship between the constructs. The first component of the framework consists of teaching and learning approaches, family and peer influence and student finances which acted as the independent construct next the academic performance plays the role as a dependent construct.

Figure 2: Research Framework



3. Research Methodology

The collection of quantitative data was part of this investigation. Primary data and secondary data were the two categories of data sources that the researchers concentrated on. Based on the preliminary data obtained from the sample's self-administered questionnaire, the primary data was acquired. Additionally, to assist this research, researchers also consulted secondary data from sources including articles, the internet, and journals. The data was obtained from 497 of the population among students with Bachelor's Degrees in Health Administration (BA235). UiTM Puncak Alam. Then Krejcie and Morgan (1970) were applied to identify the required sample size. Based on the table numbers of required sample size for the available population is 111 students. Next to obtain the respondents' feedback a questionnaire with 25 items was adapted. Then all the feedback was analyzed using SPSS version 21.

4. Results

Table 1: Demographic Analysis

Section	Items	Frequencies	Percentage (%)
A- Gender	Male	21	18.9
	Female	90	81.1
B- Age	19-22 years old	36	32.4
	23-26 years old	75	67.6
C- Semester	1	10	9.0
	2	9	8.1
	3	12	10.8
	4	28	25.2
	5	52	46.8
D- CGPA	2.50-3.00	5	4.5
	3.01-3.5	46	41.4
	3.5 and above	60	54.1

Table 1 shows that 90 respondents (81.1%) are female, meanwhile 21 respondents (18.9%) are male. It also shows that 75 respondents (67.7%) were aged between 23 to 26 years old, followed by 36 respondents (32.4%) aged between 19 to 22 years old. Semester represents the semester the respondents are currently studying. The highest percentage is shown by Semester 5 with 52 respondents (46.8%), meanwhile, the lowest percentage is from Semester 2 with 9 respondents (8.1%). The remaining Semester 1 recorded 10 respondents (9.0%) and Semester 3 recorded 12 respondents (10.8%). In the context of Cumulative Grade Point Average (CGPA), it is shown that 60 respondents (54.1%), scored above 3.5 pointer, followed by 46 respondents (41.4%) scored between 3.01 to 3.5 pointer. The remaining 5 respondents scored between 2.5 to 3.00 pointers.

Table 2: Reliability Statistics

Variable	No. of Items	Cronbach's Alpha	Strength of Association
Teaching and learning approaches	5	0.773	Excellent
Family and Peer Influence	5	0.816	Excellent
Student's Financial	5	0.767	Excellent
Student's Academic Performance	5	0.806	Excellent

Table 2 represents the result of the reliability analysis for all constructs. The assessment of reliability showed all 25 items successfully achieved an excellent strength of association.

Table 3: Correlation Analysis

Construct		Academic Performance	Teaching and Learning Approaches	Family and Peer influences	Student's Financial
Academic Performance	Correlation Coefficient	1	.410**	.584**	-0.144**
	Sig. (2-tailed)		.000	.000	.132
	N	111	111	111	111

** . Correlation is significant at the 0.01 level (2-tailed).

The relationship between teaching and learning approaches and student's academic performance among respondents shows in Table 3. The result revealed that there is a positive significant relationship between both variables ($r = 0.410$, $p = 0.000$, $p < 0.05$). The strength of the relationship between teaching and learning approaches and student's academic performance is a moderate relationship. The result indicates that the better the academic teaching and learning approaches, the better the student's academic performance.

Lastly, the relationship between students' financial and student's academic performance among respondents shows there is no relationship between student's financial and student's academic performance ($r = -0.144$, $p = 0.132$, $p > 0.05$).

Table 4: Regression Analysis Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.634 ^a	.402	.385	.559	.402	23.962	3	107	.000	2.032

a. Predictors: (Constant), Mean_FINE, Mean_FANP, Mean_TANL

b. Dependent Variable: Mean SAP

F change: 23.962, Significant: 0.000, $R^2 : 0.402$

According to Table 4, the value of F change is 23.962 which is >1 and the significant value is 0.000 which is less than the critical value ($p < 0.05$) indicating that the regression model is fit ($R^2 = 0.402$) shows that all the

independent variables (teaching and learning approaches, family and peers influence and students financial) together explain 40.2% of the variance in student's academic performance. Another 59.8% of the variance is explained by other variables that are not covered in this study.

Table 5: ANOVA^a

Model		Sum of Squares	DF	Mean Square	F	Sig.
1	Regression	22.478	3	7.493	23.962	.000 ^b
	Residual	33.459	107	.313		
	Total	55.937	107			

A. Dependent Variable: Mean SAP

b. Predictors: (Constant), Mean_FINE, Mean_FANP, Mean_TANL
F = 23.962, Sig = 0.000, Sig p value <0.05, F >1

Table 5 illustrates that the model is significant as the p-value is 0.000 which is less than the critical value ($p < 0.05$). F statistics is 23.962 ($F > 1$) indicating this model is fit. Hence the regression model is significant. It means there is a relationship between independent variables and dependent variables.

Table 6: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	1.135	.457		2.486	.014
Mean_TANL1	.049	.125	.042	.390	.697
Mean_FANP	.647	.117	.589	5.513	.000
Mean_FINE	-.076	.059	-.097	-1.285	.202

Based on Table 6, the largest beta coefficient is family and peer influence ($\beta = 0.589$, $p = .000$, $p < 0.05$) explains 58.9% of the variance of student's academic performances. This concludes that family and peers influence make the strongest contribution to explain student's academic performance. Teaching and learning approaches and student finances do not contribute to students' academic performance.

Discussion: Technically the analysis showed there is a moderate positive significant relationship ($r = 0.410$) between the teaching and learning approach and academic performance among faculty of business and management students in UiTM Puncak Alam, Selangor. The p-value ($p = 0.00$, $p < 0.005$) which means that the coefficient is statistically significant. Thus, the hypothesis shows that there is a moderate positive significant relationship between teaching and learning approach and academic performance among faculty of business and management students in UiTM Puncak Alam, Selangor. The result also indicates that the better the teaching and learning approaches, the better the student's academic performance. Hence, hypothesis H1 is supported. It was supported by a study, which found significant evidence that the teaching and learning process was an important factor in the improvement of academic performance because it had a larger Beta value than other factors. Another study by Jayanthi et al (2014) found that effective teaching and learning strategies have been found to significantly enhance students' performance as measured by their cumulative grade point average (CGPA).

Then, the result shows that there is a moderate positive significant relationship ($r = 0.584$) between family and peer influences and student academic performance between both variables. The p-value ($p = 0.000$, $p < 0.05$) shows that the coefficient is statistically significant. Thus, the hypothesis shows that there is a moderate positive significant relationship between family and peer influences and student's academic performance. The result explained that the better family and peers influence, the better the student's academic performance. Hence, hypothesis H2 is supported. This analysis was by Ab Razak et al (2019), in which the

study shows a positive relationship between family and peer influence and academic performance. Most researchers agree that students “academic performance with involvement or guidance by parents has a positive influence on the students. Finally, the result shows that $r = -0.144$ and the p-value is 0.132 more than $p = 0.05$. This indicates that there is no significant relationship between student’s financial and academic performance among respondents. The findings demonstrated that there is no relationship between students’ financial and academic performance. Hence, this indicates that hypothesis H_3 has been rejected. It was supported by a study by Norazlan, Yusuf & Al-Majdhoub (2020). In which the study also shows a negative relationship between student financial and student academic performance. However, our findings contradict the study by Ab Razak et al. (2019), in which this study shows a positive relationship between student’s financial and academic performance.

There are a few recommendations that can be used and utilized to improve student performance through excellent preparation of teaching and learning approaches. The first recommendation is to guarantee the accessibility of educational resources and building space. When the required learning resources are made available to students, they start to seek knowledge actively rather than being passive receivers of it. Next is to emphasize continuous assessment. It is crucial to continue to ask students for feedback on how their courses are going to foster an environment that is favorable to an active learning approach. Active learning must be implemented with regular, accurate, and timely assessment. Next, to improve student’s academic performance, family and peers also play an important role. Family should play an important role to make sure their children can perform well in their studies. The family should ask how their exam result and give them moral support to their children. For peers, the student should find good peers. Peers are the ones who are always with students through ups and downs while studying at the university. The student should find a peer who always motivates them to study. Having these good peers, will influence students’ efforts and thus have a good impact on students’ academic performance.

5. Conclusion

UiTM ultimately demonstrates its commitment as stated in UiTM Strategic Plan 2025 (UiTM 2025) to secure its position among universities in the world. Consequently, constructing a comprehensive strategy to achieve the institutions’ aims requires UiTM to provide and equip a constructive ecosystem for students, graduates and lecturers so that they have a global mindset and are competitive locally and internationally. Therefore, it is significant to understand the factors that affect Malaysian university students’ academic performance. Academic performance is a crucial determinant of success in higher education and a crucial part of growth for individuals as well as for society. This activity is significant objectively in supporting the university’s aims to become a leading global university of science, technology, humanities and entrepreneurship by 2025.

By identifying factors that influence academic performance, policymakers, educators and administrators can develop effective strategies and policies to enhance student achievement in higher education. This action is very important because from now it requires UiTM to proactively respond to changes and the current needs among its clients include the students’ needs. Significantly this study identified the most critical factors that affect student academic performance and can help inform policies and interventions that address the teaching and learning that they operate, family and peer influences of university students, as well as students’ financial specifically to achieve the objectives of UiTM Strategic Plan 2025 (UiTM 2025).

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