# THE ROLE OF STUDENT ENGAGEMENT IN THE RELATIONSHIP BETWEEN CLASSROOM MOTIVATION AND ACADEMIC ACHIEVEMENT

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## DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ENGLISH AS A SECOND LANGUAGE/MESL

## FACULTY OF LANGUAGES AND LINGUISTICS
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**THE ROLE OF STUDENT ENGAGEMENT IN THE RELATIONSHIP BETWEEN CLASSROOM MOTIVATION AND ACADEMIC ACHIEVEMENT**

**ABSTRACT**

The aim of this study was to investigate undergraduate students' perceived classroom motivation and perceived engagement in learning English course. It also examined the extent to which student engagement plays a mediating role in the relationship between classroom motivation and academic achievement. Using the Basic Needs Satisfaction at College Scale (Jenkins-Guarnieri et al., 2015) and Student Course Engagement Questionnaire (Handelsman et al., 2005), cross sectional surveys were conducted to collect data on classroom motivation and student engagement, respectively. Academic achievement was measured based on students' course examination results. The sample comprised 137 undergraduate students from a public university in Malaysia. Data was analyzed using Statistical Package for the Social Sciences (SPSS) 22 and Structural Equation Modelling with SMART PLS 3. The findings showed that student engagement not only has direct relation to academic achievement, but also mediates the influence of classroom motivation on academic achievement. The results of this study encourage instructors to fulfil students' intrinsic motivational needs in order to foster authentic engagement in learning, which in turn leads to improved academic gains. Limitation of this research is that the finding is only relevant to a specific class investigated during the time of study and the findings cannot be generalized to a larger population due to low number of participants. Future research may attempt to conduct longitudinal study to observe students' motivation and engagement pattern throughout a semester and whether their level of motivation and engagement change over time.

*Keywords*: Student engagement, motivation, perception, mediation.

# PERANAN PENGLIBATAN PELAJAR DALAM HUBUNGAN ANTARA MOTIVASI KELAS DAN PENCAPAIAN AKADEMIK

## ABSTRAK

Objektif kajian ini adalah untuk menyiasat motivasi kelas dan penglibatan pelajar dalam pembelajaran bahasa Inggeris berdasarkan persepsi pelajar sarjana muda. Ia juga mengkaji sejauh mana penglibatan pelajar memainkan peranan mediasi dalam hubungan antara motivasi kelas dan pencapaian akademik. Dengan menggunakan 'Basic Needs Satisfaction at College Scale', (Jenkins-Guarnieri et al., 2015) dan 'Student Course Engagement Questionnaire', (Handelsman et al., 2005), kaji selidik silang telah dijalankan untuk mengumpul data mengenai motivasi kelas dan penglibatan pelajar. Pencapaian akademik diukur berdasarkan keputusan peperiksaan pelajar. Sampel ini terdiri daripada 137 pelajar siswazah dari sebuah universiti awam di Malaysia. Data dianalisis dengan menggunakan 'Statistical Package for the Social Sciences' (SPSS) 22 dan 'Structural Equation Modelling' dengan SMART PLS 3. Penemuan kajian ini menunjukkan bahawa penglibatan pelajar bukan sahaja mempunyai hubungan langsung dengan pencapaian akademik, tetapi juga memediasi pengaruh motivasi kelas terhadap pencapaian akademik. Hasil kajian ini menggalakkan para pengajar untuk memenuhi keperluan motivasi intrinsik pelajar untuk memupuk penglibatan pelajar yang sahih dalam pembelajaran, yang seterusnya membawa kepada peningkatan pencapaian akademik. Keterbatasan dalam penyelidikan ini adalah penemuan kajian hanya bertumpukan kepada satu kelas khusus dan ia tidak boleh diselaraskan kepada populasi yang lebih besar disebabkan bilangan peserta yang rendah. Penyelidikan masa akan datang boleh menjalankan kajian 'longitudinal' untuk melihat corak motivasi dan penglibatan pelajar sepanjang semester dan mengkaji sama ada tahap motivasi dan penglibatan mereka berubah dari semasa ke semasa.

*Keywords*: Penglibatan pelajar, motivasi, persepsi, mediasi.

I cherish my sister and brother, Sujatha and Prem Ananth, who have always been my pillar of support. Adding to the strength of these pillars are their respective spouses, Sri Jaykanth and Vikneswary, who care for me as much as my siblings do. To their children, aunty always love you.

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Last but not the least, a lifetime of gratitude and thanks to my late mother Letchemee Gopalan who carried me in her womb; the place where my very journey to learning started.

# TABLE OF CONTENTS

# LIST OF FIGURES

# LIST OF TABLES

# LIST OF SYMBOLS AND ABBREVIATIONS

AA : Academic achievement

CM : Classroom motivation

DV : Dependent variable

IV : Independent variable

MMD : Model of Motivational Development

MUET : Malaysian University English Test

NSSE : National Survey of Student Engagement

PLS-SEM Partial Least Squares – Structural Equation Modelling

SDT : Self-determination Theory

SE : Student engagement

# LIST OF APPENDICES

# CHAPTER 1: INTRODUCTION

## 1.1    Introduction

Known as one of the most important languages of the world, English is highly essential and widely used in areas such as trade, economy, culture, tourism, diplomacy, politics, academic research, and communication.  English is also deeply entrenched in print media and entertainment sector.  According to statistics, more than 60 countries use English as their official language, 75% of the world's mails are written in English, 80% of publications and internet information are published in English, and 85% of international organizations use English as their common language (Xue & Zuo, 2013).  Hence, the importance of English cannot be disputed.

The ultimate goal of English language teaching and learning is to produce communicatively competent English language users who possess both accuracy and fluency in their oral and written production. In Malaysia, English is taught as a compulsory subject in schools at both primary and secondary levels. Learners admitted to tertiary level education in universities are further coached through special courses and programmes to enhance their linguistic skills in English. Sadly, despite all efforts, Malaysian graduates are labelled incompetent in English. Statistics by Malaysian Employers Federation revealed that 200,000 local graduates are unemployed with poor command of English being the main factor (Rajaendram, 2016). Recently, Associate Professor Grace Lee from Monash University Malaysia pointed out that lack of English proficiency takes a toll on undergraduates' academic performance which is a contributing factor to dropping out of university (Mustafa, 2019).

Ample research – across primary, secondary, and tertiary levels – have been carried out in addressing this dilemma. Various theories and theoretical models have been sought to arrive at an understanding of the realities and workings of language learning process

with the hope to describe, develop, disseminate and use the knowledge to improve English language learning scenario in Malaysia. Of the many variables researched, *student engagement* has been in the spotlight and enjoys a growing interest among researchers and educationists. Finding its roots in the seminal works of Alexander Astin in 1984 on 'student involvement' (Trowler, 2010), student engagement has garnered a plethora of empirical support documenting its effect as a key predictor of students' learning, grades, retention, graduation and personal development (Hu & Kuh, 2002; Skinner & Pitzer, 2012). A large consensus among theorists is that when students are engaged, they develop and exhibit positive learning behaviours. These behaviours lead to success in performance and achievement in a target subject (Finn & Zimmer, 2012). Therefore, it is imperative that educators monitor and assess engagement as a component of the overall learning experience of students. Shulman (2002) in his taxonomy of Shulman's Table of Learning maintains that tertiary institutions must diligently foster and monitor engagement as "learning begins with student engagement" (p. 38). Engagement is also explicitly identified as mediator that links learning motivation to academic success (Wang & Reeve, 2007).

Drawing on the potential value of student engagement in understanding students' learning behaviours and its effect on academic achievement, this study is interested to know how far motivated and engaged undergraduate students are in their English learning endeavour at the university. For that, this descriptive correlational study sets out to describe students' classroom motivation and engagement in English course based on their own perception, and further dives into examining the relationship between classroom motivation, student engagement, and academic achievement. It is the researcher's hope that this study will contribute to the research on student engagement in Malaysian higher education which is still at its infancy.

This chapter consists of background of study, statement of problem, purpose of research, research objectives, research questions, and significance of the study. The chapter ends with a summary.

## 1.2    Background of study

The background of study is organized in response to six questions on the topic of student engagement. The questions are designed to guide readers' understanding on pertinent concepts and components underpinning the construct of student engagement with reference to existing literature. The questions cover the essential: operational definition and measurement of student engagement, difference between motivation and engagement, the relationship between motivation, engagement, and academic achievement, the influence of classroom context in fostering engagement, importance of assessing engagement, and its relevance at tertiary level education. This segment also presents past studies on student engagement carried out in Malaysia.

### 1.2.1    What is student engagement?

At the core of many theoretical models, the concept of student engagement captures students' involvement in quality learning (Alrashidi, Phan, & Ngu, 2016). According to Hu and Kuh (2002), student engagement is the "quality of effort that students voluntarily put into educationally purposeful activities that directly contributes to desired outcome" (p. 555). Reeve (2012), borrowing the definition of Connell and Wellborn (1991), describes student engagement as the extent of students' active participation in learning activities. It has been established that students who feel engaged with learning activities develop and exhibit positive learning behaviours which ultimately lead to higher achievement in target subject (Finn & Zimmer, 2012; Krause & Coates, 2008; Kuh & Hu, 2001). Thus, student engagement can be summarised as students' involvement and

participation in learning activities, not just in classroom under teacher's instructions but also outside lesson period out of their own freewill, initiative, desire, and interest, thus assuming active partnership and responsibility for their own education. As a result, students involve in their learning with strong persistence, effort, and enthusiasm to accomplish targeted goals even in the face of difficulty. Examples of student engagement include coming to class prepared with books and materials, offering insights and making connection with ideas presented in the lesson, seeking help when there is a doubt, listening attentively to the instructor, participating actively in group discussions, and feeling excited while working on learning tasks (Fulton, 2019).

### 1.2.2 How to differentiate motivation and engagement?

In any attempt to study engagement, it is imperative to first understand what motivation is. In layman's terms, motivation means a strong interest or desire towards a subject or activity. When an individual is motivated (i.e., develops a strong interest) to do something, his/her intention and actions will be geared towards accomplishing the task. Motivation is therefore regarded the as the fundamental requirement for attainment of success. Motivation in learning is attributed to positive behaviours and attitude which will lead to academic performance and achievement (Ayub, 2010). It involves internal and external factors that stimulate aspiration, desire, and energy in learners to be continually committed and interested in their learning endeavours to attain desired outcome (Gbollie & Keamu, 2017). Theories of second language acquisition have placed special emphasis on the role of motivation as determinant of success in learning a L2. According to Dornyei (1994), the L2 learning process is more complex than simply mastering new information and knowledge as it involves environmental, cognitive, personality traits, and social components factors which are not the same for all learner. Gardner (1985) asserts that while individual differences affect L2 acquisition, influence of aptitude and motivation

aid the process of learning a new language and performing in it. Between aptitude and motivation, the latter plays a greater role in driving learners to acquire a L2. Cook (as cited in Mahadi & Jafari, 2012) states that three main factors influence L2 acquisition: age, personality, and motivation, of which motivation is the key factor. Ryan and Deci (2000), in their Self-determination Theory (SDT), state that learning is a motivation-driven activity. An individual's motivation to learn may stem from genuine personal interest (intrinsic) or propelled by external factors such as reward and requirement (extrinsic). Numerous studies that assessed motivation based on concepts of SDT – across childhood to adolescence – concur that L2 language learning is influenced by motivation, either intrinsic, extrinsic, or both (e.g., Lucas, Pulido, Miraflores, Ignacio, Tacay, & Lao, 2010; Zhang, Lin, Zhang, & Choi, 2017)

But how to know if a learner is motivated? Motivation is an underlying psychological process which is not directly observable, therefore, it is reflected through learner's level of engagement and involvement in a particular task. According to Reeves (2012), "motivation is a private, unobservable psychological, neural, and biological process that serves as an antecedent cause to the publically observable behavior that is engagement" (p. 151). Similarly, many researchers espouse motivation as the psychological driving force that fuels engagement and engagement is the visible manifestation of motivation (e.g., Griffiths, Lilles, Furlong, & Sidhwa, 2012; Hew, 2016; Kaiser, Retelsdorf, Südkamp, & Möller, 2013; Raftery, Grolnick, & Flamm, 2012; Shih, 2018; Sinclair, Christenson, Lehr, & Anderson, 2003; Skinner, Kindermann, Connell, & Wellborn, 2009). In other words, motivation is the internal source of energy that directs engagement while engagement is the visible representation of that energy. Therefore, engagement and motivation are theoretically distinct yet interrelated concepts. Engagement is typically conceptualized as a meta-construct, consisting of three primary dimensions or forms which are: (a) behavioural engagement, (b) emotional engagement, and (c) cognitive

engagement (for a review see Christenson, Reschly, & Wylie, 2012). Organized around these dimensions are indicators of engagement, that is, actions which represent engaging behaviours, feelings, and thoughts. By monitoring and assessing these indicators, one can gauge students' level of engagement. Dimensions and indicators of engagement are discussed in detail in the subsequent chapter of this study.

### 1.2.3 What is the relationship between motivation, student engagement, and achievement?

A large consensus among researchers is that motivation shapes students' engagement in learning; engagement in turn facilitates academic achievement. Numerous studies collectively agree that student engagement mediates the relationship between motivation and positive academic outcomes (e.g. Appleton, Christenson, & Furlong, 2008; Fredricks, Blumenfeld, & Paris, 2004; Lam, Wong, Yang, & Liu, 2012; Reeve, 2012; Skinner & Belmont, 1993; Voelkl, 2012). Although there are differences across studies in how engagement is conceptualized and measured, the role of student engagement as an intervening construct that links motivation to achievement is evident. For instance, in the Check and Connect model, student engagement mediates the relationship between contextual facilitators and desired outcomes in academic (Christenson & Reschly, 2010). Likewise, Connell and Wellborn (1991) in their Model of Self-system Processes view engagement as mediator that connects intrinsic motivation to learning outcomes. The same is observed in the Model of Motivational Development (MMD) by Skinner and Pitzer (2012). Active research is still being carried out in the pursuit of exploring more dynamic models in which motivation-to-achievement relationship is mediated by student engagement.

### 1.2.4 How does classroom context enhance student motivation and engagement?

According to Sinclair et al. (2003), engagement in itself is not a characteristic of the student, but a condition that is malleable by contextual factors such as policies and practices of the school, family, peers, and community. The context in which learning takes place and the social partners that belong to that context play a curial role in shaping students' motivation which leads to engagement. In that respect, the linkage between learning motivation and engagement is highly situated in classroom where active and structured learning happens (Guthrie, Wigfield, & You, 2012). Supportive student-teacher relationship and peer interactions in the teaching and learning process help students' motivation and engagement to flourish (Jelas, Azman, Zulnaidi, & Ahmad, 2016). In contrast, students who experience poor support and communication with their teachers and peers are high likely to lose interest in a subject or activity. Therefore, student engagement cannot be detached from the context in which it occurs and relationship with teachers as well as classmates is an important factor that can either facilitate or thwart students' motivation and involvement in learning a subject (Reeve, 2012).

### 1.2.5 Why is assessing student engagement important?

Assessing engagement is critical because the extent and quality of students' engagement in learning is a strong predictor of their academic progress and scholarly success (Fredricks et al. 2004; Jang, Kim, & Reeve, 2012; Saeed & Zyngier, 2012; Quaye & Harper, 2014). National Research Council and Institute of Medicine (as cited in Griffiths et al., 2012) identifies academic achievement as the most consistently documented correlate of student engagement. Student engagement positively affects academic achievement even for high-risk students. This is based on standardized assessment scores which is consistent across gender, race, and socioeconomic status

(Griffith et al., 2012). According to Skinner & Pitzer (2012), "engagement is the direct (and only) pathway to cumulative learning, long-term achievement, and eventual academic success" (p. 25), allowing intervention by teachers when students display signs of disengagement. Secondly, student engagement serves as diagnostic tool that helps to predict school retention and drop out. This is because dropping out of school is usually the endpoint of withdrawal process which may have started in elementary or middle grade. Therefore, monitoring engagement helps teacher and school to identify students at risk of school failure earlier rather than later (Finn & Zimmer, 2012). Thirdly, engagement helps educators to evaluate whether the classroom climate bolster students' motivation to learn. Based on this, teachers can adopt teaching practices and approaches that can help genuine learning desires to flourish leading to constructive engagement in learning and performance of academic tasks (Wang & Holcombe, 2010).

## 1.2.6    What is the relevance of student engagement in higher education?

Student engagement has growing importance in the domain of higher education. In higher learning research, the extent to which students engage in learning activities has been shown to link with positive outcomes (Krause & Coates, 2008). The most glaring significance of student engagement is its effect on grades and graduation rate. National Survey of Student Engagement (NSSE) data reported that grades of lower ability students who engaged in educationally purposeful activities were positively affected to a greater degree compared with their higher-ability counterparts. The survey also revealed a relatively strong positive relationship between student engagement and graduation (Kuh et al., 2007). Likewise, Engle and Tinto (2008) assert that increasing student engagement is the solution to overcome lower graduation rate among low income and first-generation college students. Apart from maximizing achievement and graduation, engagement enlarges students' capacity for continuous learning and personal development (Kuh,

2009; Zyngier, 2008). Yorke (as cited in Zepke, 2014) suggests that the emphasis placed by institutions and instructors on student engagement enhances students' course completion and future employment with a positive attitude to lifelong learning. In addition, engaging in various learning activities can have a positive effect on after college life (Kuh, 2009).

### 1.2.7 Research on student engagement in Malaysian higher education

In the study of student engagement in Malaysian higher education, there appears to be two major perspectives on how engagement is conceptualized. The first perspective looks at student engagement as learners' overall involvement in the university including faculty and campus activities and interactions. The other concerns students' participation in academic courses and learning activities. Studies on both perspectives have yielded mixed findings.

In a study by Teoh, Abdullah, Roslan, & Daud (2013), it was found that students experience high intermediate engagement with learning institution. The survey study which adapted College Student Experiences Questionnaire (CSEQ) focused on five indices of student engagement which were student-faculty interaction, active learning, cooperative among students, life-long learning, and experiences with diversity. The study also found that there is no difference in students' level of engagement between years of study. However, the small sample size; 64 student participants, hindered the investigators from making a statistically strong generalization based on their finding. A similar study was carried out by Jaafar, Osman, & Yusof (2016) which measured student engagement with academic staff, peers, communities, and academic. The researchers were interested to investigate whether students' level of engagement varied by gender. The results of the descriptive study found that there is no significant difference between male and female in their engagement with peers and academic. However, male students reported higher

engagement with academic staff and communities compared to their female counterparts. Both studies; Teoh et al. (2013) and Jaafar et al. (2016), did not identify the relationship between student engagement and its potential outcomes such achievement of grades, personal development, or retention rate.

At classroom level, studies that examined students' engagement in academic courses and learning activities, for instance by Badiozaman (2015), identified a positive link between self-concept and student engagement in academic writing in English. The research which was carried out through mixed-method design also found that self-concept gives rise to learning motivation and engagement which help students adapt to new academic context and learning demands. Mustapha and Rahman (2011) in their study on classroom participation pattern reported that undergraduates studying communication course in a local university exhibited encouraging participation during lesson. Classroom participation was divided into 4 categories: active, selective, minimal, and passive. Although the research did not explicitly mention student engagement, the descriptions of classroom participation characteristics were identical with indicators of behavioural, emotional, and cognitive engagement. A qualitative research by Aiedah and Lee (2012) found that students learning English course and Malaysian Studies using Project-based Approach were highly engaged in both subjects. In their study, student engagement was observed based on four criteria, namely responsible learning, strategic learning, collaborative, and energised learning as lined out by the North Central Regional Educational Laboratory, U.S. Department of Education. The study also highlighted that collaborative learning, allowance of autonomy, and investigative learning activities increase students' engagement in target subject. This is similar to the concept of Basic Needs Satisfaction within the Self-determination Theory that expounds on the fulfilment of relatedness, autonomy, and competence to achieve higher engagement (Saeed & Zyngier, 2012). Jamaludin & Osman (2014) also described high level engagement among

undergraduates in flipped classroom. Drawing on Reeve's four-aspect conceptualization of student engagement, the study focused on behavioural, emotional, cognitive, and agentic engagement. It was concluded that student engagement promotes active learning which is associated with positive learning outcomes. Next, Shaari, Yusoff, Ghazali, Osman, & Dzahir (2014) who carried out a survey research in University Utara Malaysia reported that students engaged in learning by participating in class presentation, giving full commitment to group discussions, and asking questions when they did not understand what was taught by the lecturer. Sharri and colleagues also outlined a significant but weak relationship between lecturer teaching style and student academic engagement. One of the limitations of the study is the sampling method. The study, which had 226 participants, did not state the composition of lecturers and students who participated in the survey and how they were selected. It is also unclear which theory of engagement was this study guided by.

In contrast to the aforementioned studies, Sayadi (2007) found that undergraduate students generally lacked participation in class discussions and only responded when prompted by the lecture. This is in line with findings that Asian students generally displayed low in-class participation (Tani, 2005) signalling disengagement in learning.

## 1.3    Statement of problems

Despite its widespread and firm establishment in Western academic context (Kazmi, 2010), the concept of student engagement is rather new to other parts of the world and limited are resources on student engagement in Malaysian higher learning (Karim & Hamid, 2016; Teoh et al., 2013; Yusoff, 2012). The studies carried out thus far have contributed greatly to describe undergraduates' engagement in learning through varied conceptualizations and definitions. As noted earlier, some studies ascribed to student engagement as involvement and participation in overall campus activities and interactions

(e.g. Azman et al., 2005; Jaafar et al., 2016; Teoh et al., 2013) while others narrowed their research lenses to examine students' engagement in specific academic courses (e.g. Aiedah & Lee, 2012; Badiozaman, 2015; Osman, Jamaludin, & Mokhtar, 2014). But research work with particular reference to student engagement in English language course is still scant. This calls for more inquiry on how undergraduates learning English in the university perceive their level of engagement in the subject.

A wide range of literatures have entrenched that motivation shapes students' engagement; engagement in turn leads to academic achievement, however little is known about the correlation between motivation and engagement in Malaysian higher education context. In the same vein, there is a lack of empirical evidence to support the effect of engagement as predictor of academic achievement. Hence, there is a need to investigate the structural relationship between motivation, engagement, and achievement. A study that did examine the correlation between motivation and student engagement was carried out by Hassan and Al-Jubari (2016) using the Self-determination Theory (SDT) framework. The study found partial support for the role of motivation in predicting student engagement. However, the study did not investigate the effect of engagement on academic outcome.

## 1.4 Research purpose

Given that student engagement is a construct relevant for *all* students (Christenson et al., 2012; Furlong & Christenson, 2008) and research dealing with the topic in local context is limited, there is an indispensable need for more research to be carried out at all levels of education in Malaysia – and higher learning is no exception.

In response to statement of problems, this study is keen to shed light on undergraduate students' perception of their level of motivation and engagement in English course through cross-sectional survey. Soliciting students' self-reports about their level of

motivation may open doors to understanding their motivational beliefs in relation to classroom learning. Tapping into students' motivation can help to determine the extent to which classroom context is in support of developing students desire, interest, as well as mental and emotional preparedness to learn and to participate in academic tasks which are essential qualities to attain academic success. Student engagement, on the other hand, has to do with learning strategies and steps taken by students to acquire information, skills, and mastery in a target subject. Gathering students' views about their level of engagement is important given the significant bearing it has on academic success. It informs about learning behaviours and attitudes practiced and carried out by students in their effort to learn and improve English language proficiency. This study believes that it is important to first understand the state of students' motivation and engagement (i.e., high or low) before embarking on analytical research that attempts to establish why is it that way or how it came to be. Hence, the first purpose of this study is rather straight-forward, that is, to describe students' perceived level of motivation and engagement in English language course at the university.

The second purpose of this study is to examine the mediating effect of student engagement in the relationship between classroom motivation and academic achievement. For that, this study carries out a correlational analysis to identify the strength of association between constructs of classroom motivation, student engagement, and academic achievement. Through the analysis, three hypotheses are tested to make causal inference in relation to the role of student engagement as mediator in motivation-achievement relationship. The hypotheses are presented in the following chapter.

Following the recommendation of Hassan and Al-Jubari (2016), this study applies the premises of Self-determination Theory (SDT) in assessing student motivation and engagement and their effect on academic achievement. The study hopes to fill the literature gap that exist in Malaysian higher education on the role of student engagement

as mediator in linking motivation to achievement of undergraduates learning English language course. To the best of the researcher's knowledge, no study in Malaysian context thus far has investigated the mediating role of student engagement in the relationship between motivation and academic achievement in English language course at the university from the perspectives of SDT.

## 1.5    Research objectives

Prompted by the purpose of study, the research undertaken carries the following objectives:

1.  To describe level of classroom motivation of undergraduate students in English course

2.  To describe level of engagement of undergraduate students in English course.

3.  To identify the mediating influence of student engagement in the relationship between classroom motivation and academic achievement

## 1.6    Research questions

Based on the objectives, this study aims to answer the following three research questions:

1.  How do students perceive their level of classroom motivation in English course?

2.  How do students perceive their level of engagement in learning in English course?

3.  Does student engagement mediate the relationship between classroom motivation and academic achievement? If yes, to what extent?

## 1.7  Significance of study

This study on student engagement set in the landscape of Malaysian higher education will benefit the following:

**Faculty**. This study hopes to encourage the faculty administration to be drawn to student engagement as a source of information to comprehend students' involvement in academic and use it as summary marker of the quality of students' learning experiences.

**Instructor**. Understanding undergraduates' level of motivation and engagement in English course can help instructors to evaluate how far the classroom climate supports quality learning. Based on this information, instructors may take necessary steps to ensure that their teaching practices encourage student to effectively engage and involve in learning activities not just during class hours but also beyond that.

**Students**. As early as now in this research study, students can see the benefit and importance of being motivated and constructively engaged in learning process to achieve positive outcomes. This may encourage them to tune themselves of having a mindset which believes that a great part of their learning is based on their own motivation, effort and perseverance. This certainly does not undermine the role of teacher as important facilitator of motivation, but if learners do not view themselves as active participants in the learning process and do not any take initiative on their own to make learning interesting, their involvement, and enthusiasm to learn will be greatly diminished (Brooks, Brooks, & Goldstein, 2012)

**Future researchers**. It is hoped that this study will contribute to the budding literatures on student engagement in Malaysian higher learning. The corresponding ideas and recommendation may be used as reference by future researchers in conducting studies on similar topic.

## 1.8    Summary

Student engagement in learning is crucial for academic achievement and for life-long learning. The significance of student engagement is especially true in the discipline of second language learning which requires conscious mental, emotional, as well as behavioural involvement for learners to sustain the long and often tedious process of acquiring knowledge, mastery, and skills in the new language. The importance of student engagement is indisputable in English classroom pedagogy that aims to produce students who are communicatively competent and possess both accuracy and fluency in the language. While universities may require that undergraduates take up English courses as compulsory subjects, the genuine motivation and engagement to learn the language cannot be legislated – it must come from the students themselves. Although teachers cannot manufacture student motivation; they can create classroom context that supports the motivation that already exist within the students (Reeve, 2012) which leads to engaging behaviours and attitudes in learning. Abundance of literature echo the influence of classroom contexts on student motivation and engagement by suggesting that interpersonal relationships with teacher and peers in the teaching and learning process have an impact on how students approach learning and fare in their academic. Therefore, this study intends to describe how far university classroom is in support of students' motivation and engagement in learning English based on students' perception. In addition, it aims to investigate the correlation between their motivation, engagement and academic achievement to make causal inference about the mediating effect of student engagement in linking motivation to achievement. By describing students' motivation experiences and engagement in classroom and by identifying the role of student engagement as a mediator, the study hopes to add to the research works on student engagement in Malaysian higher learning and highlight the importance of the construct to faculty administration, instructors, and also students.

# CHAPTER 2: LITERATURE REVIEW

## 2.1    Introduction

This chapter provides review of literatures related to student engagement. It discusses student engagement from the perspectives of Self-determination Theory, critical conceptual and methodological issues surrounding construct of student engagement, theoretical framework and rationale for its selection, development of conceptual model, and hypotheses the study aims to test. The chapter ends with a summary.

## 2.2    Student engagement from a Self-determination Theory perspective

Past decades have witnessed the evolution of a variety of motivational theories across educational and psychological disciplines (for a review see Graham & Weiner, 1996). Of the many theories, the Self-determination Theory (SDT) by Deci and Ryan (2002) – a profound theory of motivation and personality – has garnered vast empirical support in educational research. From the perspectives of SDT, motivation can be divided into two types: *intrinsic* and *extrinsic*. Intrinsic motivation refers to the desire to engage in a certain task because it feels inherently interesting, enjoyable and satisfying. In other words, the desire to accomplish a task is fuelled by one's need to attain personal gain such as self-gratification and pleasure. The feeling of motivation is not forced upon the individual but arises from high personal interest in the task or activity itself. Extrinsic motivation, on the other hand, refers to the desire to do something to receive rewards or to avoid punishment. The individual is motivated because there is some sort of external gain for the effort put in or to simply meet a requirement. The absence of intrinsic motivation and extrinsic motivation is called *amotivation*. According to Ryan and Deci (2000):

"Intrinsic motivation is defined as the doing of an activity for its inherent satisfaction rather than for some separable consequence. When intrinsically motivated, a person

is moved to act for the fun or challenge entailed rather than because of external products, pressures or reward." (p. 56)

While many studies support the combined effect of intrinsic and extrinsic motivation in learning (e.g. Chalak & Kassaian, 2010; Kreishan & Al-Dhaimat, 2013; Lin, McKeachie, & Kim, 2003; Zhang et al., 2017), Deci and Ryan stress that intrinsic motivation is potentially a key motivator in the educational process. Intrinsically motivated learners conquer more challenges, persist longer, and demonstrate accomplishments in their academic endeavours than their extrinsically motivated counterparts (Pintrich & Garcia, as cited in Wolters, 1998). Furthermore, studies across varied population and different age groups have found high intrinsic motivation to be related to school competence, greater academic achievement, lower academic anxiety, and lesser need for extrinsic motivation (Gottfried, Gottfried, Cook, & Morris, as cited in Ayub, 2010; Lin et al., 2003). Deci and Ryan perceive studying in higher education as being self-initiated, and therefore intrinsic (Isiksal, 2010) and past studies have found intrinsic motivation to be an important factor in the academic achievement of various nationalities including Asian (Trevino & DeFreitas, 2014).

According to SDT, humans are readily born with innate tendencies to develop their intrinsic motivation to explore and to learn, however, its development and sustenance depends on the fulfilment of three basic psychological needs (Ryan & Deci, 2000). SDT addresses these needs as *relatedness*, *competence,* and *autonomy*. Fulfilling one's needs for relatedness (i.e., perceiving oneself to be closely connected with others), competence (i.e., perceiving oneself as being effective in one's interaction with learning enviornment), and autonomy (i.e., perceiving oneself as having choice and freedom in the initiation, maintenance, and regulation of learning behaviours) evokes genuine interest for learning and persistence to accomplish desired goals (Saeed & Zyngier, 2012). Anything that makes one feel less related, competent, or autonomous may undermine

motivation and the purpose of performing an activity (Sheldon & Filak, 2008). SDT hypothesizes that intrinsic motivation will more likely flourish in contexts that offer and maintain these three basic needs (Deci & Ryan, 2000). This principle translates into classroom setting where supportive interactions with instructors and peers act as important facilitators or factors for stimulation of intrinsic motivation that forms the motivational basis for students' engagement (Skinner & Pitzer, 2012). This means classroom practices and interactions that support need for relatedness, competence, and autonomy tend to cultivate greater desire and liking towards learning (Niemiec & Ryan, 2009) which then lead to involvement and active participation in learning activities (Saeed & Zyngier, 2012).

**Relatedness** is the need to experience close and caring connections with others, creating a sense of belongingness to a particular person or group. It is experienced when one cares for and is cared for by others. For example, students feel related to their learning environment when the teacher and peers genuinely respect, like, and value them. Feeling of relatedness is thwarted when one experiences isolation or disconnection (Legate, DeHaan, & Ryan, 2015). Students who feel related and connected in classroom with their instructor and peers tend to engage in learning activities because secure attachments and alliances with trusted others function as a resource to seek help and face challenges in learning. Moreover, feeling special and important to social partners is hypothesized to trigger energized behaviour (e.g., effort and persistence) and positive emotions (e.g., interest and enthusiasm) (Furrer & Skinner, 2003). Studies that primarily focused on student-teacher relationship found that connectedness with teachers result in behavioural engagement and positive academic outcomes (Kaufman & Dodge, 2009). Likewise, studies that dealt with peer relationships showed that positive peer relationships promote engagement, higher academic achievement, and well-being (Chen, Hughes, Liew, & Kwok, 2010; León & Liew, 2017).

**Competence** refers to inherent desire to feel effective in one's interaction with the environment whereby the individual feels a sense of accomplishment and growing mastery in his/her activities (Broeck, Vansteenkiste, Witte, Soenens, & Lens, 2010; Deci & Ryan, 2000). Competence is ascribed to feeling of gratification when students realise that they are improving in any important activity or learning. A competent student also adapts to complex and changing environments and constantly seeks strategies to progress in academic endeavours by means of engaging in more meaningful and deep learning activities (Linnebrink & Pintrich, as cited in Akbari, Pilot, & Simons, 2015). When thwarted, lack of competency results in amotivation and helplessness (Broeck et al., 2010). Receiving positive feedback from teacher and praises from classmate over one's accomplishment generates feeling of competency and the desire to perform better. In addition, organising lessons and course materials as mini-learning units with clearly defined objectives, exploring a topic that connects current knowledge with new discoveries, and teaching through scaffolding method help to enhance mastery and make learning tasks more manageable which can potentially increase academic competence (Belland, Kim, & Hannafin, 2013)

**Autonomy** refers to the ability to think, feel, and make decisions by oneself and to engage voluntarily in the learning process wherein the individual is the origin of his or her actions (Núñez & León, 2015). SDT defines autonomy as feelings of freedom and volition where one's behaviour is out of his/her own freewill and choice that is personally endorsed, rather than pressured, forced, or controlled by people or circumstances (Deci & Ryan, 2002). Feeling of autonomy influences students' engagement in learning because when students are free to express opinions and views, appreciated for their contribution of ideas, given choice to act based on preference and personal interest, and are able to understand and value their purpose of learning, they are high likely to take initiatives in constructing their own learning and willingly spend time, energy as well as effort in their

studies. Within SDT, acting autonomously is implied as being self-governing (Gillet, Vallerand, & Lafrenière, as cited in Núñez & León, 2015). While autonomy-supportive teaching practices enhances motivation and subsequent engagement (Niemiec & Ryan, 2009), negative events such as threats, surveillance, evaluation, and deadlines can undermine feeling of autonomy (Deci & Ryan, 2000).

Studies that measured the collective effect of relatedness, competence, and autonomy revealed the simultaneous importance of these needs in relation to engagement in learning and task performance (Saeed & Zyngier, 2012; Sheldon & Filak, 2008), positive teacher–course evaluations in college classroom (Filak & Sheldon, 2008), and emotional well-being (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000).

## 2.3    Student engagement as mediator between intrinsic motivation and academic achievement

While both motivation and engagement have been linked to a variety of academic outcome independently, recent theories conceptualize engagement as the mediator through which motivation exerts its influence on achievement (Wang & Reeve, 2007). It has been established that motivation and engagement jointly impact academic outcomes wherein motivation facilitates engagement, engagement in turn facilitates learning and achievement. Therefore, how motivation affects achievement has much to do with students' level of engagement in learning.

In the light of SDT, intrinsic motivation is a pre-requisite for student engagement in learning. Students who experience high sense of autonomy, competence, and relatedness during learning activity as a result of supportive interaction with social members in their classroom tend to exhibit signs of constructive engagement such as persistence, enjoyment, and goal-striving mindset (Skinner & Pitzer, 2012). Numerous studies have found intrinsic motivation to be positively associated with engagement in learning and

21

performance of academic tasks (Porto & Gonçalves, 2017; Saeed & Zyngier, 2012). Even for language acquisition, it is highlighted in the premise of SDT that when students have intrinsic motivation to learn a language, their engagement can be reliably enhanced (Noels, 2013). In contrast, those whose psychological needs are ignored, thwarted, or neglected by contextual partners during instruction experience low intrinsic motivation which undermines engagement in learning and task performance. This causes disaffection or disengagement manifested through burnout, anxiety, and avoidance etc.

The role of student engagement as mediator in the relationship between motivation and achievement has been proved by a sound body of research which concur that constructive engagement is a critical mechanism through which motivational processes contribute to positive academic outcome (Wang & Reeve, 2007).

## 2.4    Critical conceptual and methodological issues of student engagement

Literatures imply little consensus on the definition of student engagement and there seems to be substantial variations in how the construct is operationalized and measured. Even the terminology and names used for engagement also vary across studies (Appleton et al., 2008). Together, they have led to some critical conceptual and methodological issues surrounding student engagement which needs to be addressed by any research that attempts to study the construct. Following are the conceptual and methodological issues identified:

### 2.4.1    Myriad conceptualization of student engagement

Generally, most literatures demonstrate student engagement as students' involvement in learning activities that yields positive learning outcomes. Nystrand and Gamoran broadly defined student engagement as "students' willingness to participate in routine school activities, such as attending classes, submitting required work, and following

teachers' directions in class" (as cited in Maroco, Maroco, Campos, & Fredricks, 2016). Kuh, Kinzie, Buckley, Bridges, & Hayek expanded this definition by adding that student engagement is learner's "participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes" (as cited in Quaye and Harper, 2015, p. 2).

By way of contrast, others have defined student engagement as student's involvement in institutional governance and decision-making. Trowler (2010) argued that student engagement is multi-faceted concept that encompasses not only student participation in teaching and learning but also students' involvement in governance and quality processes through roles such as course representative and officers in student unions. Keedy and Drmacich (1991) stated student's participation in lesson and curriculum planning, classroom management, and other pedagogical related tasks as examples of student engagement where students are able to demonstrate commitment, involvement, and ownership of their own education, rather than merely following instructions.

Participating in extra cocurricular activities is also observed as student engagement which is linked with a range of positive outcomes such as higher academic achievement, decreased dropout, and greater educational attainment (Martinez, Coker, McMahon, Cohen, & Thapa, 2016). According to McMahon and Zyngier (2008), students who are actively involved in school activities and social gatherings have greater sense of engagement and belonginess. Pascarella and Terenzini (as cited in Roberts & McNeese, 2010) also found that students who participate in sports achieve higher scores on standard measures of learning than their non-athletic peers. However, Skinner and Pitzer (2012) disagree to this. They believe that students will not learn or achieve anything by undertaking extra cocurricular activities, unless they are constructively engaged with classroom academic work.

This study agrees with Skinner and Pitzer (2012) that of the many types of engagement, student engagement with learning activities plays a greater role in the quality of students' daily experiences in attending school or college. As noted by Alrashidi et al., (2016), many theoretical models also focus on students' quality engagement in classroom learning activities more so than any other kind of engagement. Afterall, being engaged with learning activities is the most vital condition for students to *learn*. Skinner and Pitzer (2012) stressed that "only if students participate in academic activities with both "hands-on" and "heads-on" will the time they spend in classrooms result in the acquisition of knowledge and skills" (p. 22). Furthermore, high-quality engagement in classroom learning and the scholastic success that comes with it will make students feel more academically competent, elicit positive response and support from teachers, and allow entry into friendships and peers groups with engaged individuals (Skinner & Pitzer, 2012). Not only that, it has far-fetching implications on career choice, income, and participation in social life (Amora, Ochoco, & Anicete, 2016).

### 2.4.2 Differentiating motivation and engagement

Another issue of concern is the varied definition of motivation and engagement across theories. In literatures, the terms motivation and engagement are, a) used interchangeably, b) motivation is said subsumed in the meta-construct of student engagement (Fredricks et al., 2004), or c) distinguished between one another wherein motivation represents intention and engagement means action (Christenson et al., 2012).

Most researchers espouse the distinction between motivation and engagement made by Russell, Ainley, and Frydenberg (as cited in Ainley, 2012) that motivation is intent (internal) and engagement is action (observable behaviour). According to the authors, "Motivation is about energy and direction, the reasons for behaviour, why we do what we

do. Engagement describes energy in action, the connection between person and activity."
(p. 285)

Skinner and Pitzer's (2012) conceptualization of motivation and engagement is a good read. They identify motivation as the underlying sources of energy and purpose, whereas engagement is the visible outward manifestation of motivation. Because motivation is a psychological construct that cannot be observed or recorded directly, it is assessed through various measures of engagement (Touré-Tillery & Fishbach, 2014). In other words, an individual's level of motivation (energy within) is assessed through behaviours that indicate engagement and involvement in performing a task (outward manifestation).

### 2.4.3 Student engagement as a multidimensional construct

One consistent view across the many theories of engagement is that engagement is a multidimensional construct (Appleton et al., 2008). Yet, the agreement differs on the number and type of dimensions. Most theorists conceptualize student engagement as tripartite construct comprising behaviour, emotion and cognitive (Appleton et al., 2008; Fredricks & McColskey, 2012; Janosz, 2012). Behavioural engagement refers to active participation in learning activities projected through effort, intensity and persistence. Emotional engagement includes enthusiasm, enjoyment and satisfaction in performing or completing a learning tasks, whereas cognitive engagement encompasses concentration, attention and absorption as well as willingness to go beyond what is required (Skinner & Pitzer, 2012). Additionally, a new type of engagement has been proposed in recent literatures called agentic engagement (Reeve & Tseng, 2011). It represents the extent to which students initiate and enrich their learning through "intentional, proactive, and constructive contribution into the flow of the instruction they receive" (Reeve, 2012, p. 161) such as offering input, expressing a preference, and requesting an example. However, it has been highlighted that behavioural, emotional, and cognitive engagement

are empirically validated and stable, but the addition of agentic engagement is new and more research is needed to validate the construct (Sinatra, Heddy, & Lombardi, 2015; Stella & Corry, 2016). This study focuses on the commonly recognized three aspects of engagement: behavioural, emotional and cognitive (Fredricks et al., 2004; Skinner & Pitzer 2012) as these constructs have been highly studied and well-defined (Mahatmya, Lohman, Matjasko, & Farb, 2012; Stella & Corry, 2016)

**Behavioural engagement** is an observable measure of student engagement that can be generally defined as positive attitudes that facilitate learning in the classroom (Lloyd, 2014). The behavioural dimension includes determination, academic effort, persistence to solve task-related problems, working hard to accomplish learning tasks, and paying attention in class (Appleton et al., 2008; Chapman, 2003; Skinner & Pitzer, 2012). Appleton and colleague (2008) further operationalized this construct by adding attendance and voluntary classroom participation as part of behavioural engagement. To this, Skinner & Pitzer (2012) added homework completion as characteristics of behavioural engagement. The direct opposite of behavioural engagement is behavioural disaffection which is displayed through procrastination, distraction in learning, absenteeism and withdrawal from learning activities (Skinner & Pitzer, 2012). Various studies have found behavioural engagement to be positively related to academic achievement. For instance, students who exhibit behavioural engagement by concentrating on learning and avoid skipping classes generally get better grades and perform better on standardized tests (Wang & Holcombe, 2010). Because behavioural engagement is directly observable, teacher and student rating typically intercorrelates, further validating behavioural engagement as salient indicator of student engagement (Lloyd, 2014; Skinner et al., 2009)

**Emotional engagement** refers to students' affective reactions in the classroom such as interest, enjoyment, and satisfaction in learning. The opposite of emotional

engagement is emotional disaffection which comprises feelings of anxiety, boredom, sadness and frustration (Conner 2016; Skinner & Pitzer, 2012). In their study, Herreid, Terry, Lemons, Armstrong, Brickman & Ribbens (2014) revealed that emotional engagement has significant correlation with learning gains. According to McCann and Turner (2004), teachers would want their students "to experience positive and pleasant emotions with the hope that these emotions will foster motivation, engagement, and learning" (p. 1698). However, some argued that learning activities in higher education should allow students to experience negative emotions such as confusion and anxiety, rather than remaining safe and emotionally neutral as it is beneficial for cognitive development (Heyward, 2010). For instance, Zull (as cited in Heyward, 2010) suggested that leaners who have feeling of anxiety while learning tend to recall the detail of these experiences much more vividly. Nevertheless, a sound body of research still side the importance of positive emotion in promoting effectual learning. This is because negative emotions (e.g. anger, anxiety, and dissatisfaction) have been shown to worsen memory processing more so than strengthening it (Fredrickson, 2001; McLeod & Fettes, 2007). The 'Broaden and Build' model by Fredrickson (2001) also supports positive emotional engagement as they widen an individual's awareness and encourage more exploratory thoughts and actions, while negative emotions have narrowing effects.

**Cognitive engagement** is "the extent to which students are willing and are able to take on the learning task at hand" (Rotgans & Schmidt, 2011). Similarly, Metallidou and Viachou (as cited in Davis, Summers, & Miller, 2012) stated that "cognitive engagement is a matter of students' will—that is, how students feel about themselves and their work, their skills, and the strategies they employ to master their work", (p.23). Lamborn, Newmann, and Wehlage (1992) defined cognitive engagement as, "the student's psychological investment in and effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote"

(p.12). Students may complete and perform well in a task without being cognitively engaged, however, they tend to lack mastery of material. Hence, cognitive engagement instils thoroughness and mastery while doing a task, rather than simply working on it for the sake of completing it. For example, there is a difference between students who carefully read questions and formulate thoughtful answers (cognitively engaged) and those who provide vague, irrelevant, or not well thought out answers. When students are cognitively engaged, they exhibit qualities such as willing participation, thoroughness, goal striving attitude and self-regulatory strategy (Skinner & Pitzer 2012), whereas absence of cognitive engagement leads to helplessness and lack of passion for learning.

### 2.4.4    Interdependence of dimensions of engagement

One major concern in the treatment of student engagement as a multidimensional or meta-construct is the relationship between the dimensions. Some researchers argue that there is an overlap between dimensions of behaviour, emotion, and cognition. For instance, effort often appears in both behavioural and cognitive measures (Kahu, 2013). There are also views that one dimension is a prerequisite of the other. For example, Skinner and Pitzer (2008) believe that emotional engagement is likely to fuel behavioural and cognitive engagement that leads to effective learning, while Gibbs and Poskitt (2010) posit that both behavioural and emotional engagement are necessary prerequisites for cognitive engagement. On the contrary, Lamborn and friends (1992) disagree on the relationships between dimensions. According to them, a student can successfully complete his task and learn (behavioural engagement) without being emotionally engaged in the topic, therefore, dimensions of engagement are not interrelated.

This study believes that though each dimension – behaviour, emotion and cognitive – has its own specific definition, they are interdependent and cannot be entirely separated. According to Sinatra et al. (2015), it can be assured that each dimension co-occurs with

other dimensions during learning. For instance, "when students are excited about learning they are considered emotionally engaged, and they are more likely to implement effective learning strategies, thus becoming cognitively engaged" (Conner, 2016, p. 15). Fredricks et al. (2004) stressed that these dimensions are "dynamically interrelated within the individual; they are not isolated processes" (p. 61). Therefore, researchers should note that all three dimensions of engagement are convoluted and occur simultaneously. Also, when measuring a particular dimension of engagement, the other dimensions are high likely contributing to its evaluation (Sinatra et al., 2015). Furthermore, researching the fusion of behaviour, emotion, and cognition may provide richer characterisation of learners rather assessing a single dimension (Fredricks et al., 2004)

### 2.4.5 Distinguishing between facilitators and indicators of engagement

Another conceptual problem of student engagement is distinguishing causal factors or *facilitator* of engagement from actual *indicators* of engagement (Appleton et al., 2008; Fredericks et al., 2004; Skinner & Pitzer, 2012). Facilitators are contextual factors that influence students' levels of engagement (e.g. parents, teachers, and peers), whereas indicators are measures of engagement themselves (i.e., behavioural, emotional, cognitive engagement) but researchers often misidentify facilitators as indicators of engagement (Llyod, 2014). Vague demarcation between facilitator and indicator of engagement contributes to lack of conceptual clarity of engagement as a whole. If a theory holds that supportive interaction with teachers is indicator of engagement (instead of facilitator that contribute to engagement) research that combines this factor with other factors into a 'meta-construct' can never investigate whether teacher support influences student engagement (Skinner & Pitzer, 2012, p. 26). Therefore, maintaining the distinction between facilitator and indicator is pivotal.

Bearing in mind the proliferated use of student engagement construct and its elusive definitional clarity, it is important that researchers specify their concept of engagement accordingly. Also, they must ensure that the measures of engagement align with the descriptions of engagement they (researchers) ascribe to (Wang & Degol, 2014).

## 2.5    Theoretical framework

### 2.5.1    Model of Motivation Development (MMD)
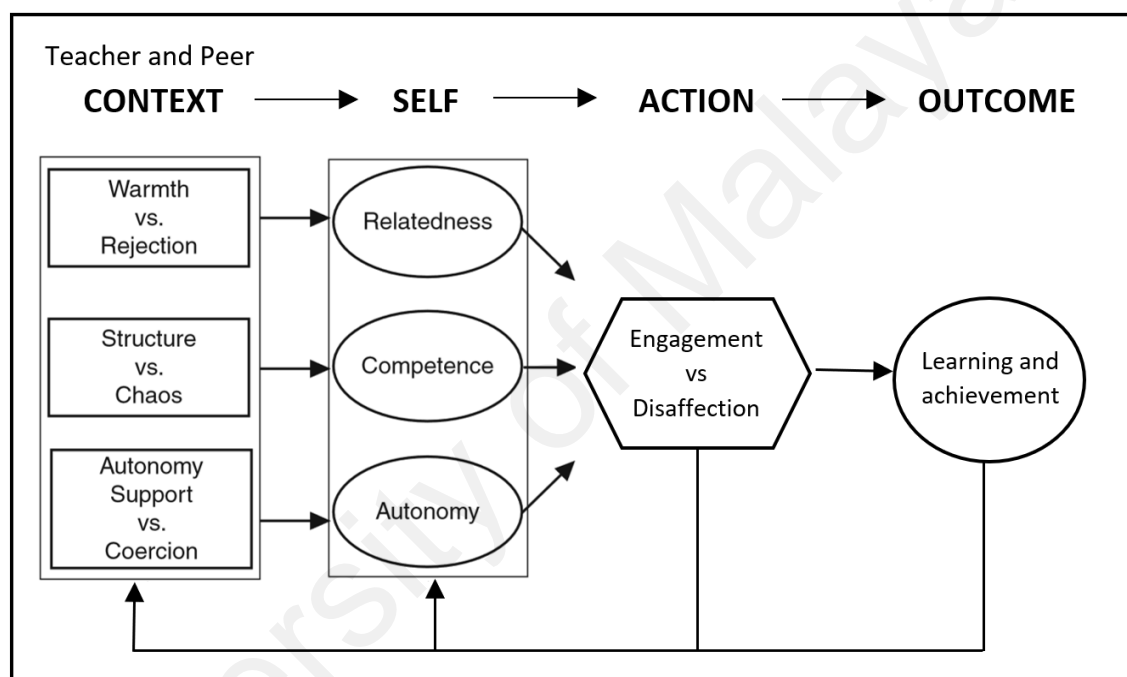
**Figure 2.1: A dynamic model of motivational development organized around student engagement and disaffection. Adapted from Skinner, E. A. and Pitzer, J.R. (2012), Developmental Dynamics of Student Engagement, Coping, and Everyday Resilience. In *Handbook of Research on Student Engagement* (p. 29), by S.L. Christenson et al. (Eds)., 2012, New York, NY: Springer Science+Business Media. Copyright 2012 by Springer Science+Business Media.**

Model of Motivational Development (MMD) by Skinner and Pitzer (2012) provides the theoretical foundation for this inquiry into undergraduate students' motivation and engagement in English course. Though this model has been primarily used to conceptualize student engagement at school level, its underlying principles are applicable to student engagement in higher education. In addition, this model incorporates the

principles of Self-determination Theory (SDT) which suits the purpose of this study. Figure 2.1 graphically depicts the adapted version of Model of Motivational Development (MMD). This model offers a holistic view in understanding student engagement through the dynamic cycle of *context, self, action*, and *outcome*.

Grounded in Self-determination Theory, MMD believes that engagement is not a fixed trait in an individual, but a malleable condition that is shaped by contextual influences and social partners in the context (Sinclair et al., 2003). To begin, every individual is readily born with the capacity to develop intrinsic motivation; a natural interest and desire to learn and to explore, however, its development and sustenance is influenced by the satisfaction of three basic psychological needs known as relatedness (i.e., feeling of belonging and connectedness fostered by warm and caring relationships), autonomy (i.e., the ability to regulate one's own actions and behaviours based on personal choice rather than being pressured), and competence (i.e., the desire to be effective and exercise one's capacities towards accomplishments and self-improvement). MMD asserts that in the classroom, contextual facilitators such as teachers and peers are responsible for the satisfaction of these needs through provision of warmth, structure, and autonomy-support. From these experiences, students cumulatively develop views of themselves organized around feeling of being autonomous, competent, and related in the classroom (known as *self-system processes*) which provide the motivational basis for their pattern of engagement versus disaffection with learning activities. Students who act on strong self-system processes with the self-perception and positive view that they are competent, autonomous, and connected in the classroom are high likely to be intrinsically motivated to learn (Deci & Ryan, 2002). According to MMD, students' psychological needs are either promoted or undermined via three pathways:

1. relatedness is promoted by *warmth* or undermined by *rejection*,

2. competence is promoted by *structure* or undermined by *chaos*,

3.  autonomy is promoted by *autonomy support* or undermined by *coercion*.

Intrinsically motivated students become constructively engaged. Engagement here refers to the observable qualities of students' actual interactions with academic tasks. When students are engaged, their level of participation and involvement in learning tasks is exhibited through behavioural, emotional, and cognitive orientations. Examples of behavioural engagement are participating actively in group discussions, asking questions when in doubt, and completing homework and assignment. Emotional engagement includes having fun in class, feeling a sense of pride when accomplished a task, and feeling enthusiastic about learning a subject. Cognitive engagement refers to preference for challenges, staying focused, and looking for strategies to overcome problems in learning. MMD also includes the opposite of engagement which is disaffection displayed through withdrawal from learning tasks such as lack of exertion, passivity, exhaustion, boredom, anxiety, lack of concentration and apathy, or amotivation. Table 2.1 shows dimensions engagement and disaffection and their corresponding indicators.

**Table 2.1: Indicators of engagement and disaffection in the classroom. Adapted from Skinner, E. A. and Pitzer, J.R. (2012), Developmental Dynamics of Student Engagement, Coping, and Everyday Resilience. In *Handbook of Research on Student Engagement* (p. 25), by S.L. Christenson et al. (Eds)., 2012, New York, NY: Springer Science+Business Media. Copyright 2012 by Springer Science+Business Media.**

| Dimensions | Indicators of Engagement | Indicators of Disaffection |
|---|---|---|
| Behaviour (External) | Action initiation effort, exertion, working hard, attempts, persistence, intensity, focus, attention, concentration, absorption, involvement | Passivity, procrastination, giving up, restlessness, half-hearted unfocused, inattentive, distracted, mentally withdrawn, burned out, exhausted, unprepared, absent |
| Emotion (Internal) | Enthusiasm, interest, enjoyment, satisfaction, pride, vitality, zest | Boredom, disinterest, frustration/anger, sadness, worry/anxiety, shame, self-blame |

**Table 2.1: Continued**

| Dimensions | Indicators of Engagement | Indicators of Disaffection |
|---|---|---|
| Cognitive (Internal) | Purposeful, approach, goal strivings, strategy search, willing participation, preference for challenge, mastery, follow-through/care, thoroughness | Aimless, helpless, resigned, unwilling, opposition, avoidance, apathy, hopeless, pressured |

In MMD, outcome refers to the effect of contextual influence and self-system processes on students' behavioural, emotional and cognitive engagement or disaffection (Skinner & Pitzer, 2012). Positive outcomes or effect include mastery of skills and knowledge pertaining to a subject, achievement of grades, graduation, and general student well-being (Bandura, 1991; Christenson et al., 2012; Furrer & Skinner, 2003; Kahu, 2013; Kuh, 2009; Reeve & Tseng, 2011; Robbins, Lauver, Le, Davis, Langley, & Carlstrom, 2004; Sagayadevan & Jeyaraj, 2012; Skinner, Wellborn, & Connell, 1991).

In summary, MMD demonstrates how fulfilment of needs for relatedness, competence, and autonomy (i.e. stimulation of intrinsic motivation) shapes students' behavioural, emotional, and cognitive engagement in learning, which leads to academic achievement.

## 2.5.2    Rationale for selection of theoretical framework

The selection of MMD as the guiding framework for this study is based on its effectiveness in addressing the conceptual and methodological issues surrounding the construct of student engagement. According to Eccles and Wang (2012), MMD provides an excellent overview of an alternative theory of engagement. The reasons for its selection are as follow:

### a) MMD defines engagement as involvement in learning activities

MMD defines engagement as "constructive, enthusiastic, willing, emotionally positive, and cognitively focused participation with learning activities" (Skinner & Pitzer, 2012, p. 22). It captures the quality of student involvement in academic tasks as the essence of successful learning and scholastic development. This definition suits the present study which concerns undergraduate stduents' involvement and participation in English language classroom.

### b) MMD distinguishes between motivation and engagement

Differentiating motivation and engagement is matter of focus to better understand how both constructs operate within the same model. In MMD, Skinner and Pitzer (2012) offer a restricted yet concise description for engagement as "the outward manifestation of motivation," (p. 22) which makes its concept of engagement distinct from the many other related concepts (Eccles & Wang, 2012). Motivation is seen as the "underlying sources of energy, purpose, and durability, whereas engagement refers to their visible manifestation" (p. 22). This helps the understanding of motivation and engagement as separate yet interrelated constructs (Fredericks et al., 2004)

### c) MMD observes student engagement as mediator between motivation and achievement

MMD demonstrates the association between motivation, engagement, and academic achievement through a cause-and-effect chain. The model identifies motivation as the cause of engagement while achievement is the effect of engagement. Here, engagement is observed as a mediator that links motivation to desired learning outcomes. As the present study is interested in investigating the mediating effect of student engagement in

the relationship between motivation and achievement, this model informs and guides the entire research process.

### d) MMD views engagement as a multidimensional construct

In higher education research, it has been suggested that multidimensional features of engagement must be acknowledged in any effort to measure and monitor this construct (Maroco et al., 2016). As such, MMD offers a multidimensional view of engagement which focuses on behaviour, emotion and cognitive, and suggests that students' engagement in learning activities can be evaluated in these expanded dimensions. These three dimensions have been widely researched and recommended by theorists for assessment of student engagement (Sinatra et al., 2015).

### e) MMD distinguishes facilitator from indicator of engagement

In the study of student engagement, it is important to differentiate between facilitators and indicators of engagement. While some models and conceptualizations tend to combine them, MMD distinguishes facilitators from indicators of engagement. MMD identifies facilitators as factors that influence engagement, whereas indicators are action components that describe engagement. In the model, facilitators refer to social partners in classroom and self-system processes which stem from interaction with those partners. Indicators of engagement are actions exhibited by students which is organized into dimensions of behaviour, emotion, and cognitive. Such clear distinction between facilitators and indicators engagement enables thorough investigation of what causes engagement and what are the true signs of engagement.

Overall, MMD serves as an ideal framework for research on student engagement in classroom and learning activities. MMD not only demonstrates concepts of engagement

within a motivational model but also addresses the issues surrounding the construct. According to Furrer and colleagues (as cited in Appleton et al., 2008), viewing engagement within a motivational framework is important "because engagement can change via cyclic interactions with contextual variables and influence later academic, behavioural, and social outcomes, which are the products of these context-influenced changes in engagement" (p. 379). MMD also treats engagement as mediator in linking motivation to academic success which meets the purpose of this study. For these reasons, MMD is chosen as the theoretical framework by the researcher.

## 2.6    Conceptual model and hypotheses

Based on Model of Motivational Development (MMD) by Skinner and Pitzer (2012) a conceptual model is designed.
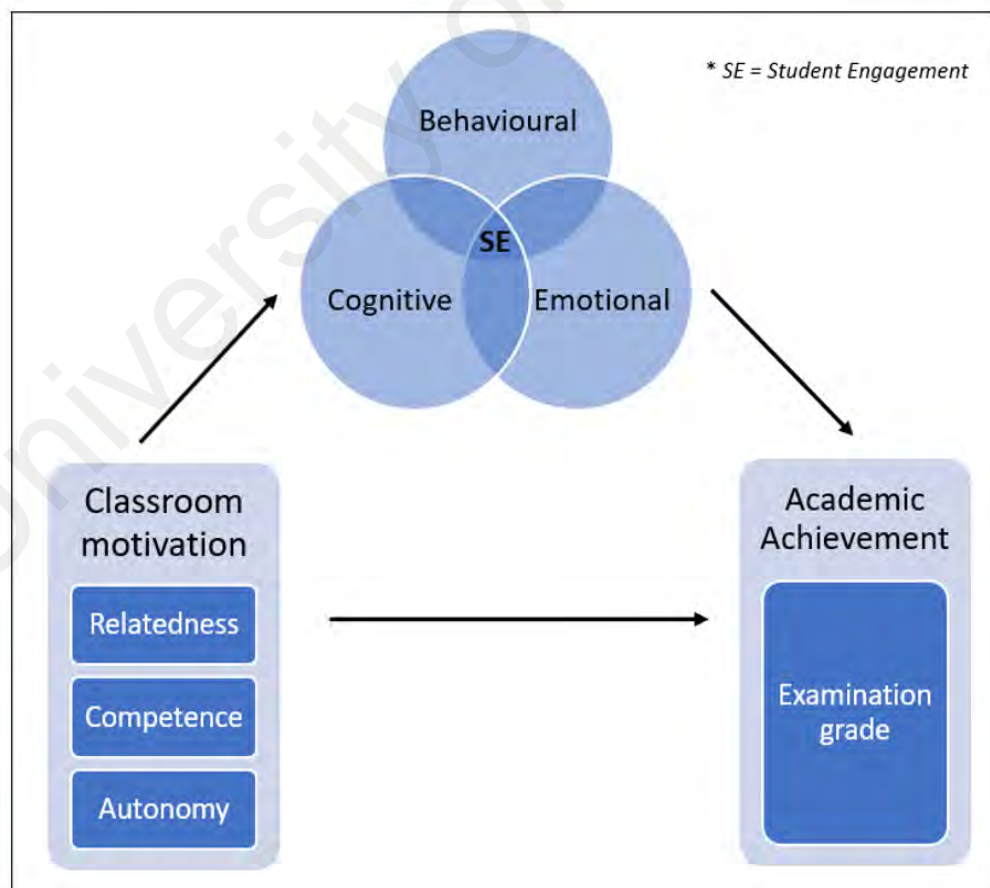


**Figure 2.2: A conceptual model depicting the relationship between classroom motivation, student engagement, and academic achievement.**

In Figure 2.2, the conceptual model depicts a tripartite relationship between classroom motivation, student engagement and academic achievement. **Classroom motivation** refers to the supportive interaction between students with their social partners (i.e., teacher and peers) and the quality and nature of their relationship which shapes students' feeling of relatedness, competence, and autonomy. **Student engagement** is defined as students' active, voluntary participation and involvement in academic tasks and learning activities. Following the recommendation of past research, student engagement is observed and studied as a multidimensional construct which comprises three dimensions of engagement: behaviour, cognition, and emotion (Fredricks & McColskey, 2012; Fredricks et al., 2004; Schmidt, Rosenberg, & Beymer, 2018; Skinner & Pitzer 2012). This model believes in the intertwining of dimensions, that is, all three dimensions occur simultaneously and are convoluted (Sinatra, et al., 2015). Also, an indicator of engagement may overlap with two or more dimensions. Therefore, the model assesses student engagement as a single measure that encompasses all three dimensions. **Academic achievement** is measured based on students' examination grade. While there are many outcomes attributed to motivation and engagement, the model focuses on examination grade as the most significant and desired outcome of learning.

The model proposes that high classroom motivation facilitates high engagement in learning activities and academic tasks. This generates the following hypothesis:

*H1: Classroom motivation is positively related to student engagement*

Next, the model proposes that when students experience high engagement with learning activities, it will lead to effective learning which results in academic achievement. From this, hypothesis 2 is derived:

*H2: Student engagement is positively related to academic achievement*

Based on the assumptions that an association exist between classroom motivation and academic achievement, and that the relationship is bridged by student engagement as mediator, the final hypothesis is formed.

*H3: Student engagement mediates the relationship between classroom motivation and academic achievement*

In conclusion, the conceptual model maps out the structural connection between classroom motivation, student engagement, and academic achievement. Derived from MMD, it explains the role of student engagement as mediator between classroom motivation and academic achievement. The proposed conceptual model guides the present study in answering the research question, *"Does student engagement mediate the effect of classroom motivation on academic achievement? If yes, to what extent?"*.

## 2.7 Summary

The literature review informs this study about student engagement from the perspectives of Self-determination Theory. It also outlines numerous studies which support the role of student engagement as a mediator in the motivation-achievement relationship and discusses the critical methodological and conceptual issues surrounding the construct of student engagement. Review of varied literatures brings to the selection of Model of Motivational Development (MMD) by Skinner and Pitzer (2012) as the theoretical framework. This model is selected for its effectiveness in addressing the conceptual and methodological concerns of student engagement and the identification of student engagement as mediator variable between motivation and achievement within the model. Another reason is because the model incorporates the tenets of Self-determination Theory (SDT) in understanding what motivates students to be engaged in learning. This is important given that the study is keen to apply the premises of Self-determination theory in assessing motivation and engagement and their effect on academic performance

as suggested by Hassan and Al-Jubari (2016). According to MMD, engagement arises from intrinsic motivation via satisfaction of psychological needs by contextual facilitators through provision of warmth, structure, and autonomy support. The model emphasizes the need to "nourish" students' inner motivational tendencies as integral for promoting high quality engagement. This leads to positive learning outcomes such as academic achievement. Based on MMD, a conceptual model is derived. The conceptual model depicts a tripartite connection between variables of classroom motivation, student engagement and academic achievement, in which student engagement is a mediator. The model also proposes three hypotheses in respect to the correlation between the variables which are:

*H1: Classroom motivation is positively related to student engagement*

*H2: Student engagement is positively related to academic achievement*

*H3: Student engagement mediates the relationship between classroom motivation and academic achievement*

# CHAPTER 3: METHODOLOGY

## 3.1    Introduction

This chapter presents the steps taken by the researcher to carry out the study. It offers details pertaining to research design, research method, participant selection, sampling method, research instrument, data collection process, data analysis procedure, and ethical considerations. The chapter ends with a summary.

## 3.2    Research design

This descriptive-correlational study was conducted using a quantitative approach with a non-experimental cross-sectional survey design (Creswell, 2012; De Vaus, 2001). Cross sectional-surveys provide a 'snapshot of how things are at a specific time' and because there is no attempt to control conditions or manipulate variables, surveys are well suited for studies that seek to gather information and describe important factors associated with a phenomenon or situation such as behaviours, attitudes, knowledge, and experience as how they exist in their current state (Kelley, Clark, Brown, & Sitzia, 2003; William, 2007). Following this design, the researcher first conducted a one-time survey on a target group of students seeking their opinion on classroom motivation and engagement to answer the following research questions:

*RQ 1:      How do students perceive their level of classroom motivation in English course?*

*RQ 2:      How do students perceive their level of engagement in English course?*

Next, the researcher collected students' examination results at the end of the semester. Using the survey data and students' examination grades, a mediation analysis was performed to determine the mediating effect of student engagement in the relationship

between classroom motivation academic achievement. This was to answer the final research question:

*RQ 3:*     *Does student engagement mediate the relationship between classroom motivation and academic achievement? If yes, to what extent?*
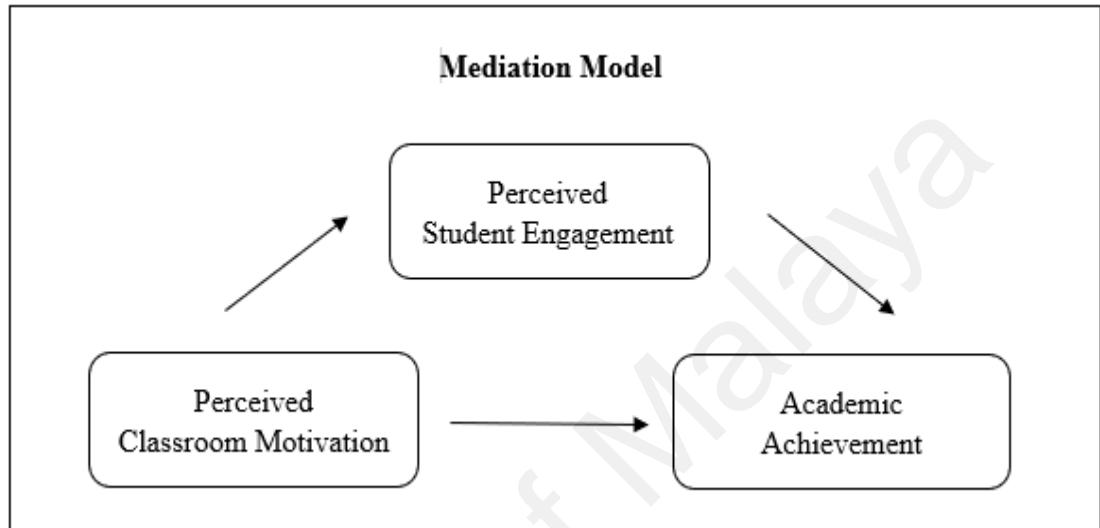


**Figure 3.1: A mediation model on perceived classroom motivation, perceived student engagement, and academic achievement.**

### 3.3     Research method

Research method refers to systematic procedure by which data are collected. Research method is different from research design because design means the logical structure of inquiry whereas method is the technique or mode of inquiry. Researchers often treat research method as research design or use both terms interchangeably. According to De Vaus (2001), data for any research design can be collected through any method and how the data are collected has no relevance to the logic of the design. De Vaus (2001) further stressed that failure to distinguish between design and method leads to poor evaluation of research design.

A survey design may employ a range of methods to answer its research questions. Common methods are questionnaire, face-to-face interviews, and telephone interview

(Cobanoglu, Moreo, & Warde, 2001; Kelley et al., 2003). For this study, self-administered questionnaire method (SAQ) was employed. SAQ refers to "a questionnaire that has been designed specifically to be completed by a respondent without intervention of the researcher collecting the data" (Lavrakas, 2008, p. 803). The researcher's role is to hand paper questionnaires to participants in person and request them to complete the questionnaire and collect the papers afterwards (Bowling, 2005). SAQ applies self-report measure in which the respondents report directly of their own behaviour, beliefs and attitudes. Self-report is a methodically sound way to understand and assess perceptions because to find out about individuals' perception concerning their feelings, behaviours, attitude and opinion, it is best to ask the individuals themselves rather than to infer indirectly based on what others observe of their behaviours (Chan, 2009)

### 3.4 Participant

The participants of this study were 137 first-year Malaysian undergraduate students of Universiti Malaya, Kuala Lumpur who enrolled in GLT1005 (Mastering English IV) course. The students in this course possessed moderate proficiency in English. They were identified as moderate proficiency students based on their achievement of Band 3 in Malaysian University English Test (MUET) prior to university admission. GLT1005 is a compulsory prerequisite course specially designed by Universiti Malaya for Band 3 students in which they must pass in order to register for subsequent English course and to finally be conferred a degree (Undergraduate handbook 2018/2019 session, 2018). The course is offered in Faculty of Languages and Linguistics for students from all faculties.

### a) MUET

MUET is a language test administered by Malaysian Examination Council to local students who aspire to further their degree studies in Malaysian public universities. This

test assesses candidates' level of English proficiency in four skills, namely Listening, Speaking, Reading, and Writing. Band 3 achievers are categorized as 'Moderate User' of English whose aggregated score is between the range of 140 – 179, in a scale of 0-300. They are defined as fairly fluent in English with decent ability in understanding the language and context.

### b) GLT1005 (Mastering English IV) course

The course is designed to improve students' English Language proficiency in terms of grammatical accuracy and language skills at the pre-intermediate level. Students are exposed to a variety of reading texts to improve their reading skills. Students are also given ample speaking practice to develop their confidence in communicating and interacting with others. The course also aims to improve students' basic skills in writing sentences and paragraphs.

### 3.4.1    Rationale for participant selection

The researcher carefully selected participants based on the following criteria: first year undergraduate, possessed moderate proficiency in English, and were learning English course during the time of study. Rationale for participant selection are as follow:

### a)  Participants were first-year undergraduate students.

First year undergraduates are believed to face challenges of adjusting to new environment and academic expectations in their transition from secondary education to tertiary education (Afolabi, 2017). This transition entails great deal of stress, emotional maladjustment, and depression which leads to early drop-out and lower graduation rate (Wintre & Yaffe, 2000). For instance, a research on Australian undergraduates revealed that 36% of freshmen were demotivated to study (Krause, 2005). Therefore, this study

placed special interest in first-year undergraduate because understanding their motivation and engagement at this stage is crucial. If not addressed early, low motivation and disengagement may become a more serious problem in the second and subsequent years, especially in second language learning.

### b) Participants possessed moderate proficiency in English

The rationale for selecting moderate-proficiency students was because they are more conscious of how they learn (Hong-Nam & Leavell, 2006) and therefore would be able to report more aptly on their classroom experience and engagement in learning based on deeper reflective thought. High-proficiency students are self-motivated and possess greater level of self-efficacy without much reliance on motivation from external sources such as teachers and peers in their learning endeavours (Gardner & Lambert, 1972). According to Hong-Nam and Leavell, "their need to consciously administer and deliberate about their learning choices becomes less necessary" (2006, p. 410). As a result, their perception about classroom motivation may not be apt. On the other hand, low-proficiency students may report low on feeling of relatedness, competence, and autonomy due to lack of motivation and self-efficacy which stem from language difficulty that they have been experiencing all the while (Siritararatn, 2013), not necessarily because the classroom is less motivating or less supportive. Consequently, their rating on engagement might also be low (Park, Holloway, Arendtsz, Bempechat, & Li, 2012).

### c) Participants were enrolled in English course during the time of study

As mentioned earlier in the research design, cross sectional-survey describes perception pertaining to a phenomenon or situation as how they exist in their current state at a specific point of time (Kelley et al., 2003; William, 2007). For that, the researcher focused on students who were learning English course during the time of study. Although

cross-sectional study can be retrospective (e.g. gathering views from sophomores who had already completed their first-year English course), it is recommended that this method be avoided due to factors that may threaten data quality. For instance, a retrospective answer concerning events in the past are likely to be affected by comparable situations, behaviours, and attitude at present. Also, the response may not be accurate because of low memory recall (Van der Vaart, Van Der Zouwen, & Dijkstra, 1995). Therefore, in order to gather as much accurate and reliable response, it was crucial to select participants who were learning a certain English course during the time of study.

The GLT1005 (Mastering English IV) course was in progress during the time of research. The course catered to first year undergraduates who possessed moderate proficiency in English. Based on these criteria, the target population (Malaysian undergraduates) was picked out from this course.

## 3.5    Sampling

The researcher aimed to conduct the survey on the entire target population. Hence, census method was selected for this study. Census is defined as "an attempt to collect data from every member of the population being studied rather than choosing a sample" (Jupp, 2006). Census retains advantages over a sampling method because it does not suffer from sampling error. In sampling method, only a subset is canvassed for inclusion and enumeration, but census method offers complete coverage and total enumeration (Lavrakas, 2008; Singh & Masuku, 2014) leading to accuracy of results and generalization of results. Furthermore, census is encouraged for small populations (e.g 200 or less) (Israel, 1992). In GLT1005 course, the total number of Malaysian students were 240 which the researcher believed was possible to conduct the census on. Participation in this study was voluntary. Although some students chose not to answer the

survey, this study on its part offered equal opportunity for everyone to participate. Out of 240 students who were approached, 137 participated in the survey.

### 3.6    Research instrument

The instrument used in this study was survey forms (i.e., paper-and-pencil questionnaire). The survey forms were composed of three main parts: a) Participation Information Sheet, b) Participant Consent Form, and c) survey questionnaire on classroom motivation and student engagement.

### 3.6.1    Participant Information Sheet

The participant information sheet introduced the research to the participants. It also explained the aims of the research, informed about risks and benefits of participating in the study, and above all, guaranteed anonymity and confidentiality of the respondents. The information sheet, according to Lavrakas (2008) acts as "contract" that defines the costs and benefits for collaboration between the researcher and the respondents (Lavrakas, 2008) and is believed to improve response rate (Kelley et al., 2003). See Appendix A.

### 3.6.2    Participant Consent Form

This was a short document which concisely covered core statements as described in the Participants Information Sheet. Consent form gave potential participants the opportunity to either agree or disagree to participate in the survey. It also served to promote participant rights as "autonomous beings to ensure that they are treated with justice, beneficence, and respect" (Escobedo, Guerrero, Lujan, Ramirez, & Serrano, 2007). Furthermore, obtaining free-willed and informed consent is an ethical practice in research and failure to obtain participant consent may restrict researcher's ability to use data and publish the results ("Consent forms", 2019). Consent form was particularly

important in this study because the researcher needed the participants' permission to obtain their examination results from the faculty as students' results are treated with high confidentiality by the faculty administration. In the form, participants were asked to tick on relevant boxes to indicate their agreement or disagreement to a) partake in the study, and b) to have their examination results collected and used by the researcher. This was followed by their name, matric number, signature, and date. See Appendix B.

### 3.6.3    Survey Questionnaire

The first part of the survey questionnaire began with three demographic questions on matric number, gender, and race. Colton and Covert suggested that unlike sensitive demographic questions (e.g., sexual activity and medical history) which may cause discomfort and hinder participation in the survey, demographic questions which are not sensitive in nature such as name and gender can be placed in the beginning of the questionnaire (as cited in Teclaw, Price, & Osatuke, 2012). The authors further suggested that questionnaire with demographic questions placed in the beginning should consist no more than four demographic questions. In the questionnaire, the demographic questions were followed by Basic Needs Satisfaction at College Scale (BNSC-S) and Student Course Engagement Questionnaire (SCEQ) for participants to answer. See Appendix C.

### 3.6.3.1  Basic Needs Satisfaction at College Scale (BNSC-S)

This scale was designed by Jenkins-Guarnieri, Vaughan, & Wright (2015). The authors adapted the previously published Basic Needs Satisfaction at Work Scale (BNSW-S) by Ilardi et al. (as cited in Jenkins-Guarnieri et al., 2015) and developed a new scale called Basic Needs Satisfaction at College Scale (BNSC-S) to assess motivation in specific context of college environment. The BNSC-S consisted 13-items measuring three subscales of motivation which are: Relatedness (i.e., Items 1,4,6, and 10), Competence

(i.e., Items 2,3,7,8, and 9), and Autonomy (i.e., Items 5,11,12, and 13). Jenkins and colleagues (2015) reported factorial validity (CF1 = .97) and adequate internal consistency estimates for the three subscales with Cronbach's alpha coefficient value of .80, .72, and 0.79 for Relatedness, Competence, and Autonomy subscales, respectively. This scale suited this study as it measured individual's perceptions of motivation in educational context based on Self-determination Theory (SDT) framework and had been effectively used in past research that dealt with motivation amongst college population (see Freeman, 2018). As the original scale was designed to measure students' overall collegiate experience, the researcher therefore changed the word 'university' to 'classroom' to reflect the specific situation or domain within the university which this study is interested in, that is the English course classroom. It is important to note that only the reference of place/context was changed, and not the substance of the items (Korb, 2012).

### 3.6.3.2 Student Course Engagement Questionnaire (SCEQ)

This scale was designed by Handelsman, Briggs, Sullivan, and Towler (2005) to measure college student engagement in a particular course. The SCEQ contained 23-items which were divided into four factors or subscales of engagement namely: Skills (i.e., Items 4,5,9,10,13,14,17,20, and 23), Emotional (i.e., Items 7,8,11,21, and 22), Participation/Interaction (i.e., Items 1,2,3,6,18, and 19), and Performance (i.e., Items 12, 15, and 16). Exploratory factor analysis and reliability estimates conducted on all the items reported Cronbach's alphas coefficient value of .82, .82., .79, and .76 for Skills, Emotional, Participation/Interaction, and Performance, respectively. The results also provided internal consistency of the SCEQ. The scale encompassed behavioural, emotional, and cognitive aspects of engagement and provided a more comprehensive understanding of student course engagement (Mandernach, 2015). The scale had

demonstrated effectiveness in assessing student course engagement across multiple similar studies (see Brown, White, Bowmar, & Power, 2017; Marx, Simonsen, & Kitchel, 2016; Svanum & Bigatti, 2009).

### a) Close-ended questions

Both the scales, BNSC- S and SCEQ, were maintained as closes-ended questions, as published in original work of the authors. Close-ended questions are made up of pre-coded response or answers for respondents to choose from. Closed-ended questions are conclusive in nature and because they are easily coded and analysed, this type of questions is particularly useful in quantitative study (Lavrakas, 2008). According to Lavrakas (2008), there are namely two benefits of using precoded questions in a survey research. First, researcher can minimize the time needed to prepare the answers for statistical analysis following the completion of data collection activities. Second, because the data collected are already coded, their use is believed to reduce coder variance (p. 601).

### b) Likert scale rating

Participants' response to each question was measured using a five-point Likert scale rating. They were asked to rate the extent to which the given statement reflected and described them. The Likert scale is one of the most highly reputed and reliable way to measure perceptions and have been vastly used across studies in various disciplines (Sinaian, 2014). In addition, the use of five to nine response categories Likert scale has garnered support as the best (Lavrakas, 2008). The present study used five rating categories. For BNSC-S, the scale ranged from 1 (not at all true) to 5 (very true), whereas for SCEQ it ranged from 1 (not at all characteristic of me) to 5 (very characteristic of me). The researcher did not include a neutral midpoint or explicit 'don't know' option in the questionnaire. While some argue that respondents do not always have an opinion and that

surveys which fail to offer neutral midpoint tend force respondent to artificially produce an opinion, there are counter-arguments from those who believe that offering explicit 'don't know' response choice encourages respondents to satisfice and hinders mental effort to answer questions accurately (Lavrakas, 2008). According to Lavrakas (2008), an explicit 'don't know' or neutral midpoint option is suitable for unfamiliar topics or factual questions where respondents are most likely to have no legitimate knowledge or information about and may truly have no opinion to share (p. 658). As far as this study is concerned, the questions presented in the survey were general questions dealing with personal feelings and attitudes, therefore, neutral midpoint is not necessary (Walonick, 2010). The questionnaire form is presented in Appendix C.

### 3.6.4    Validity of instrument

In scientific research, items generated in questionnaires are evaluated for face validity and content validity. Nunnally and Bernstein defined face validity as the extent to which a measure reflects what it is meant to measure (as cited in Hardesty & Bearden, 2004) whereas content validity was summarized by Haynes, Richard, & Kubany (1995) as "the degree to which elements of an assessment instrument are relevant to and representative of the targeted construct for a particular assessment purpose" (p. 238).

In this study, an expert and a group of five undergraduates who were not participants in the real study were asked to review the instruments for face validity. It was reported by the reviewers that they could understand what the scale intended to measure, and that the scale was appropriate for undergraduate students. Content validity was already established for both BSNC-S and SCEQ in previous literatures (Handelsman, et al., 2005; Jenkins-Guarnieri et al., 2015). Furthermore, the items in the instruments were retained in the present study as they were in the original publication and the population of this

study were also undergraduate students for whom the scales were originally designed. Therefore, content validity was not sought in the present study.

## 3.7     Data collection process

The data collection process for this study consisted of two stages: the first stage was survey collection, and second was collection of examination results.

### 3.7.1     Stage 1 - Survey collection

Survey was collected during week 11, 12, and 13 of Semester 2 (Session 2017/2018). According to Christophel and Gorham (as cited in Marx, et al., 2016) students generally established themselves around all the elements of a course after the first few weeks of enrolling in the course. Therefore, the researcher chose the final weeks of class to conduct the survey. Prior to survey, researcher had obtained permission from the faculty and the course instructors were informed about the researcher's visit to their classes.

The students of GTL1005 course were divided into 11 classes and the lessons were on different days and time for each class.  The researcher went to each class 20 minutes before end of lesson period to administer the survey. According to Nulty (2008), face-to-face administration results in higher response rates. Before giving out the questionnaire, participants were informed about the purpose of the study. Most importantly they were informed about their rights to either participate in the survey or withdraw from it all together. The researcher asked the participants to first read the Participant Information Sheet and fill up the Consent Form. Researcher took extra time to explain the potential areas where misperceptions could occur (Escobedo et al., 2007). Participants were given assurance of confidentiality that their names and matric number will not be revealed at any point in the study. Following the briefing, participants were given 10 minutes to answer the survey questions. At the end of the survey, each student was given a pen as

token of appreciation. The questionnaire forms were collected by the researcher and immediately sealed in envelopes for safekeeping.

### 3.7.2    Stage 2 - Collection of examination results

The official results of GLT1005 course were collected from Language Unit, Faculty of Language and Linguistics after the university examination. This was about two months after the survey. Researcher provided the Consent Forms of 137 participants who answered all survey questions and permitted to have their examination results used in the study.

### 3.8    Data analysis procedure

Using the survey data and examination results, two types of analysis were conducted which were descriptive analysis and mediation analysis.

### 3.8.1    Descriptive analysis

Descriptive analysis serves the purpose of describing measurable characteristics of the entire or a sample of a population. The characteristics are reported using total, counts and percentages, mean, median, and standard deviation. Descriptive analysis determines numerical values for such characteristics, summarizes them, and displays the values in tables, graphs, and charts (Wyllys, 1978). In this study, the descriptive analysis aimed to answer two research questions:

R.Q.1:    *How do students perceive their level of classroom motivation in English course?*

R.Q.2.    *How do students perceive their level of engagement in English course?*

The descriptive analysis was computed using Statistical Package for the Social Sciences (SPSS) v.22 software. The results are presented in Chapter 4.

### 3.8.2    Mediation analysis

Mediation represents the consideration of how a third variable/mediator variable (M) affects the relationship between independent variable (IV) and dependent variable (DV). It holds that there is a plausible causal relationship between IV and DV which is affected by the presence of an underlying mechanism or process known as mediator variable. A mediation model proposes that IV influences the mediator variable, which in turn influences DV.

**Independent Variable → Mediator Variable → Dependent Variable**

Thus, mediation analysis facilitates a better understanding of the connection between IV and DV by testing the hypothesized mediator variable.
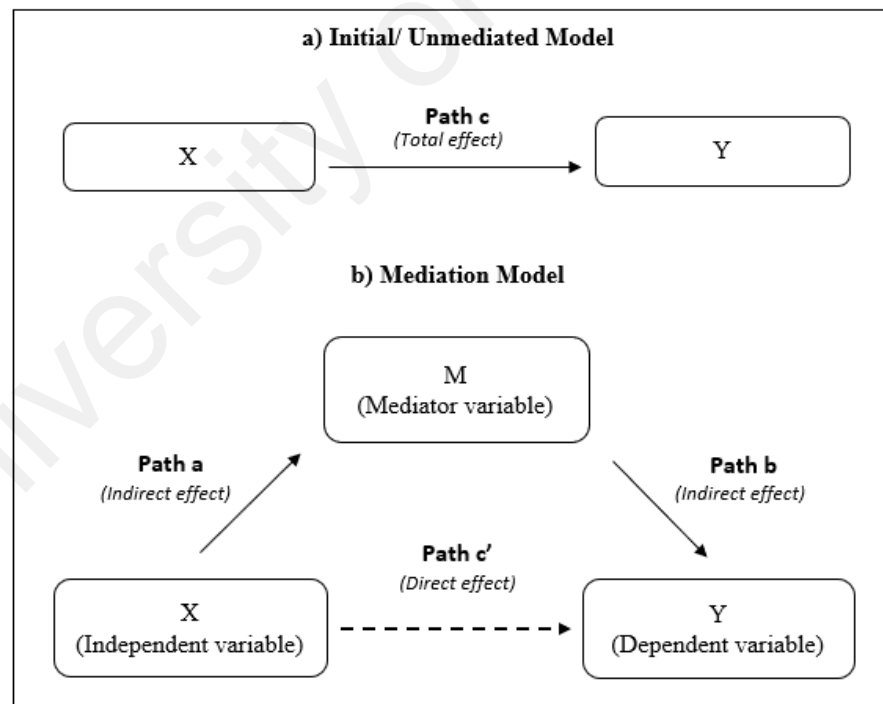


**Figure 3.2: (a) Path model showing the effect of X on Y without mediation and (b) Path model showing the effect of X on Y with mediation**

Figure 3.2 (a) displays the unmediated model and 3.2 (b) displays mediation model. The relationship between X and Y is called total effect. When mediation occurs, direct

effect would be reduced since some of the effect has shifted through the mediator. Therefore, the value of path c' (indicated by dashed line) is smaller than path c (Awang, 2015)

### 3.8.2.1 Simple mediation model

Figure 3.3 is a simple mediation model with one mediator. It shows the relationship between classroom motivation and academic achievement mediated by student engagement.
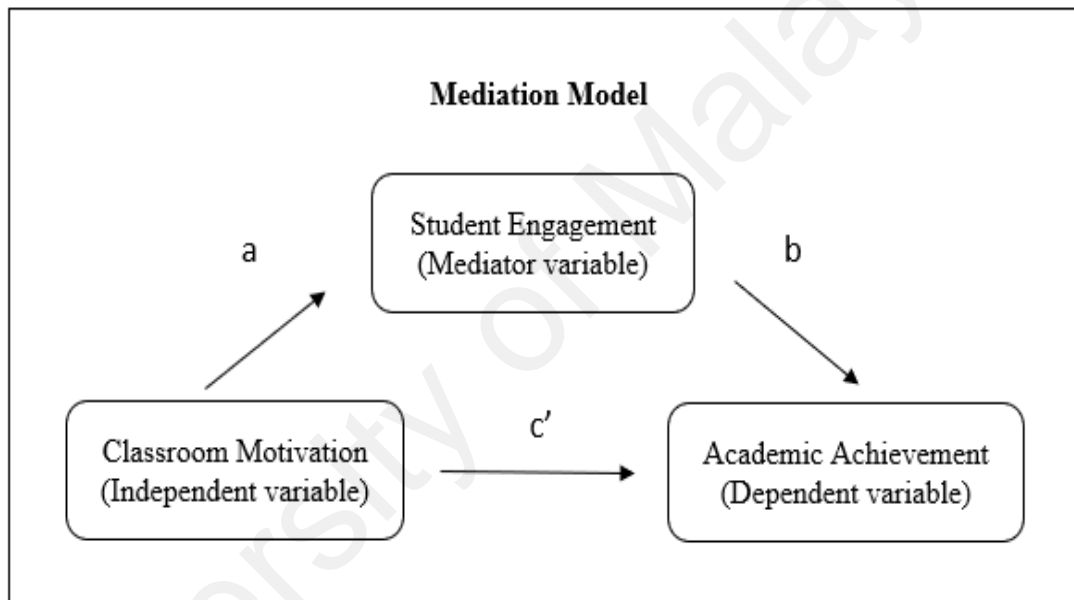


**Figure 3.3: Simple mediation model with only one mediator.**

According to Shrout and Bolger (2002), in nonexperimental research, a clear theoretical rational is needed to indicate possible causal relation of IV to DV and it is the development of this rationale that brings to mediation analysis. In other words, the conceptualisation of a mediation relationship between variables of interest must hold logical theoretical meaning and needs forethought (MacKinnon as cited in Memon, Cheah, Ramayah, Ting, & Chuah, 2018). As such, literatures have established a strong

connection between motivation and academic achievement, and more recent studies recognize student engagement as a mediator in the relationship. Based on the model in Figure 3.3, this study aimed to conduct as simple mediation analysis to identify the role of student engagement as a mediator variable in linking classroom motivation to academic achievement of undergraduates learning English course. The mediation analysis was expected to answer Research Question 3: *Does student engagement mediate the relationship between classroom motivation and academic achievement? If yes, to what extent?* by testing the following hypotheses:

*H1:    Classroom motivation is positively related to student engagement*

*H2:    Student engagement is positively related to academic achievement*

*H3:    Student engagement mediates the effect of classroom*

*motivation on academic achievement*

### 3.8.2.2  Preacher and Hayes mediation approach using bootstrapping

Over the years, there have been various approaches to mediation analysis of which this study adopted Preacher and Hayes mediation approach that emphasizes bootstrapping. Following their guidelines, this study used bootstrapping method with 5000 subsamples to generate an empirical representation of the sampling distribution through repeated resampling process as a way to mimic the original sample. According to Hayes (2009), simulation research has shown support for bootstrapping as a more valid and powerful technique for testing mediator variable effects. Therefore, it is highly useful in making inferences about indirect effects in any mediation model. Upon completion of the analysis, the researcher had 5000 estimates of the indirect effect, which functioned as an empirical approximation of the sampling distribution.

### 3.8.2.3 Partial Least Squares - Structural Equation Modelling

Structural Equation Modelling (SEM) is a powerful multivariate statistical analysis technique which offers a more suitable inference framework for mediation analysis (Gunzler, Chen, Wu, & Zhang, 2013). SEM combines factor analysis and multiple regression analysis to examine the structural relationship between variables. SEM is visualized with graphical path diagram: flowchart with interconnecting lines between variables that indicate causal relationship. SEM is also known as causal modelling because it tests the proposed causal relationships between variables. Of the many advantages of using SEM for mediation analysis, the notable ones are a) it allows interpretation and estimation of latent constructs, b) it examines the simultaneous nature of the direct and indirect effect, and c) expresses the dual role of mediator as both cause for outcome and effect of intervention (Gunzler et al., 2013). SEM can be carried out via two distinct statistical techniques:

a. Covariance-Based SEM (CB-SEM) (i.e., analysis based on covariance)

b. Partial Least Squares SEM (PLS-SEM) (i.e., analysis based on partial least squares)

In selecting between the two specialized statistical techniques of SEM, researcher should consider whether a study is exploratory (testing a new theory) or confirmatory (testing an existing theory) in nature. For exploratory work, PLS-SEM should be used whereas for confirmatory work, both CB-SEM and PLS-SEM may be employed. Because this was a confirmatory study, either technique was suitable, however, some important factors were considered before choosing the most appropriate SEM technique. Table 3.1 shows factors that qualified PLS-SEM as the preferred analysis technique for this study.

**Table 3.1: Qualifying factors of PLS-SEM as preferred analysis technique**

| PLS-SEM | This study |
|---|---|
| a) Useful for research that adopts scales that past studies have already checked and validated (Reinartz, Haenlein, & Henseler, 2009) | Adopted scales from past studies (i.e., SCEQ by Handlesman et al., 2005, and BNSC-S by Jenkins-Guarnieri et al., 2015) |
| b) Effective in testing structural model that has higher order constructs (i.e., interrelated dimensions of a construct are grouped into a single multidimensional higher order construct) (Yáñez-Araque, Hernández-Perlines, & Moreno-Garcia, 2017) | Two out of three latent variables were multidimensional second-order constructs (i.e., classroom motivation and student engagement) |
| c) Yields higher statistical power on smaller sample size (Mathews, Hairs, & Mathews, 2018). | The final number of cases used in the study was small (137 cases) |

### 3.8.2.4 Systematic evaluation of PLS-SEM

The PLS-SEM process revolves around two steps: evaluating measurement model and evaluating the structural model. There are two types of measurement model: reflective and formative. In this study, the model was called reflective measurement model (i.e., indicators are manifestations of the construct and the direction of causality is from construct to items) (Khan, Dewan, & Chowdhury, 2016). The criteria for evaluation of reflective measurement model and structural model are as shown in Table 3.2.

**Table 3.2: Criteria for systematic evaluation of PLS-SEM**

| Measurement Model | a) Composite reliability |
| | b) Indicator reliability |
| | c) Convergent validity |
| | d) Discriminant validity |
| Structural Model | a) Coefficient of determination ($R^2$), |
| | b) Predictive relevance ($Q^2$) |
| | c) Path coefficients and statistical significance (β, *p*-value) |

SmartPLS 3.0 software was used by researcher as the analytical tool to conduct mediation. It is a prominent statistical software developed by Ringle, Wende, & Becker (2015) for PLS-SEM. According to Ringle et al. (2015), using the SmartPLS 3.0 software offers a much more straightforward and easier application, interpretation, and reporting features for advanced statistical analysis such as mediation (as cited in Matthews et al., 2018). The results of mediation analysis are presented in Chapter 4.

### 3.9 Ethical considerations

Ethical consideration refers to "making ethical choices from the inception of the research idea and throughout the research process" (Wester, 2011). Responsible conduct of research is of paramount importance to promote truth, knowledge, and avoidance of error, as well as to foster trust, respect, accountability, and legitimacy which are essential qualities in research involving collaborative work among various people (Resnik, 2011). The researcher has, to the best of her ability, taken necessary actions and steps to ensure that this study conformed to research ethics in all ways possible. Following are the actions taken:

a) The scales, BNSC-S and SCEQ, were taken from the originally published works of Jenkins-Guarnieri et al., (2015) and Handelsman et al., (2005) respectively. The

researcher obtained written permission via email from both authors to use their scales in her study.

b) Researcher adopted research instruments which were tested for content validity and were well-established in past studies. Next, researcher sought face validity from one expert and five undergraduates who did not participate in the real study.

c) Researcher sent official email and letter to Deputy Dean of Faculty of Languages and Linguistics seeking consent to conduct the survey with students of GLT1005 course. The survey was conducted with the Deputy Dean's approval. Permission to collect students' examination results from the faculty was also obtained in the same manner.

d) Participants of the study were given Participant Information Sheet to educate them about the research. They were also given Consent Form to state their agreement or disagreement to participate in the survey and to allow their results to be used in the study. Participation in the survey was purely voluntarily, and the participants were given assurance that their identity will not be revealed at any point of the study. The researcher had no relationship of any kind with the participants.

e) The questionnaire forms were collected and immediately sealed in envelopes after the survey for safekeeping. Only the researcher dealt with the research materials. Participant confidentially was protected throughout the study and thereafter.

f) The data analysis was checked by an expert who is a qualified statistician and a Senior Visiting Research Fellow at Universiti Malaya. This measure was taken to ensure quality and accuracy of data testing and analysis. The results are presented in Chapter 4 of this study.

## 3.10 Summary

This study adopted a quantitative approach with a non-experimental cross-sectional survey design. Following this design, this study conducted a one-time survey on a target

group of students seeking their opinion on classroom motivation and engagement. Researcher chose census as sampling method as it offered complete coverage and total enumeration and the method was encouraged for small populations. Self-administered questionnaire (SAQ) method was employed where participants responded directly on their perception without the intervention of the researcher. Basic Needs Satisfaction at College Scale (BNSC-S) by Jenkins-Guarnieri et al. (2015) was used to measure classroom motivation, and Student Course Engagement Questionnaire (SCEQ) by Handelsman et al. (2005) was used to measure student engagement. Researcher ensured content validity and face validity prior to using the scales. Out of 240 potential participants, 137 answered the survey and allowed the researcher to gather their results after examination and use for data analysis purpose. Descriptive analysis was conducted on survey data to assess students' level of motivation and engagement in GLT1005 English course. The descriptive analysis was conducted using Statistical Package for Social Sciences (SPSS) v. 22 software, Next, using survey data and students' examination results, mediation analysis was performed to identify the mediating effect of student engagement in the relationship between classroom motivation and academic achievement. Mediation analysis was performed with PLS-SEM technique using SmartPLS 3.0 software. Researcher adhered to ethical conduct throughout the study.

**CHAPTER 4: RESULTS**

**4.1     Introduction**

This chapter presents results of the study. It comprises details pertaining to survey response status, participant demographic characteristics, descriptive analysis, and mediation analysis, and ends with a summary. The findings illustrated in this chapter answers the three research questions presented in Chapter 1:

*RQ 1:      How do students perceive their level of classroom motivation in English course?*

*RQ 2:      How do students perceive their level of engagement in English course?*

*RQ 3:      Does student engagement mediate the relationship between classroom motivation and academic achievement? If yes, to what extent?*

**4.2     Survey response status**

The survey was conducted in GLT1005 course of Semester 2 (Session 2017/2018) at the Faculty of Languages and Linguistics, Universiti Malaya. As the focus of the study was Malaysian undergraduates, the questionnaire forms were given out to all 240 Malaysian students who enrolled in the course. Table 4.1 displays overall response status of the survey.

**Table 4.1: Survey response status**

| Total population | Complete survey response | | Survey nonresponse | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | Unit nonresponse (full refusal) | | Partial nonresponse (partial refusal) | | Item nonresponse (missing data) | |
| *n* | *n* | *%* | *n* | *%* | *n* | *%* | *n* | *%* |
| 240 | 137 | 57 | 49 | 20.4 | 43 | 18 | 11 | 4.6 |

Out of 240 potential participants, 137 were selected for data analysis. These participants answered all the survey questions and granted permission to have their examination results used for data analysis. They were grouped in the *complete survey response* category. The remaining 103 participants belonged to *survey nonresponse* category.

Survey nonresponse comprises *unit nonresponse*, *partial nonresponse*, and *item nonresponse*. Unit nonresponse refers to individuals whose response is missing for all the survey items (Huisman, 1999), in other words, respondents did not participate in the survey at all. In this study, 49 students (20.4%) belonged to this category. These participants refused to answer the survey questions and refused permission to have their examination results used in the study.

Partial nonresponse refers to students who answered the survey questions, but refused permission to have their examination results used in the study. A total of 43 (18%) students belonged to this category. Because the aim of the study was to measure the strength of relationship between the variables of classroom motivation, student engagement, and academic achievement, obtaining participants' examination results was crucial. Although the participants' response to the survey questions was very much appreciated, their refusal to allow the researcher to obtain and use their examination results in the data analysis caused the researcher to eliminate them from the study.

Item nonresponse means the failure to answer one or more survey items which the participants are eligible to answer (Elliott, Edwards, Angeles, Hambarsoomians, & Hays, 2005). This leads to issue of missing data which is common in survey research (Schlomer, Bauman, & Card, 2010). Best practices in handling missing data are to report the amount of missing data, consider the potential factors and patterns of missing data, and use appropriate methods to either statistically impute or eliminate missing data from analysis (Schlomer et al., 2010). In this study, 11 (4.6%) respondents failed to provide answers for

every item in the questionnaire. When examined, the pattern of missing data was missing completely at random (MCAR) which means there was no systemic pattern in the missing value and the missing data was not related to any variable in the study (De Leeuw, Hox, & Huisman, 2003). The missingness was high likely due to respondents overlooked some of the items in the questionnaire. Issue with missing data can be dealt with statistical techniques such as deletion and imputation (Fox-Wasylyshyn & El-Masri, 2005). For MCAR data, *listwise deletion* technique (also known as complete case analysis) can be applied (Schlomer et al., 2010). Listwise deletion eliminates an entire case when any of its item has a missing value/data and only cases with complete data are retained, but this method can lead to reduced statistical power if the number of cases eliminated is high (Fox-Wasylyshyn & El-Masri, 2005). However, according to Schafer (as cited in Cameron & Trivedi, 2005), listwise deletion is acceptable for missing cases that comprise 5% and below. In this study, the use of listwise deletion technique is justified given the low percentage of missing data cases which is 4.6%.
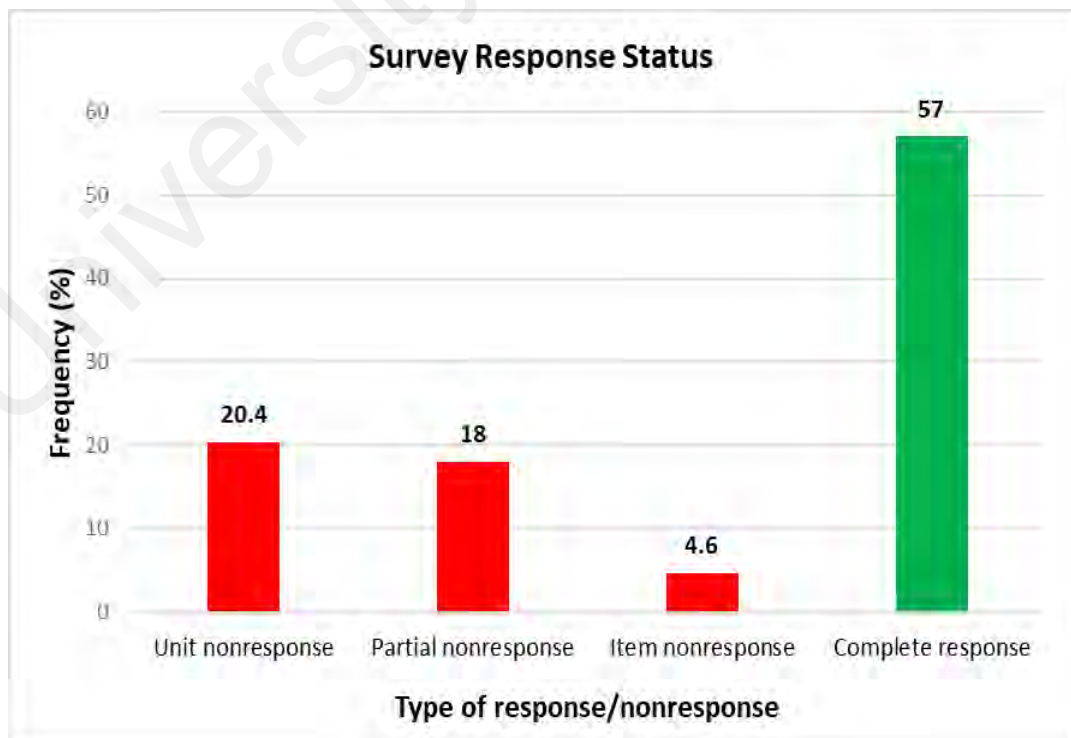


**Figure 4.1: Frequency of survey response and nonresponse**

In conclusion, out of 240 potential participants, 137 (57%) qualified for data analysis. They were selected based on two criteria: success in answering all survey items and granting of permission for researcher to obtain and use respondents' examination results for data analysis. The remining 103 (43%) non-respondents which comprised unit nonresponse, partial nonresponse, and item nonresponse were omitted from the study. See Figure 4.1.

## 4.3　Participant demographic characteristics

The first part of the questionnaire elicited personal details about participants' matric number, gender, race, and faculty. Table 4.2 presents frequency of distribution and percentage for participants demographics.

**Table 4.2: Participant demographics based on frequency of distribution**

| Variable | Level | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 32 | 23.4 |
|  | Female | 105 | 76.6 |
| Race | Malay | 126 | 92.0 |
|  | Chinese | 6 | 4.4 |
|  | Indians | 3 | 2.2 |
|  | Others | 2 | 1.5 |
| Faculty/ Academy/ Centre | Islamic Studies | 43 | 31.4 |
|  | Malay Studies | 3 | 2.2 |
|  | Arts & Social Sciences | 8 | 5.8 |
|  | Built Environment | 11 | 8.0 |
|  | Business & Accountancy | 11 | 8.0 |
|  | Computer Science & Info. Technology | 2 | 1.5 |
|  | Cultural Centre | 1 | 0.7 |
|  | Economics & Administration | 19 | 13.9 |
|  | Education | 1 | 0.7 |
|  | Engineering | 12 | 8.8 |
|  | Languages & Linguistics | 2 | 1.5 |
|  | Medicine | 5 | 3.6 |
|  | Science | 19 | 13.9 |

*Note: N=137*

### 4.3.1    Gender

Of the total 137 participants, 32 (23.4%) of them were male and 105 (76.6%) were female. Research among general population and college student population have found that females are more likely to respond to survey than males (Porter & Umbach, 2006). The same is observed in this study. See Figure 4.2.
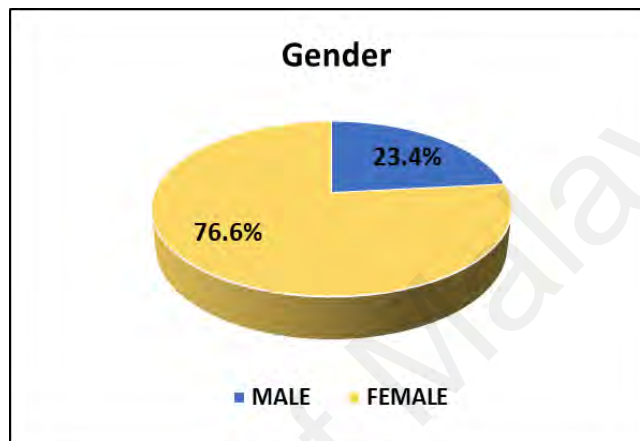


**Figure 4.2: Gender of participants**

### 4.3.2    Race

Of the 137 participants, majority were Malays (92%, n = 126), followed by Chinese (4.4%, n = 6), Indians (2.2%, n = 3), and other race (i.e. Non-Malay Bumiputra and other indigenous groups) (1.5%, n = 2). See Figure 4.3
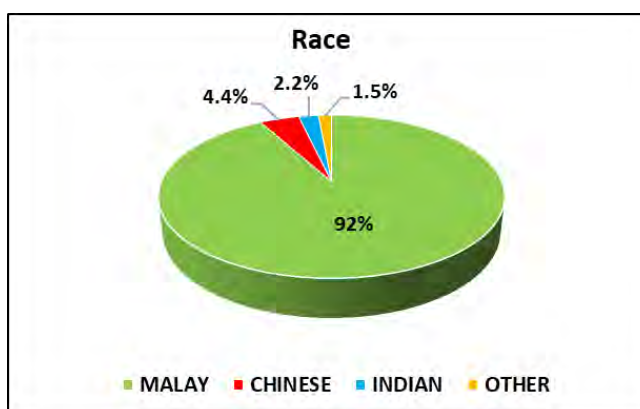


**Figure 4.3: Race of participants**

### 4.3.3    Academic faculty

Out of 137 participants, the highest number of participants was from Academy of Islamic Studies (31.4%, n = 43) whereas the lowest number of participation was from Cultural Centre and Faculty of Education (0.7%, n = 1). See Figure 4.4.
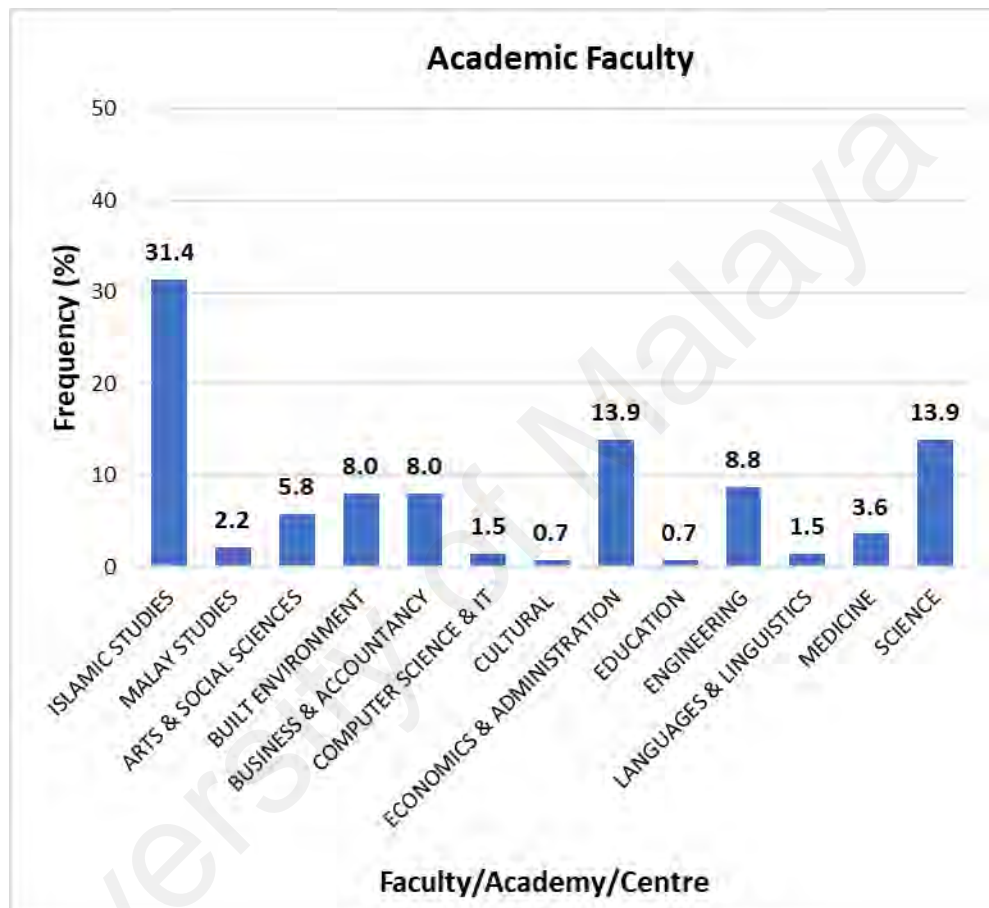


**Figure 4.4: Academic faculty of participants**

The data analysis excluded Faculty of Dentistry, Faculty of Law, and Centre for Sport & Exercise Sciences. This is because students from Faculty of Dentistry and Law are not enrolled in GLT1005 course as their minimum achievement in MUET is Band 4. Instead, they are required to take up other English courses designed for Band 4 achievers and above. There was no voluntary participation from students of Centre for Sports & Exercise Sciences although they were in GLT1005 course during the survey.

### 4.4 Results of descriptive analysis

The descriptive analysis answered research questions on students' perceived classroom motivation and engagement. The results are presented in tables and charts.

### 4.4.1 Descriptive analysis on classroom motivation

The following descriptive analysis provides answer for Research Question 1: *How do students perceive their level of classroom motivation in English course?*

**Table 4.3: Three factors of classroom motivation as measured by the Basic Needs Satisfaction for College Scale (BNSC-S)**

| Classroom Motivation Factor | Min | Max | M | SD |
|---|---|---|---|---|
| Autonomy | 2.00 | 5.00 | 3.90 | 0.64 |
| Competence | 2.00 | 5.00 | 4.13 | 0.64 |
| Relatedness | 2.33 | 5.00 | 4.17 | 0.63 |
| Total Motivation | 2.28 | 5.00 | 4.06 | 0.53 |

*Note: M = mean, SD = standard deviation, N = 137.*

To describe level of classroom motivation perceived by students in English course, three classroom motivation factors (i.e., autonomy, competence, and relatedness) and total motivation were measured using mean and standard deviation. As presented in Table 4.3, the mean for total classroom motivation was M = 4.06 (SD = 0.53) out of a possible M = 5.0. The type of motivation that produced the highest mean was relatedness (M = 4.17, SD = 0.63) which represents students' perception of how connected they feel with others, creating a sense of belongingness to the person or group they learn and collaborate with. On the other hand, the lowest mean was reported for autonomy factor (M = 3.90, SD = 0.64) which is related to feelings of freedom and volition where one's behaviour is out of his/her own freewill and choice, rather than pressured or forced by others (Deci &

Ryan, 2000). The results indicated that students experience greater support for relatedness, followed by competence and autonomy.

Overall, the students perceived their classroom motivation in English course to be high. This was determined based on total classroom motivation mean of M = 4.06 (SD = .53) which was above average M = 3.0. The mean for individual factors of classroom motivation were also above average. See Figure 4.5.
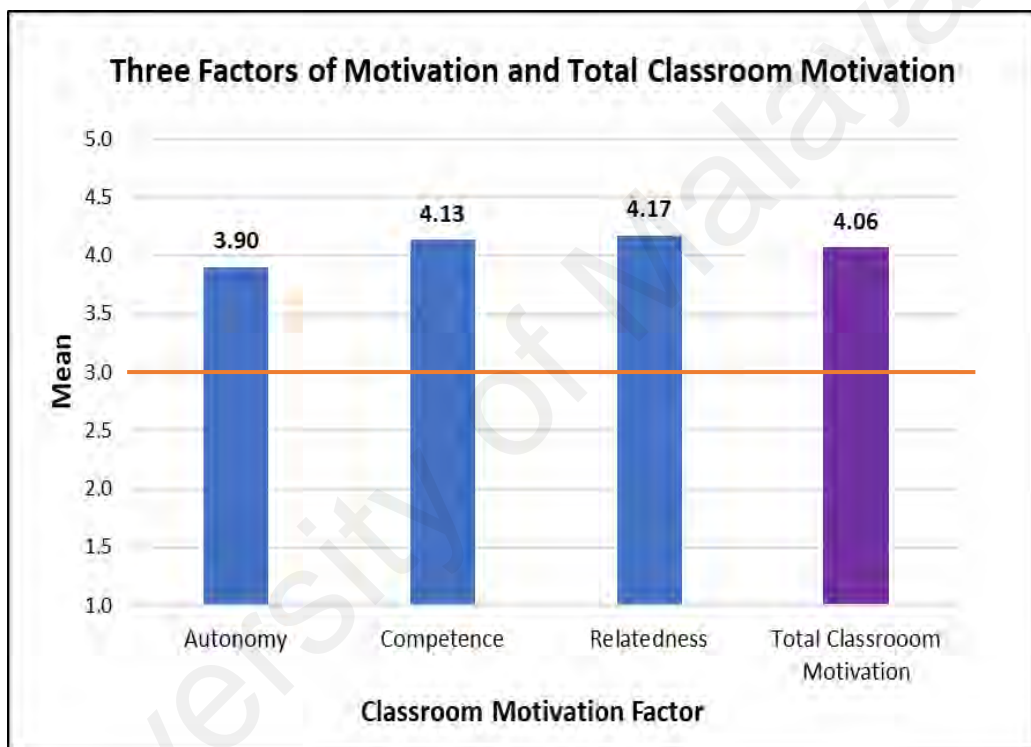


Note: Mean value = 1.0-2.0 (very low), 2.1-2.9 (low), 3 (medium), 3.1-4.0 (high), 4.1-5.0 (very high).

**Figure 4.5: Participants' perceived classroom motivation**

### 4.4.2  Descriptive analysis on student engagement

The following descriptive analysis provides answer for Research Question 2: *How do students perceive their level of engagement in English course?*

**Table 4.4: Four factors of student engagement as measured by the Student Course Engagement Questionnaire (SCEQ)**

| Engagement Factor | Min | Max | M | SD |
|---|---|---|---|---|
| Skills | 2.00 | 5.00 | 3.83 | 0.57 |
| Emotional | 1.67 | 5.00 | 3.78 | 0.66 |
| Participation/Interaction | 2.00 | 5.00 | 3.67 | 0.58 |
| Performance | 1.50 | 5.00 | 3.81 | 0.71 |
| Total Engagement | 1.88 | 4.87 | 3.77 | 0.50 |

*Note: M = mean, SD = standard deviation, N = 137.*

To describe level of engagement perceived by students in English course, four engagement factors (i.e., skills, emotional, participation/interaction, and performance) and total engagement were measured using mean and standard deviation. As presented in Table 4.4, the mean for total engagement was M = 3.77 (SD = 0.5) out of a possible M = 5.0. The type of engagement that produced the highest mean (M = 3.38, SD = 0.57) was skills which refers to strategies that promote learning such as studying regularly, taking notes, and listening carefully in class. The lowest mean (M = 3.67, SD = 0.58) was for participation/interaction factor which refers to students' perceptions of their actual participation and interactions with course mates and instructor (Handelsman et al., 2005). The results indicated that the type of engagement that students experience the most is skills, followed by performance, emotional, and participation/interaction.

Overall, the students perceived their engagement in English course to be high. This was determined based on total engagement mean of M = 3.77 (SD = 0.5) which was above average M = 3.0. The mean for individual factors of engagement were also above average. See Figure 4.6
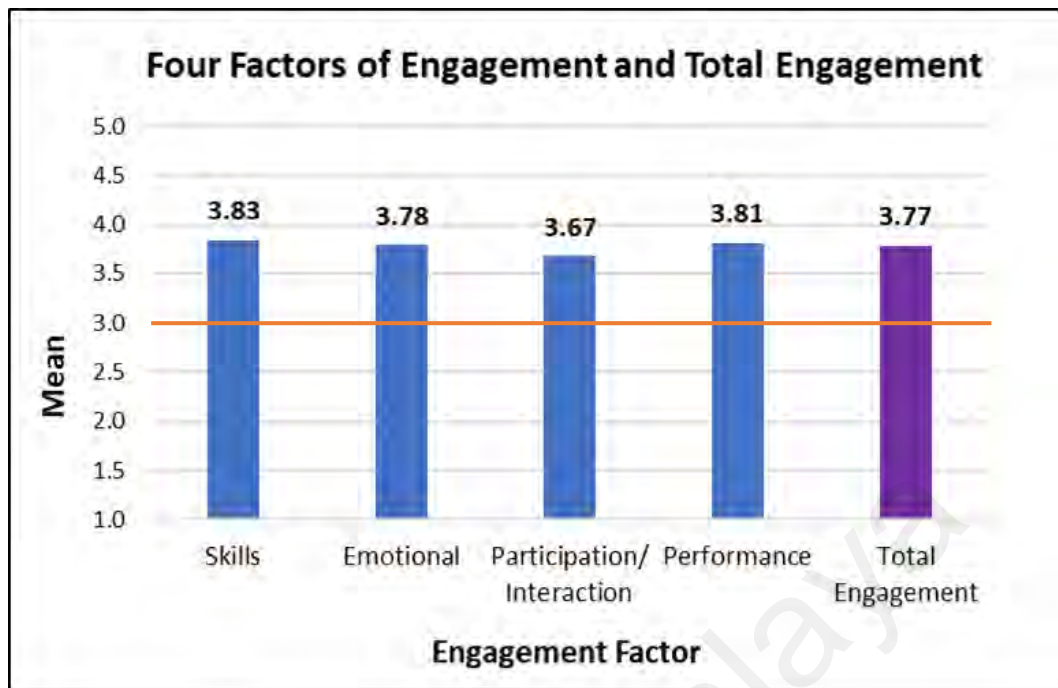
**Figure 4.6: Participants' perceived engagement**

## 4.5 Results of mediation analysis

The mediation analysis answered the final Research Question 3: *Does student engagement mediate the relationship between classroom motivation and academic achievement? If yes, to what extent?*. The results are presented in tables and diagrams.

### 4.5.1 Evaluation of reflective measurement model

Evaluating the measurement model is the first step to mediation analysis. It is done to examine the reliability and validity of measures used in the study. This is based on the logic that if the measures do not represent the constructs of interest, they are not suitable to be used to examine structural relationships. If the measures are shown to be adequate, assessment of the structural model estimates can be performed (Hair, Ringle, & Sarstedt, 2011). The components of evaluation of measurement model are composite reliability, indicator reliability, convergent validity, and discriminant validity.

**Table 4.5: Results of composite reliability, indicator reliability, and convergent validity**

| Construct | Items | Loading Factor Initial Model | Loading Factor Modified Model | Cronbach alpha | CR | AVE |
|---|---|---|---|---|---|---|
| Autonomy (A) | 5 | 0.73 | 0.72 | **0.668** | **0.8** | **0.501** |
| | 11 | 0.61 | 0.62 | | | |
| | 12 | 0.76 | 0.77 | | | |
| | 13 | 0.71 | 0.70 | | | |
| Competence (C) | 2 | 0.08 | * | **0.605** | **0.834** | **0.715** |
| | 3 | 0.52 | * | | | |
| | 7 | 0.86 | 0.87 | | | |
| | 8 | 0.68 | 0.81 | | | |
| | 9 | 0.52 | * | | | |
| Relatedness (R) | 1 | 0.74 | 0.76 | **0.642** | **0.807** | **0.584** |
| | 4 | 0.69 | 0.70 | | | |
| | 6 | 0.81 | 0.81 | | | |
| | 10 | 0.41 | * | | | |
| Skills (S) | 4 | 0.49 | * | **0.769** | **0.844** | **0.521** |
| | 5 | 0.49 | * | | | |
| | 9 | 0.62 | 0.66 | | | |
| | 10 | 0.70 | 0.72 | | | |
| | 13 | 0.69 | 0.76 | | | |
| | 14 | 0.71 | 0.78 | | | |
| | 17 | 0.61 | 0.65 | | | |
| | 20 | 0.60 | * | | | |
| | 23 | 0.60 | * | | | |
| Emotional (E) | 7 | 0.53 | * | **0.768** | **0.851** | **0.591** |
| | 8 | 0.69 | 0.66 | | | |
| | 11 | 0.78 | 0.78 | | | |
| | 21 | 0.80 | 0.82 | | | |
| | 22 | 0.75 | 0.78 | | | |
| Participation/ interaction (PI) | 1 | 0.79 | 0.79 | **0.757** | **0.838** | **0.51** |
| | 2 | 0.73 | 0.73 | | | |
| | 3 | 0.70 | 0.70 | | | |
| | 6 | 0.26 | * | | | |
| | 18 | 0.60 | 0.61 | | | |
| | 19 | 0.70 | 0.70 | | | |
| Performance (P) | 12 | 0.78 | 0.78 | **0.793** | **0.879** | **0.708** |
| | 15 | 0.89 | 0.89 | | | |
| | 16 | 0.84 | 0.84 | | | |

*Note: CR = Composite reliability, AVE = Average Variance Extracted, * deleted item due to low loading factor, ■ item with high loading factor, ■ item with weak loading factor retained in the scale*

### a) Composite reliability

Composite reliability serves as an estimate of a construct's internal consistency. Unlike Cronbach's alpha, composite reliability is more suitable for PLS-SEM because it does not assume that all indicators are equally reliable. Instead indicators are prioritized according to their reliability during model estimation. Experts recommend that composite reliability value should be higher than 0.70 (Hair et al., 2011).

In Table 4.5, the composite reliability for each construct in this study ranged from 0.8 to 0.879, which was above the recommended threshold value of 0.70. This indicated satisfactory internal consistency reliability for the items used to represent the constructs.

### b) Indicator reliability

Indicator reliability is important to be taken into account as it indicates the extent to which an indicator is reliable for a specific construct. Generally, indicator should have absolute standardized loading value of 0.70 and above. Indicators with very low loadings of 0.40 and below must strictly be eliminated from scale (Hair et al., 2011). As for weaker indicators with loadings between 0.40 to 0.7, they should be carefully examined before removal. They may be considered for removal if the deletion leads to an increase in composite reliability and AVE above suggested threshold, otherwise they are retained on the basis of their contribution to content validity (Hair et al., 2011).

In the measurement model, most indicators had high loading factor value of 0.7 and above. There were also indicators with weaker loading and very low loading value. In the classroom motivation scale, out of 13 items, 8 items had high loading factor (0.7-0.87), 1 item had weaker loading factor (0.62) and 4 items had very low loading factor (0.08-0.52). The very low loading items were removed. For student engagement scale, out of 23 items, 13 items had high loading factor (0.70-0.89), 4 items had weaker loading factor (0.61-0.66) whereas 6 items had very low loading factor (0.26-0.49) which were instantly

eliminated. After deletion of items with very low loading factor, the classroom motivation scale had 9 items and the engagement scale had 17 items. Indicator loading factor of the initial model and modified model is presented in Table 4.5

### c) Convergent validity

Convergent validity measures the level of correlation between multiple indicators of the same construct that are in agreement (Hamid, Sami, & Sidek, 2017). In other words, it measures whether constructs that should be related are indeed related. To establish convergent validity, Average Variance Extracted (AVE) is primarily examined. AVE value of 0.5 and above indicates adequate degree of convergent validity which means that the latent construct explains more than half of its indicators' variance (Hair et al., 2011).

The AVE value for constructs in this study ranged from 0.5 to 0.715 which fit the recommended threshold value. See Table 4.5.

### d) Discriminant validity

Discriminant validity measures whether two constructs which are not supposed to be related are in fact, unrelated. There are three ways to establish discriminant validity: cross loading, Fornell–Larcker Criterion, and Heterotrait-monotrait (HTMT) ratio.

**Cross-loading.** According to cross loading measure, an indicator's loading with its assigned latent construct should be higher than its loadings with the other constructs to indicate discriminant validity (Hair et al., 2011). In this study, each indicator had highest cross loading with its own latent construct (in bold) compared to its loading with remaining constructs. See Table 4.6.

**Table 4.6: Results of cross-loading**

| Variable | Item | Auto | Comp | Rel | Skills | Emo | Part/Int | Perf |
|---|---|---|---|---|---|---|---|---|
| Autonomy | 5 | **0.725** | 0.411 | 0.422 | 0.177 | 0.279 | 0.397 | 0.274 |
| | 11 | **0.624** | 0.268 | 0.293 | 0.273 | 0.26 | 0.366 | 0.227 |
| | 12 | **0.77** | 0.472 | 0.456 | 0.439 | 0.428 | 0.525 | 0.376 |
| | 13 | **0.705** | 0.409 | 0.309 | 0.3 | 0.266 | 0.442 | 0.283 |
| Competence | 7 | 0.522 | **0.879** | 0.557 | 0.438 | 0.473 | 0.543 | 0.399 |
| | 8 | 0.417 | **0.811** | 0.38 | 0.33 | 0.323 | 0.338 | 0.363 |
| Relatedness | 1 | 0.336 | 0.401 | **0.767** | 0.324 | 0.326 | 0.294 | 0.342 |
| | 4 | 0.385 | 0.434 | **0.704** | 0.367 | 0.214 | 0.271 | 0.244 |
| | 6 | 0.483 | 0.454 | **0.817** | 0.343 | 0.35 | 0.355 | 0.316 |
| Skills | 9 | 0.243 | 0.275 | 0.338 | **0.665** | 0.339 | 0.364 | 0.297 |
| | 10 | 0.307 | 0.341 | 0.305 | **0.729** | 0.53 | 0.478 | 0.338 |
| | 13 | 0.368 | 0.438 | 0.378 | **0.763** | 0.37 | 0.513 | 0.561 |
| | 14 | 0.318 | 0.341 | 0.301 | **0.784** | 0.322 | 0.498 | 0.506 |
| | 17 | 0.285 | 0.234 | 0.309 | **0.658** | 0.388 | 0.286 | 0.414 |
| Emotional | 8 | 0.197 | 0.27 | 0.211 | 0.369 | **0.665** | 0.321 | 0.171 |
| | 11 | 0.475 | 0.445 | 0.309 | 0.546 | **0.785** | 0.492 | 0.356 |
| | 21 | 0.314 | 0.328 | 0.307 | 0.401 | **0.826** | 0.46 | 0.299 |
| | 22 | 0.334 | 0.404 | 0.362 | 0.324 | **0.788** | 0.49 | 0.323 |
| Participation /Interaction | 1 | 0.519 | 0.422 | 0.192 | 0.453 | 0.392 | **0.798** | 0.403 |
| | 2 | 0.477 | 0.394 | 0.279 | 0.471 | 0.447 | **0.732** | 0.334 |
| | 3 | 0.403 | 0.339 | 0.306 | 0.413 | 0.322 | **0.708** | 0.28 |
| | 18 | 0.401 | 0.303 | 0.321 | 0.356 | 0.393 | **0.615** | 0.418 |
| | 19 | 0.39 | 0.428 | 0.353 | 0.45 | 0.509 | **0.707** | 0.336 |
| Performance | 12 | 0.465 | 0.453 | 0.406 | 0.522 | 0.433 | 0.491 | **0.785** |
| | 15 | 0.296 | 0.406 | 0.326 | 0.511 | 0.283 | 0.4 | **0.895** |
| | 16 | 0.267 | 0.256 | 0.243 | 0.456 | 0.228 | 0.343 | **0.842** |

*Note: Auto = Autonomy, Comp = Competence, Emo = Emotional, Part/Int = Participation/interaction, and Rel = Relatedness*

**Fornell-Larcker Criterion.** Fornell-Larcker posits that when a latent construct shares higher variance with its own related indicators than with another latent construct in the structural model, it indicates discriminant validity. In statistical terms, the square root of AVE value of each construct should be higher compared to its highest correlation with other latent constructs (Hair et al., 2011). In this study, the square root of AVE value of each latent construct (in bold) was greater than its highest correlation with other latent constructs, confirming discriminant validity. See Table 4.7.

**Table 4.7: Results of Fornell-Larcker Criterion**

|  | Auto | Comp | Emo | Part/Int | Perf | Rel | Skills |
|---|---|---|---|---|---|---|---|
| **Autonomy** | **0.708** | | | | | | |
| **Competence** | 0.56 | **0.846** | | | | | |
| **Emotional** | 0.442 | 0.478 | **0.768** | | | | |
| **Participation/interaction** | 0.616 | 0.532 | 0.581 | **0.714** | | | |
| **Performance** | 0.416 | 0.451 | 0.383 | 0.496 | **0.842** | | |
| **Relatedness** | 0.53 | 0.563 | 0.391 | 0.404 | 0.394 | **0.764** | |
| **Skills** | 0.425 | 0.459 | 0.54 | 0.603 | 0.594 | 0.451 | **0.722** |

*Note: Auto = Autonomy, Comp = Competence, Emo = Emotional, Part/Int = Participation/interaction, and Rel = Relatedness.*

**Heterotrait-monotrait (HTMT) ratio.** Recent research proposes the use of HTMT as more efficient a method compared to Fornell-Larcker criterion and cross-loading to assess discriminant validity. According to Henseler, Ringle, & Sarstedt (2015), HTMT has higher sensitivity towards discriminant validity issues. Two thresholds values are suggested for HTMT which are 0.85 and below or 0.9 and below. For structural models with constructs that are conceptually very similar, threshold of 0.9 is recommended (Hair, Risher, Sarstedt, & Ringle, 2019). Correlation of two latent variables which exceeds 0.9 indicates overlapping across constructs.

In this study, the constructs of motivation and student engagement were conceptually similar, therefore HTMT ratio followed the threshold value of 0.9 and below. As presented in Table 4.8, the discriminant validity of the structural model was ascertained as the correlation values of latent variables were below 0.9

**Table 4.8: Result of Heterotrait-monotrait (HTMT) ratio**

|  | Auto | Comp | Emo | Part/Int | Perf | Rel | Skills |
|---|---|---|---|---|---|---|---|
| **Autonomy** | | | | | | | |
| **Competence** | 0.859 | | | | | | |
| **Emotional** | 0.591 | 0.678 | | | | | |
| **Participation/Interaction** | 0.858 | 0.765 | 0.751 | | | | |
| **Performance** | 0.551 | 0.637 | 0.468 | 0.632 | | | |
| **Relatedness** | 0.792 | 0.888 | 0.547 | 0.581 | 0.542 | | |
| **Skills** | 0.582 | 0.655 | 0.697 | 0.776 | 0.747 | 0.646 | |

*Note: Auto = Autonomy, Comp = Competence, Emo = Emotional, Part/Int = Participation/interaction, and Rel = Relatedness*

### e) Second-Order Construct Assessment

In addition to reliability and validity of first order constructs, an assessment of the second-order constructs (i.e., classroom motivation and student engagement) was conducted via bootstrapping. The coefficients of each first order factor were modelled in a reflective relationship with the latent second-order factors. As presented in Table 4.9, the results of this assessment indicated that all first order factors were highly significant (i.e., $p < .001$), thus supporting the use of second-order constructs of classroom motivation and student engagement in the mediation model. In summary, a thorough statistical analysis supported the use of classroom motivation and student engagement constructs to fully represent the multiple facets of these variables.

**Table 4.9: Results of second-order construct assessment**

| Second Order Constructs | Outer loading | SE | T Value | P Value |
|---|---|---|---|---|
| Classroom Motivation -> Autonomy | 0.86 | 0.027 | 31.318 | <0.001 |
| Classroom Motivation -> Competence | 0.818 | 0.032 | 25.597 | <0.001 |
| Classroom Motivation -> Relatedness | 0.828 | 0.037 | 22.209 | <0.001 |
| Student Engagement -> Emotional | 0.771 | 0.047 | 16.449 | <0.001 |
| Student Engagement -> Participation | 0.847 | 0.031 | 27.476 | <0.001 |
| Student Engagement -> Performance | 0.739 | 0.053 | 13.998 | <0.001 |
| Student Engagement -> Skills | 0.861 | 0.022 | 39.233 | <0.001 |

*Note: SE = Standard error*

In conclusion, the evaluation of measurement model and second-order construct assessment proved that the variables used in this study were reliable and valid.

### 4.5.2 Evaluation of Structural Model

Following the evaluation of measurement model, testing of structural model was performed. For that, this study followed the standard assessment criteria proposed by Hair et al. (2019) which were coefficient of determination ($R^2$), predictive relevance ($Q^2$), and

the statistical significance of the path coefficients. The evaluation of structural model answered Research Question 3: *Does student engagement mediate the relationship between classroom motivation and academic achievement? If yes, to what extent?* and validated the following hypotheses:

*H1: Classroom motivation is positively related to student engagement*

*H2: Student engagement is positively related to academic achievement*

*H3: Student engagement mediates the relationship between classroom motivation and academic achievement.*

Two structural models were measured in this study: path model without mediator and path model with mediator. The purpose was to show the effect of mediation before and after mediator variable entered the model.

### 4.5.2.1 Path Model Without Mediator

Prior to evaluation of mediation model, a path model without the interaction of a mediator was measured. Baron and Kenny, in their guideline to mediation analysis, have spelled out that significant direct effect of X on Y is a prerequisite to perform mediation. This is to deduce that there is in fact an effect that may be mediated (Shrout & Bolger, 2002). However, the practise of testing for significant direct effect prior to mediation analysis has been criticized because many researchers prematurely ended the hunt for evidence of indirect effects when there was no evidence that X and Y were associated (Hayes, 2009; Memon et al., 2018). According to Hayes (2009), it is possible for mediation to occur between X and Y even if both variables are not positively associated and "failure to test for indirect effects in the absence of a total effect can lead one to miss some potentially interesting, important, or useful mechanisms by which X exerts some kind of effect on Y" (p. 415). Therefore, bearing in mind that mediation analysis does not demand an empirically significant association between X and Y (Hayes, 2009; Shrout &

Bolger, 2002; Zhao, Lynch, & Chen, 2010), researchers should carry on testing mediation and arrive at a suitable conclusion.

As far as this study was concerned, the direct effect of X to Y – significant or nonsignificant – did not discourage the researcher's attempt to test the indirect effect of mediator variable. In fact, the testing of direct effect of classroom motivation to academic achievement provided the researcher with some initial insights about the nature of relationship between the two variables and guided her understanding on the mediating effect of student engagement in that relationship. Therefore, no harm done in testing direct effect prior to mediation as long as the result does not deter one's pursuit to further test mediation.
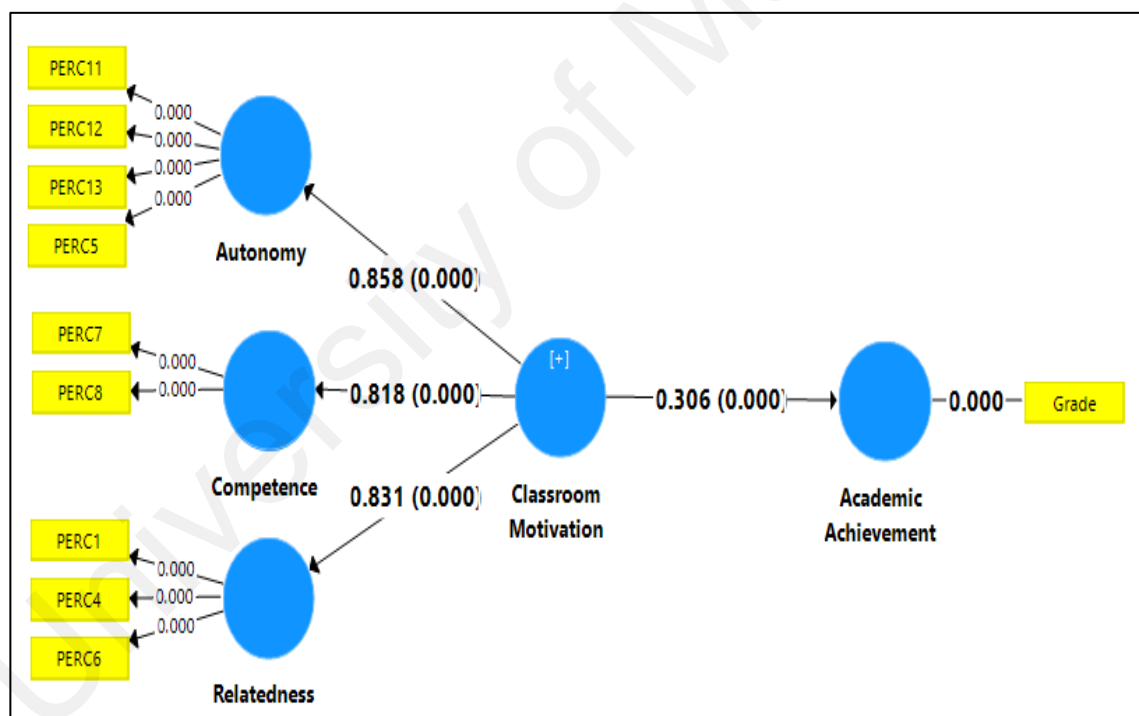


**Figure 4.7: Path model without mediator**

Figure 4.7 shows a structural model without mediator variable. The results of bootstrapping procedure with 5000 subsamples demonstrated the path coefficient for the total effect of classroom motivation (IV) on academic achievement (DV). Path coefficients (β) was considered significant at 0.2 and above (Yáñez-Araque et al., 2017)

and *p* value was statistically significant at *p* <0.05. According to the results based on one-tailed *p* values at the 0.05 significance level, the effect of classroom motivation on academic achievement was positive and significant ($\beta = 0.29$, $p < 0.001$) which revealed that classroom motivation had association with academic achievement (see Table 4.10). Given that classroom motivation had statistically significant relationship with academic achievement, the need to consider a mediation was even greater.

**Table 4.10: Test of the total effect of IV on DV (without mediator) using bootstrapping**

| Path | β | SD | T-value | P-value | 95% CI Lower | Upper | Result |
|---|---|---|---|---|---|---|---|
| c CM ----> AA | 0.306 | 0.09 | 3.415 | <0.001 | 0.568 | 0.765 | **Significant** |

*Note: CM = Classroom motivation, AA = Academic achievement, SD = Standard deviation, CI = Confidence interval*

### 4.5.2.2  Path model with mediator

#### a)  Path coefficients

Figure 4.8 shows the structural model with the inclusion of mediator variable, student engagement. The results of bootstrapping procedure with 5000 subsamples demonstrated the path coefficient for the indirect effect of student engagement in linking classroom motivation (IV) to academic achievement (DV). Path coefficients ($\beta$) was considered significant at 0.2 and above (Yáñez-Araque et al., 2017) and *p* value was statistically significant at *p* <0.05. According to the results based on one-tailed *p* values at the 0.05 significance level, there was a positive and significant relationship in individual paths that made up the indirect effect between: Classroom Motivation and Student Engagement ($\beta = 0.682$, $p < 0.05$) and between Student Engagement and Academic Achievement ($\beta = 0.217$, $p < 0.05$). The significance of the indirect path verified that student engagement mediated the effect of classroom motivation on academic engagement (Zhao et al., 2010) (see Table 4.11)
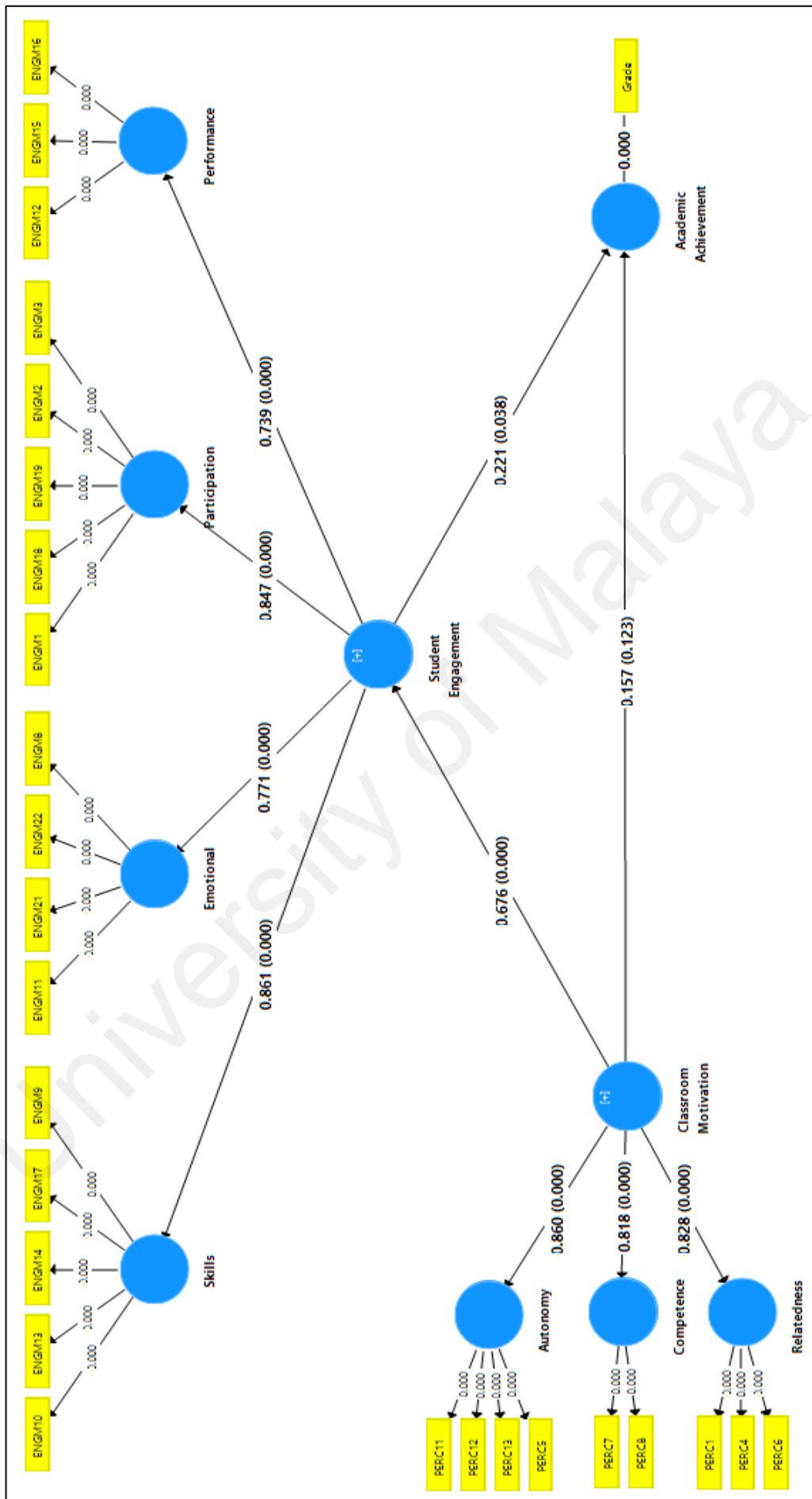
**Figure 4.8: Path model with mediator**

**Table 4.11: Test of the indirect effect of IV on DV using bootstrapping**

| Path | β | SD | T-value | P-value | 95% CI Lower | 95% CI Upper | Result |
|------|---|----|---------|---------|--------------|--------------|--------|
| **Before Mediation** | | | | | | | |
| c<br>CM ---->AA | 0.306 | 0.09 | 3.415 | <0.001 | 0.568 | 0.765 | **Significant** |
| **After Mediation** | | | | | | | |
| a<br>CM ----> SE | 0.676 | 0.06 | 11.237 | <0.001 | 0.568 | 0.765 | **Significant** |
| b<br>SE ----> AA | 0.221 | 0.125 | 1.772 | 0.038 | 0.02 | 0.425 | **Significant** |
| c'<br>CM ----> AA | 0.157 | 0.137 | 1.148 | 0.123 | -0.071 | 0.371 | **Non-significant** |

*Note: CM = Classroom motivation, AA = Academic achievement, SE = Student engagement, SD = Standard deviation., CI = Confidence interval*

To determine the type of mediation, this study followed the recommendation by Zhao et al. (2010) which is in line with Hayes's (2009) concepts of mediation. According to Zhao and colleagues, "If c and a x b are of the same sign, c' will have the same sign. We call this complementary mediation if both the indirect path (a x b) and the direct path c are significant." (p. 199).

In the mediation analysis, the total effect (c), indirect effect (a x b), and direct effect (c') had the same sign, that is, positive coefficients ($\beta = 0.306, 0.148, 0.159$). The indirect path and total effect were also significant ($p < 0.05$). This confirmed the type of mediation in the proposed model as *complementary mediation*. Complementary mediation is similar to the concept of 'partial mediation' by Baron and Kenny (1986) which means the independent variable exerts some of its influence directly on the dependent variable and some through the mediating variable.

To estimate the extent of mediation, the proportion mediated (PM) was calculated. It is a simple measure which provides graded conclusions about the extent of the mediator transfers the total treatment effect (i.e., the ratio of the indirect effect to the total effect) (Pieters, 2017). However, it is important to note that the both indirect effect and total effect must be in the same direction to calculate the proportion mediated. In this study,

both the indirect effect and total effect were in the same positive direction. Thus, the following formula was applied to calculate percent mediated:

$$PM = \frac{ab}{ab + c'} = \frac{\text{Indirect effects}}{\text{Total effect}}$$

$$PM = \frac{0.676 \times 0.221}{0.306} = 0.48 \ (48\%)$$

The result above is interpreted as the percent of the total effect accounted for by the indirect effects. Therefore, the proportion mediated shows that student engagement mediated the relationship between classroom motivation and engagement about 48%.

### b) Coefficient of determination ($R^2$)

For its part, $R^2$ measures the variance in endogenous construct explained by exogenous construct linked to it. In other words, $R^2$ estimates the model's explanatory power (Hair, et al., 2019). Ranging from 0-1, higher $R^2$ value indicates greater explanatory power. As such, 0.25, 0.50, and 0.75 are considered weak, moderate, and substantial explanatory power respectively. However, in some cases, $R^2$ value as low as 0.10 is considered satisfactory based on the context and discipline (Falk & Miller, 1992; Hair et al., 2019).

**Table 4.12: Result of $R^2$ value**

| Endogenous construct | $R^2$ value | |
|---|---|---|
| | **Before mediation** | **After mediation** |
| Academic Achievement | 0.094 | 0.12 |

As presented in Table 4.12, the $R^2$ value of the mediation model was 0.12. The value is deemed satisfactory (Falk & Miller, 1992), and therefore, it is permissible to conclude that the mediation model explained 12% of variability in academic achievement accounted for by classroom motivation. It is also observed that the $R^2$ of academic

achievement increased from 0.094 (9.4%) to 0.12 (12%) after the mediator variable entered the model. Therefore, student engagement (mediator) did add significance to the variance of academic achievement accounted for by classroom motivation.

### c) Predictive relevance ($Q^2$)

Stone-Geisser's $Q^2$ value is calculated to measure the predictive relevance of PLS path model which is done using blindfolding method with 7 omission distance. There are two measures of obtaining $Q^2$ through blindfolding: cross-validated redundancy and cross-validated communality (Akter, D'Ambra, & Ray, 2011). Hair, Hult, Ringle, and Sarstedt (2016) recommend using the cross-validated redundancy since it includes the structural model (the key element of the path model) to predict eliminated data points. To indicate predictive accuracy, the value of $Q^2$ of endogenous construct should be above 0 and as a rule of thumb, values higher than 0, 0.25, and 0.50 are depicted small, medium, and large predictive relevance respectively (Hair et al., 2019).

**Table 4.13 Result of $Q^2$ value**

| Endogenous construct | $Q^2$ value | |
|---|---|---|
| | Before mediation | After mediation |
| Academic Achievement | 0.085 | 0.104 |

As presented in Table 4.13, the $Q^2$ value of the endogenous construct in the mediation model was 0.104 indicating small predictive relevance of the proposed model exists. It is also observed that the $Q^2$ of academic achievement increased from 0.085 to 0.104 after the mediator variable entered the model. Therefore, student engagement (mediator) did add significance to the predictive power of the path model.

## 4.6    Hypothesis testing

PLS-SEM demonstrated significant path coefficients for indirect effect a ($\beta = 0.682$, $p < 0.001$) which showed that there was a positive effect of classroom motivation on student engagement (see Table 4.11). This supported Hypothesis 1: *Classroom motivation is positively related to student engagement.*

The same was observed for indirect effect b ($\beta = 0.217$, $p < 0.05$) where there was a positive effect of student engagement on academic achievement which supported Hypothesis 2: *Student engagement is positively related to academic achievement.*

According to Zhao et al. (2010), statistically significant indirect effect (a x b) is the only requirement to conclude mediation. In that respect, the proposed model confirmed the mediating effect of student engagement in linking classroom motivation to academic achievement, which rendered support for Hypothesis 3: *Student engagement mediates the relationship between classroom motivation and academic achievement.*

In conclusion, the results of the mediation analysis supported all the three proposed hypotheses.

## 4.7    Summary

The overall survey response was satisfactory where more than half of the total population willingly participated in the study. Out of 240 potential participants, 137 (57%) agreed to participate in the study by answering the survey questions and allowed the researcher to obtain their results after examination from the faculty for data analysis purpose. The remaining 103 (43%) nonresponse participants comprised those who expressed complete and partial refusal to participate in the study, and those who had missing data issue. The survey had both female and male participants, with the latter less than the former. The participants included students of all races at varying proportion. The survey saw participation from students from 11 faculties out of 12.

Two types of analysis were carried out. First, descriptive analysis was performed to answer the following research questions:

*RQ 1:*      *How do students perceive their level of classroom motivation in English course?*

*RQ 2:*      *How do students perceive their level of engagement in English course?*

The results revealed that students perceived their classroom motivation in English course to be high with a total mean of M = 4.06 out of a possible M = 5.0. Students also reported high mean score for individual factors of classroom motivation (i.e., relatedness, competence, and autonomy) with relatedness earning the highest mean (M = 4.17) and autonomy the lowest (M=3.9). Likewise, students rated high for perceived engagement in English course with a total mean of M = 3.77 out of a possible M = 5.0. Individual factors of engagement (i.e., skills, performance, emotional, and participation/interaction) were also rated high with skills earning the highest mean (M = 3.83) and participation/interaction the lowest (M = 3.67). With that, research questions 1 and 2 were successfully answered.

Next, mediation analysis was performed to answer Research Question 3: *Does student engagement mediate the relationship between classroom motivation and academic achievement? If yes, to what extent?*. The mediation analysis was carried out in two parts. First was the evaluation of reflective measurement model, followed by evaluation of structural model. Evaluation of measurement model involved assessment of composite reliability, indicator reliability, convergent validity, and discriminant validity. In the study, the composite reliability for each construct was ascertained because they ranged from 0.8 to 0.859 which was above the recommended threshold value of 0.7. Indicator reliability was achieved by ensuring that the items in the scales had loading factor of 0.7 and above. However, some items with weaker loading factors below 0.7 were retained on their basis of contribution to the content validity as suggested by Hair et al., (2011). For

classroom motivation scales, out of 13 items, 9 items with loading factor between 0.62 and 0.87 were retained. The remaining 4 items with very low loading factor (0.08-0.52) were removed. For student engagement, out of 23 items, 17 items with loading factors between 0.61to 0.89 were retained in the scales whereas 6 items with very low loading factor (0.26-0.49) were instantly eliminated. Next, convergent validity was established based on the AVE value for each construct that ranged from 0.5 to 0.715 which fit the recommended threshold value of 0.5 and above. Lastly, assessment of Fornell-Larcker criterion, cross-loading, and HTMT ratio indicated discriminant validity. The evaluation of measurement model ascertained the reliability and validity of the variables used in the study.

Evaluation of structural model ensued the assessment of measurement model. First, a path model without mediator was initiated to identity the direct effect of classroom motivation on academic achievement. Although this step was not necessary for this study as it followed Preacher and Hayes mediation approach, the assessment of path model without mediator was carried out to shed some light about the relationship between classroom motivation and academic achievement. The results revealed that classroom motivation had a positive and significant effect on academic achievement ($\beta = 0.306$, p < 0.001). Following this, assessment of path model with mediator was conducted. Criteria for mediation was based on significance of path coefficients, coefficient of determination ($R^2$), and predictive relevance ($Q^2$) as recommended by Hair et al. (2019). The results showed that the path coefficients of the indirect effects *a* ($\beta = 0.682$, *p* < 0.001) and *b* ($\beta = 0.217$, *p* = 0.042) were statistically positive and significant. The $R^2$ value was 0.12 which indicated that model explained 12% variability in academic achievement accounted for by classroom motivation with the interaction of mediator variable. Lastly, the $Q^2$ value of 0.103 revealed small predictive relevance of the proposed mediation model. Taken together the results of mediation analysis showed support for the mediating

effect of student engagement in the relationship between classroom motivation and academic achievement and the type of mediation was 'complimentary mediation' (Zhao et al., 2010). The extent of mediation was calculated based on proportion mediated (PM) and the result revealed that student engagement mediated the relationship between classroom motivation and academic achievement about 48%. With that, the final research question was successfully answered. In addition, the findings of the mediation analysis validated the three theoretical hypotheses in relation to the relationship between classroom motivation and academic achievement mediated by student engagement.

**CHAPTER 5: DISCUSSION**

**5.1     Introduction**

This chapter presents the interpretation of results. It discusses the outcomes of the study in relation to the findings obtained through data analysis. The findings are compared with those of in past studies. Discussion of findings is arranged according to research questions.

**5.2     Students' perceived level of classroom motivation**

Research Question 1: *How do students perceive their level of classroom motivation in English course?*

The descriptive analysis revealed that participants perceived their overall classroom motivation in English course to be high. This was gathered based on students' high rating on each factor of motivation (i.e., relatedness, autonomy, and competence). The results indicate students feel close and connected in the classroom when they like and get along with members in the class and consider them to be their friends. They also feel competent when they are able to learn skills in the course and experience a sense of accomplishment from attending class and studying. In addition, the opportunity to express ideas and opinion, freedom to act on one's volition, and lecturers' encouragement to participate in activities promote feeling of autonomy in students. The high rating on the three factors of motivations reiterate the propositions of SDT that the extent to which students feel related, competent, and autonomous largely depends on the extent to which they receive sociocultural support from their teachers and peers (Niemiec & Ryan, 2009; Skinner & Pitzer, 2012). Therefore, it can be concluded that students in GLT1005 course experience supportive social interaction and interpersonal relationship with teachers and classmates which fulfil their basic psychological needs for relatedness, competence, and autonomy

in the classroom. Pioneer works of Deci and Ryan on motivation (Deci and Ryan, 1985; Deci and Ryan, 2000, 2002; Ryan and Deci, 2000) propose that satisfaction of basic psychological needs stimulate high intrinsic motivation. As such, this study assumes that students it this course are intrinsically motivated which is pre-requisite for engagement and effective learning.

In this study, among the three needs, relatedness appears to have higher significant bearing on university students' motivational orientation. The finding is parallel with the works of Minnaert, Boekaerts, & De Brabander (2007), Nistor and Neubauer (2010), and Minnaert, Boekaerts, De Brabander, & Opdenakker (2011) who reported that students have higher regard for social and interpersonal construct in academic domain compared to competence and autonomy. The finding further suggests that undergraduate students – even though are young adults – have a stronger need for relatedness and social connection with teachers and peers. Sense of relatedness and belonging foster affiliation and interpersonal support that enhance students' engagement and commitment to learning a subject as well as promote overall well-being (Furrer & Skinner, 2003; Mikami et al., 2017). On the other hand, feeling of autonomy was rated the lowest among three factors of motivation. This finding is similar with that of Ming and Alias (2007) and Ming (2009) who found Malaysian ESL students to experience low autonomy in learning.

## 5.3    Students' perceived level of engagement

Research Question 2: *How do students perceive their level of engagement in English course?*

According to the descriptive analysis, students perceived their engagement in English course to be high. This was gathered based on students' high rating on individual factors of engagement (i.e., skills, emotion, participation/interaction, and performance) which denote high behavioural, emotional, and cognitive engagement. Skills factor refers to

general learning strategies (e.g. taking good notes in class, being organized, and staying up on the readings), emotional factor refers to affective connection to course material through which students internalize learning (e.g. finding ways to make the course interesting to me, really desiring to learn course material, and applying course material to my life), participation/interaction factor refers to interaction with instructor and peers in teaching and learning process (e.g. participating actively in small group discussions, raising hands in class, and helping fellow students), and performance factor refers to level of self-efficacy in mastering course content (e.g. being confident that I can learn and do well in the course, getting a good grade, and doing well on the tests).

It is important to note that although the scale measures engagement using indices of skills, emotion, participation/interaction, and performance – instead of behaviour, emotion, and cognitive dimension – it captures the essence of engagement in relation to the three main dimensions. For example, under skills, "Coming to class every day" and "Looking over class notes between classes to make sure I understand the material" describe behavioural and cognitive engagement, respectively. Under the index of participation/interaction, "Asking questions when I don't understand the instructor" refers to behavioural engagement whereas "Having fun in class" is closely related to emotional engagement. It is also observed that there is incorporation of two or more dimensions within an index. Given that dimensions of behaviour, emotion, and cognition are convoluted and occur simultaneously and are convoluted and that when measuring one dimension of engagement, the other dimensions are high likely contributing to its evaluation (Sinatra et al., 2015), the combination of dimensions within the indices in the scale provides richer characterization of learners as suggested by Fredricks et al. (2004). This study agrees with Mandernach (2015) that the scale assessed the features of behavioural, emotional, and cognitive engagement on a broad spectrum and contributed to overall course engagement (Handelsman et al., 2005; Marx et al., 2016; Svanum &

Bigatti, 2009). As such, the results reveal the students in GLT1005 course are highly engaged in their learning activities and task performance.

According to the findings, students reported highest engagement towards skills which involve general learning strategies to advance in their academic work while lowest engagement was reported for participation/interaction that is involvement in classroom discussion and activities in addition to interaction with peers and instructor in the teaching and learning process. The study by Marx et al., (2016) which used the same scale to measure undergraduate course engagement found participation and interaction to be low. It is also observed in the present study that despite experiencing high feeling of relatedness in classroom (as reported in Classroom Motivation scale), students have rated participation and interaction during classroom activities as the lowest form of engagement. This finding is rather surprising and opposite to the general expectation that students who are in a close relationship with their peers tend to actively and collectively participate and in group activities and interact with one another. Some possible factors that hinder students' active participation in classroom activities even though they enjoy close connection and relatedness with fellow classmates are introversion, second language anxiety, and lack of knowledge for response (Zakrajsek, 2017). But because this observation is solely based on descriptive statistics, such a line of reasoning is only speculation on the researcher's part and remains to be investigated. On the other hand, students' low rating for participation and interaction in class may correspond with their low rating for feeling of autonomy. This is because behaviours of ESL learners such as sitting quietly in the class, listening to the lecture and being teacher-centred are associated with low autonomy (Ming, 2009). Again, this is open to further investigation to test the possibility of a causal relationship.

**5.4     Mediating effect of student engagement in the relationship between classroom motivation and academic achievement.**

Research Question 3: *Does student engagement mediate the relationship between classroom motivation and academic achievement? If yes, to what extent?*

This research question was propelled by the assumption that the immediate experience of classroom motivation does not directly facilitate achievement of course grades. Instead, the linkage is influenced by an intervening factor, that is student engagement, that connects feeling of motivation to academic success. In this study, classroom motivation was hypothesized to influence students' engagement. In turn, student engagement was hypothesized to facilitate academic achievement.

As predicted, the mediation analysis evinced support for the hypothesized role of student engagement as mediator in the relationship between classroom motivation and academic engagement. This was established based on the statistically positive and significant indirect effects of student engagement variable that linked classroom motivation to academic achievement. According to Hayes (2009), significant indirect effect is the main criterion to gauge mediation. Zhao et al. (2010) also explicitly stressed that significant indirect effect was the only requirement to establish the occurrence of mediation. Another aspect to look at to confirm mediation is the change in total effect upon inclusion of mediator variable. It is observed that the total effect of classroom motivation to academic achievement reduced and became non-significant after mediator entered the model. This is because some of the effect of classroom motivation on academic achievement shifted through the mediator (Awang, 2015). Based on the result, the mediation was identified as *complementary mediation* and proportion mediated was close to half of the total effect. According to Zhao et al. (2010), complementary mediation means that the mediator employed is consistent with the hypothesized theoretical framework, however, there is a likelihood of an omitted mediator in the model. As such,

future research may embark on testing other relevant mediator(s) in addition to student engagement in the relationship between motivation and achievement.

Next, the coefficient of determination (R2). Low R2 value revealed that the model explains low variance in academic achievement accounted for by classroom motivation. This denotes weak explanatory power of the model. However, it is important to note that the increase in R2 value – although small – means the mediator variable did add some significance to the effect of predictor on the outcome. Various literatures regard low R2 as meaningful indication of a process, and in many instances a good model can yield low R2 value (Agler & De Boeck, 2017; Ford, 2015; Grace-Martin, 2008). A model may generate low R2 because it did not include other predictors that affect the dependent variable in addition to the one considered in the analysis (Moksony, 1990) which holds true for this study as it only tested the effect of one predictor (i.e., classroom motivation) on academic achievement. Therefore, low R2 value should not be a reason to dismiss the model. In fact, it shows that there is indeed some amount of explanatory power and future research could include and test the effect of more relevant predictors on academic achievement such as parental support (Chen, 2005), classroom infrastructure (Cheryan, Ziegler, Plaut, & Meltzoff, 2014), and course design (Fink, 2007)

In addition to R2 value, Stone-Geisser's $Q^2$ value was calculated as a criterion of predictive accuracy. Blindfolding-based cross-validated redundancy measure was used to estimate the predictive relevance of PLS path model. The Q2 result indicate small predictive relevance of the proposed model. It must also be highlighted that there was an increase in the Q2 value after mediation which shows the mediator did add significance to the predictive power of the path model. According to Richter, Sinkovics, Ringle, & Schlaegel (2016), low predictive power opens room for further research aimed at uncovering new causal relationships through testing of more complex models.

According to Moksony (1990), if the purpose of a study is solely prediction that is to know how accurately the predictor variable estimates the dependent variable, then measuring R2 is important in which a high value indicates small prediction error. But in confirmatory study such as this one, some measure of effect such as regression coefficient would suffice; the estimation R2 value is indeed irrelevant (Moksony, 1990). Afterall, the intention is to test if a theory is true in testing the effect of one variable on another; not to identify and prepare a full list of various factors that causes a phenomenon (Moksony, 1990). Similarly, the estimation of Q2 value to measure predictive accuracy is also of little importance for research that is confirmatory in nature. As far as this study is concerned, the demonstration of R2 and Q2 value, apart from fulfilling the recommended criteria of structural evaluation, contributes to understanding the explanatory power and predictive relevance of the proposed mediation model beyond the presentation of regression coefficient alone. This, the researcher believes, will ignite the interest of future studies to employ similar mediation modelling, perhaps with more possible predictors and mediators.

The results of the mediation analysis must be interpreted with caution. The study provides a causal relationship model for causative factors and effects of engagement, but the fact that the data was gathered from a group of participants at a specific point of time (i.e., cross sectional survey) limits the study from making causal statements with certainty. The path analysis which is based on correlational data shows that linear relationships between variables exist and that an increase in the causal variable leads to an increase in the dependent variable, but it does not explain if one variable is indeed the cause of change in the other. Spencer, Zanna, and Fong (2005) argue that testing for mediation statistically may be helpful in some situations, but it is not the best way to study psychological processes (e.g. motivation and engagement). Experimental research is still the most effective way to establish causality between variables. But in circumstances

where experimentation is not feasible, mediation analysis can be helpful to determine the hypothesized effect of independent variable on the dependent variable. As such, studies that test mediation should see whether the analysis supports the theoretically proposed account of psychological process (Spencer et al., 2005). The researcher believed it was inappropriate to manipulate motivation and to deliberately expose one control group to demotivating learning conditions which could disrupt their grades in the real examination, hence this study took on a non-experimental approach and conducted mediation analysis to determine the pattern of correlations between variables. The positive linearity between variables accords with the theoretical hypothesis: motivation causes an effect on academic achievement which is mediated by student engagement. Therefore, the mediation analysis supports the plausibility of a causal mechanism.

In sum, this study sides with the plethora of studies that found successful promotion of intrinsic motivation (i.e., relatedness, competence, and autonomy) influences student engagement and student engagement in turn influences academic achievement (e.g. Connell & Wellborn, 1991; Christenson & Reschly, 2010; Mahatmya, et al., 2012; Skinner & Belmont, 1993). The finding of this study is consistent with research works that stress the collective contribution of relatedness, competence, and autonomy in student engagement and task performance (e.g. Saeed & Zyngier, 2012; Sheldon & Filak, 2008) and refutes the claim by Hassan and Al-Jubari (2016) that neither feeling of autonomy nor relatedness made any significant contribution to students' engagement in learning. Not only that, the findings also show support for the Model of Motivational Development of Skinner and Pitzer (2012) as a useful framework in understanding student engagement and the relevance of Self-determination Theory (SDT; Deci & Ryan, 2000) in assessing student learning motivation.

# CHAPTER 6: CONCLUSION

## 6.1    Introduction

This chapter presents a brief overview of the findings of the study and their interpretations. It also covers the implications of the study, limitations as well as recommendations for future research. This chapter ends with a conclusion.

## 6.2    Overview of the study

Student engagement has become a widely researched topic in the education domain and will continue to invite more studies and scholarly works in the pursuit of understanding this complex yet significant construct. In its desire to contribute to the evolving research, this study on student engagement in Malaysian higher education carried the following objectives; first, to describe students' perception of their motivation and engagement in English course, second, to identify the mediating influence of student engagement in linking motivation to achievement. Guided by Model of Motivational Development by Skinner and Pitzer (2012), this study revealed three notable findings: students perceived their classroom motivation in English course to be high, students perceived their engagement in English course to be high, and student engagement mediates the relationship between classroom motivation and academic achievement.

The results of the study suggest that GTL1005 classroom offers a motivating and self-assuring climate for students to pursue English language learning. Students perceived their level of classroom motivation on aspects of relatedness, competence, and autonomy to be high indicating that their need for psychological growth, well-being and integrity is fulfilled by the classroom context which stimulates their intrinsic motivation to learn the subject. Next, based on their perceived high-level engagement in GLT1005 course, it can be deduced that students engage themselves constructively in learning English in terms

of behaviour, emotion, and cognition. Finally, mediation analysis revealed a significant and positive correlation between classroom motivation, student engagement, and academic achievement suggesting that students motivational experiences in GLT1005 classroom influence their engagement in the course in a positive way. In turn, engagement facilitates their achievement of grades in the final examination. Taken together, student engagement mediates motivation-to-achievement relationship.

## 6.3    Implications of the study

**For teachers and instructors.** The findings of this study offer a new perspective on teaching and learning. While teachers generally ask, "What can I do to make the lesson interesting?", the findings of this study creates a shift in their thinking and encourages them to ask, "What can I do to meet the students' needs for relatedness, competence, and autonomy in my classroom, and how can I construct and conduct teaching method and instructions to fulfil these innate psychological needs?". This shift in thinking makes teachers to look at the process of teaching and learning from a psychological point of view and to realise that motivation to learn develops as a result of fulfilling students' needs for connectedness, competency, and autonomy rather than a quality that is already present in the students. Teaching is not just about technical application of instruction and methods, but it requires teachers to analyse and act upon their students' mental and emotional state and preparedness to learn. Therefore, it is not the set induction, simulation, materials, or props itself that engages students in learning. Instead, it is how the instructor structure classroom activities and use the resources at her disposal to meet the student's needs for competence, autonomy, and relatedness that shapes student engagement. So how can teachers know whether their classroom climate and teaching practices indeed cater to students' psychological needs? One way is to get feedback directly from the students about their learning experiences in the classroom. For instances,

giving out questionnaires and feedback forms on what the teacher does that engages or disengages them, what activities in the recent weeks that interest them the most or the least, what are the areas of learning that they need the teacher to focus on, which particular topic that they believe they have mastered or struggling with, and what do they look for in the upcoming lessons can help teachers to evaluate and devise their teaching strategies as per the need of the students, as well inspire them to come up with variety of activities to conduct during lesson. After all, students are the best reporters of what does and does not engage them in learning and educators could learn a lot about student engagement by listening to them. This, in fact, supports student-autonomy in learning.

**For institution and faculty.** The findings of this study suggest that institutions should subscribe to motivation-supportive educational philosophy and set out strategies to increase student engagement based on satisfaction of autonomy, competence, and relatedness. Educational policies, programmes and practices, as well as resources at higher learning institutions that support students' psychological needs will high likely increase their intrinsic motivation to be authentically engaged in learning (De Villiers & Werner, 2016). For instance, Reason, Terenzini, and Domingo (2006) found that students whose institution emphasized on learners spending significant amount of time on studying and doing academic work reported higher academic competence and engagement in learning. Conversely, a study by Kuh in 2003 (as cited in Amora et al., 2016), revealed that students learning in institution which placed less importance on studying and spending time on academic came to class unprepared. This implies that when institutions pay little attention to developing students' academic competence, it can lead to unpreparedness and disorganization in learning which are signs of disengagement. This can cause serious setbacks not only to students' education as well as to the institution's performance. The present study highlights the importance of creating a holistic learning environment and structure that foster feeling of relatedness, competency,

and autonomy so that students become constructively engaged in learning and take responsibility and ownership of their education. Institution can then identify students who are disengaged and provide them with coaching and counselling to develop necessary skills and confidence to be involved in the organisation of their own learning. The results of the study point to the need of developing and coordinating unit outcomes, assessment tasks, study materials, and the overall course design and pedagogy for both classroom as well as online learning which are learner-centredness (increases autonomy), systematic and structured (increases competence), and enhances social interaction and integration (increases relatedness) which are fundamental to boosting students' engagement in learning and success in higher education.

## 6.4    Limitations of the study and suggestions for future research

This study is not without its limitations. To begin, the design of the study is correlational and therefore causality cannot not be firmly established. Although mediation analysis does allow limited causation claims, the internal validity of the path analysis is low due to absence of time precedence in the research design (Jamie Hale, 2018) which is an important criterion for causation. Nonetheless, this study is a stepping-stone to more powerful research designs that aim to examine causal effect. It may be tempting for researchers to conduct experimental study; however, the plan should be attempted with caution. This is because it would be inappropriate, even unethical, to deliberately expose one control group to demotivating learning conditions which could affect their grades in the real examination. Future researchers may consider longitudinal studies, that is, to observe the natural changes in students' motivation and engagement over a period of time and see how the changes affect their achievement in a target subject. According to Rajulton (2001), longitudinal data can reveal the nature of growth, patterns of change over time, and establish stronger causal interpretations.

Second, the data is susceptible to response bias due to anonymity issue. According to Rosenman, Tennekoon, and Hill (2011), participants may offer biased estimates of self-assessed behaviour, that is, giving positive or high rating about oneself for social-desirability or to 'look good' on survey, even if the survey is anonymous. In this study, response bias is even more likely as the students were required to share personal details such as name and matric number. Fearing the repercussion of being discovered – in spite of being guaranteed anonymity by the researcher – participants might have rated high on their classroom motivation and engagement.

Third is survey nonresponse issue. Survey nonresponse has been pervasively increasing in all parts of the world and unit nonresponse is the highest contributing factor (Porter, Whitcomb, & Weitzer, 2004). The same is observed in this study where 49 (20.4%) respondents expressed complete refusal to participate in the study by not accepting the questionnaire forms given to them or returning the questionnaire forms empty. The reason for refusal could be due to feeling insecurity of having to reveal their name and matric number. This led to a decrease in survey participation which otherwise would have contributed to a larger sample size. Survey nonresponse crisis is consequence of external factors which the researcher has limited control of. Groves and Couper associate decreasing survey participation with participant's concerns with confidentiality, privacy, exploitation of personal information, and general decline in civic involvement (as cited in Johnson & Owens, 2003). Perhaps researchers can ask lecturers and course instructors to explain to the student about the purpose of collecting personal information, how their genuine and honest survey response contributes to the particular research, and how their participation may motivate the research community of Universiti of Malaya at large in producing more research work and activities. This may encourage students to be more responsive and willing to participate in all aspects of a research.

Fourth, the study employed single method of data collection (i.e., survey) and the data was collected from single source (i.e., students' self-report). While it is true that the assessment of non-observable constructs such as attitudes and beliefs are more apt via measures of self-report, instructor observation contributes to contextualised assessment which is "sensitive to the effects of context on performance" and it helps derive assessment evidence from a variety of situations and occasions which researcher may not be able to tap into (Maxwell, 2001, p. 3). Since student motivation and engagement are highly situated in classroom context, instructor assessment and viewpoint carry enormous value. Therefore, future studies should include instructor observation and report in their data collection. In addition to collecting data from both instructor and students, researchers may be interested to use a mixed method design (i.e., mixing quantitative and qualitative research methods) which offers richer understanding of a topic and adds intrinsic value to the study (Mason, as cited in McDonnell, Scott, & Dawson, 2017). For instance, upcoming research may combine survey and interview in a single study. Furthermore, mixed methods design allows exploration of complex social experiences and captures multi-dimensional realities which befit research on student engagement which is essentially a multidimensional construct.

Fifth, the mediation model is non-exhaustive (e.g., the model excluded important predictors of motivation such as parental support and nature of academic work). Future studies should include other potential predictors of motivation as well as assess the influence of extrinsic motivation. Extrinsic motivation, according to Ryan and Deci (2000), is a vital strategy for teaching and learning. Using reward, penalty, and other elements of extrinsic motivation may help to increase student engagement as not all the tasks assigned to student by instructor are inherently interesting or enjoyable. Hence, studies on motivation and engagement should include facets of extrinsic motivation. Moreover, the combined effect of intrinsic motivation and extrinsic motivation on

learning have been observed in a range of studies in the past (e.g. Chalak & Kassaian, 2010; Kreishan & Al-Dhaimat, 2013; Lin et al., 2003; Zhang et al., 2017)

Lastly, the findings of this study cannot be generalized to a larger student population since the participation was limited to one particular English course in Universiti of Malaya. The findings may not be the same for every other student as learning experiences may vary for undergraduate students in different universities. Therefore, research in time to come should expand their sample to include students from other local universities in Malaysia, both public and private institutions. Random sampling is encouraged since census method may not be feasible to cover entire student population from all universities. While this study had its interest in first year undergraduates, upcoming research work may focus on sophomore and final years students. Another suggestion is to conduct longitudinal study that follow student motivation and engagement pattern from first year up to final year of learning English in the university.

## 6.5    Conclusion

The extent and quality of students' engagement function as a pathway through which students' motivational processes contribute to cumulative learning, and subsequent academic success. This basic idea underlying the notion of student engagement has been described from many theoretical perspectives. When students are constructively engaged in academic, their behaviour, feeling, and thought are navigated towards learning and achievement. This is because they are likely to use their full mental and physical resources to acquire knowledge, master relevant skills, explore and gain information, and put to use what they have learned in classroom in real life. Such engagement is highly essential especially in English language classrooms that expect to produce proficient users of the language.

This study found empirical support to state that students who experience a highly motivating and quality learning atmosphere in classroom exhibit high involvement and engagement in learning which leads to achievement of grades in the course. This finding is in line with the concepts of engagement illustrated in the Model of Motivational Development by Skinner and Pitzer (2012) that describes student engagement as mediator between motivation and achievement. The present study highlights and propagates the importance of students being constructively engaged in classroom as a sign of learning is happening. It also points up to the need to create a conducive learning environment that fulfils students' need for relatedness, competence, and autonomy so that they become intrinsically motivated to learn which is a precursor to authentic engagement and subsequent success.

Institutions and instructors should pay attention to students' display of engaging and non-engaging behaviours in classroom as a marker of overall learning experience. By monitoring students' level of engagement, instructors can actually gauge their state of motivation, interest, and readiness to learn which otherwise cannot be observed or comprehended directly. Based on that, instructors can make instructional intervention and take necessary steps to ensure that the learning environment and teaching approach accommodate and fulfil students' psychological needs to keep them engaged in lesson and performance better in academic tasks.

In conclusion, this study serves as a scientific evidence which supports the mediating role of student engagement in the relationship between classroom motivation and academic achievement in English language learning of Malaysian undergraduates.

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