Promulgating Factors Influencing Students' Academic Achievement: Unveiling the International High Schools Setting

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Academic achievement is an important item on the agenda for parents, schools, researchers, governments, and in particular, students. Academic achievement may determine the nations' future and provide human and intellectual power for the nation to survive and thrive. Numerous studies have focused on the context of local university students while the international high school students have received less attention. To this end, this study aims to investigate the factors that affect the academic achievement of international high school students in Malaysia. Based on the literature, the study proposes that self-efficacy, peer support, teacher support, and future goals would affect academic achievement. There were 117 respondents involved in this study, all of whom were international students receiving formal education in Malaysia. By using a questionnaire, the data were analysed using Statistical Package for Social Science (SPSS) and Partial Least Square (PLS). The findings indicate that the most important factor influencing academic achievement is future goals followed by peer support, teacher support and self-efficacy. To summarise, all these elements need to be given emphasis to ensure students' academic achievement improves.

Key words: *Academic achievement, High school, Self-efficacy, Peer support, Future goals, Teacher support.*

Introduction

Academic achievement is the students' school results beyond interruption and failings (Lynch, Lerner & Leventhal, 2013). It has special importance for policy makers and educational authorities, and it is referred to in many ways such as student performance, academic performance and academic achievement (Kirschner & Karpinski, 2010). In this study, the term academic achievement and student academic performance are used interchangeably.

Researchers define academic achievement differently. In the study by Kobal and Musek (2001), they state two different definitions. The first is more related to the objective measurement of the academic achievement. Academic achievement is defined as numerical scores that determine the extent of students' adoption of the education system and homework. While the latter is more related to the subjective measurement where academic achievement is defined as the students' attitudes toward their academic success, which is also influenced by the attitude of others such as peers, parents, and teachers to accomplish academic goals (Kobal & Musek, 2001). Ganai and Mir (2013) view academic achievement as the excellence in all academic disciplines, in class and in co-curricular activities. Zimmerman (1990) defined academic achievement as the acquisition of academic knowledge.

The above definitions are based on subjective and objective measurements where the subjective one is related to the attitude and the general performance of the students at the school while the objective one is related to the numerical numbers (marks in subjects and CGPA) that the students achieve during his or her studies. In this sense, the definition of Zimmerman (1990) is adopted in this study because it indicates that academic achievement is all about the acquisition of academic knowledge, which matches the scope of this study.

In the era of high uncertainty in term of technology and globalisation, education is considered as one of the effective methods to confront the challenges that are being faced by nations. Education has an essential role in developing the human capital of a nation, which results in the wellbeing of individuals and a better living standard (Battle & Lewis, 2002; Ford, 2011). The acquisition of knowledge and skills by individuals leads to an increase in their contribution to the nation, which ultimately leads to economic growth, development, and the prosperity of countries (Akessa, 2015; Helen,et.al 2017). As a result, the academic achievements of students from all stages have been one of the top priorities for governments, educators and policy makers. This is because developing highly qualified students will make a difference not only in the home country but on the worldwide level (Farooq et al., 2011).

Spinath (2012) emphasises the importance of academic achievement with regard to different perspectives such as for individuals and societies, as well as psychological and educational

research. The Organization for Economic Cooperation and Development (OECD) highlights the importance of studying the academic achievement of students as this provides the opportunity for nations to assess their educational systems and to compare their systems with other nations (OECD, 2010). Sandai and Nor (2018) reinforced that students attending schools that focus on academic performance tend to attain a better academic performance.

This demonstrates that student academic achievement is an important topic to investigate. Student academic achievement determines the future of nations and provides the human and intellectual power for the nation to survive and thrive. As a result, this study is attempting to investigate the factors that affect student academic achievement so that recommendations to improve academic achievement can be made based on the findings of this study. Thus, this study aims investigate students' self-efficacy, peer support, teacher support and future goals in regard to their academic achievement. Besides, four hypotheses were proposed as illustrated below.

    i.   Self-efficacy has a positive effect on students' academic achievement.
    ii.   Peer support has a positive effect on students' academic achievement.
    iii.   Teacher support a has positive effect on students' academic achievement.
    iv.   Future goals have a positive effect on students' academic achievement.

Literature Review

The term academic achievement refers to a performance outcome that determines the degree to which a person has completed a specific goal that was the central to the activities in an instructional environment such as a school (Crede et al., 2015; Hsiao,et.al 2017). Student academic achievement includes cognitive goals, which could be applied across multiple subject areas such as creative thinking or it could include the acquisition of knowledge and understanding in area such as math, literature, and physics. Therefore, academic achievement can be a multifaceted construct that comprises of different areas of learning. Accordingly, previous studies focused mainly on measuring the academic achievement using the Cumulative Grade Point Average (CGPA) (Kobal & Musek, 2001). However, this measurement does not reflect the real academic achievement because it focuses on a particular area at a certain period. Thus, this study suggested that to find out the real academic achievements students must be asked a group of questions that are related to their academic achievement in general.

In a recent literature review study conducted by York, Gibson, and Rankin (2015), they define and measure the academic success of educational institutions. In this study, they

describe the continuous measurement of academic achievement using GPA as problematic listing three reasons to support their claim. Firstly, previous studies described grades and GPA as not accurate measures of learning. Secondly, GPA and grading are inconsistent, and they differ to great degree within and between universities. Thirdly, GPA represents a narrow aspect of academic achievement.

Piaget (1997) developed the cognitive theory of learning. According to the theory, peers can learn from one another and can develop new knowledge or conceptual structures through the processes of dis-equilibration and re-equilibration (O'Donnell & O'Kelly, 1994). During the learning process, peers may experience cognitive conflict in terms of understanding with other peers. Sorden (2012) argued that cognitive conflict exposes discrepancies between peers' own and others' knowledge, resulting in dis-equilibration. As such, a higher level of understanding emerges between peers, through dialogue and discussion, so that equilibration is restored and, simultaneously, cognitive change occurred. This is regarded as an internal process, which then manifests itself in behaviour; an inside and out theory (Sorden, 2012).

Tudge and Rogoff (1989) pointed out that there are three conditions for cognitive peer learning to occur i) the peers must have a common scale of intellectual understandings; the focus is to allow them to attribute the same meanings to the same terms; ii) peers should be able to conserve their own ideas; this is important to prevent them from contradicting themselves in the course of processing new information; and iii) a condition of mutuality must be present between peers (Damon & Phelps, 1989) to appreciate the essence of learning from each other (Razak & See, 2010). Different researchers agree that learning with peers is more productive to cognitive excellence than individual learning. Therefore, peer learning is something internal and encouraged throughout the formal learning setting (Golbeck & Sinagra, 2000). This theory is employed in this study because it pointed out that collaboration between peers is necessary for them to exchange ideas. Peers can learn from each other within an instructional environment such as school. This study incorporates peer support as an independent variable and it expects that peer support will have a significant effect on the academic achievement of students.

Self-Efficacy and Students' Academic Achievement

Self-efficacy describes an individuals' belief of what they are capable of doing (Bandura, 1986). In addition, self-efficacy serves as a form of courage in enabling the subject capable of carrying out any related task successfully (Othman & A, 2019). Self-efficacy influences individual beliefs in the way that they perceive their degree of motivation, individual emotional reactions, thought patterns, and supports individuals to make an important decision (Bandura, 1994). Researchers incorporate and test the effect of self-efficacy on student academic performance. For example, Joo et al. (2012) investigated the influence of self-

efficacy on the academic achievement of undergraduate students. Data was collected from 248 respondents. The findings indicated that self-efficacy has significant and direct influence on the academic achievement of students. Similarly, Joo et al. (2012) investigated the influence of self-efficacy on academic achievement. Data was collected from 897 respondents. The findings indicated that self-efficacy is a strong predicator of academic achievement.

Peer Support and Students' Academic Achievement

This term is defined as the ability of a student to give personal support to other students (Cohen, 2015). The theory of Piaget (1997) pointed out that peers can learn from each other and achieve equilibrium in learning with some peer support to teach those who need help among them. Mustaffa et al. (2011) commented that peer support enhances the diffusion of innovation amongst student as some peers will support the adoption of technology by other students to help them improve their academic achievement. The support of the more experienced students enables others to complete more complicated tasks than they would alone (Court & Molesworth, 2008; Hussain,et.al 2017). Similarly, peer support is one of the elements that assists the learning process besides teacher assistance, parental support and infrastructure (Suliman, Nor & Yunus, 2017).

Teacher Support and Students' Academic Achievement

Teacher support is defined as the psychological and practical support of teachers during the teaching process (Fullan & Stiegelbauer, 1991). Students' interactions are affected by teacher styles and approaches of teaching. Alhazmi and Abdul Rahman (2013) noticed that the teacher support of students could enhance their capabilities. The teachers' knowledge of the subjects and their ability to engage the class as well as motivate them will have a significant impact on their academic achievement (Mohamed Dahlan & Aaijaz 2011). According to Zaaim, Nor and Surat (2019), if students' academic performance is on the moderate level, it requires everyone's involvement especially the teachers' commitment and support.

Future Goals and Students' Academic Achievement

Future goals are defined as the nature of students' academic goals that influence their approaches to learning opportunities and their consequent learning and achievement (Ames, 1992). Students usually set future goals for themselves using methods such as self-assessment (Sluijsmans, Dochy & Moerkerke, 1999). Future goals is a powerful motivator for behaviour and individuals set a future goal for themselves and they strive to achieve these goals. Future goals operate when students engage in learning for the instrumental value of present knowledge in the service of future tasks.

Methods

This study is quantitative in nature employing survey as the main research instrument. It is a technique for collecting primary data based on communication with a representative sample of individuals (Zikmund et al., 2013; Ilhan Ozturk,et.al 2019). The population of this study is limited to Klang Valley area because it is the most urbanised area in Malaysia and the majority of international high schools are located in this area. Due to time and cost as well as the willingness of schools to co-operate, three international schools are the target population of this study. The schools include the Alnoor International School, Saudi high school, and Libyan high school. This study uses a random sampling technique. Nevertheless, according to Sekaran (2003) for a population of 309 with margin error of 0.05 and confidence level of 0.95, the sample size should be 171 respondents. Thus, this study attempts to collect 171 responses.

The instrument is a questionnaire adapted from past researchers. Five-point Likert scale are deployed in this study (ranging from Strongly Disagree to Strongly Agree). Two experts agreed to validate the questionnaire. Their comments and feedback were addressed accordingly. In addition, items were validated through the use of exploratory factor analysis as well as the convergent and discriminant validities that ensures that the variables are measuring what they are supposed to measured. A pilot study was conducted prior to the data collection to assess the reliability of the measurements. A total of 30 students asked to answer the questionnaire. The reliability using Cronbach's Alpha is presented in Table 1. The table shows that all the variables have reliable measurements because the Cronbach's Alpha is greater than 0.70.

Table 1: Reliability Analysis

Variable	Number of items	Cronbach's Alpha	Status
Self-efficacy	8	0.76	Reliable
Peer support	8	0.81	Reliable
Teacher support	9	0.79	Reliable
Future goals	9	0.77	Reliable
Student academic achievement	8	0.83	Reliable

Data was collected from respondents using a self-administrated questionnaire. The questionnaire was provided in Arabic and English. A total of 171 questionnaires was distributed to high school students at the three international schools in Kuala Lumpur, Malaysia. Permission of the schools was obtained, and they were asked for assistance in the data collection. The questionnaires were distributed and a period of one week was given to the student to fill in the questionnaire. A box was assigned in each school for the returned questionnaire. A follow up procedure was followed in the second week to encourage those who wanted to answer the questionnaire. As a result, a total of 128 questionnaires were returned. A total of 3 were removed due to missing values. The remaining 125 questionnaires were examined for outliers and a total of 8 responses were deleted. This made the complete and usable questionnaires totalling 117 with response rate of 68%. Data analysis of this study are conducted using Statistical Package for the Social Sciences version 22.0.

Findings
Demographic information of the respondents

This section presents the demographic information of the respondents such as age, gender, nationality and the CGPA of the respondents. Table 2 presents the demographic information.

Table 2: Demographic Information of Respondents

N=117		Frequency	Percent
Age	less than 18 years old	117	100.0
Gender	Male	55	47.0
	Female	62	53.0
Nationality	Non-Malaysian	117	100.0
CGPA	Less than 70%	22	18.7
	70%-80%	42	35.7
	80%-90%	35	30.1
	90%-100%	18	15.5

It shows that all the respondents are under the age of 18 (100%). This is due to the fact that the study is investigating the factors that affect the high school which are usually under the age of 18 years old. Of the respondents, 53% are females and 47% are males. This indicates that the population of this study is divided between the two genders with marginal increase of the females over the males. All the respondents are non-Malaysian. This is due to the fact that this study was conducted on high school international students in three international schools in Kuala Lumpur, Malaysia. The respondents were mainly Middle Eastern. The highest percentage of respondents (35.7% or 42 respondents) are having CGPA between 70% and 80% followed by 30.1% or 35 respondents with CGPA between 80% and 90%, 18.7% or 22

respondents with CGPA less than 70%, and a total of 15.5% or 18 respondents have CGPA between 90% and 100%.

Level of Academic Achievement

The level of academic achievement is presented in Table 3. The mean score value of the items ranged from 3.38 to 3.77. This shows the respondents have agreed on almost all statements with the overall mean score value of 3.56.

Table 3: Level of Academic Achievement

Code	Items	Mean	Remarks
AP1	I have increased my interest is the study	3.52	Agree
AP2	I have learned much about my study	3.55	Agree
AP3	I have learned something valuable in my study	3.44	Agree
AP4	I have achieved higher GPA compared with my peers	3.38	Neutral
P5	I have strived to make myself known in the class	3.58	Agree
AP6	I have done great in this year. /	3.56	Agree
AP7	Compared to other peers, I have gained knowledge regarding my studies.	3.66	Agree
AP8	Compared with other peers, I have been rewarded more for my achievement.	3.77	Agree
Overall mean score value of academic achievement		3.56	Agree

Level of Self-Efficacy

The level of self-efficacy is given in Table 4. The table indicates that the respondents have neither agreed nor disagreed on almost all the statements of self-efficacy. The overall mean score value of 3.37 indicates that the respondents are neutral regarding self-efficacy.

Table 4: Level of Self-Efficacy

Code	Statement	Mean	Remarks
SE1	I believe I will achieve excellent academic performance this year	3.25	Neutral
SE2	I am certain I can understand the most difficult material presented in my study	3.34	Neutral
SE3	I am confident I can understand the basic concepts in my study	3.37	Neutral

SE4	I am confident I can understand the most complex material presented by the instructor in my study	3.38	Neutral
SE5	I am confident I can do an excellent job on the assignments and test in my study	3.35	Neutral
SE6	I expect to do well in my study	3.34	Neutral
SE7	I am certain I can master the skills being taught in my study	3.58	Agree
Overall mean score value of self-efficacy		3.37	Neutral

Level of Peer Support

The peer support level is presented in Table 5. It can be seen that the respondents have agreed with all statements with a mean score of all the statements above 3.39.

Table 5: Level of Peer Support

Code	Statement	Mean	Remark
PS3	Other student value my contribution	3.60	Agree
PS4	Other students empathize with my struggle to learn	3.57	Agree
PS5	Other students review my homework	3.62	Agree
PS6	Other students provide feedback on my homework	3.42	Agree
PS7	Other students provide me with assistance in my work	3.52	Agree
PS8	Other students keep in touch with me to help me in my progress	3.51	Agree
Overall mean score value of peer support		3.54	Agree

Level of Teacher Support

Table 6 shows the level of teacher support and its items. The table shows that the respondents agreed on some statements while neither agreed nor disagreed on other statements. Overall, the respondents are neutral regarding the level of teacher support with mean score value of 3.22.

Table 6: Level of Teacher Support

Code	Statement	Mean	Remark
TS2	The teacher encourage me to participate	3.35	Neutral
TS3	The teacher advises good discourse	3.44	Agree
TS4	The teacher evaluates my progress periodically	3.56	Agree
TS6	The teacher tolerate my mistake if I give wrong answer and encourage me to participate again.	2.93	Neutral
TS7	The teacher makes us ambitious to achieve our goals.	3.05	Neutral
TS8	The teacher shares with us his personal experience to encourage us.	3.00	Neutral
	Overall mean score value of teacher support	3.22	Neutral

Level of Future Goals

Table 7 shows the level of future goals. Based on the mean score value, the respondents have agreed on all statements related to future goals. Overall, the respondents have an agreement level on the future goals with overall mean score of 3.88.

Table 7: Level of Future Goals

Code	Items	Mean	Remarks
FG1	I am self-regulated to achieve my goals	3.84	Agree
FG3	I have desire to contribute to my society	3.83	Agree
FG4	I want to be known for my achievement	3.97	Agree
FG5	I want to be praised for my achievement	3.80	Agree
FG6	I want to be someone that makes change	3.84	Agree
FG7	I want to be known in my field	3.88	Agree
FG8	I want others to refer to me as expert in the field	4.00	Agree
	Overall mean score value of future goals	3.88	Agree

Effects towards Academic Achievement

Four main hypotheses were proposed in this study based on the four variables (self-efficacy, peer support, teacher support and future goals) towards academic achievement. Table 8 presents the hypotheses testing of the four hypotheses. The table shows the number of hypothesis, dependent variable (DV), independent variable (IV), path coefficient (β), standard deviation (STDEV), t-value, p-value, and the status of the hypothesis.

Table 8: Test of Direct Hypotheses

Hypothesis	D.V	I.V	β	STDEV)	T-Value	P- Values	Status
H1	Academic Achievement	Self-efficacy	0.178	0.063	2.827	0.005	Sig
H2	Academic Achievement	Peer support	0.224	0.107	2.083	0.037	Sig
H3	Academic Achievement	Teacher support	0.197	0.081	2.438	0.015	Sig
H4	Academic Achievement	Future goals	0.256	0.128	1.989	0.047	Sig

Note: Sig: significant

For better understanding of the direct effect of the variables (self-efficacy, peer support, teacher support, and future goals) on the academic achievement, Figure 1 presents the direct effect model of this study.

Figure 1. Direct Effect
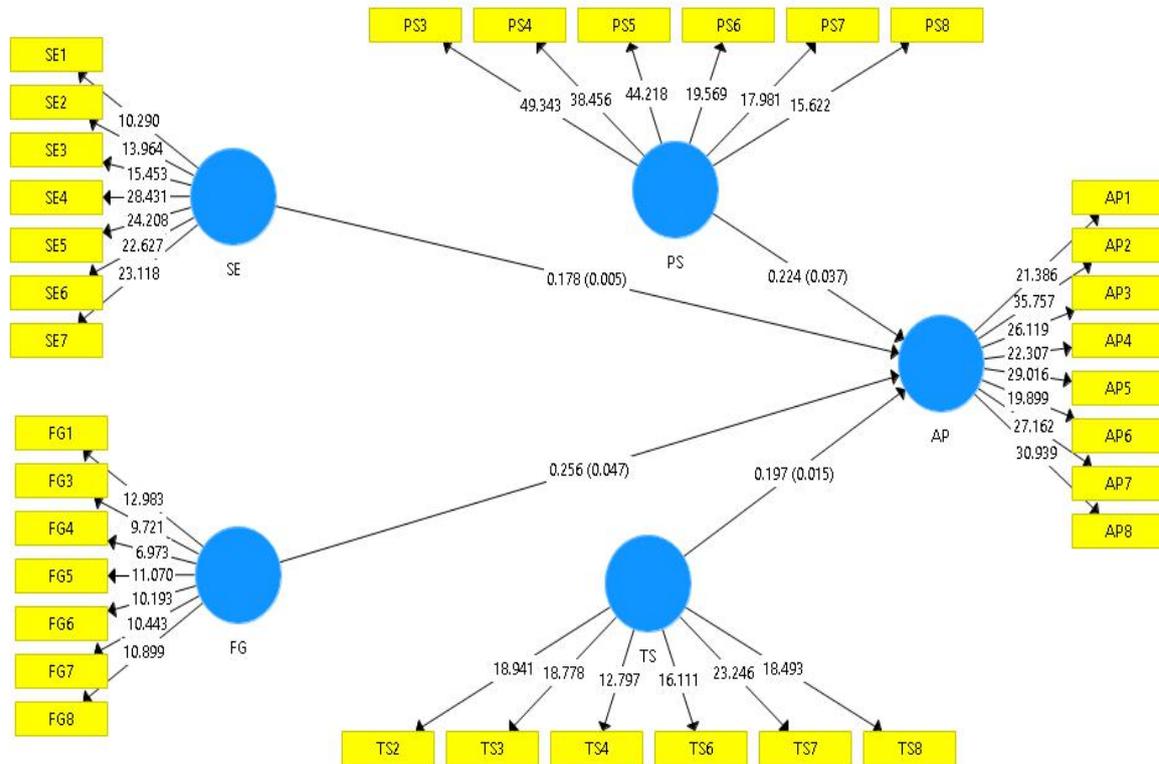
For the first hypothesis, the study proposes that the effect of self-efficacy on students positively affects academic achievement. The findings in Table 8 demonstrate that the effect is significant (β= 0.178, t-value=2.827, p-value= 0.005). Since the t-value is greater than 1.96 and the p-value is less than 0.05, the first hypothesis (H1) is accepted. Similarly, the second hypothesis predicted that the peer support has a significant effect on the academic achievement of the students. The findings presented in Table 8 showed that the prediction is true. Peer support has direct and positive effect on the academic achievement of students (β= 0.224, t-value=2.083, p-value= 0.037). The p-value as well as the t-value indicated that the hypothesis is significant. Thus, H2 is accepted.

For the third hypothesis, the teacher support is assumed to have a significant and positive effect on the students' academic achievement. The findings showed that this effect is significant and positive (β= 0.197, t-value=2.438, p-value= 0.015). Thus, H3 is accepted. For the last direct hypothesis, the future goals of student was proposed to affect directly and significantly the academic achievement of student. The effect is significant (β= 0.256, t-value=1.984, p-value= 0.047) because the t-value is greater than 1.96 and the p-value is less than 0.05. Thus, H4 is accepted.

Discussion
Effect of Self-Efficacy on Academic Achievement

This finding is in accordance with the findings of previous studies. The findings of Joo et al. (2012) showed that the effect of self-efficacy on academic performance of undergraduate students is significant. Other researchers such as Diseth (2011) found that the effect of self-efficacy is positive and significant. The findings of this study indicates that an increase in the self-efficacy of the students will lead to increase in their academic performance.

Effect of Peer Support on Academic Achievement

Previous studies are in agreement with the findings of this study. Peer support enhances learning. Peer support creates an environment where peers can influence the action of other peers. For example, Mustaffa et al. (2011) indicates that peer support encourages peers to use technology that can enhance their academic performance. Peer support enables students to accomplish more difficult tasks (Court & Molesworth, 2008). Interaction amongst peers has significant effect on their academic performance (Al-Rahmi & Othman, 2013; Irida & Rina 2017).

Effect of Teacher Support on Academic Achievement

Previous studies indicate that the relationship between students and their teachers is important for enhancing students' academic performance. Teachers can create collaborative environments where knowledge can be shared, and skills and innovation can be implemented to improve students' academic performance. Teacher support for the student can enhance their capabilities and improve their academic performance (Alhazmi & Abdul Rahman, 2013). The knowledge of the teacher and the capabilities they have to engage the students to participate in topics will lead to better academic performance of the students (Mohamed Dahlan & Aaijaz, 2011).

Effect of Future Goals on Academic Achievement

Previous studies agree that future goals have a key role in improving the academic performance. For example, Wentzel (2002) points out that future goals could play a motivator role for student to improve their academic performance to achieve these goals. Brickman and Miller (2001) and Miller et al. (2004) highlight that the role of future goals is clear when students strive to achieve these goals by enriching their knowledge and equipping themselves to reach these goals.

In greater details, the findings indicate that future goals are the most important factor affecting academic performance. Decision makers and parents have to focus on developing intrinsic motivation of the students. From an early age, parents should encourage ambition and career for their children such as by asking them '*what you want to be in the future?*' and guide them to the method that could lead them to achieve this goal. For example, if a child wants to be an engineer, parents should communicate to him or her the idea that to be an engineer, you should work hard in your school to improve your academic performance so that you can be engineer in the future.

Peer support is also an important factor for the academic achievement of students. Creating a group of students that can support each other will lead to better academic performance. This is because students find it easier to ask their peers for assistance than to ask the teacher. Peers understand each other and can explain matters in a way that makes other understand them. Policy makers should encourage group work among students to develop their communication skills and create better relationships between the students so that a community of practice can be created.

The role of teacher cannot be overstated. Teachers have the responsibility of encouraging and supporting the participation of students. Students are usually shy and concerned about the comments and perceptions of their peers when they give an answer for a question. The teacher is responsible to eliminate this culture and implant a culture of no wrong answer so that the student can participate, and the teacher can lead them to understand the matter without making them scared of participation and communicating their ideas in the classroom environment.

The self-efficacy is also one of the important factors. Self-efficacy comes from the knowledge and confidence of the student. As pointed out by Mohtar et al. (2019), self-efficacy would be able to envisage an individual's academic performance beyond his earlier attainment as assertive individuals are inspired to achieve success. Encouraging learning and enriching the knowledge of the students will increase their self-efficacy. Policy makers can evaluate students and suggest courses that can increase their self-efficacy.

Conclusion

Some limitations of this study can be used in future work. Firstly, this study investigated the international students' perspective and only 117 students participated in this study. Secondly, the findings of this study are limited to the perception of the international student. As a future work, researchers recommended to investigating the local students' perspective and increasing the number of respondents. Thirdly, in this study only three schools participated. Future researchers are advised to expand the study to include other geographical area such as

the Klang Valley area or the Kuala Lumpur Area so that the findings can be more generalised.

The fourth limitation is that the findings of the study are limited to the variables such as self-efficacy, peer support, teacher support, and future goals. These factors explained more than 45% of the variation in academic achievement. Future researchers are advised to incorporate more variables such as the culture and the background of parents to increase the explanatory power of the model. Future studies are advised also to replicate the findings of this study.

The objective of this study was to investigate the factors that affect academic achievement of international high school students in Malaysia. Thus, the findings of this study showed that the most important factor is the future goals of student and it has a significant effect on the academic achievement of international high school student in Malaysia. In addition, other factors such as peer support, teacher support and self-efficacy also affect academic achievement. To conclude, all these elements need to be given emphasis in ensuring the students' academic achievement improves.

Acknowledgement

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