

FACTORS INFLUENCING UNDERGRADUATE ACADEMIC PERFORMANCE OF UNIVERSITI TEKNOLOGI MARA (UiTM) KELANTAN BRANCH

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Abstract: Academic performance is a vital issue that entails the same attention from groups despite the differentiation in political interest and intention. In light of this issue, this research is undertaken to discover the performance of diploma students in the Faculty of Business and Management, Universiti Teknologi MARA Kelantan Branch (UiTMCK), Malaysia. Furthermore, this study determines the relationship between factors and academic performance in UiTMCK. By using simple random sampling, the data were collected from 100 students from Diploma of Business Studies through a questionnaire survey. The data were analysed using SmartPLS 3.2.1 software. The analysis showed that only group discussion, self-motivation and family influence had a strong direct relationship with academic performance while the rest of the variables did not have a significant relationship with academic performance. The implication from this study would be of benefit for future researcher who are interested in examining other indicators of measuring students' performance such as communication, problem-solving and teamwork skills.

Keywords: Academic Performance, Factors, Kelantan, Undergraduate

1. Introduction

Academic performance has always been used as the measurement to produce high-quality graduates to fulfil the industry requirements as well as being a great leader and future excellent manpower for the nation. However, graduates are found to face difficulty in having a job because of many reasons and one of the main reasons is lack of academic excellence (Hanapi & Nordin, 2013). In record, the number of unemployed graduates in 2019 was 170,300 with an increase of 5.5 per cent (2018: 161,300 people) (Department of Statistics Malaysia Official Portal, 2021) and the figure keeps increasing in the year 2020 due to COVID-19 pandemic. Thus, academic performance should be a concern to parties not only from the university but also the government, corporate sector and body of

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authority. Academic performance is a crucial issue that needs devotion from all parties without compromising the differences in political interest and intention. In highlighting this issue, research has been undertaken to explore academic performance among diploma students from Faculty of Business and Management in Universiti Teknologi MARA Cawangan Kelantan (UiTMCK), Malaysia. Furthermore, this research was conducted to determine the relationship between identified factors such as teaching method, teaching aids, group discussion, class attendance, course assessment, peers, self-motivation and family influence with the academic performance which focused on Universiti Teknologi MARA Cawangan Kelantan, Malaysia. The findings from this research aim to help the graduates in Malaysia to be more concerned about their environment which would affect their study and eventually to improve academic performance as well as rally the education performance in Malaysia.

2. Literature Review and Development of Research Hypotheses

2.1. Academic Performance

According to the Theory of Performance (ToP), a performer can be an individual or a group of people engaging in a collaborative effort. This theory explains that performance could consist of 6 (six) components: context, level of knowledge, levels of skills, levels of identity, personal factors and fixed factors (Nyanza, Mukulu & Iravo, 2015). Thus, in relating the theory with the research interest which is academic performance, the researchers focused on personal factors and fixed factors. Realising that academic performance will lead to an increased employment, several studies were conducted in Malaysia to ascertain the factors that influence academic performance in the universities. Academic performance is crucial for a university for the good outcomes that lead to job performance in the future (Kuncel, Credé & Thomas, 2005). Meanwhile, Benavot (2004) proclaimed that the assessment of academic performance should be in the perspective of the agreed objectives which are generally uttered in terms of the grade achieved in the examination like Grade Point Average (GPA). The GPA system is an indicator of academic performance which is utilised by many universities in the world (Blue, Gilbert, Elam & Basco, 2000; James & Chilvers, 2001; Nguyen, Allen & Fraccastoro, 2005). GPA is used frequently as a proxy for aptitude and prior academic performance. For example, researchers using the United States (US) data found evidence that supported GPA as a significant predictor of academic performance (Doran et al., 1991; Eskew & Fale, 1988). Thus, factors that could alleviate hurdles for achieving and maintaining the required GPA need to be identified and improved by university administrators, academics and students (Womble, 2003).

2.2. Factors Influencing Students Performance

The factors influencing academic performance are teaching aids, family influence (Mushtaq & Nawaz Khan, 2012), peers, teaching method (Wan Ab Razak, Syed Baharom, Abdullah, Hamdan, Abd Aziz & Mohd Anuar, 2019), and course assessment (Lebcir et al., 2021) while group discussion, class attendance and self-motivation are new factors added by the researcher as a new contribution. The main purpose of teaching is to ensure there are at least minimal changes to the learner (Tebabal & Kahssay, 2011). To ensure knowledge transmission, teachers should apply suitable teaching methods to achieve the teaching objectives. There are a few approaches that the teachers can choose to ensure the learner will gain maximum impact based on the learning process. The first type of teaching method is a teacher-centred method in which it is the least practical and more focused on theoretical and memorizing (Teo & Wong, 2000). The other method is a student-centred method which focuses to enhance learning and discovery learning among students with the focus on active learning. Usually, this method encourages the student to conduct an analytical study, critical thinking and enjoyment (Hesson & Shad, 2007). Finally, the teacher-student interactive method is the strategy that combines both methods of teacher-centred and student-centred approach. A previous study confirmed that this kind of teaching method is effective in improving academic performance (Damodharan & Rengarajan, 1999). Thus, the authors proposed H1: The teaching method is positively significant with academic performance.

Teaching aids tools are all the needs and equipment used by teachers and students to assist in the delivery and understanding of information (Jamaat, Yee, Tee, Kok & Azid, 2020). The formation of the

positive attitude among the students could be related to the sensory stimulation generated by the teaching aids and associated affective responses when it was analyzed from a product-trial perspective (Chou, Yen, Yen, Chao & Huang, 2015). Teaching aids are also found to be a practical solution to assist trainers to teach a practical lesson (Ismail, Mahusin, Asary, Zubir, Masek & Dardiri, 2020). Furthermore, the use of technology in creating teaching aids for the Teaching and Learning (TL) process has a great impact in delivering knowledge and skills as well as expediting the learning process amongst students (Ma'arof, Hanapi, Nashir, Hussain & Isa, 2019). Thus, the authors proposed H2: Teaching aids is positively significant with academic performance.

Moreover, Orawiwanakul and Wichadee (2016) noticed that the practice of group discussion allows the students to actively participate in the discussion, making them improve not only their critical thinking but also language skills and participation in-class activities. This is in line with Green (2012) who concluded that knowledge from group discussion in class can be used as another strategy to engage students to be active participants in their learning of science topics while also allowing students to demonstrate oral speaking skills in a respectful learning environment. Thus, the authors proposed H3: Group discussion is positively significant with academic performance.

Student attendance assumed an important factor in the academic performance and success of students (Elbilgahy, Mohamed Seliman & Alemam, 2021) and substantial researchers found that it is statistically significant and considered as an important aspect in improving academic performance. According to Hutt, (2018), continued absenteeism or poor academic performance among the learners leads to a high drop-out rate. It is indicated by one author that absenteeism acts as a crime that is more common among the learners who got low grades (Daka and Changwe, 2020; Mulenga – Hagane, Daka, Msango, Mwelwa and Kakupa, 2019). Meanwhile, a study by Hinojosa-Gonzalez, Farias, Tellez-Giron, Aguirre-Villarreal, Brenes-Castro and Flores-Villalba (2021) to a total of 108 medical students, found that students with higher attendance regardless of call schedules performed higher academically. In addition, Li, Wang, Zhang and Sherwood (2021) also verified the positive correlations between face-to-face class attendance and academic performance among 3783 students. Thus, the authors proposed H4: Class attendance is positively significant with academic performance.

Assessment of an academic practice during a course delivery is one of the essential aspects of academic performance evaluation. The course assessments are useful indicators for the lecturers to improve the quality of learning and academic practices. To assess academic performance in an academic course, choosing appropriate assessment types, assessment methods, and assessment activities are very important (Sural, 2016). For assessing academic performance in a course, it is essential to follow the assessment methods, assessment activities and assessment type described in the course specification. An example of an assessment method is the oral presentation while an example of assessment activity is the preparation of the oral presentation on the technical topic from the course content. Meanwhile, an example of assessment type is decided by the lecturer whether it is individual or group activity. Islam, Ahmadi and Yousaf (2017) showed that collective assessment formats allow students to be effective in demonstrating their knowledge. A suitable selection of assessments will trigger better academic performance. Good practice in the assessment of academic performance is associated with the selection of the method which matches the purpose of the assessment, the properties being assessed and the intended outcomes of instruction (Bella & Boyle, 1994). Previous empirical works have revealed the significance of assessment and its crucial impact on students' learning (Black & Wiliam 1998; Knight, 2008; Stassen & Kathryn, 2001; Struyven, Dochy, Janssens, Schelfhou & Gielen, 2005; Olds, Moskal & Miller, 2005). Thus, the authors proposed H5: Course assessment is positively significant with academic performance.

Peers play a significant part in students' life. According to Hardcastle (2002), a peer can be anyone who has the same thought, same behaviour, and equality to age or ability, such as friends or classmates. Students spend more time engaging with their peers within and outside the classroom. Hence, it is highly likely that the attitudes, habits, or other characteristics of their peers may influence them. Previous studies showed that peer influence affects academic performance not only at the primary and secondary level but also at the tertiary level (Yusuf, Okanlawon & Oladayo, 2020; Filade, Bello, Uwaoma,

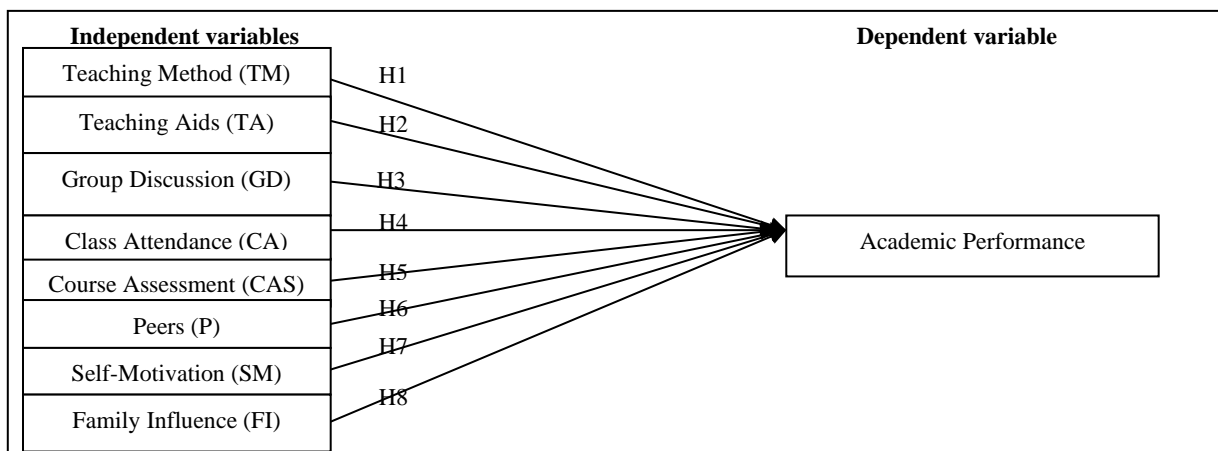
Anwanane & Nwangburuka, 2019). Another study revealed that most students in secondary school are more interested in relating to their peers than their teachers and parents (Ajibade, 2016). Therefore, students need to interact with the right peer group. The right peer group could undoubtedly influence their interest, motivate them towards their studies and boost their academic performance (Akomolafe & Adesua, 2016). Most previous studies indicated a significant relationship between peers and academic performance. For instance, recently, Li, Li, Wei and Liu (2019) conducted a study on how friends affect students' performance and the result showed that friendship has a relationship with students' academic performance. Thus, the authors proposed H6: Peer is positively significant with academic performance.

Motivation refers to a student's willingness, need, desire and compulsion to engage in the learning process and be successful in it (Bomia, 1997). Motivation could be divided into two types; extrinsic motivation and intrinsic motivation. Extrinsic motivation generally refers to outside sources or values that influence a person to act or learn. For example, reward, recognition and praise of good work. Intrinsic motivation, sometimes referred to as self-motivation, refers to forces that arise from within an individual that cause an individual to act or learn. Hayat, Salehi and Kojuri (2018) reported that students' intrinsic and extrinsic motivations were significantly correlated with their academic performance. The study revealed that students with extrinsic motivation appear to concentrate on gaining rewards, getting better grades and being accepted by their peers, whereas students with internal motivation are more committed to study and more satisfied with education. Afzal, Ali, Khan and Hamid (2010) reported that students with a high degree of intrinsic motivation (self-motivation) perform much better academically than those who are extrinsically motivated. This finding was supported by Buzdar, Mohsin, Akbar and Mohammad (2017) which revealed that students are more intrinsically motivated than extrinsically motivated for their academic performance. Thus, the authors proposed H7: Self-motivation is positively significant with academic performance.

Furthermore, a study by Adetutu and Adebayo (2021) found that family challenges influenced the academic performance of secondary school students. It was therefore concluded that a pleasant home environment is provided by parents for their wards to improve their academic performance. This is in line with a study by Alnagar, Alharbi, Abdulrahman and Alamri (2021) which found that family is one of the factors that influenced the female students' academic performance in Tabuk University. Thus, the authors proposed H8: Family is positively significant with academic performance.

Based on a comprehensive review of previous studies, a conceptual framework using hypotheses H1 – H8 is proposed to understand the relationships as presented in Figure 1.

Figure 1: A Conceptual Framework with Hypotheses Development between Factors and Academic Performance



3. Research Methodology

Considering the knowledge on the topic of interest, the students are the respondents who are aware of their academic performance. Hence, the sampling units of this study are the students. A simple random sampling is used in this study. A simple random sampling is a subset of a statistical population in which each member of the subset has an equal probability of being chosen. Based on the sample size calculator, the population is 140 with a margin of error is 5 per cent and the confidence level is 95 per cent; thus, the sample size is 103. As simple random sampling was implemented, the selected respondents were given a set of questionnaires and they are required to answer all items and return them to the researcher immediately. However, after the screening process, only 100 respondents were eligible for the research. They included 100 students of Diploma in Business Studies. A set of questionnaires that consisted of 3 sections (A: Demographics, B: Independent Variables, C: Dependent Variable) adapted from several sources was distributed to all respondents. The questions asked were on a Likert-scale rating system consisting of the five-point rating scale. In this research paper, Structural Equation Modelling - Partial Least Squares algorithm (SEM-PLS) analysis method using the SmartPLS 3.2.1 was employed to examine the relationship between the factors and academic performance. Through SEM-PLS, the researchers analysed the data using measurement and structural model evaluations.

4. Result

4.1. Demographic Profile of the Respondents

Based on analysis using SPSS, the demographic profile of the respondents in this study has been divided into six (6) items. They are the gender, programme, current semester, CGPA, accommodation and transportation. The result shows that from the 100 responses analysed, the majority of the respondents were females with 73 respondents (73 per cent) and the rest were 27 respondents (27 per cent) who are males. More than half of respondents from the Business Studies programme and were from Semester 3 in 45 respondents (45 per cent), Semester 4 is 46 respondents (46 per cent) and Semester 5 is nine (9) respondents (9 per cent). Based on the analysis it was found that most of them were excellent in academic background. It is proven by their CGPA and the majority of them were getting 3.00 and above. In detail, 23 respondents (23 per cent) were got 3.51 to 4.00, 45 respondents (45 per cent) were got 3.01 to 3.50. The rest were got 2.51 to 3.00 which is 22 respondents (22 per cent) and only ten respondents (10 per cent) were got 2.00 to 2.50. In terms of accommodation, most of them were staying at residential college provided by UiTMCK which are 80 respondents (80 per cent), 15 respondents (15 per cent) staying at rented house and only five (5) respondents (5 per cent) staying with family. Finally, the majority of them were using transportation provided by UiTMCK or just walking to go to class because they are staying inside. Only 34 respondents (34 per cent) use their vehicles to go to class.

4.2. Measurement Model Evaluation - Internal Consistency Reliability

The first criterion to be determined in the measurement model is internal consistency reliability which includes Cronbach's Alpha and composite reliability. Specifically, the composite reliability values should be higher than 0.70 (Hair, Hult, Ringle, & Sarstedt, 2014) to show the modest reliability applicable in the research.

Table 1: Internal Consistency Reliability

Construct	Item	Loading range (>0.70)	Composite Reliability (>0.70)	Cronbach's Alpha (α) (>0.60)
Teaching Method (TM)	15 items	0.702 – 0.908	0.947	0.940
Teaching Aids (TA)	4 items	0.851 – 0.920	0.921	0.974
Group Discussion (GD)	10 items	0.762 – 0.851	0.933	0.921
Class Attendance (CA)	8 items	0.750 – 0.902	0.943	0.934
Course Assessment (CAS)	7 items	0.741 – 0.912	0.924	0.904
Peers (P)	7 items	0.909 – 0.972	0.982	0.979
Self-Motivation (SM)	7 items	0.757 – 0.934	0.912	0.904
Family Influence (FI)	6 items	0.912 – 0.945	0.969	0.961
Academic Performance (AP)	7 items	0.845 – 0.990	0.974	0.969

Using SEM-PLS, Table 1 shows the composite reliability and Cronbach's Alpha values for teaching methods, teaching aids, group discussion, class attendance, course assessment, peers, self-motivation, family influence and academic performance respectively. All of the constructs had strong composite reliability where the values between 0.70 and 0.90 are considered strong and satisfactory (Nunnally & Bernstein, 1994). The Cronbach's alpha values for the constructs were strong with the teaching methods reported as 0.940, teaching aids as 0.974, group discussion as 0.921, class attendance as 0.934, course assessment as 0.904, peers as 0.979, self-motivation as 0.904, family influence as 0.961 and academic performance as 0.969. The internal consistency of 0.60 is minimally acceptable and all these values were well above that (Nunnally & Bernstein, 1994). Therefore, this indicated that all the constructs had composite reliability greater than 0.70 and the Cronbach's Alpha values were above 0.60, suggesting the acceptable reliability.

4.2.1. Measurement Model Evaluation - Convergent Validity

Convergent validity of the measurement model is usually ascertained by examining the loadings, average variance extracted (AVE) and also composite reliability (Gholami, Sulaiman, Ramayah & Molla, 2013). As suggested by Hair, Black, Babin and Anderson, (2010), the authors used the factor loading value of more than 0.70. The loadings were all higher than 0.7 except for BTM3 (0.453), BTA1 (0.423), BCAS5 (0.307), BFI5 (0.279) and BAcademicPerformance1 (-0.325) which need to be deleted. Besides the loading values, other considerations in determining the convergence validity are the composite reliability and average variance extracted (AVE). After deleting 5 items, the new loading values are shown in Table 2. The loadings for all items exceeded the recommended value of 0.7 (Hair et al., 2010). The composite reliability values depict the degree to which the construct indicators indicate the latent, and the construct ranges from 0.912 to 0.982 which exceeded the recommended value of 0.7 (Hair et al., 2010). The AVE of the construct should be greater than 0.50 because it is believed to explain more than half of the variance. Meanwhile, the AVE values of less than 0.50 imply that there are more remaining errors in the items that are not yet explained by the construct. Therefore, all the AVE values at the construct level as shown in Table 2 indicate the convergent validity of the measurement model. The AVE value was in the range of 0.562 and 0.897.

Table 2: Convergent Validity of Measurement Model (after deletion of 5 items)

Construct	Loading range (>0.70)	CR (>0.70)	AVE (>0.50)	Cronbach Alpha (α) (>0.60)
Teaching Method (TM)	0.702 – 0.908	0.947	0.562	0.940
Teaching Aids (TA)	0.851 – 0.920	0.921	0.797	0.974
Group Discussion (GD)	0.762 – 0.851	0.933	0.595	0.921
Class Attendance (CA)	0.750 – 0.902	0.943	0.679	0.934
Course Assessment (CAS)	0.741 – 0.912	0.924	0.672	0.904
Peers (P)	0.709 – 0.972	0.982	0.897	0.979
Self-Motivation (SM)	0.757 – 0.934	0.912	0.600	0.904

Family Influence (FI)	0.912 – 0.945	0.969	0.862	0.961
Academic Performance (AP)	0.845 – 0.990	0.974	0.864	0.969

4.2.2. Measurement Model Evaluation - Discriminant Validity

The common methods to assess discriminant validity are cross-loading and Fornell-Larcker (1981) criterion by comparing the correlation between constructs and the square root of the AVE for that construct. According to this method, discriminant validity is determined when the loading of an item on a construct is higher than all of its cross-loading with other constructs. The result showed that the first construct which is the teaching method consisted of 14 items and they were found to have significant loadings of this construct. For teaching aids, three (3) items were found to have significant loadings while group discussion which comprised of ten (10) items was found to have significant loadings. Class attendance comprised of eight (8) items which were found to have significant loadings while course assessment comprised of six (6) items was also found to have significant loadings. Meanwhile, peers consisted of seven (7) items with significant loadings, self-motivation consisted of seven (7) items with significant loadings and family influence consisted of five (5) items with significant loadings too. Finally, the academic performance consisted of six (6) items which also had significant loadings.

Meanwhile, Henseler et al. (2015) suggested the Heterotrait-Monotrait (HTMT) ratio of correlations as a rigorous method of achieving discriminant validity. HTMT, as a criterion, involves comparing it to a predefined threshold. Gold, Malhotra and Segars (2011) proposed that a value of 0.90 shows a lack of discriminant validity. Hence, Table 3 shows that discriminant validity has been established.

Table 3: Heterotrait– Monotrait (HTMT)

Constructs	1	2	3	4	5	6	7	8	9
1. Academic Performance	0.961								
2. Class Attendance	0.737	0.961							
3. Course Assessment	0.719	0.862	0.961						
4. Family Influence	0.536	0.587	0.713	0.961					
5. Group Discussion	0.816	0.818	0.854	0.552	0.961				
6. Peers	0.335	0.600	0.565	0.168	0.566	0.961			
7. Self-Motivation	0.565	0.550	0.532	0.221	0.617	0.789	0.961		
8. Teaching Aids	0.506	0.829	0.743	0.716	0.490	0.448	0.334	0.961	
9. Teaching Method	0.627	0.856	0.873	0.708	0.737	0.534	0.571	0.788	0.961

Note: Diagonals (in bold) represent the average variance extracted while the other entries represent the squared correlation.

4.3. Structural Model Evaluation - Assessment of Collinearity among the Constructs

The structural model involves the analysis of the relationship between the latent variables or constructs. The first step in evaluating the structural model is to examine collinearity issues between each set of constructs separately for each subpart of the structural model. Table 4 shows the Variance Inflation Factor (VIF) values of the analyses. It can be seen that all the VIF outputs were clearly below the threshold of 5. Therefore, collinearity among the constructs was not an issue in the structural model. Thus, the researchers can continue examining the default report such as path coefficient, R^2 , f^2 , and Q^2 .

Table 4: Collinearity Assessment of the Constructs

Construct	VIF (<5)
Teaching Method	3.452
Teaching Aids	2.908
Group Discussion	4.829
Class Attendance	4.778
Course Assessment	4.738
Peers	2.001
Self-Motivation	1.991
Family Influence	1.042

4.3.1. Structural Model Evaluation - Assessment of Path Coefficients

Path coefficients indicate that the strengths of the relationships and hypotheses are empirically supported. As seen in Table 5, it is confirmed that only three (3) path relationships were significant. The exogenous construct of group discussion significantly contributed to explaining the variation in the endogenous latent variable namely the academic performance with the β value of 0.795 (80%). The same was applied to self-motivation which significantly contributed to explaining academic performance with the β value of 0.355 (40%) while family influence significantly contributed to explaining academic performance with the β value of 0.247 (25%). Meanwhile, the relationships between teaching method, teaching aids, class attendance, course assessment and peers with academic performance were not significant with the β value of -0.078 (p-value 0.585), 0.048 (p-value 0.378), 0.642 (p-value 0.199), -0.724 (p-value 0.123) and -0.334 (p-value 0.651), respectively. The t-values of the parameter indicate the strength of the relationship represented by the parameter where the higher the t-value, the stronger the relationship is. The bootstrapping procedure using a 5000 sample was used to obtain the t-values of each coefficient (Chin, 2010; Efron & Tibshirani, 1993).

Table 5: Significant Testing Results of the Structural Model Path Coefficients

Structural Path	Path coefficient (β)	t- value	P-value
Teaching Method → Academic Performance	-0.078	0.546	0.585
Teaching Aids → Academic Performance	0.048	0.883	0.378
Group Discussion → Academic Performance	0.795	4.401	0.000**
Class Attendance → Academic Performance	0.642	1.287	0.199
Course Assessment → Academic Performance	-0.724	1.544	0.123
Peers → Academic Performance	-0.334	0.452	0.651
Self-Motivation → Academic Performance	0.355	2.526	0.012**
Family Influence → Academic Performance	0.247	3.552	0.000**

4.3.2. Structural Model Evaluation - Assessment of Coefficient of Determination (R^2)

The R^2 value refers to a measure of the model predictive accuracy and it is calculated as the squared correlation between a specific endogenous construct's actual and predicted values. There is no specific rule of thumb for the R^2 value. The threshold values suggested by Chin (1998) to measure R^2 value are 0.67 (substantial), 0.33 (moderate) and 0.19 (weak). Table 6 shows the R^2 value for the endogenous construct that achieves the acceptable value of R^2 . Overall, the model explained a 'substantial' portion as suggested by Chin (1998). For this research model, the R^2 values for the endogenous variable indicated that the proposed theoretical model explained 74 per cent or 0.724 of the variances in the academic performance, which was a very satisfactory level of model predictability. Thus, this model is meaningful with strong predictive capacity.

Table 6: Determination Coefficient (R^2)

Endogenous variable	R^2 value	Threshold
Academic Performance	0.742	≥ 0.67 (substantial)

4.3.3. Structural Model Evaluation - Assessment of Effect Size (f^2)

The effect size (f^2) is a measure used to assess the relative impact of a predictor (exogenous) construct on an endogenous construct (Hair et al., 2014). By following the guidelines from Cohen (1988) to measure the relative effect size of exogenous construct on the endogenous construct, the f^2 value of 0.02 may be considered as a small effect, 0.15 is considered as medium effect and above 0.35 as a large effect. The result is presented in Table 7. The exogenous constructs namely teaching method, teaching aids, group discussion, class attendance, course assessment, peers, self-motivation and family influenced explaining the predictive value of the endogenous latent variable, namely academic performance with the f^2 effect size of 0.006, 0.002, 0.465, 0.183, 0.170, 0.170, 0.202 and 0.080, respectively. In summary, most of the constructs had a medium effect size in producing the R^2 of academic performance.

Table 7: Effect Size (f^2) of the Latent Variable

Structural Path	Effect size (f^2)	Rating
Teaching Method → Academic Performance	0.006	Small
Teaching Aids → Academic Performance	0.002	Small
Group Discussion → Academic Performance	0.465	Large
Class Attendance → Academic Performance	0.183	Medium
Course Assessment → Academic Performance	0.170	Medium
Peers → Academic Performance	0.170	Medium
Self-Motivation → Academic Performance	0.202	Medium
Family Influence → Academic Performance	0.080	Small

Note: The values of f^2 ; 0.02=small, 0.15=medium, 0.35=large

4.3.4. Structural Model Evaluation - Assessment of Predictive Relevance (Q^2) and Blindfolding

The Q^2 value is a measure of predictive relevance based on the *blindfolding* technique in SEM-PLS (Hair et al., 2014). In the structural model, the Q^2 value that is larger than zero for a certain reflective endogenous latent variable indicates the path models predictive relevance for this particular construct. By running the blindfolding technique in SmartPLS3.2.1, the Q^2 values are obtained as shown in Table 8. All Q^2 values were considerably above zero; thus, providing support for the model predictive relevance regarding the reflective endogenous latent variables.

Table 8: Predictive Relevance (Q^2) of Endogenous (Omission distance=7)

Relationship	$Q^2 > 0$
Teaching Method → Academic Performance	0.460
Teaching Aids → Academic Performance	0.522
Group Discussion → Academic Performance	0.461
Class Attendance → Academic Performance	0.555
Course Assessment → Academic Performance	0.515
Peers → Academic Performance	0.767
Self-Motivation → Academic Performance	0.470
Family Influence → Academic Performance	0.721

4.3.5. Overall Results of Structural Model Analysis

The results of the hypotheses testing are summarized in Table 9. Overall, only three (3) hypotheses were accepted and significant at $p < 0.01$. It can be concluded that group discussion (H3; $\beta = 0.795$, $t = 4.401^{**}$), self-motivation (H7; $\beta = 0.355$, $t = 2.526^{**}$) and family influence (H8; $\beta = 0.247$, $t = 3.552^{**}$) had strong direct relationship with academic performance. In conclusion, three (3) hypotheses were accepted in this research.

Table 9: Results of the Structural Model Analysis (Hypotheses Testing)

Hypotheses	Relationship	Standard Beta (β)	Standard Error	t-value	f^2	$Q^2 > 0$	Decision
H1	Teaching Method → Academic Performance	-0.078	0.233	0.546	0.006	0.460	Not Supported
H2	Teaching Aids → Academic Performance	0.048	0.138	0.883	0.002	0.522	Not Supported
H3	Group Discussion → Academic Performance	0.795	0.191	4.401**	0.465	0.461	Supported
H4	Class Attendance → Academic Performance	0.642	0.349	1.287	0.183	0.555	Not Supported
H5	Course Assessment → Academic Performance	-0.724	0.422	1.544	0.170	0.515	Not Supported
H6	Peers → Academic Performance	-0.334	0.308	0.452	0.170	0.767	Not Supported
H7	Self-Motivation → Academic Performance	0.355	0.222	2.526**	0.202	0.470	Supported
H8	Family Influence → Academic Performance	0.247	0.131	3.552**	0.080	0.721	Supported

* 1.645 - 2.32

** 2.33 and above

** $p < 0.01$

5. Discussion and Conclusion

The group discussion method, as shown in this study, resulted in higher academic performance. This method is considered an active learning method where the students can share and exchange information. In group situations where questions and comments are encouraged, learners have the opportunity to ask about what they do not understand, to get others' ideas, and to attach meaning to what might otherwise be meaningless. The active learning method is supposed to leave students with a greater level of knowledge and better learning skills compared with students exposed to other forms of learning (Lake, 2001). This type of learning process would result in deeper engagement, more lasting learning that arises from the active use of concepts in the class, the construction of one's own knowledge and meaning and the creation of a communicative climate within the class.

Meanwhile, a study by Kusurkar, Ten Cate, Vos, Westers and Croiset (2013) stated that motivation is positively associated with the use of a good study strategy by the students which are positively associated with higher study effort. A study by Ekpe et al. (2014) among 130 students indicated that students' self-motivation (hard work) with rich parental socio-economic background is needed to achieve academic success while self-motivation appears to be more a critical success factor. In terms of family influence, a study by Shafa and Paul (2014) revealed that there is a relationship between the family environment of the students and their school environment with their school adjustment.

According to Usman (2012), the ability to achieve academic performance includes the teacher, student as well as university in being able to achieve their goals. The study about students' performance in their school has an important implication for the teacher, students and their future career (Papageorgiou & Halabi, 2014). The importance of students' performance has several implications for students, teachers

and university policy-makers (Yousef, 2019). In an emerging country's educational system, it is vital to ensure the consistency of the students' academic performance since the teaching-learning process significantly gives a holistic positive impact (Bonaci et al., 2014).

In conclusion, it is crucial for Malaysian public higher education institutions to be more concerned about the factors that would lead to academic performance among undergraduates. However, the current situation in the work market does not only rely on academic performance, but it also involves other skills such as communication, problem-solving and teamwork. Thus, all graduates must prepare themselves with all above-mentioned attributes to ace the job market .

6. References

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