UNIVERSITY OF GHANA

INFLUENCE OF STUDENT ENGAGEMENT ON ACADEMIC PERFORMANCE IN HIGHER EDUCATION IN GHANA

BY

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DEDICATION

To God be the glory for great things He has done for us all. I dedicate this thesis to my mum affectionately called Eno Mary and my dad. I say thank you Maa and Daa for the sacrifices you made to bring to this stage of my life. I remain eternally grateful.

DECLARATION

I hereby declare that I have duly acknowledged other people's research work and that this Thesis was done by me in the capacity as a PhD Candidate in the Department of Adult Education and Human Resource Studies at the University of Ghana, Legon under the supervisions of Dr. Samuel Kofi Badu-Nyarko, Dr. Daniel Oduro Mensah, and Dr. John Kwame Boateng. No part of this Thesis has ever been submitted in this University or anywhere else for any degree.

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ABSTRACT

Student engagement has been conceptualized to connote the things that students do and are made to do at school. Engaged students are willing to participate in routine activities that are sanctioned by the university such as going for lectures, adhering to university regulations, participating in group work and submitting assignments on time. Predominantly, student engagement has been denoted as students involving themselves in educational purposeful activities to enhance their academic success and personal development.

Generally, the study investigated the factors that influenced student engagement and explained how those factors in turn affected academic performance of students within the Ghanaian higher education context.

The research objectives were to determine the sets of constructs that measured student engagement and analyze the relationships between the demographic characteristics (levels of students, age and sex) and the student engagement sub-variables. The research was also to investigate the relationship between student engagement and academic performance through the flow-efficacy-student engagement linkages model in higher education; and finally determine the relationship between student entrepreneurial activities and academic performance.

The research was conducted from the positivist perspective. The quantitative cross-sectional survey strategy was used involving 449 students from level 200, 300 and 400 at the University of Professional Studies, Accra. The selection was done using the stratified simple random sampling and proportional techniques. The descriptive and inferential statistics were used to analyze the data.

Findings showed that student learning experience (β= .185, p< .05), student experience with faculty (β= -.133, p< .05), academic challenge (β= .107, p< .05), lecturer feedback (β= .129, p< .05) and learning with peers significantly predicted student engagement. Conversely, campus environment (β= -.057, p=ns) did not predict student engagement. Student engagement significantly influenced students GPA (β= .298, t (448) = 6.573, p< .05). Students participated in activities that challenged them to learn to meet their lecturer expectations (Academic challenge, Mean= 3.861, SD=.665). Students rated their experiences with faculty (Mean= 3.293, SD= .670) as the least dimension of the student engagement variable. Student engagement positively and significantly influenced academic performance. Although, majority of the students did not engage in entrepreneurial activities (Mean=2.605, SD=.884), results indicated that students who engaged in entrepreneurial activities were likely not to do well academically (r= -.182, p< .05).

The study concluded that student engagement has significant influence on academic performance of students in higher education in Ghana. The study recommended the need to encourage students to form peer-counseling groups that could be used as vehicle to orient students toward good practices that could help them to succeed academically while reducing the tendencies of negative peer influences. The study also recommended continuous training for lecturers, faculty officers, and staff of the university to intentionally provide care and attention to the students to build a culture of trust necessary for engagement. Similarly, students should be encouraged to discuss their academic progress with their course advisors at least once in every semester.

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CHAPTER ONE

INTRODUCTION

Background of the study

All over the world, the academic engagement of students from one activity to the other is gradually gaining a lot of traction with some scholars indicating that student engagement is a factor that may influence quality standards in universities (Erdoğdu, 2016). The concept of student engagement has generated significant attention as one of the preferred outcomes of quality teaching and learning. This is because student engagement provides a common locus for the interaction of students, teachers and the content which serves as one of the key indicators for appraising quality in education (Coates, 2010; Davis & Kmetz, 2015), and also that, student engagement can be viewed from multiple perspectives (Ashwin & Mcvitty, 2015; Shah & Cheng, 2019).

Previous authors have provided instructive information on the link between student engagement and student success as both malleable and multi-dimensional constructs. For instance, in the Americas, Kuh, Cruce, Shoup, Kinzie and Gonyea (2008) researched into the interrelationships between student behaviours, institutional practices and student achievement. Pike and Kuh (2005) and (Pike, Kuh, McCormick, & Ethington, 2011) studied the relationship between learning community participation and student engagement. Shernoff, Sannella, Schorr, Sanchez-Wall, Ruzek, Sinha and Bressler (2017) delved into the influence of student seating arrangement on student engagement and academic performance. Studies in Australia showed that Coates (2005, 2010) worked on the importance of student engagement in higher education quality assurance. Krause and Coates (2008) researched on contemporary issues in undergraduate student engagement among first-year students in higher education. Kahu and Nelson (2018) looked into

understanding the mechanisms of student engagement and student success. For Europe, Veiga (2016) developed and validated a four-dimensional scale for assessing student engagement in schools in Lisbon. She described student engagement as a centripetal experience that bond the students to the school. Erdoğdu (2016) researched into the relationship between teachers' behavior and student engagement in Turkey. In Asia, Hu, Ching and Chao (2012) studied the psychometric properties of the student engagement model in Taiwan. Hu and Wolniak (2010) studied the influence of student engagement on early career earnings.

In Africa, Tadesse, Manathunga and Gillies (2017) researched into validation of Australasian Survey of Student Engagement Scale in the Ethiopian university setting. Schreiber, Moja and Luescher (2014) studied the role of student affairs in student integration, persistence and success in South Africa. Studies conducted in Ghana showed that Ansong, Okumu, Bowen, Walker and Eisensmith (2017) investigated the role of parents, classmates and teachers in student engagement. Asare, Nicholson and Stein (2017) also investigated the role of family in student engagement and alienation in Ghanaian university. While Atuahene (2012) early on researched into the impact of fee paying on retention and graduation rates at the University of Ghana.

Student engagement draws together the ideas of student learning, institutional environments, learning resources and teachers while maintaining the focus on students and their involvement with university study. Student engagement is concerned with how students involve themselves in activities such as active learning, involvement in enriching educational experiences such as seeking guidance from staff or working collaboratively with their lecturers and other students which are likely to lead to high quality learning effects (Coates, 2005). Positive student engagement practices have helped administrators to facilitate best practices that surge student persistence, completion and graduation rates (Manwaring, Larsen, Graham, Henrie, & Halverson,

2017). On the other hand, negative experiences tend to push students away from the academic environment with its aftermath effect being loss of commitment, loss of belongingness and loss of shared goals (Schreiber et al., 2014; Tinto, 2006). According to Kuh, Kinzie, Buckley, Bridges and Hayekf (2007) and Tinto (2006), students learn very well from activities they engage themselves in and this form the basis for their persistence or intentions to drop out. For instance, students who are engaged socially and academically in their universities have persisted and graduated at higher rates than students who were not engaged.

Kuh et al. (2007) reported that students who abondoned school prematurely were less engaged than those who persisted and graduated. Students who drop out of school are not likely to embark on the journey of acquiring academic degrees (DeVito, 2016). For instance, Kuh et al. (2007) observed that, students attending institutions that employ comprehensive system of complementary initiatives based on effective educational practices are more likely to perform better academically, and be more satisfied and persist to graduate than those students in institutions without effective educational practices. These practices include orientation for students, seminars, monitoring and providing internship opportunities for students.

Additionally, establishing benchmarks for effective educational practices such as paying attention to the level of academic challenge, student-faculty experiences, peer tutoring, cordial campus environment, educational learning experiences and effective teaching practices help students to fully engage for academic success. Given the importance of academic success, students acquire knowledge, skills and attitudes to deal with contemporary issues which increase their ability to understand and critique new ideas (Oduro, 2000). Although Fitzgerald, Bruns, Sonka, Furco, and Swanson (2012) acknowledged that knowledge and expertise are not always academic but, in some instances, knowledge and expertise as well as opportunities can also be attained in non-academic

settings. In this vain, within the academic environment, it is imperative that students are engaged purposefully in academic activities. As indicated by Pietarinen, Soini, and Pyhalto (2014), student engagement is a determinant of well-being and academic achievement of learners in the university.

However, Amir, Saleha, Mohd Jelas, Ahmad, and Hutkemri (2014) reported that males and females at different ages engage differently at school. Female students were more engaged at school than their male counterparts while older students were less engaged than the younger ones (Amir et al., 2014). In Ghana, Asare et al. (2017) revealed that student engagement was influenced by financial and social supports and also, by the expectations from family members.

In line with these attributes of student engagement, this study sought to contribute to the growing body of literature by determining the influence of student engagement on academic performance within a Ghanaian university setting.

Statement of the Problem

Recently, research studies into the student engagement variable has contributed to a large extent issues and activities that lead to high quality learning among learners in higher education programs (Shah & Cheng, 2019; Tadesse et al., 2017; Veiga, 2016). These issues, according to Tadesse et al. (2017) range from promoting student interactions with their colleagues, lecturers and workers of the university on academic related matters to emphasizing on the amount of time and level of difficulty of academic related work performed by students.

Hu, Ching, and Chao (2012) indicated that the institution has a role to ensure that the campus environment provides the needed support for students to succeed socially and academically and also, be able to cope with non-academic related issues such as work, health and extra-curriculum

activities. Countless studies have reported that students engaging in educational purposeful activities and practices significantly predict personal and academic development of the students (Astin, 1984; Hu et al., 2012; Kuh, 2001; Pascarella & Terenzini, 2005). Kuh (2001) explained educational purposeful activities to include but not limited to students spending significant amount of time studying and preparing for lectures, applying theories to solve practical problems, working with their colleagues to complete assignments and also asking questions in class. In Africa, and for that matter Ghana, there exist crowded classrooms, lack of ICT facilities, poor student-lecturer interactions and congested time tables making teaching and learning as well as student engagement academically difficult.

On the flip side, the researcher observed that some of the Ghanaian students with better educational facilities are noted for taking particular interest in leisure activities such as attending hall week celebrations, pool parties, and other social activities that take away the time required for them to engage with academic related matters. This has probably contributed significantly to majority of the students graduating with poor classes at the end of their undergraduate studies.

Graduate output report of the University of Mines and Technology, Tarkwa in Ghana for the first degree category reported that, out of three hundred and forty-six (346) students that graduated in 2013/2014 academic year, 21.4% graduated with first class degrees, 59.2% had second class (upper division) degrees, 19.1% had second class (lower division) degrees while 0.3% had third class degrees (UMaT, 2014).

Similarly, for the 2014/2015 academic year, out of the three hundred and sixty-three (363) that graduated, 16.8% had first class, 59.5% had second class (upper division), while 22.9% and 0.3% had second class (lower division) and third class respectively (UMaT, 2015). Also, for the

2015/2016 academic year, 22.8% had first class, 60.9% had second class upper division, and 15.5% were awarded second class lower while 0.8% had third class degrees (UMaT, 2016).

On the flip side, statistics available from the University of Professional Studies, Accra revealed that for the 2013/2014 academic year, out of the one thousand nine hundred and five (1,905) students that graduated, 5.9% had first class degrees, 18.1% had second class (upper division) degrees, 42.2% had second class (lower division), 10.6% had third class degrees while the remaining 23.2% went home with pass degrees (UPSA, 2014). Report for the 2014/2015 academic year revealed that, out of the one thousand three and sixty-six (1,366) students that completed their first degrees, 0.9% were awarded first class degrees, 15.8% with second class (upper division), 35.1% with second class (lower division), 37.3% had third class and the remaining 10.9% were awarded with pass degrees (UPSA, 2015).

Graduation statistics for the 2015/2016 academic year was not different, as among the one thousand, eight hundred and thirty-six (1,836) undergraduate students that completed their studies, 0.7% had first class, 24.2% had second class (upper division), 38.1% had second class (lower division) while 28.4% graduated with third class and the remaining 8.6% went home with pass degrees (UPSA, 2016). Similarly, a more recent statistics showed that, for the 2017/2018 academic year, out of the two thousand three hundred and one (2,301) undergraduate students that completed their first degrees, 1.4% obtained first class degrees, 28.4% completed with second class (upper division), 38.9% with second class (lower division), 21.7% had third class degrees and the remaining 9.6% went home with pass degrees (UPSA, 2018).

Surprisingly, the cause of this seemingly poor performance among the students at the University of Professional Studies, Accra is not known. In the face of these statistics, one could also make

excuses that, in most instances, students who come to the Ghanaian universities are usually confronted with financial burden that sometimes compel them to engage in entrepreneurial activities in their bid to make some monies to survive. Similarly, some students also believe that they are in school to acquire life-skills that will help them to cope with uncertainties in life and therefore resort to engaging in entrepreneurial activities on campus while others engage in free lifestyles at the neglect of their academic work.

As students tend to engage in entrepreneurial activities, they also tend to trade-off the amount of time they spend on learning, preparing for lectures and doing their assignments to catch up with submission deadlines. This situation is likely to lead to dilemma in such a way that, students who do not engage in entrepreneurial activities become overly dependent on their parents, guardians, family members, and loved ones for financial support. In situations where funds are not forthcoming as it used to be, then these students become restless, disturbed, apprehensive, vulnerable, and sometimes emotionally and psychologically alienated from their studies and this is likely to influence their academic performance negatively. Also, Surry, Ensminger, and Haab (2005) have reported that, the use of technology in higher education has helped students in their academic performance by making their academic content readily accessible with the click of a button. Others may engage negatively by staying hours on social media downloading and sharing materials that are not related to their academics, without paying attention to their instructors and reading materials.

By illuminating on these statistics and issues, the researcher was curious to answer the question: What is the influence of student engagement on academic performance among students at the University of Professional Studies, Accra?

Purpose of the Study

The purpose of the study was to describe and explain the factors of student engagement and how they influence the academic performance of students at the University of Professional Studies, Accra, Ghana. As earlier indicated by some previous authors, student engagement is a multi-dimensional construct and for this reason, different authors conceptualize it differently. The researcher was interested to find out about the relationship between antecedent factors such as perceived quality of teaching, technology usage, community members' support and demographic characteristics; and how students got engaged to achieve academic success. Similarly, the researcher was also interested to determine the relationship that exists between students who engaged in entrepreneurial activities and their academic performance at the University of Professional Studies, Accra, Ghana.

Research Objectives

Objectives of the study were to:

1. Determine the sets of constructs that measure the student engagement variable and the other study constructs at the University of Professional Studies, Accra, Ghana.
2. Find out about the relationships that exist between student engagement and academic performance.
3. Identify the relationships between student engagement and demographic characteristics (level of students, age and sex) of the respondents.
4. Determine how student entrepreneurial activities affect academic performance.

Research questions

The research questions that guided the study were:

1. What are the sets of constructs that measure the student engagement variable and the other study constructs?
2. What is the relationship that exist between student engagement and academic performance?
3. What are the relationships between student engagement and demographic characteristics (level of students, age and sex) of the respondents?
4. How does student entrepreneurial activities affect academic performance?

Significance of the study

The present study is significant in a number of ways such that managers of higher educational institutions need accurate and reliable information on students in order plan, monitor, and improve upon the quality of students' experiences at school. Government agencies such as the Ministry of Education (MoE), National Accreditation Board (NAB), National Council for Tertiary Education (NCTE) and the Parliament Select Committee on Education require such useful information on students for educational policy formulation and development. Information on students are also equally required to make funding and accountability decisions in higher education institutions.

For human resource practitioners, the study will provide a microanalysis of the influence of lecturers' interactions with students to enhance academic performance. At some point, students feel lonely and sometimes perceive their lecturers as wicked people for loading them with too many assignments which become burdensome on them. The study will provide opportunity for curriculum designers to ensure that lecturers give commensurate work load in relation to the credit hours of their courses and where to engage students positively.

Students go through critical periods of readjustment as a result of loss of love ones, broken relationships, mistrusts and some other negative circumstances on campus and in most instances, they do not know who to turn to for solace. The findings of the study will be useful for human resource practitioners to reconsider the aspect of training staff and lecturers on the importance of giving intentional care and attention to students for them to have a sense of belongingness. Unfortunately, the university has a male-dominated lecturer population which bring some level of discomfort to some of the female students in relation to their interaction with their lecturers. For this reason, the study provides further basis for making claim for recruiting qualified female applicants for lecturing opportunities in the universities to bridge the male-female lecturer ratio in order to offer equal opportunity to female students to also interact with their lecturers.

Finally, the Quality Assurance Directorate is mostly concerned with students' evaluations of their lecturers and the courses they studied for the semester. This study findings can serve as a policy information document to the Quality Assurance Directorate of higher education institutions and the National Accreditation Board for the inclusion of students' participation in the quality assurance assessments for higher education institutions.

Scope and delimitation

The scope of this present study covers the undergraduate students of the University of Professional Studies, Accra. Specifically, levels 200, 300 and 400 students participated in the study. It also used the quantitative approach through the use of questionnaires which did not probe into further explanations and elaborations of issues raised. Finally, it concentrated on the views of students without those of lecturers and staff to complement the views of the students.

Organization of the study

The study consists of a total of six chapters. Chapter one entailed the background of the study, statement of the problem, objectives of the study, hypothesis of the study, purpose of the study, significance of the study, and scope and organization of the study. Chapter two covered the theoretical and empirical literature. Relevant literature in relation to student engagement, academic performance, teaching quality, technology use, flow experience, self-efficacy, peer support and family support and student entrepreneurial activity were reviewed.

Chapter three of the study described in detail the research methodology. This included the philosophical perspective of the researcher, methodological choice, research design, profile of study settings, pilot testing, research instrument and measures, questionnaire validation, target population, determination of sample size, data collection strategy, mode of questionnaire administration, ethical consideration, inclusion and exclusion criteria, validity and elimination of threat to internal validity, reliability of the research instrument, data screening analysis, justification for conducting factor analyses and chapter summary.

In chapter four of this study, the researcher presented the study results of the data that was collected for analyses. Chapter five constituted the discussion of the results of the study while chapter six consisted of the summary of the study, conclusion, contributions of the study, implications of the study and recommendations of the study.

Definition of terms

Student engagement refers to the situation where students are actively involved in education-related activity or task. It also encompasses the participation of students in educational activities both inside and outside the classroom environment.

Academic Challenge: Academic challenge refers to the difficulties students face in relation to classroom activities such as the time they spend preparing for lectures and the challenges the face in the various courses the take.

Learning with Peers: Learning with peers refers to students partaking in collaborative learning through study group discussions and working on group assignments.

Experience with Faculty: Experience with faculty refers to the quality interactions students have with their lecturers both inside and outside the classroom.

Campus Environment: Campus environment refers to the various infrastructure such as access to the library, clinic and counseling unit. Campus environment also refers to the favorable environment of the university that helps to add up to the student's academic and social interaction.

Community members' support: Community members' support refers to the interaction between students and their family members, friends and community members outside the school's environment.

Academic performance refers to the graded measure of student achievements in their course of study by reporting their grade point averages. It also denotes the extent to which students convey acceptable level of knowledge through graded scores upon completion of previous courses that enable them to proceed to the next stage of their academic endeavours.

Higher education refers to academic education beyond secondary education that provides learning opportunities in specialized fields of endeavours.

Summary of chapter

This chapter provided the background to the study by giving account of previous studies in relation to student engagement and academic performance. The statement of the research problem and the objectives of the study were established in this chapter. The hypotheses, purpose and significance of the study were indicated in this chapter. The scope and delimitation of the study were explained in this section. Finally, the organization of this study was summarized in this chapter. The theoretical and empirical literature have been reviewed in the next chapter.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Introduction

In this chapter, various issues have been discussed in connection to students' engagement and academic performance. The chapter includes theoretical and empirical literature reviews. The theoretical literature includes theories that explain the concept of student involvement, student engagement, student self-efficacy and student flow experiences in higher education. The empirical literature of the study took into account studies conducted in similar fields in relation to student engagement, teaching quality, technology use, flow experiences, self-efficacy, academic performance, family support, peer support and student entrepreneurial activities.

Theoretical Literature Review

Theory of Involvement

The theory of involvement was developed by Alexander Astin and published in 1984. The term students' involvement is referred to as "the quantity and quality of the physical and psychological energy that students invest in the college experience" (Astin, 1984, p.307). This means that, the more students are involved in the school's activities, the more the student learn and develop academically as presented in figure 2.1.

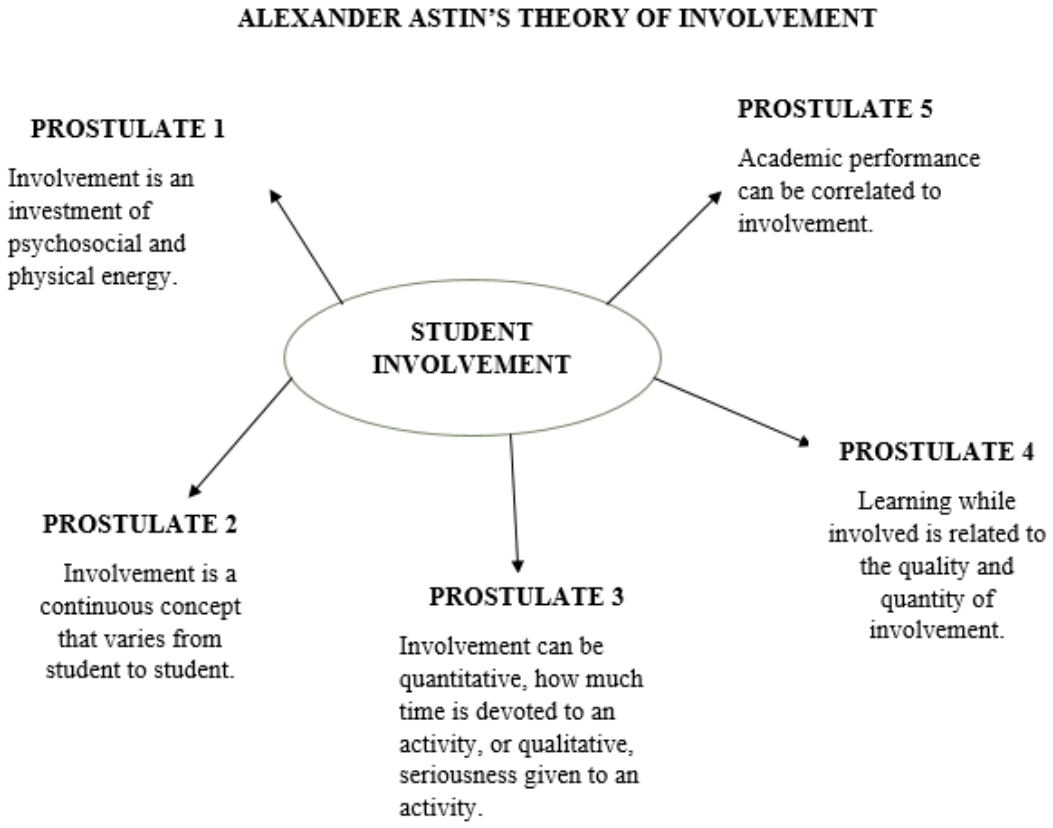


Figure 2.1; Source: Adopted from Astin (1984)

When students are highly involved in the school, they spend more time on campus, more time studying and also frequently interact with the faculty of the school and their peers. According to Astin (1984) the theory of students' involvement can help institutions to design more effective learning environment. To Astin, involvement is about the student showing serious effort in dedicating his or her time and attention to a given activity. Different students participate in given educational activities with varying degrees of involvement. Finally, students who invest their psychosocial and physical energy into learning tend to perform well academically.

The concept of student engagement

Student-engagement originated from the study of Astin (1984, 1985), Pace (1984), and Kuh and his colleagues (Kuh, Schuh, Whitt, and Associates, 1991) as cited by Pike and Kuh (2005) and Maloshonok (2014). Previous research studies in higher education suggest that student engagement has inconsistently been conceptualized by different authors using different terminologies to represent same the variable. These inconsistencies have compounded the variations in the student engagement construct paving way for some authors to use student engagement, academic engagement, and school engagement interchangeably (Williams, 2003, Fredericks, Blumenfield and Paris, 2004; Libbey, 2004).

According to Maloshonok (2014), students' engagement is mostly based on empirical literature that has been researched on for the past few years. Different authors invariably use different terminologies to explain their thoughts on the concept of student engagement which is based on the simple, but powerful, premise that students learn from what they do in college (Pike & Kuh, 2005). Maloshonok (2014) also indicated that engagement highlights the role of the environment in the learning of the student which influences the academic outcomes of these students. Kuh et al. (2007) defined student's engagement as "participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes". Learning is co-constructed by the student and the institution and staff providing the students with the conditions, opportunities and expectations to become involved in educationally purposeful activities.

Students' engagement is also concerned with the policies and the acts which institutions adapt to help encourage students to participate in the programs and services the institution offers (Clelia, Jose-Javie, Angela, Natalia, Rodrigo & Fabian, 2014). From this view, it can be deduced that,

institutions put in place opportunities for learning that will give students courage to invest their time and effort in participating in activities. Coates (2005, 2010) places the individual at the focus of discussions of engagement and understanding their particular activities. From previous literature and discussions, Trowler (2010) summarized student engagement as being "*concerned with the collaborations between the time, effort and other important resources invested by both students and their institution intended to optimize the student learning experiences and enhance the outcomes and development of the students and the performance and the reputation of the institution"* (p.2).

Fredricks, Reschly, and Christenson (2019) waded into the student engagement narratives by reinforcing that student engagement is a multi-dimensional construct with cognitive, behavioural, affective and emotional dimensions. For instance, Trowler (2010) said that, student attendance, involvement in class discussions and submission of class assignment on time are examples of positive behavioural engagement while absenteeism, class boycotts, truancy and deliberate intentions to disrupt class are examples of negative behavioral engagements. Students expressing affective reactions as a result of their enjoyment and interest in their peers, lecturers, staff, institution and activities are examples of positive emotional engagement while the feeling of boredomness and rejection are associated with negative emotional engagements. Also, students challenging themselves by investing much time in learning and meeting assignment deadlines are associated with positive cognitive engagement while students who are used to submitting their assignments late and sometimes do not submit at all are negative cognitive engagement tendencies.

The student engagement construct allows researchers to give clearer picture of the complexities and descriptions of student learning experiences at school (Fredericks et al., 2004). The concept of student engagement assumes that individuals have needs for relatedness and also to feel

connected to others such as their peers, lecturers, staff and the institution as a whole. The feeling of belongingness and autonomy is key in effectively interacting with lecturers, staff, what is to be learnt, and the institutional environment to achieve mastery (Fredricks et al., 2019).

Student engagement styles

The majority of studies on student engagement is directly or indirectly associated with enhancing student learning experiences at school. For instance, Coates (2007) proposed the typology of social and academic engagement styles on two axes as indicated in figure 2.2.

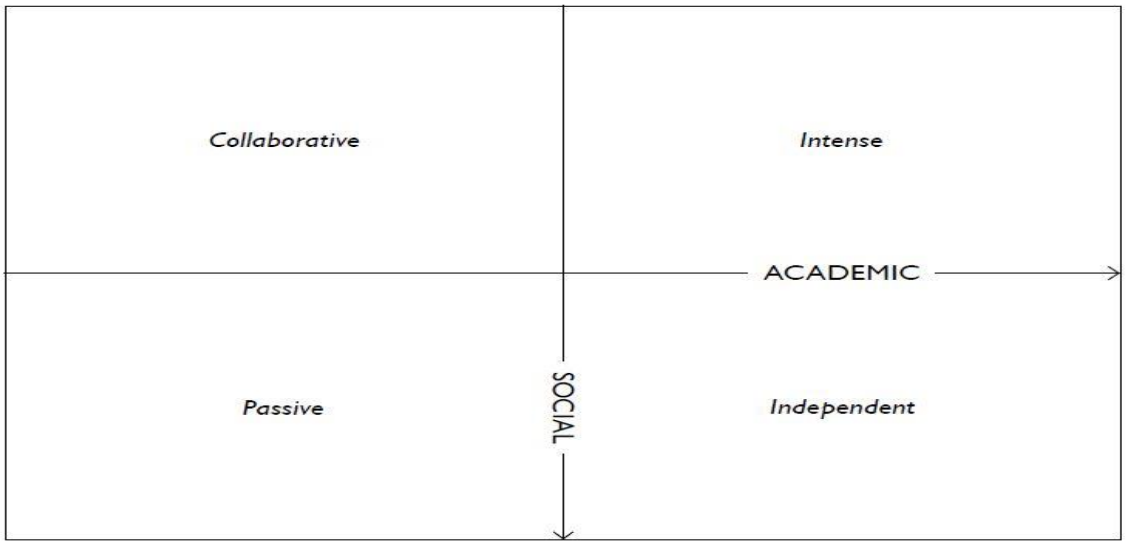


Figure 2.2: Student engagement styles; source: (Coates, 2007)

Coates (2007) explained that when a student perceive his or her lecturers as approachable and report that the campus environment is supportive, responsive and challenge them to devote much time to learning activities, then that student would be referred to as being engaged intensely. A

student with independent engagement style is oriented more towards his or her academic work than being socially active at school. These students approach their lecturers more often than collaborating with their colleagues within and outside the lecture room.

According to Coates (2007), students who report collaborative engagement styles are more aligned to the social aspects of the university life rather than engaging in individual or cognitive interactions. Students who reported passive engagement styles rarely participate in only general activities. Trowler (2010) cautioned that, the engagement styles by Coates (2007) are transient rather than permanent student traits within an individual that are sustained over a period of time.

Indicators of students' engagement

The NSSE benchmarks of students' engagement measures students' behavior and the university's factors that are related to help the student succeed. The study was based on the National Survey of Student Engagement, NSSE (2017) benchmarks of students' engagement. According to the National Survey of Student Engagement, these benchmarks are level of academic challenge, active and collaborative learning, supportive campus environment, student-faculty interaction and enriching educational activities. Elaborations of these benchmarks have been outlined in the subsequent paragraphs.

Academic Challenge

According to the National Survey for Student Engagement (NSSE, 2017), the focus is on high student achievement and also borders on the challenge of the students. It focuses on the time a student spends to prepare for class, challenges in the course that a student is offering, among others. The time invested in the level of academic challenge has to be high enough in order to yield desired

outcomes. Kuh (2001) indicated that, the amount of time a student spend studying efficiently affects the students' academic achievement. Clelia et al. (2014) indicated that, when laid down activities are formerly structured, it can help to mentally induce the students to learn and in turn, make the student take a firm stand in fulfilling the expectation held by the university. In attempt to achieve this learning expectations, Marton and Saljo (1976) focused on the true sense of giving meaning to learning in the form of surface-level and deep-level processing. The difference between the two was the result of the qualitative differences in the learning outcomes. They indicated that when students engage in surface-level processing, it means they have embarked on rote or reproduction learning while deep-level processing is directed towards comprehending their learning materials. Deep level-learning is akin to the students' ability to fully engage with what is to be learnt. Rhem (1995) and Cohen, Manion and Morrison (2004) were of the opinion that, students who do surface level processing often lack feedback from their lecturers and on their progress which sometimes leads to anxiety and poor academic performance. The Community College Survey of Students Engagement (CCSSE, 2005) reported a positive relationship between student engagement and academic achievement.

Learning with Peers

As indicated by the National Survey for Student Engagement (NSSE, 2017), collaborative learning helps to enhance the success of the student and help yield desirable outcomes. Peterson and Miller (2004) opined in their study that, the overall quality of experience of the student was significant during learning with peers and collaborative learning. Clelia et al. (2014) supported this by emphasizing that, students who are more involved in collaborative learning or learning with peers will have a high chance of academic success. They also indicated that, as students interact with their peers, they tend to understand with ease. Similarly, Zhao and Kuh (2004) observed that, when

students learn and collaborate with each other, they develop their will power to enhance their interpersonal skills. Although, they are likely to teach each other but, in some instances, some of the students tend to dominate and bully their colleagues.

Experience with faculty

The experience with faculty benchmark places more emphasis on the amount and the quality of the interactions which occurs between the student and the faculty whether in the classroom or out of the classroom. The National Survey for Student Engagement (NSSE, 2017), indicated that interaction with the faculty inside and outside the classroom environment helps the student to acquire first-hand information. Earlier, Kuh (2001) found that, students' interaction with the faculty has significant impact in students learning experience in the university in diverse ways. For instance, lecturers provide helpful feedback to students to enhance their understanding on academic issues. According to Hu et al. (2012), students and faculty interaction refers to the quality of communications that occurs between the faculty members and the students. Not all students are affected by the relationship they have with their faculty members, but the impact of the relationship depends on their personal characteristics (Kim & Sax, 2009). Student experience with faculty is very important as it contributes to the development and quality learning experience to the student. In a study conducted by Kuh (2003), he maintained that, student interaction with faculty should be balanced in nature and in time, and that when it is too much or too little can lead to a negative impact on the student.

Campus environment

According to the National Survey for Student Engagement (NSSE, 2017), interactions with academic advisors, the student representatives, staff and other administrative staff may have a

significant positive effect on the educational outcome. As Pascarella and Terenzini (2005) indicated, students' communicating with diverse group of individuals when they are on campus helps the students in their personal learning and development. Moreover, Hu et al. (2012) remarked that when students develop relationships with the university learning community, and other individuals who are part of the learning environment such as the librarian will help increase their satisfaction and their chances of succeeding in school. Clelia et al. (2014) supported this and referred to campus environment as the favourable environment of the university that helps to add up to the student's academic and social interaction. These favourable environment includes the school library, clinic, counseling unit, sports complex, computer laboratory and recreational centers for healthy lifestyles.

Flow theory

Flow experience also known as optimal experience is a theory formulated by Mihaly Csikszentmihalyi in 1975. According to the theory, "Flow denotes the holistic sensation present when we act with total involvement". This refers to the state of being where the individual is fully immersed in the activity. Optimal experience occurs when one's perception of skills equals his or her perception of challenges (Csikszentmihalyi, 1975). Agreeing to Csikszentmihalyi (1990), flow is a state where an individual is totally engrossed motivation to perform a task. It is achieved in a situation where an individual possesses the required competence to perform a task at a given time as shown in figure 2.3.

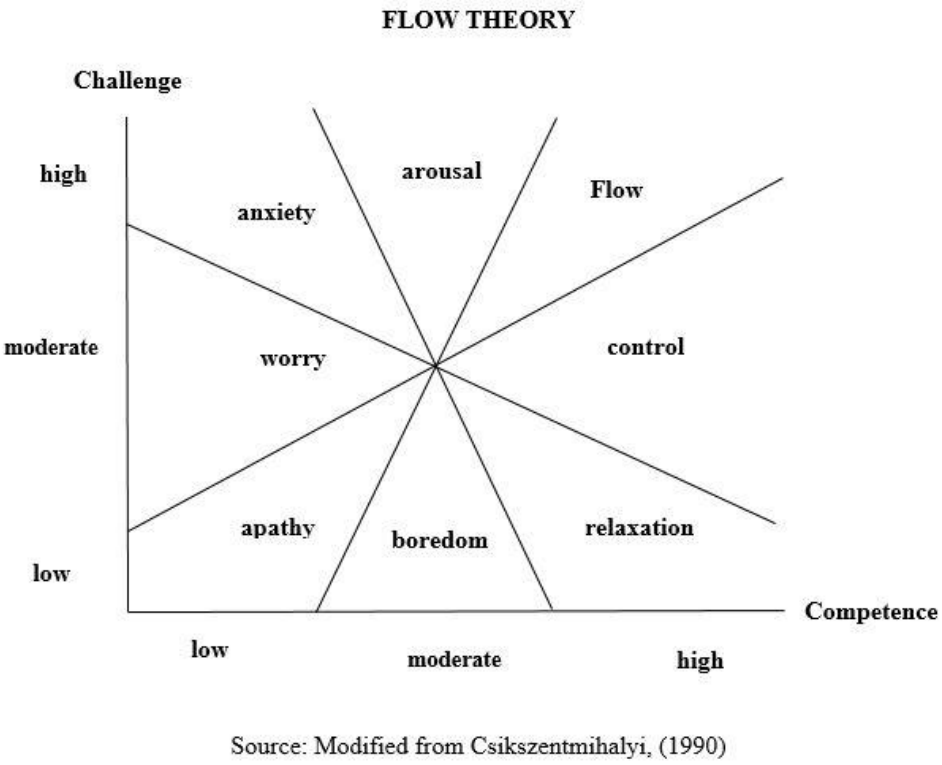


Figure 2.3; Source: Csikszentmihalyi (1990)

The symbol of flow is a sense of unplanned happiness while carrying out an assignment. This means that if the individual perceives that he or she can successfully perform a task using the skills he or she has, the person may experience flow. In this state, the individual fully concentrates on the task at hand and loses consciousness to stimuli within his or her immediate environment. This experience is positively related to the possibility of the individual returning to the activity. That means, if an individual finds an activity enjoyable, they will repeat the said activity in order to derive the satisfaction (intrinsic benefit) they first had from it. Csikszentmihalyi (1990) also reported that a person may also experience flow while performing an activity that may not be seen as enjoyable by the one performing it.

On the other hand, if the individual perceives the challenge to be higher than his or her skills, the person experiences anxiety (Csikszentmihalyi, 1975). This anxiety can be either helpful or disruptive. For example, when a lecturer gives individual assignments that require high-order thinking, a student may mentally assess the question to know how difficult the question is and examine him or herself to know whether he or she possess what it takes to solve the question. If the said student observes that the assignment as extremely difficult and cannot perform up to the expectation of the lecturer, the student will experience an increase in anxiety that will propel him or her to gather resource materials that will help him or her to do the assignment. In this case, the anxiety may either push the student to read more and do further research to acquire the necessary competence required to do the assignment or he or she may decide not to do the assignment at all because of frustration due to the level of difficulty of the question or questions in relation to the high expectation of their lecturers.

Boredom is created when the perceived skill of the student is higher than the perceived challenge. This means that, when the lecturers give students assignments that appear too easy and repetitive, the students tend to be bored and complacent and it does not raise their curiosity to delve into discovery learning. Therefore, people experience flow in activities that they have the ability to perform (Csikszentmihalyi, 1975).

Self-efficacy theory

Self-efficacy was propounded and defined by Bandura (1977) as the degree of one's believe about one's capabilities to accomplish goals. It also refers to a situation where a person believes in him or herself to achieve set goals and complete specific tasks (Malinauskas, 2017). Self-efficacy

beliefs influence how people feel, think, motivate, and behave themselves. According to Bandura (2006), the higher the self-efficacy of the student, the greater the perseverance and the higher the possibility of the successful completion of the chosen activity. Caraway, Tucker, Reinke, and Hall (2003) explained that self-efficacy deals with the individual's sense of competence in relation to his or her endeavours in all walks of life. This includes the goals they set and hope to achieve, the type of decisions they make and the amount of energy, time and level of involvement they put in to achieve these goals. Students' self-efficacy depends on their confidence to take on difficult tasks and their will-power to persevere even in the face of eminent challenges, negativity in thoughts, depression or vulnerability (Bandura, 1991). Individuals who have high levels of self-efficacy are more like to set challenging targets to increase their motivation to achieve those targets. Ersanlı (2015) described self-efficacy beliefs as peoples understanding of themselves to plan, organize and do things for themselves to achieve the target they have set to attain. This implies that individuals must first appreciate the understanding of themselves to possess the mental stamina to execute the task they intend to surmount.

Empirical literature

This section examines and reviews the various empirical literature studies conducted on student engagement and other related issues.

Student engagement and involvement

The concept of involvement is akin to time on task on vigilance as traditionally called by learning thoughts (Astin, 1984). Astin believed that although the use of the word "effort" has a narrow definition, it has semblance with involvement. To Astin (1984), the concept of involvement has

connotation of an active word with verb denotations such as share in, contribute to, play a part in, dive into, engage in, devote oneself to, commit oneself to, attach oneself to, go in for, ascent towards, show passion for, tackle, take a fancy to, take on, take part in, take to, take up, and undertake. In the positive sense, it is assumed that these denotations have behavioral tendencies toward learning.

Astin's idea of involvement can be viewed from both quantitative stance, for example, student personal development and learning has direct relationship with the quantity and quality of student effort program of study; and qualitative point of view as seen when he suggested that, policies are effective when they have the capacity to improve upon the quality and quantity of student involvement in an educational program. The important resource in the school is the student's time. The proper development of students' time and effort toward activities could help student achieve their developmental goals. Astin (1984) postulated that student's time and energy are finite. This phenomenon, he described as the "zero - sum game". For this reason, whenever the student gives attention to friends, family and job, a reduction in time and energy occurs in what they have to put in for their educational development.

Unfortunately, the assertion of Astin (1984) did not take into consideration that in most instances, these students are dependent on their parents, guardians, family and loved ones and therefore there is a need on their part to get in touch with these important stakeholders in their lives. Astin (1984) reported that students tend to persist and remain in school's hostel or residence. He indicated that there was a positive relationship between living in school residence and retention and this effect was across all types of institutions irrespective of the sex, ability or the family size of the individual student. The theory revealed that staying in campus residence gave a lot of opportunities to students

as it afforded the student to get involved in activities on campus more often. Students who joined other social clubs or partook in extracurricular activities were less likely to drop out of school.

As students spend significant amount of time on campus, the more likelihood that they will come into contact with their colleagues, lecturers or staff of the school. Students who lived in the school's residence tend to show greater interpersonal self- esteem and often interact more confidently than those who come from their homes. In furtherance to this, students who show deep involvement in their academic engagement were less likely to involve themselves in hedonism, artiste interest or religious apostasy. This assertion showed that as students get deeply involved with their friends, they are less likely to be involved in hooliganism activities due to the satisfaction they derive for performing well academically.

According to Chickering and Gamson (1987) students, faculty members and administrators must have a guideline that can help them develop a quality teaching and learning process. Chickering and Gamson (1987) propounded the seven principles for good practice in undergraduate education. These principles are "encouraging contact between students and faculty", "developing reciprocity and cooperation among students", "encouraging active learning", "giving prompt feedback", "emphasizing on task", "communicating high expectations" and "respect for diverse talents and ways of learning".

In the first principle, on 'encouraging contact between students and faculties', the more students are involved with their faculties, the more it enhances their intellectual commitment to learning to achieve their academic goals. The principle of 'developing reciprocity and cooperation among students' elaborated on the fact that when students work together, it improves their engagement and tend to boost their ideas and critical thinking skills. The third principle 'Encouraging active

learning' emphasizes the fact that, actively discussing and writing about what is learned and making it part of themselves yield greater results. In their fourth principle, Chickering and Gamson explained that 'Giving prompt feedback' helps the students reflect on what has been taught by giving the student the opportunity to voice out their concerns during class hours.

The idea of 'emphasizing time on task' was their fifth principle. This principle highlights the importance of time management for both students and faculty members as crucial to effective learning and teaching. They observed in their sixth principle that, 'Communicating high expectations' to students help them perform higher, because the expectations of the students are directly related to their performance. They revealed in their seventh principle in terms of 'respecting diverse talents and ways of learning' to invariably bring about more creativity among the students.

Chickering and Gamson (1987) argued that faculty members, management and staff must allocate much of their working time into understanding their students. Even though it is the responsibility of the student and faculty members to improve on the quality of higher education, the educational institution, accrediting associations, government officials have the power to shape undergraduate education.

The belief is that there is high evidence to show that quality undergraduate educational environment can be created when all various stakeholders who have a part to play in improving higher education gets actively engaged. In line with this, a strong sense of purpose, strong support from administration and faculty leaders, adequate funding, consistent policies and procedures that are in line with the schools mission, and regular reviewing on how well these objectives have been achieved may lead to student engagement.

According to Coates (2010), there is a growing number of diverse students and competitively high quality education as a result of integrated international education system. However, the Australasian survey of student engagement (AUSSE) still lacks data on students in effective educational practices. Coates (2010), reported six- factor structure for AUSSE engagement scale and outcome measures. These factors are academic challenge, active learning, students and staff interactions, enriching educational experience, supportive learning environment and work integrated learning.

Coates (2010) argued that student feedback is one important aspect when considering student engagement. In view of this, student engagement therefore, concerned a wide range of learning activities such as seeking guidance from staff, partaking in active learning, or working together with peers. He advocated that to ensure that students are engaged in quality learning on campus, staff should be available for consultation after class hours, with spacious libraries that are enough to contain more students. The school should enforce curriculum and assessment of students to conform to high standards of performance. The absence of any standard scale to measure student engagement in Australia accounted for a limitation in the quality assurance process in higher education (Coates, 2005). Thus, anytime the higher educational institutions talk about quality assurance, the focus is pretty much on the staff. This gives erroneous impression that teaching quality automatically leads to high learning.

In this study, data on student engagement could be used as a diagnostic tool to help management fine-tune quality assurance issues regarding to student learning. Managing faculty on student engagement usually serve as a counter balance in relation to the much-focused issues such as ensuring adequate resources for the institution and student outcomes in the quality assurance processes. Coates (2005) advocated for the need to have student engagement indicators that are

generic enough to have meaningful comparisons across disciplines, institutions and programs. Agreeing with this writer, working hard to ensure that the indicators of student engagement are generic enough to find space in the determination of quality assurance in higher education cannot be compromised.

Besides, Tadesse et al. (2017) placed emphasis on the importance of student engagement in higher education and the integral factors used in measuring quality in higher education in the Ethiopian universities. The study aimed to determine the factor structure for student engagement construct within the Ethiopian settings. They conducted the confirmatory factor analysis using six – factor component of student engagement scale developed by Australasian Survey of Student Engagement (AUSSE). These were: "academic challenge, active learning, student and staff interactions, enriching educational experience, supportive learning", which has emerged over the years.

Tadesse et al. (2017) established a nine-factor structure scale of student engagement. These were: integrative and collaborative leaning, academic challenge, student-teacher interaction, classroom interaction, assessment tasks, supportive campus environment, interpersonal relation, enriching educational experience, and reading and writing. The nine factors positively and significantly correlated with each other in their intercorrelational matrix results.

Gender imbalance was established as respondents were skewed in favour of males. This according to them gave rise to male dominated responses. They advocated for greater attention to enhance female enrolment in the university. Their findings suggested that the demographic characteristics of respondents and the type of instrument used may lead to varying degree of responses among the respondents. They further revealed that different students from different universities may report inconsistent degree of student experiences and recommended that attention should be given to the

reading and writing item to enhance the academic beliefs of the students. Tadesse et al. found moderate levels of engagement among students at the Ethiopian university and attributed the complex nature of student engagement to contextual influences which was influenced by male dominance. Also, some previous authors have reported moderate to high levels of engagement (2.58 - 4.50) among undergraduate students (Coates, 2005, 2010; Kuh, 2001; Kuh et al., 2008). In South Africa, Strydom and Mentz (2010) reported a mean range of 2.35-4.50 engagement level among undergraduate students on a five-point Likert scale.

Pike and kuh (2005) in their study titled "a typology of student engagement for American colleges and universities" reported a six – factor structure for student engagement; diverse groupings; intellectual stimulating; interpersonally supportive; high tech – low tech; academic challenge and support; and collaborative learning in that order. A positive and significant relationship between academic challenge and effort of students were identified. Their result showed that, students engaged in varied forms of academic activities and also had reasonable level of interactions with their lecturers in both within and outside the lecture rooms. Again, the students collaborated with their colleagues on academic related matters. Pike and Kuh (2005) revealed that anytime the lecturers challenged the students with difficult questions, they tend to be more individualistic and less collaborative. The study showed that students supported each other to make the school friendly to undertake undergraduate studies. This provided evidence that, the level of interaction among the various groups on campus was a key determinant of interpersonal relationship among the students.

Student characteristics and student engagement

Kuh (2001) conducted a research among 50,883 full-time undergraduate students who completed the College Student Experiences Questionnaire (CSEQ). The aim of the study was to identify individual and institutional characteristics that are associated with high and low levels of engagement using a non-linear hierarchical model. Student characteristics such as gender, level of academic preparation, number of years spent in college and major field of study as well as institutional characteristics such as the campus environment, all had influence on how the students engaged in academic activities. In this study, females were more engaged than their male counterparts. Also, their level of academic preparation and number of years spent in college as well as their major field of study had a cumulative effect on their engagement. This translated into seniors (final year students) being more engaged. Finally, student perceptions of their institutional environment (emphasis of scholarly and intellectual activity) had a positive influence on their engagement.

Another study by Kuh and Gonyea (2003) on 300,000 students from 4-year public and private institutions within a 9-year period to identify students' use of the library resources and its influence on their engagement, showed that academic challenge and faculty interactions (feedback from instructors) related positively with library use.

Community members' support and student engagement

Ansong et al. (2017) did a research on the role of parent, classmate, and teacher support in student engagement in Ghana. Structural equation modeling was used to survey how parents, teachers and classmates support affect students' engagement. The study focused on engagement as a

multidimensional idea and two sub-types – emotional engagement and behavioural engagement. The results of the research showed that classmate support was the strongest predictor of student engagement. Classmate support was directly positively associated with teacher support. Parent support also showed a positive link with behavioural engagement, classmate support and teacher support. Teacher support, however, was not a mediator neither was it a direct predictor of student engagement. In this case, teacher support did not influence student engagement. This result may have been influenced by some other confounding variables which were not identified nor controlled by Ansong and his colleagues.

Asare et al. (2017), on recounting the role family play to support student engagement in Ghana, reported that, family members expect female students to do well academically compared to their male counterparts. They affirmed that student engagement is influenced by social and financial support and also by family expectations as well as periodically checking the academic performance of the students. Also, family members expected students to work hard at school so they can secure a high paying job after completion. Parents call their wards to motivate them to persevere at school. Asare and his colleagues reported that, some of the students felt they were under pressure to perform academically well, especially for those students whose parents and older siblings have successfully completed university and were gainfully employed. Similarly, majority of the students reported that family support had significant influence on their engagement at school and that the female students received more support from family members than the male students. Family members paid the fees of students and this helped them to remain focused on their studies as early on suggested by Atuahene (2012).

In support of this, a study conducted by Hajhosseini, Zandi, Shabanan and Madani (2016) to ascertain the importance of using discussion for social interaction and critical thinking position

from Iranian students' perspective showed that during discussions the students exhibited components of critical thinking and social interaction. The researchers discovered that involvement of students in class discussions have benefits over the traditional means of education.

Teaching quality and technology use

The use of technology in schools facilitates teaching and learning. Gebre, Saroyan and Aull (2015) studied lecturers' conception of effective teaching and how these conceptions are related to the perceived role and use of computers in their teaching. The research was a qualitative study conducted among 13 professors and 232 undergraduate students. The lecturers' conceptions of effective teaching fell under three major themes. These themes were transmitting knowledge, engaging students and developing learning independence or self-reliance. Professors who perceived effective teaching to be transmitting knowledge mainly used technology in the classroom for presentation purposes and accessing information. For those who thought effective teaching was about engaging students used technology for discussions, interactions and communication as well as providing students with a hands-on experience. Finally, professors who thought of effective teaching as developing students' learning independence used the technology in their classrooms to help develop students and help them learn by allowing them to search for information. They concluded that, the use of technology influences the quality of teaching.

Technology use and student flow experiences

A sizeable number of research studies on flow experience have been done in the area of sports and other physical activities. However, very little is known about individuals who use information

technology (Rodriguez-Sanchez, Schaufeli, Salanova & Cifre, 2008). Therefore, Rodriguez-Sanchez et al. (2008) conducted a study among 234 graduate and undergraduate students and 238 employees who use information technology daily. The study confirmed the three-dimensional construct of flow which were operationalized as absorption, enjoyment and intrinsic interest. The study showed that both samples experienced the three dimensions of flow when using information technology. On a 6-point frequency scale for flow ranging from 0 to 6, students have a mean score of above 2 which meant that they experienced flow when using technology at least once a month.

Technology use and student engagement

In line with technology usage and how it affect students engagement, a study was conducted by Kuh (2001) to examine the characteristics of student use of computer and information technology and also to determine the relationships between student use of computer and information technology and the extent of determination they put forth in other college activities and the gains they make in a range of significant college results. The uses of computer and other information technology by the students were word processing, e-mails to communicate with their lecturers and course mates and searching the internet for course materials. The least frequent uses were developing web pages or multimedia presentations, contributing to class discussions through an electronic medium. The findings of the study showed that computer and information technology collectively had a positive impact on the efforts that students devoted to educationally purposeful activities. Similar research indicated that, rules on the use of information technology require students to mute their phones whenever they are in class, and this resulted in gross individualism with little collaboration among the students during class hours (Pike and Kuh, 2005).

Kuh (2001) indicated that student engagement focuses on the quality of time and the effort students dedicate to communicating with their lecturers, staff and peers on academic purposeful activities. Also, Rosen, Whaling, Carrier, Cheever and Rokkum (2013) acknowledge that, with the advent of portable technology, the landscape of communication has change drastically such that many activities can be performed on using small computer devices with internet access. Pea, Nass, Meheula, Rance, Kumar, Bamford and Zhou (2012) reported a positive relationship between multitasking and use of various technologies. Likewise, Carrier, Cheever, Rosen, Benitez and Chang (2009) revealed that younger people were more comfortable with multi-tasking than the adult folks while Rosen et al. (2013) reported a positive correlation between technology use and multi-tasking.

Similarly, Rosen et al. (2013) reported that younger people were comfortable using their smart phones, searching on the internet, sharing media, texting messages, phone calling, viewing television and getting online friends than older people. Also, they reported that smart phones were mostly used for texting. Laird and Kuh (2005) suggested that students who mostly use information technology for learning purposes are more likely to actively contribute in class and collaborate with other students. Meanwhile, White and Robertson (2014) revealed that the interactive tool developed on technology makes it possible for participation in forums, discussions and interactions with peers and lecturers.

In a related study, Rashid and Asghar (2016) reported that social media use, internet use and email positively predicted students' engagement while video games negatively predicted student engagement. They again reported that social media use and Facebook friends positively predicted academic achievement on one side whereas phone calling and watching television negatively influenced academic achievements.

Teaching quality and student engagement

Gebre et al. (2015) examined the dimensions of student engagement in technology rich classrooms and the relationship of these engagement dimensions to professors' concepts of effective teaching. The dimensions of student engagement that was identified by the researchers were cognitive and applied engagement and social engagement. The conceptions of effective teaching registered by the professors were transmitting knowledge, engaging students and developing learning independence or self-reliance. The study revealed that students' cognitive and applied engagement was significant to professors' conceptions of effective teaching. Also, developing learning independence category of effective teaching was the highest in cognitive and applied engagement (M = 4.08, SD = 0.55) followed by student engagement (M = 3.74, SD = 0.65) and transmitting knowledge (M = 2.71, SD = 0.69).

Student engagement and student flow experiences

Shernoff, Csikszentmihalyi, Schneider and Steele (2003) investigated how adolescents spent their time in school and the conditions under which they were engaged. Their results indicated that students were more engaged when they perceived that they possessed the necessary competence to tackle a particular challenge. The researchers also found that the students were more engaged when doing individual or group assignments rather than listening to lectures. When students immersed themselves into learning educationally assigned materials can lead to high retention rates and understanding (Weaver & Qi, 2005).

Students who are high achievers usually prioritize deep-level learning (Marton & Saljo, 1976) geared toward in-depth understanding of the content of study materials (Weaver & Qi, 2005).

Shernoff et al. (2017) reported a positive relationship between student flow experiences and student engagement when they were studying the influence of seating positions on student engagement and academic performance. They, however, indicated that, the effect of seating positions on academic performance was inconclusive. Although, Meeks, Knotts, James, Williams, Vassar and Wren (2013) had early on reported that seating positions of students significantly predicted academic performance.

Student engagement and self-efficacy

Academic self-efficacy refers to students' confidence in their ability to perform certain actions that would help them to achieve set goals (Schunk & Mullen, 2012). A student's self-efficacy can affect the choice of tasks, the efforts that the student makes towards achieving the set goals, persistence when there are obstacles as well as achievement (Schunk & Mullen, 2012). According to Schunk and Mullen (2012), self-efficacy has direct effects on student engagement. In cognitive engagement, students who are engaged in learning have a high sense of self-efficacy for learning. Engaged students make efforts and persist when they face difficulties. In situations where they cannot make any headway, they seek help from their teachers (student-faculty interactions), peers (collaborative learning), parents or learning materials. The students had positive expectations about the outcomes of their efforts expended towards the set goals. Before a student performs a task, the student has a sense of self-efficacy which is later validated as the student works on the task and sees the progress that he or she is making towards the goal that has been set.

The researchers concluded that students with high self-efficacy tend to set high goals for themselves, make efforts to achieve them and get help from others when they face difficulties in

achieving their goals. Another research conducted by Dogan (2015) among 578 middle and high school students in Turkey showed that there was a positive and significant relationship between academic self-efficacy and cognitive and emotional engagement.

Self-efficacy and academic performance

Self-efficacy is often qualified in academics as "Academic Self-Efficacy" which refers to a learner's judgments about his or her ability to successfully attain educational goals (Elias & MacDonald, 2007). Several literatures that exist, highlight the impact of academic self-efficacy on academic performance. A quantitative research was carried out by Meera and Jumana (2015) on 520 secondary school students with the objective of finding out if there was a significant difference between self-efficacy and academic performance. The second objective was to find out whether there was a significant difference between self-efficacy and academic performance with respect to the students' gender, campus environment and type of management. They used descriptive and correlation analyses to show that, students with high self-efficacy perform better. The t-test also revealed that students in the urban schools had higher self-efficacy and academic performance. The findings concluded that self-efficacy had a positive correlation with academic performance ($r = 0.45$, $p < 0.01$).

Another research looked at the relationship between self-efficacy and academic performance (Meral, Colak, & Zereyak, 2012). The survey was conducted among 82 second year students at Marmara University. The students' final grade notes were used to measure academic performance whiles the Motivated Beliefs – Self-efficacy subscale of the Motivated Strategies for Learning Questionnaire (MSLQ) was used to measure self-efficacy using Pearson's correlation. The results

of the analysis indicated that self-efficacy was positively related to academic performance. Neves (2016) reported that students were highly engaged by activities that challenged them to learn, apply theories and facts to practical situations.

Similarly, Caraway et al. (2003) conducted a study using two hundred (200) students on self-efficacy, goal orientation, and fear of failure as predictors of school engagement in high school student. The majority of the respondents were in their final year. Findings from their study indicated that self- efficacy positively and significantly correlated with student grade points average, while correlating negatively and significantly with student absenteeism in class. Student self-efficacy predicted student engagement. Also, goal orientation of students positively influenced student engagement. However, their study was silent on the role of sex (male or female) in student engagement at school.

Feedback and academic performance

Quinton and Smallbone (2010) distributed sheets which contained three questions that will help students reflect on their written feedback. These questions were "what do I feel about this feedback"; "what do I think about this feedback"; and "what actions could I take to improve my work for another assignment". The first question helped the students to disclose their emotions and feelings. The second question also helped the students to know how useful their written feedback was. The third question was also useful to the students because it helped them to provide better explanations of ideas and evidence of how to improve on previous assignment. According to them, when faculty members and students continually go through this exercise, students will be more

engaged in the classroom, feed forward on their assignments, understand more of their written feedback, and they will enjoy the learning and teaching in classroom.

Cramp (2011) described a case study investigating a feedback review meeting for first year students to support student engagement with written feedback. He proposed that, tutors should establish interpersonal relationship with their students so that they could be more open and honest about emotional reactions to feedback. His study concluded that, feedback and personal tutoring can be successfully joined in order to get a better understanding between tutors and students. In that, feedback review meetings go a long way to support student identities when there are challenges on students' confidence and self-esteem.

According to Bashir, Kabir and Rahman (2016), there are many studies supporting the usefulness of feedback but few emphases has been laid on the feedback proving process. They mentioned that most lecturers still provide the traditional way of feedback which is mostly not adequate to students and that modern process of providing feedback such as electronic-feedback techniques should be considered to facilitate student learning experiences. Bashir et al. (2016) made few suggestions on effective feedback which included 'making students understand what good performance or goal mean'. There must be a reasonable similarity between student goals and lecturers' goals, and this can serve as a criterion for self-regulation. They further suggested that 'simplifying the improvement process of self-assessment or reflections in learning' and explained that developing self-assessment can make feedback more effective by providing students with opportunities to exercise regulating characteristics of their own learning to reflect practice.

Bashir et al. (2016) pointed out that, 'providing quality information to students about their learning' is key to ensuring effective feedback. This information from lecturers to students must

be free from mistakes since it is important to student learning. Also, “allowing peer dialogue in understanding the feedback” is another factor mentioned by Bashir et al. (2016). Written feedback should not be encouraged but rather discussing relevant issues with the student facilitates understanding which leads to productive improvement.

Hattie and Timperley (2007) recounted that feedback is one of the prevailing influences on learning and achievement and it has a positive effect on performance. They defined feedback as information provided by an agent regarding aspects of one’s performance or understanding. They later explained that, feedback does not just occur, but it is initiated in a teaching process when students are provided with information concerning their tasks.

Hattie and Timperley (2007) disclosed that feedback is more effective when it provides information on accurate responses and when it builds on modifications from earlier trajectories. Also, it has more impact when goals are specific and clear. They also explained how to reduce the inconsistency between current and preferred understanding as students having the ability to develop effective error detection skills, seeking for clarifications, and increasing their effort on challenging tasks.

Bashir et al. (2016) mentioned that “inspiring positive motivational beliefs” can play an essential role by helping student understand self -regulation when studies on motivation and self- esteem are provided to students. Thus, providing opportunities to close the gap between current and desired performance is one way to improve feedback and this is done by giving students the opportunity to rework assignment after the first feedback to check if feedback has been successful. Also, they argued that, choosing the right moment is important because students sometimes become bored when they are overburdened with feedback. They also suggested that, adopting

various electronic-feedback techniques like email feedback, audio and video feedback, screencasts, and recycling written comment are modern way to improving feedback.

Developmental factors affecting students in higher education

Schoeppe, Haggard and Havighurst (1953) investigated some of the factors that affect the success of adolescents in their developmental tasks. They study fifteen boy and fifteen girls and reported that boys were more independent, self-directed and autonomous in their behavior than girls. They also found out that girls were severely controlled and for that matter their upbringing were oriented towards submission and conformance to rules at home while boys enjoyed more autonomy. McClusky (1970) reported individuals at a point in their lives go through critical periods which he describes as times where individuals go through moments of readjustments as a result of challenging situations, they find themselves. These situations, according to McClusky, emotionally affect the moods of such individuals. Such moods may affect how students spend their leisure time on campus. Some may result to negative behaviours such as resorting to excessive alcoholic intake. Contrarily, Yarnal, Qian, Hustad, and Sims (2013) reported on the positive use of student leisure time and found out that alcohol abuse was a major public health issue affect university students. In some instances, students find pleasure in visiting friends, watching movies and going out to restaurants than confining themselves to unsociable lifestyle. Yarnal et al. (2013) revealed that women found alcohol-free lifestyle more enjoyable than men.

Academic performance in higher education

Empirical evidence from study conducted by Macan, Shahani, Dipboye, and Phillips (1990) revealed that, the relationship between time management behavior and GPA is significant. Thus, students who are able to manage their time very well tend to be less role overload and also get to spend enough time on their studies. The study highlighted that; time management behavior was significantly influenced by age. In this regard, older people engage in time management more often. The study also revealed that the sex of the student can also influence their time management behavior, that is, females are known to manage their time well as compared to males. The authors assessed the time management behaviors of the respondents by assessing whether the respondents read time management books and attend time management seminars. This study again reported that students who engage in part-time or full-time jobs were found to manage their time well although the analysis showed the relationship was not significant. It also discussed in the study that the correlation between time management and attending time management seminars is significant, in the sense that, students who attend seminars tend to acquire knowledge, skills and attitudes which will help them manage their time very well. And similarly, there was no significant relationship between time management and whether students read books on time management or not.

Previous studies from Chemers, Hu, and Garcia (2001) showed that students' GPA have effect on their self-efficacy and academic performance. The study highlighted that students with high levels of self-efficacy are likely to see work demand to be a challenge than a treat and also, students with higher GPA tend to have higher self-efficacy. Thus, the relationship between self-efficacy and academic performance is significant.

According to Akgun and Ciarrochi (2003), academic stress and learned resourcefulness can influence academic performance. Results from the analysis of data collected from one hundred and forty-one (141) respondents of first-year undergraduates showed that academic stress negatively and significantly influence academic performance. The study further revealed that academic stress and academic performance have opposite correlation when students are less resourceful but no effect on high resourceful students. Thus, resourceful students are able to manage academic stress very well.

Studies have also revealed that GPA and students' absence in class is strongly correlated while age, sex, and living arrangement do not contribute to high GPA (Park & Kerr, 1990). Evidence from a study conducted by Campbell and Campbell (1997) reported that sex of a mentor does not significantly relate to academic success and retention rates, although results showed that female mentors spend much time with students than male mentors. The results further revealed that ethnicity of the mentor does not influence academic success and retention rates. The hypothesis that mentorship programs influences GPA was supported after the analysis, thus, the GPA of students who engaged in mentorship programs increased. The authors again stated that the relationship between students who had more contact time with mentors and greater academic achievement was low but significantly related. This showed that although students may have enough time with mentors but if they fail to value every resource and the mentors, there will be no influence on academic performance.

Studies have shown that parental influence and GPA are correlated (Cutrona, Cole, Colangelo, Assouline, & Russell, 1994). Cutrona et al. (1994) sampled four hundred and eighteen (418) undergraduates and the results from the analysis showed that friends support, and family support do not significantly affect GPA. The authors also discussed that parental influence were measured

by asking the respondents about their parents' guidance, nurturance, attachment, reliable alliance, and reassurance of wealth. They found that, sex difference does not have significant relationship with GPA, thus, GPA do not differ because of sex differences. They also reported that, self-efficacy and parental support significantly influenced academic performance. Also, Cutrona et al. (1994) reported that reassurance of wealth significantly predicted GPA of students. This finding also pointed to the fact that when students are assured of solid financial support, they tend to focus on their studies and perform well academically.

It is also possible that, in a resource constraint environment where financial support is sometimes hard to come-by, some students may take this opportunity to engage in full-time or part-time work to support their education. To support this assertion, Asare et al. (2017) indicated that some Ghanaian students unfortunately reported that instead of them thinking about improving their learning skills to enhance their GPA's, they rather concentrate on working to get money to support their education. Atuahene (2012) cited lack of transparent financial aid system to support students from low economic background as one the reasons students drop out of the university within the Ghanaian higher education context. Asare et al. (2017) revealed that financially constrained students reported that almost everything that happened in the lecture room gets to upset them. This implied that reliable funding has positive influence on student engagement.

Student entrepreneurial activities and Academic Performance

Two hundred and sixty-seven nursing students in a regional university in Australia participated in a quantitative survey by Salamonson and Andrew (2006). The survey examined the influence of age, ethnicity and part-time employment on nursing students' academic achievements. A one-way

analysis of variance (ANOVA) was conducted to test the difference between the different employment groups. The findings showed that students who were not involved in any part-time employment had the highest academic achievements. Also, hours of part-time employment had a negative influence on the academic performance of the students.

According to Robotham (2009) there are increasing number of students studying full time while in working part-time employment because they needed to afford basic important needs. In a survey conducted in US universities, Robotham (2009) reported that, about 68 percent of students were found working per-time for 12 to 14 hours while about 32 percent were not. Some of the students claimed that they wanted to maintain desired amount of living. Most of these students worked in industries such as retailing, catering, hostels, and bars. Despite the financial advantages, students faced a lot of challenges like failing their examination, increased stress levels and lack of time for studies and leisure activities. Robotham (2009) concluded that, there was a negative relationship between student engaging in part-work and academic performance. Although, the study was skewed in favour of the males, the results were silent on the level of education.

Student engagement and academic performance

On student engagement and academic performance, Daouk, Bahous and Bacha (2016) explored the perceptions of students and instructors regarding the efficacy of executing active learning strategies in higher education process at a tertiary institution in Lebanon. Mixed method was used by the researchers. Using questionnaire, interviews and observation, they reported that majority of the students' preferred active learning over having lecture mode learning. Students desired to work in groups, have class discussions and role plays. According to Daouk et al. (2016), students are

interested in exploring opportunities that extends their skills, ideas and challenge them to participate in higher order thinking rather than just receiving information from lecturers. Engagement has been thought of as being a dimensional construct which is embedded with behavioural, cognitive and emotional components ; attention, cognitive and affective domains (Chen, Lattuca, & Hamilton, 2008). Group discussion among students of leads to deep understanding of the course materials (Marton & Saljo, 1976) and that students preferred lecturers who facilitate learning rather than just transmitting information.

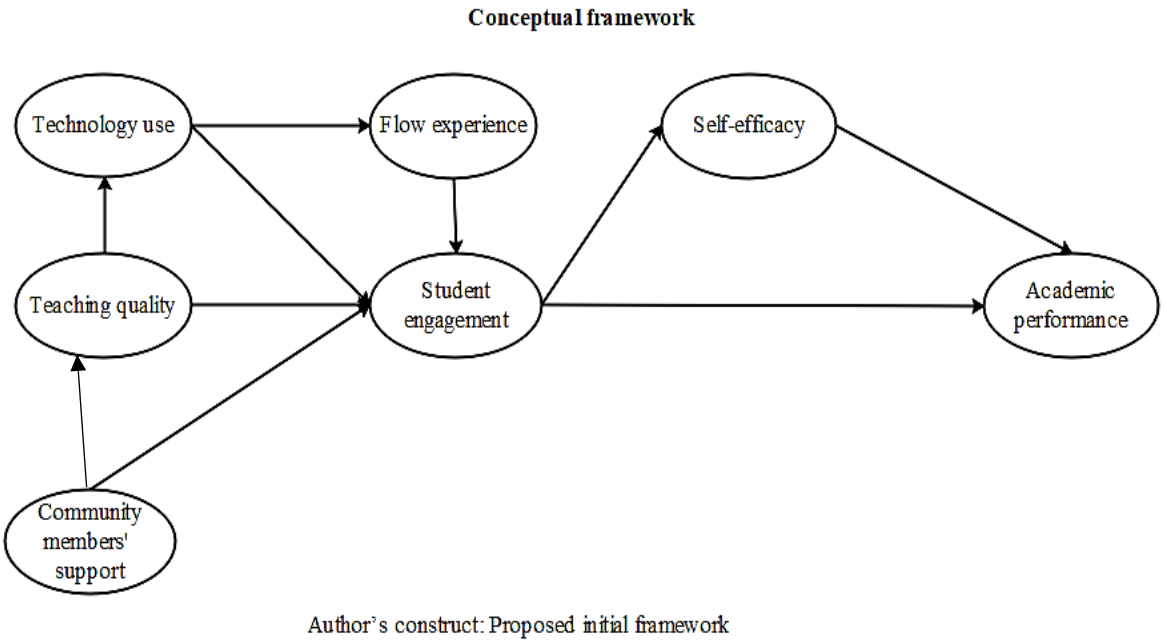
As students tend to be active in class through group work, group presentations, role plays and class discussions, they invariably improve upon their communication skills as in their oratory skills, writing skills and non-verbal skills. In this regard, students who regularly absent themselves from lectures, usually miss out on these lecture room engagement activities and are likely not do well academically as the will be resorting to surface-level processing or rote learning as early on suggested by Marton and Saljo (1976). Daouk et al. (2016) further reported that, the lecture mode should not be the only method of instruction at the university as it makes students adopt passive attitude towards learning. This makes them feel bored as lectures continue to spoon-feed them rather than engaging them as co-constructors of knowledge through class discussions, group work, role plays and class presentations.

Another study by Kuh et al. (2008) aimed at determining the relationship between key student behaviors and the institutional practices and conditions that promote student success. The researchers collected 6,193 student-level records from 18 different types of colleges and universities and they found out that student engagement in educationally purposeful activities is positively related to academic outcomes.

Teasing out of proposed conceptual framework for student engagement and academic performance relationships

Findings from both the theoretical and empirical literature as well as the researcher's inferences were used to conceptualize the proposed framework for students' engagement in higher education settings as indicated in figure 2.4.

Figure 2.4: Proposed conceptual framework



Author's construct: Proposed initial framework

The researcher inferred from literature that, members of the community, which is family members such as parents, guardians and relatives are major stakeholders in education and for that matter their views count in shaping what students learn at school. At the primary through to secondary level, family members, guardians and relatives could influence the expectation of teaching in the school. That is, family members' support will have a relationship with teaching quality. Also, family support will have a relationship with how students engage at school. This is seen in the

situation where family and friends continue to remind the students to take their studies serious by allocating more time to learning, visiting the school's library and also interacting more with their lecturers so as to do well in class. When lecturers clearly explain what is required of students in their courses, it is possible that the quality of teaching will improve.

In todays' world, teaching and learning is highly mediated by the use of technology and for that reason, lecturers will encourage students to use technology to help facilitate learning. It is believed that, once the students use technology for learning, they are likely to experience flow and this will help them to engage well academically. When students engage in activities that are educationally related, they tend to perform well academically. Similarly, when students participate in educationally related activities, they tend to develop their self-efficacy, that makes them confident, and persist to do well academically at school. Also, within the campus environment, some students engage in entrepreneurial activities and this may tend to influence their academic performance positively or negatively. These explanations guided the researcher to set out hypotheses through the linkages identified in the initial conceptual model as presented in figure 2.4. These linkages were tested as a model using the structural equation modeling and results presented in chapter four of this study. Similarly, the relationship between student entrepreneurial activities and academic performance was tested and also presented in chapter four.

Hypotheses of the study

Hypotheses of the study were:

H1: A positive relationship will exist between teaching quality and technology use.

H2: There will be a positive relationship between technology use and student flow experience.

H3: There will be a positive relationship between technology use and student engagement.

H4: A positive relationship will exist between teaching quality and student engagement.

H5: There will be a positive relationship between flow and students' engagement.

H6: Student engagement will have a positive relationship with efficacy.

H7: There will be a positive relationship between efficacy and academic performance.

H8: A positive relationship will exist between student engagement and academic performance.

H9: There will be a positive relationship between student entrepreneurial activities and academic performance.

The next chapter deals with the methodology adopted for this study.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter provides detailed information on the philosophical perspective of the researcher, the methodological choice, the research design, the area profiles of the study settings, sampling frame and sampling size determination. The chapter further explains the choice of research method adopted for the study, data analysis techniques used, and ethical considerations ensured within the study.

Philosophical perspective of the researcher

The researcher's world view of the study is through the cannons of positivist lenses. Some authors such as Tekin and Kotaman (2013) and Xining (2002) have espoused that the application of positivism in social and educational research is seen through the establishment of hypotheses, measurement of variables (sampling), data collection (questionnaire), data analysis and conclusion. In search of the truth, positivists are concerned with rational cause and effect; and objective and value free research process (Cartwright & Montuschi, 2014).

My educational background has had considerable influence on my perspective as a researcher. I was as a science student at the Senior Secondary Level and subsequently was trained at the School of Medical Sciences at the Kwame Nkrumah University of Science and Technology, Ghana as a Medical Laboratory Technologist with almost a decade experience in practice at the University of Ghana Hospital Laboratory. I had my Master of Philosophy degree in Microbiology at the Kwame Nkrumah University of Science and Technology. However, at a point in my career as a medical

laboratory technologist, I realized that my work was repetitive and not exciting anymore. I therefore took opportunity to enroll on MA/MPhil Adult Education Programme at the University of Ghana and completed successfully.

Also, I meritoriously completed the Commonwealth Executive Masters' in Business Administration in 2011 from the Kwame Nkrumah University of Science and Technology. Throughout my training I have been interested in statistical methods and the use of figures to understand things that are more abstract. I believe in getting meaning out of figures generated from objective analysis and making generalizations. I am quantitatively oriented and therefore, I sought to achieve objective reality through the use of questionnaire to generate data that are detached from my subjective influences. Henderson (2011) reported that being truthful is an independent part of a whole and that positivism identifies patterns in observations that gives credence to deductive rational cause and effect. In this study I sought to test hypotheses to establish causal relationships among the study variables.

Methodological choice

The methodological choice of this study is determined by the quantitative research philosophy and approach. As already indicated, the researcher took a positivist stance which is deductive in nature and therefore collected data using questionnaire while making inferences and conclusions based on the data. Malhotra and Birks (2006) asserts that the empirical nature of the positivist approach view both the social and the natural world in the cannon of fixed and single reality of endless chain of cause and effect relationships. The researcher focused on objectivity, rigour and reliable measurements of study constructs. The positivist paradigm is synonymous with the traditional,

experimental, scientific, objectivity and the quantitative approach. In this study, the researcher used mostly formalized and impersonal language. Again, questionnaires were used to collect data from the respondents to ensure that responses were not value-laden to achieve the desired objectivity as was intended by the researcher. Data analysis was done by using numerical coding on the SPSS to draw together useful descriptions and inferences about the relationship between students' engaging in educational purposeful activities and academic performance.

Research design

According to Denzin and Lincoln (2005), research strategy is aimed at converging the discussion of philosophy with the resulting choice of data collection and the respective analytical method. This indicates that, the research strategy ought to be dependent upon the nature of study. The nature of this study, therefore, was descriptive and explanatory.

The research was conducted using the quantitative approach that employed the cross-sectional survey. The researcher collected a one-time data in the field to describe and explain the relationship between student engagement and academic performance of students at the University of Professional Studies, Accra. The quantitative approach was adopted because the researcher sought to establish the relationship between variables of the study. Also, the researcher intended to base his findings on the data but not on his subjective experiences of the students who participated in the study.

Study settings

The main study was carried out at the University of Professional Studies, Accra while the pilot was conducted at the University of Ghana. The two universities were chosen because of their proximity to the researcher and also their similarities in terms of the characteristics of their programs of study, faculty and the students.

Profile of University of Professional Studies, Accra (Main study area)

The University of Professional Studies, Accra (UPSA) formerly known as Institute of Professional Studies (IPS) is a public university that provides both academic and professional higher education in Ghana. The university was founded in 1965 as a private institution and subsequently established as a tertiary institution with mandate to provide Business Professional Education in the academic disciplines of accounting and management by the University of Professional Studies Act, 1999 (Act 566). The University of Professional Studies Act, 2012 (Act 850) changed the name from Institute of Professional Studies to University of Professional Studies. The University of Professional Studies, Accra (UPSA) is nationally and internationally accredited by the National Accreditation Board (Ghana) and the Accreditation Council for Business Schools and Programs (ACBSP) respectively.

It currently has a student populace of about 14,000 comprising regular, evening and weekend professional certificate, undergraduate and postgraduate students. The organizational structure of the University comprises the University's Governing Council which is constituted by Government, the Academic Board, flowing down into other Statutory Committees including Deans of Schools/Faculties, Directors of Institutes and Heads of Departments. Senior Members, the

representation of Unionized Staff members and student representatives who also serve at various committee levels.

The mission is to strive to provide and promote quality higher education and training in management and other related disciplines by leveraging a structured mix of Scholarship with Professionalism in Ghana and beyond. The Academic functions of the University are centered on the following four Faculties: Faculty of Accounting and Finance, Faculty of Management Studies, Faculty of Information Technology and Communication Studies and Faculty of Law. The University offers tuition for the following Professional Programmes: Chartered Institute of Management Accountants (CIMA) UK, Institute of Chartered Accountants Ghana (ICAG), Association of Certified Chartered Accountants (ACCA) UK, Chartered Institute of Marketing (CIM) UK and Institute of Chartered Secretaries and Administrators (ICSA) UK.

The University also offers the following Undergraduate Degree Programmes: Bachelor of Science in Marketing, Bachelor of Business Administration, Bachelor of Science in Accounting, Bachelor of Science in Accounting and Finance, Bachelor of Science in Banking and Finance, Bachelor of Science in Information Technology Management, Bachelor of Arts in Public Relations Management, Bachelor of Science in Actuarial Science, Bachelor of Science in Business Economics, Bachelor of Science in Real Estate Management and Finance, 4-Year Bachelor of Laws (LLB) and 3-Year Post First Degree Bachelor of Laws (LLB).

UPSA also offers the following Diploma Programmes: Diploma in Marketing, Diploma in Accounting, Diploma in Management, Diploma in Public Relations Management and Diploma in Information Technology Management. The University also offers Masters' Degree Programmes in Auditing, Accounting and Finance, Marketing, Corporate Governance, Internal Auditing,

Petroleum Accounting and Finance, Total Quality Management (TQM), Master of Philosophy in Finance, Leadership and finally, a Master of Science in Leadership. Currently, the University has introduced a Doctorate Degree Programme in Marketing starting the 2018/2019 academic year. The University educates, develops, nurtures, cultivates, inspires and transforms individuals to equip them with knowledge and life skills to be effective in the competitive working business environment.

Profile of University of Ghana (Pilot study area)

The University of Ghana was established in 1948 by the British colony and it is the premier university in Ghana. The University of Ghana has an undergraduate capacity of about 34,000 students. In the 2014/2015 academic year, the University of Ghana grouped all the schools and departments into four colleges, namely, College of Basic and Applied Sciences, College of Humanities, College of Education, and the College of Health Sciences. Among the College of Humanities is the Faculty of Art which has the Business School as one of its schools.

In the year 1960, the University of Ghana Business School was founded by an Executive Instrument (E.I 127) as an affiliate of present-day Kwame Nkrumah University of Science and Technology. It used to be called School of Administration and later renamed in 2004 as the University of Ghana Business School with six academic departments, namely, the Department of Accounting, Department of Finance, Department of Marketing and Entrepreneurship, Department of Operations and Management Information Systems (OMIS), Department of Organisation and Human Resources Management (OHRM), and Department of Public Administration and Health Services Management.

Pilot testing

The researcher pre-tested the questionnaire on twenty – five (24) students of the Business School at the University of Ghana. Among these respondents were eight (8) level 200 students, eight (8) level 300 students and eight (8) level 400 students. The sample size for the pilot study represented five percent (5%) of the expected sample size (462) for the study. The use of the University of Ghana Business School was the fact that the Business School shares many similarities with the University of Professional Studies, Accra (UPSA) in terms of courses and characteristics of the students and faculty.

Ten (10) of the participants were males while the remaining fifteen (14) were females. The purpose of the pilot study was to check for the appropriateness of the individual items on the questionnaire, the duration it took for participants to complete a questionnaire and also estimate the reliability of the items that were adopted for the study. The researcher also checked for reliability of the instrument.

Findings from the pilot study revealed that nine (9) of the twenty-four (24) respondents reported missing data. This means that either one or more items on the questionnaire were not answered by the nine (9) respondents. This information helped the researcher to conduct missing value analysis to resolve the missing data in a scientific manner to avoid researchers' biases. The time required for a participant to complete a questionnaire was approximately thirty (30) minutes. The researcher conducted the reliability test using Cronbach's Alpha to check for the internal consistency of the items measuring the constructs of the study. The overall Cronbach's Alpha for the pilot instrument was 0.810.

Research instrument and measures

The source of the constructs that were used in the study has been provided in Table 3.1.

Table 3.1: Origins of constructs

Constructs	Adapted from
Academic Challenge (7 items)	National Survey of Students Engagements Scale (2017)
Learning with Peers (7 items)	National Survey of Students Engagements Scale (2017)
Experience with faculty (8 items)	National Survey of Students Engagements Scale (2017)
Campus environment (9 items)	National Survey of Students Engagements Scale (2017)
Student learning experience (12 items)	(Neves, 2016)
Student entrepreneurial activities (6 items)	Salamonson and Andrew (2006)
Community members' support (8 items)	Neves (2016);Virtanen, Lerkkanen, Poikkeus and Kuorelahti (2014)
Technology use (12 items)	(Rosen et al., 2013)
Teaching quality (16 items)	Ali, Zhou, Hussain, Nair and Ragavan (2016);Byrne and Flood (2003); Chakrabarty, Richardson, and Sen (2016)
Flow experience (9 items)	Csikszentmihalyi (1990); Rheinberg (2015)
Self-efficacy (6 items)	Bandura (1977); Usher and Pajares (2009)
Academic Performance (12 items)	Gordon, Williams, Hudson and Stewart (2010)
Self-reported GPA	UPSA undergraduate and postgraduate students' handbook (2017)

Pilot test questionnaire items

The researcher gave the respondents the opportunity to make amendments to any wording or phrase that they were not comfortable with or misunderstood. Afterwards, the recommendations were reviewed by the researcher and his team of the supervisors.

Questionnaire validation

The researcher's prior discussions with students concerning the questionnaire brought to light the confusion behind the questionnaires and also to ask questions. This feedback was essential in adjusting the questionnaires. Some of the students made inputs into some of the items so as to enhance understanding.

After the pilot study at the University of Ghana, the researcher made some amendments to the questionnaire before going out to the University of Professional Studies, Accra (UPSA) to collect the final data for the study. These included inserting University of Professional Studies, Accra (UPSA) to make the instrument relatable to the students at the University of Professional Studies, Accra (UPSA). Seven items were modified to make the language simpler. Four modifications on the student learning experience items were affirmed. These changes were from item 7: "the courses I am studying sharpened my analytical skills" to "the courses I am studying have sharpened my analytical skills; item 8: "the courses I am studying helped me to develop my ability to work as a team member" to the courses I am studying have helped me to develop my ability as a team member"; item 9: "the courses I am studying improved my skills in written communication" to "the courses I am studying have improved my skills in written communication" and item 10: "the courses I am studying developed my problem-solving skills" to "the courses I am studying have

developed my problem-solving skills". One item modification was effected on item 12 of the teaching quality construct from "my lecturers gave me helpful feedback on my performance in their classes" to "my lecturers gave me helpful feedback on my performance in their respective classes". Finally, items 3 and 10 on the academic performance construct were modified from "I passed my final WASSCE exams at first sitting" to "I have passed all my examinations at UPSA"; and from "I have the ability to achieve my goals while navigating around obstacles as the rise" to "I have the ability to achieve my goals regardless of the obstacles I face" respectively.

The researcher asked the students who participated in the pilot study to feel free to amend the wordings on the questionnaire to sentences that they would best understand in their own words. It is also imperative to report that the students did not have any difficulty understanding any of the items used in the questionnaire.

Target population

The boundary of this study was limited to students and the target population of the study constituted students of University of Professional Studies, Accra (UPSA). Students who had at least two semesters', experience in the school were the focus of the study. The population of the study was a heterogeneous one which comprised of students from the Faculty of Management Studies, Faculty of Communication Studies, Faculty of Law, and Faculty of Accounting and Finance. The University of Professional Studies, Accra (UPSA) Hostel houses about three thousand (3,000) students while most of the students were in private hostels around the school and its environs. Some of the students were off the vicinity coming from home while others rent their

own apartments. Majority of the morning session (regular) students were full - time learners. Most of the evening and weekend session students were either working full-time or part-time.

Determination of sample size

As Lenth (2001) indicated, the researcher adopted a sample that was good enough for efficient use of resources, and also avoided wasting precious time as in situations where sample was inadequate or too big. It is generally acceptable to consider at least 300 respondents as comfortable, 500 respondents as very good, while data with 1000 respondents and above are considered as excellent for studies that intend to make use of multiple regression and structural equation modeling (Tabachnick & Fidell, 2001; Garson, 2007; Malhotra & Birks, 2006; Hair et al., 2010).

The sample size determination was influenced by the study design, study objectives, type of sampling and the type of statistical analysis. For example, Israel (1992) recommended that, a population size of 10,000 or 15,000, requires a minimum sample size of 385 or 390 respondents respectively and this represented 3.85% and 2.6% of the respective populations. Maholtra and Birks (2006) indicated that availability of the sampling frame and the type of analyses that the researcher intends to perform can significantly affect the sample size of the study.

Using Scheaffer, Mendenhall and Ott's (1986) formula for computing a representative sample size resulted in 281 respondents while using Yamane's (1967) formula gave rise to 385 respondents.

Following Cochran's (1963) computation to represent large populations which is given as:

$$n_0 = \frac{Z^2 pq}{e^2}$$

n_0 represents the sample size, Z^2 represents the abscissa of the normal curve which is measured at 1.96, e is the desired level of precision or sampling error, p is the estimated proportion of an attribute which is assumed to be 0.5 and q is 1- p. This yielded 385subjects as follows.

$$n_0 = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2}$$

$$n_0 = 385$$

Centered on the output of Cochran (1963), the researcher added 20% margin to resolve issues with sampling attrition to make the expected sample size to 462 respondents. In view of the above assertions, the researcher equated the sampling size to 462 respondents and computed the various strata population by simple proportion to give a true representation of the population. The expected sample size constituted 6.3% of the target population. Consequently, in each population stratum, a proportion of 6.3% was sampled and this constituted the expected sample size of the study. Therefore, the researcher printed and administered 462 questionnaires to collect information from the strata as indicated in the sampling frame in Table 3.2.

Table 3.2: Sampling frame of Students at Students at University of Professional Studies at Level 200, Level 300 and Level 400

FACULTY	PROGRAMME OF STUDY	2ND YEAR		3RD YEAR		4TH YEAR		TOTAL	
		Population Strata	Sample Proportion	Pop. Strata	Sample Prop.	Pop. Strata	Sample Prop.	Pop. Strata	Sample Prop.
MGT STUDIES	Business Admin	854	54	717	45	820	51	2391	150
	Marketing	259	16	260	16	229	15	748	47
COM STUDIES AND LAW	Public Relations	250	15	126	8	40	3	416	26
	IT	206	13	120	8	84	5	410	26
	Law	74	5	131	8	72	4	277	17
ACCT AND FIN	Accounting	842	53	727	45	742	47	2311	145
	Banking and Finance	248	16	265	17	291	18	804	51
	TOTAL	2733	172	2346	147	2278	143	7357	462

Source: Academic Affairs, University of Professional Studies, Accra (2018); MGT STUDIES: Faculty of Management Studies; COM STUDIES AND LAW: Faculty of Communication Studies and Faculty of Law; ACCT AND FIN: Faculty of Accounting and Finance; Pop. Strata: Population Strata; Sample Prop.: Sample Proportion

Sampling frame and sampling techniques

In this study the target population consisted all level 200, 300 and 400 undergraduate degree students at University of Professional Studies, Accra (UPSA). This is because these categories of students may have experienced at least two semesters or one academic calendar year and therefore were in a good position to provide the relevant information on the extent to which students were engaged at the University of Professional Studies, Accra (UPSA). The sampling frame was made up of 7,357 students.

Although, the researcher distributed 462 questionnaires based on the sample representation, but in the end, 449 questionnaires were retrieved from the respondents and this was justifiably deemed sufficient for analysis and also very adequate to make inferences and subsequent generalizations. From the expected responses from 462 students, 449 questionnaires returned by the respondents represented 97.2% response rate and this was adequately enough to detect small practical differences between groups as reported by Shah (2011) and also established in Table 3.3.

Table 3.3: Response rate of Level 200, Level 300 and Level 400 Students that participated in the study

FACULTY	PROGRAMME OF STUDY	2ND YEAR		3RD YEAR		4TH YEAR		TOTAL	
		Expected sample	Actual sample	Expected sample	Actual sample	Expected sample	Actual sample	Expected sample	Actual sample
MGT STUDIES	Business Admin	54	53	45	44	51	50	150	147
	Marketing	16	16	16	16	15	14	47	46
COM STUDIES & LAW	Public Relations	15	15	8	8	3	3	26	26
	IT	13	13	8	7	5	5	26	25
	Law	5	4	8	6	4	3	17	13
ACCT AND FIN	Accounting	53	52	45	45	47	45	145	142
	Banking and Finance	16	15	17	17	18	18	51	50
	TOTAL	172	168	147	143	143	138	462	449

Source: Field data (2018); MGT STUDIES: Faculty of Management Studies; COM STUDIES & LAW: Faculty of Communication Studies and Faculty of Law; ACCT AND FIN: Faculty of Accounting and Finance

The researcher used the stratified sampling technique to ensure that the sub-groups within the population were duly represented in the same proportion in the sample used for the study. The researcher sampled the students using the balloting system. The researcher requested for the list of students who were in level 200, 300 and 400 from the academic unit, of which, a soft copy was given on a pen drive. This saved the researcher cost, as the soft copy could readily be assessed on the computer and the smartphone using the Microsoft Excel software and Office 360 for androids respectively without printing hardcopies of the class lists. For a particular class, the researcher assigned chronological numbers to all the students on the list. The first person to the last person on the list of each class were included in the balloting, where the researcher drew numbers in a lottery format in a proportional representation to the sampling frame. Each person on the list had equal chance of participating in the study. The lucky random numbers that were drawn were highlighted on the Microsoft Excel sheet and they became the target respondents for the research. The balloting process helped the researcher to eliminate the tendency of being bias in the sampling of the respondents for the study.

Data collection strategy

The questionnaires were given to the various class representatives to be given to the students based on the names that were highlighted on the class list as a result of the balloting. Those students whose names were not highlighted because their assigned numbers were not picked during the balloting were not given the questionnaires to answer. The research assistants followed up on students whose numbers were picked during the balloting and their names highlighted but were not present in class at the time the questionnaires were being distributed. This means that questionnaires were given out to only the targeted respondents based on their availability in class

and this resulted in prolonged data collection period. Subsequently, the respondents were allowed ample time (approximately three days to a week) to complete and return the questionnaires to their class representatives or the research assistants on that schedule or the researcher. The questionnaires were recovered from the respondents through personal contact and then sorted out for data analysis. Since, the name of the students were mentioned and already with the researcher before giving them the questionnaires, it was easy for the research assistants to follow up on them.

These were consistent with Saunders, Lewis and Thornhill (2006) who reported that there is high response rate of questionnaires with recorded delivery compared to the stamped envelope return strategy. The drop and collect method became far cheaper and economical than if the researcher had decided to send the questionnaires by electron mails (emails) or through the postal services of the respondents. Surprisingly, none of the students whose numbers were picked during the balloting and their names highlighted on the various class lists in the Microsoft Excel sheet declined to participate in the study.

Mode of questionnaire administration

After pre-testing, the questionnaires were administered to the target respondents by the researcher and two other research assistants for a period of four (4) weeks. The researcher and the research assistants worked closely with the class representatives of the various classes at the University of Professional Studies, Accra during the data collection period. In the first week, one hundred and twenty-two (122) questionnaires were collected. Then one hundred and eighty-nine (189) in the second week. In the third week, ninety-seven (97) were returned by the respondents while forty-one (41) more were retrieved in the fourth week. Finally, the researcher had four hundred and

forty-nine (449) questionnaires returned by the respondents which was appropriate for data analysis. The researcher developed the SPSS template for data analysis and coded the questionnaires as they were being received from the respondents into the software. This implied that researcher conducted data processing and organization concurrently with data collection. By the end of the fourth (4) week, thirteen (13) respondents did not return their questionnaires. The researcher also did not follow up on the thirteen (13) respondents in order to reduce maturation which would have been a threat to the internal validity of the study.

Ethical considerations

The researcher applied for ethical clearance from the Ethics Committee for Humanities of the University of Ghana (ECH 162/17-18). Approval was given before the researcher commenced the pilot testing and subsequent data gathering for the study (see Appendix G). Before that, the researcher was given permission by the Research Director of the University of Professional Studies, Accra to conduct the study at the school (see Appendix H). Again, the researcher through his supervisors applied for permission to use the National Survey of Student Engagement Instrument (NSSE, 2017) from the Indiana University Center for Postsecondary Research. The Item Usage Agreement was signed by both parties which signified that the researcher was given explicit permission to use the items on the National Survey of Student Engagement Instrument (see Appendix I). As part of the process, the researcher ensured that the information provided by the respondents were protected and would only be used for academic purposes alone.

The researcher used numbers starting from one to four hundred and sixty-two (462) to identify the participants which served as a guaranteed for the anonymity of the respondents. Again, the purpose

of the study was well explained to the respondents and those who agreed to voluntarily participate in the study were made to sign two copies of the consent form of which they kept one and gave the other one to the researcher (see Appendix B). As a sign of appreciation, each respondent was given one pen attached to each of the questionnaire and the researcher allowed all the participants to keep the pens they used to fill their questionnaires. This was in line with Saunders et al. (2007) who opined that researchers are likely to have high response rate when they send questionnaires with incentives to their respondents than giving the respondents the incentives upon returning their questionnaires.

Inclusion and exclusion criteria

Undergraduate students at the University of Professional Studies, Accra who voluntarily signed the informed consent form and decided to participate on their own accord were considered for the study. Students who objected to signing the informed consent form and those that were not willing to participate in the study at any point in time were excluded from participating. Again, all postgraduate, all diploma and all Level 100 students were excluded from participating in the study. The researcher was interested in the responses from undergraduate students who had spent at least one academic year (two semesters) in the school.

Validity and elimination of threat to internal validity

(Babbie, 2007) explained validity as the process of arriving at results that accurately and adequately reflect the concept under investigation. In this study, the researcher achieved validity by ensuring that the measurement of the constructs were appropriate indicators that presented the

correct meaning of the concepts under investigation. For example, student engagement was measured as a composite of students' academic challenges, student-faculty interactions, students' learning experiences, supportive campus environment and lecturers' feedback to students. These constructs adequately expressed that the meaning of students engaging in academic purposeful activities at school.

The researcher achieved criterion-related validity adopting the items that were used in the questionnaire from known scales from literature sources. For example, the researcher applied and was given permission to the National Survey of Student Engagement Instrument (NSSE, 2017) from the Indiana University Center for Postsecondary Research. This was done to also achieve predictive validity for the constructs used in the study. The researcher logically related the variables to show the relationship between student engagement and academic performance. This was evidenced in the conceptual framework developed by the researcher for the present study.

Since this study was carried out through the lenses of a positivist researcher's perspective, content validity was achieved through establishing convergent and discriminant validity for all the study variables. The researcher used the Average Variance Extracted (AVE) as indicated by Fornell and Larcker (1981) to ensure that the items measuring a variable had factor loadings of 0.5 or above. This implied that the items adequately measured a construct as it was intended. While discriminant validity was also achieved by ensuring that the items measuring a construct had composite reliability of 0.7 or above as also recommended by Fornell and Lacker (1981). This means that the items measuring a particular construct did not measure any other constructs again. The researcher ensured that no item cross-loaded during the factor analysis extraction stage as recommended by Awang (2012). Again, the researcher used Cronbach's Alpha to test for the internal consistency of the items measured in the respective constructs used in the study.

As Babbie (2007) revealed, the validity of a study is sometimes compromised by history, maturation, testing, instrumentation, regression, mortality, and selection threats. The researcher adopted the following mechanisms in order to eliminate these threats of validity that could affect the study. The researcher used standardized questionnaire and also trained the research assistants to allow the respondents to participate voluntarily and not to exert force on the respondents to be in hurry to fill up the questionnaire. This was done to eliminate the threat to validity due to history and instrumentation. Also, the researcher obtained detailed information about the sample frame and gave all the respondents equal opportunity to participate in the study through random sampling by using the balloting system to eliminate selection bias and regression threats. The researcher reduced the threat of validity due to maturation by collecting the data within a short period (4 weeks) to prevent spillover of information among the respondents. Also, the pilot study was conducted at the University of Ghana while the data for the study was collected at the University of Professional Studies, Accra (UPSA) in order to eliminate the threat of validity due to testing. The researcher added twenty percent (20%) to the minimum sample size as indicated by Cochran (1963) to compensate for attrition to reduce the threat to validity due to mortality. The researcher's presence and the authority of the class representatives may have subtly influenced the students to comply in returning the questionnaires. Although, it may be a limitation, it helped the researcher to achieve a high response rate for the study.

Reliability of the study instrument

The reliability of the study instrument was presented in two components. The first component consisted of the student engagement sub – variables, i.e., learning environment, campus environment, experience with faculty, academic challenge, lecturer feedback and learning with

peers. The second batch of the reliability results was for all the observed variables that the researcher considered for the study. These variables were teaching quality, efficacy, flow, academic performance, family support, peer support, technology use and student entrepreneurial activity. Tables 3.4 and 3.5 show the reliability results of the study variables as early on indicated.

Reliability of research instrument

The reliability of the research instrument was determined using the Cronbach's Alpha estimation. The Cronbach's Alpha results for the student engagement sub - variables are presented in Table 3.4. While, that of the other study variables are also summarized in Table 3.5.

Table 3.1: Construct reliability for student engagement sub-variables

Variable	Cronbach's Alpha	N of Items
Learning Experience	.885	6
Campus Environment	.804	4
Experience with Faculty	.789	6
Academic Challenge	.800	4
Lecturers Feedback	.844	5
Learning with peers	.871	5

Source: Field data, 2018.

The construct reliability for the student engagement sub-variables in Table 3.5 showed Cronbach's alpha of more than 0.70 (Hair, Anderson, Babin, & Black, 2010; Nunally, 1978). Therefore, the researcher concluded that there was internal consistency among the items of the student engagement sub-variables that were to be used in the study.

Table 3.2: Construct reliability statistics for observed variables

Variable	Cronbach's Alpha	N of Items
Teaching quality	.823	7
Efficacy	.867	5
Family support	.877	4
Peers support	.878	4
Flow	.848	5
Student entrepreneurial activity	.816	4
Technology use	.754	5
Academic performance	.814	5

The Cronbach alpha for all the observed variables were all above 0.70 which was considered the minimum value for determining the reliability of a construct (Hair et al., 2010; Nunally, 1978). This meant that the instrument was reliable to conduct the study.

Data analysis

The analysis of the data collected for this study was done with the help of IBM Statistical Package for Social Sciences (SPSS) version 23, Microsoft Excel, SPSS Process and Edraw Max 9.3 software. The researcher employed both descriptive and inferential statistics in analyzing the data. Descriptive statistics such as frequency distribution for personal data; means, standard deviations, kurtosis and skewness were used to describe the characteristics of the response items and constructs that were used in the study.

Inferential statistics that were used included the Chi-square analysis, Pearson's Product Moment Correlation Coefficient, Linear Multiple Regression, and One-Way Analysis of Variance (ANOVA) to analyze the hypotheses of the study. The test for statistical significance was accepted

at 95% confidence interval ($p < .05$) for the study. Information on teaching quality, technology use, flow, students' engagement, efficacy, and academic performance were analysed using the structural equation modeling on SPSS Amos version 23. Meanwhile, the researcher used the SPSS Process Macro (Hayes, 2013), to test the moderation analyses in the study. The Edraw Max 9.3 software was used by the researcher to construct the conceptual framework for the study.

Data Screening

After collecting the instrument from the study respondents, the data was coded and keyed into Microsoft excel and imported into the SPSS version 23. Thereafter, the data was screened carefully to examine several characteristics in terms of missing values, presence of outliers and normality to test for assumptions before the researcher proceeded to perform parametric analysis as recommended by Pallant (2013).

Addressing missing data

Missing data in quantitative research studies are the most integral part of every research study and that no research is immune to this problem (Baraldi & Enders, 2010). Previous studies have enumerated missing completely at random (MCAR), missing at random (MAR) or missing not at random (MNAR) as the causes of missing data (Baraldi & Enders, 2010; Ho, 2013; George & Mallery, 2016, Little and Rubin, 1989). Some authors have suggested that the best strategy to overcome missing data in research is to tightly control the data collection procedure so as to avoid non-response among the target population (Hansen & Hurwitz, 1946; Watkins, 2018).

Unfortunately, this method is not always feasible as it raises ethical issues as espoused by Babbie (2007) who suggested voluntary participation by respondents.

In rigorous parametric analyses of study responses, listwise and pairwise deletion of data with missing responses are not suitable as the results can be misleading due to reduced biased estimates (Ho, 2013; George & Mallery, 2016). Additionally, Baraldi and Enders (2010), Ho (2013), George and Mallery (2016), Watkins (2018) reported alternative techniques such as estimate means, regression, expectation maximization, maximum likelihood (ML) and multiple imputation (MI) methods. Schumacher (2015) opined that any of the methods is suitable when missing data is less than 5%, mean imputation is appropriate when missing data is less than 10%, regression imputation can be used by the researcher when missing data is less than 15% of the responses.

Meanwhile, Doyle and Elgie (2014) stated that whenever the researcher is interested in performing Principal Component Analysis (PCA) using the Maximum-Likelihood estimation, the Expectation-Maximization (EM) algorithm is recommended. They indicated that the EM algorithm is alternative to the multiple imputation (MI) method. Similarly, Zainuri and Muda (2015) also indicated that the EM algorithm is a general technique for appraising maximum-likelihood estimates from missing data set.

Missing Completely at Random (MCAR) Test

This is a test the researcher performed before doing anything with the missing values in the data. The problem is that the researcher cannot ignore the missing value with the intention to do proper analysis. The first step to deal with the missing values was to test the hypothesis to ascertain if the

missingness is random or not random before proceeding to perform further analysis. Study results from the SPSS Missing Value Analysis (MVA) indicated that 1.8% of the data were missing. This means that 196 (43.65%) participants out of 449 students that participated in the study has one or more missing values in the responses on their questionnaire (see Appendix F).

Study results of computed missing value analysis showed that Little's (1988) test of Missing Completely at Random (MCAR) was significant (χ^2 = 16739.157, df= 15174, p = .000). A non-significant test result provided evidence that the missing data are MCAR whereas a significant tests result indicated that the data are either Missing at Random (MAR) or Missing Not at Random (MNAR). Therefore, that data was not Missing Completely at Random (MCAR).

Technique for handling missing data

On the issue of resolving the missing values, the researcher adopted the expectation-maximization (EM) algorithm on the SPSS version 23 for the study. This was because the results of the EM algorithm do not negatively influence the statistical power of the data set as they produced valid inferential statistics that truly reflected the uncertainty caused by the missing values in an unbiased manner.

Descriptive statistics for study variables.

In this study, it became necessary to conduct normality test for the samples to ensure that they met the assumption of normal distribution before conducting parametric analysis with the data. As indicated by Kim (2013), there is no gold standard for establishing the normality of a data even though several authorities have cited different statistical methods which include the Shapiro-Wilk

test and Kolmogorok-Smirnov test which unfortunately may be unreliable with large samples (< 300). Skewness and Kurtosis was used for testing the normality of the distribution of the data samples as indicated by Curran, West and Finch (1996) and Kim (2013).

Curran et al. (1996), Pallant (2013) and Kim (2013) recommended absolute skew value of ±2 as the reference for normality of a data distribution. For kurtosis, a data distribution would be seen to have been departed from normality when the absolute kurtosis (proper) value is greater than 7 (Kim, 2013; Curran et al., 1996). Barde and Barde (2012) reported that the sample mean is the average or the center of distribution of observation while the standard deviation provides understanding of the dispersion of the individual observation around the mean.

Justification for conducting Factor Analyses

Exploratory Factor Analysis (EFA) was a technique the researcher used for identifying the underlying factor structure of variables according to the responses of participants while Confirmatory Factor Analysis (CFA) was a statistical technique used to verify the hypothesis that a relationship existed between observed variables and their latent constructs. Hence, EFA determined the factor model and CFA verified a model that is backed by theory or previous research. There are two factor extraction methods under Exploratory Factor Analysis. They are Principal Component Analysis (PCA) and Principal Axis Factoring (PAF). These methods are based on two factor models of Exploratory Factor Analysis which are component model and common factor model respectively. The Principal Component Analysis which is a component model-based extraction method assumed measurement without error (Awang, 2012). On the other hand, the Principal Axis Factoring which was based on the common factor model, accounted for

measurement error (Yong & Pearce, 2013). The researcher used the Principal Component Analysis (PCA) to determine the sets of items that adequately and precisely measured the constructs studied.

Chapter summary

This chapter provided a review of the research methodology adopted in pursuit of the present study. The chapter provided a detailed explanation of the beginning of the research process with the philosophical position of the researcher and how the pilot study was conducted. Ethical clearance was secured from the Ethics Committee for Humanities of the University of Ghana. The pilot study was conducted at the Business School of the University of Ghana. While the main study was carried out at the University of Professional Studies, Accra. The researcher used the stratified random sampling and the proportional techniques to select respondents from level 200, 300 and 400. The data was coded into the SPSS version 23 for final analysis. The researcher also used Microsoft Excel, SPSS Process and Edraw Max 9.3 software for analyzing and presenting the study results in chapter four.

CHAPTER FOUR

PRESENTATION OF RESULTS

Introduction

This chapter presents the analyzed results of the study. The initial part of this chapter dealt with descriptive statistics followed by the Principal Component Analysis (PCA) used to extract items that best explained all the variables. The chi-square analysis, Pearson's Product Moment Correlation, Linear Multiple Regression, and One-Way Analysis of Variance (ANOVA) were used to analyze the hypotheses of the study.

In situations where the omnibus ANOVA was significant, further post hoc analyses were conducted using the Tukey HSD to determine where the differences existed among the students. Finally, the results of the Structural Equation Modelling (SEM) using Confirmatory Factor Analysis (CFA) was also analyzed to answer the hypotheses of the study with regards to the conceptual model. This chapter ended with the summary of major findings from the data.

Demographic characteristics of study respondents

The demographic characteristics of the study respondents give basic understanding of the attributes of the students that participated in the study. These attributes included faculty, gender, age, level and session of the students (Table 4.1).

Table 4.1: Demographic characteristics of study respondents (N =449).

Variables	f (%)	Skewness Statistic	Standard Error	Kurtosis Statistic	Standard Error
Faculty		0.116	0.115	-1.847	0.23
Management Studies	204 (46.5%)				
Communication Studies	57 (12.7%)				
Accounting and Finance	189 (40.8%)				
Gender		0.249	0.115	-1.507	0.23
Male	219 (48.8%)				
Female	230 (51.2%)				
Age		0.423	0.115	1.714	0.23
Below 20 years	90 (20%)				
20 – 25 years	315 (70.2%)				
26 years and above	44 (9.8%)				
Mean age: 21.3 years ± 2.9					
Level		0.149	0.115	-1.497	0.23
200	170 (37.9%)				
300	145 (32.3%)				
400	134 (29.8%)				
Session		1.955	0.115	2.707	0.23
Morning	353 (78.6%)				
Evening	68 (15.2%)				
Weekend	28 (6.2%)				

Source: Field Data (2018).

The total number of respondents were 449. Of this number, 204 (46.5%) belonged to the Faculty of Management Studies with (12.7%) from the Faculty of Communication Studies and Law, and the remaining (40.8%) were from the Faculty of Accounting and Finance.

The majority of the respondents were females representing 51.2% of students with the remaining 48.8% being males. The majority of the students were within the ages of 20 to 25 years with the mean age of the respondents being 21.3 years. This implied that majority of the respondents were in their youthful ages. Also, majority of the respondents were from the morning session studying full-time.

Academic challenges of students

Academic challenge refers to the nature and amount of assigned academic work, complexity of cognitive tasks and the standards for evaluation used by faculty members. It is characterized by the time spent preparing for class by studying, reading, writing or rehearsing, and working harder than expected to meet academic requirements. Therefore, the academic challenge construct sought to gather data on the academic engagement activities among the students. This is summarized in the table 4.2.

Table 4.2: Mean distribution of Academic challenge items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
AC1	Students spend significant amounts of time studying and doing academic work.	4.047	1.009	-1.247	.115	1.447	.230
AC2	Students spend significant amount of time preparing for class (studying, reading, writing, doing homework and other academic activities).	3.869	0.965	-.857	.115	.728	.230
AC3	Students combined ideas from different courses when completing assignments.	3.735	1.024	-.655	.115	.030	.230
AC4	Students are assigned a number of textbooks, books or book-length packs of course readings.	3.604	1.073	-.587	.115	-.278	.230
AC5	Students write a number of written papers, assignments, and reports of 4 pages or more.	3.541	1.079	-.391	.115	-.409	.230
AC6	Students harder than expected to meet instructors' standards or expectations.	3.842	0.894	-.551	.115	.087	.230
AC7	Students apply theories to practical problems.	3.951	0.978	-.993	.115	.846	.230

Source: Field data, 2018.

Mean ratings for academic challenge (Mean = 3.861, SD = .665) items were high, with all the means above 3.0. Meanwhile, students were found spending significant amount of time doing their academic work (4.047), was rated as the highest contributor to the academic challenge variable. This was followed by "Students applying concepts to practical problems" (3.957) while "Students writing four pages or more of assignments within a semester" (3.541) was rated the least. Students spending significant amount of time doing their academic work, working harder than expected and

applying theories to practice reported more homogeneity in their responses as the standard deviations were within ± 1 range. Skewness and kurtosis values for the academic challenge items were all within the ranges indicated by Curran et al. (1996); Pallant (2013) and Kim (2013). However, all the items were found to be negatively skewed.

Learning with peers

Learning with peers implies situation where students work together in small groups to perform projects, do class assignments, share ideas with other students and in some situations teach their colleagues. By involving highly in these activities, students tend to be engaged. Table 4.3 reveals how this was done.

Table 4.3: Mean distribution of Learning with peers items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
LP1	Students work with their colleagues on projects during class.	3.733	1.228	-.866	.115	-.079	.230
LP2	Students work with their classmates outside of class to prepare class assignments.	3.668	1.056	-.734	.115	.084	.230
LP3	Students ask questions in class or contribute to class discussions.	3.693	1.030	-.636	.115	.125	.230
LP4	Students lead class or group presentations.	3.510	1.073	-.352	.115	-.543	.230
LP5	Students teach their classmates.	3.402	1.120	-.706	.115	1.543	.230
LP6	Students have discussions with other students with different views.	3.849	1.046	-.847	.115	.302	.230
LP7	Students discuss ideas from readings with other students.	3.666	1.058	-.674	.115	-.017	.230

Source: Field data, 2018.

Mean scores for learning with peers has (Mean = 3.624, SD = .770). However, individual items varied. For example, “Students having discussions with other students” (3.849) was evaluated as the most important item by the respondents. This was followed by “Students working with their colleagues on projects” (3.733) while “Students teaching their classmates” (3.402) was rated by the respondents as the least contributor to the learning with peer’s variable. In terms of the homogeneity in the responses, “Students asking questions in class” (SD=1.030) reported more consistent responses from the students. Results of skewness and kurtosis indicated that the data

gathered for the learning with peers items were normally distributed as they were within the ranges of ± 2 and ± 7 respectively (Curran et al., 1996; Pallant, 2013; Kim, 2013).

Experience with faculty

Experience with faculty emphasizes on the quality of interaction between students and faculty members. The national survey for student engagement stresses on the fact that teachers should serve as mentors, role models and a life – long guide in shaping the behavior of students. These interactions include but not limited to faculty working on projects with students, discussing grades and using relevant examples to explain difficult concepts to enhance students understanding. The results of students' experiences with faculty have been provided in Table 4.4.

Table 4.4: Mean distribution of Experience with faculty items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
EF1	Students work on research projects with lecturers.	2.989	1.174	.010	.115	-.801	.230
EF2	Students discuss grades or assignments with their lecturers.	2.728	1.129	.259	.115	-.694	.230
EF3	Students discuss ideas from their classes with their lecturers outside class.	2.777	1.178	.160	.115	-.810	.230
EF4	Students work with faculty members on activities other than coursework.	2.739	1.256	.162	.115	-1.059	.230
EF5	Lecturers use examples and illustrations to explain difficult points.	3.955	0.953	-.967	.115	.926	.230
EF6	Lecturers give prompt written or oral feedback to students on their academic performance.	3.503	1.052	-.494	.115	-.219	.230
EF7	Students are comfortable interacting with female lecturers.	3.561	1.051	-.476	.115	-.159	.230
EF8	Students are comfortable interacting with male lecturers.	3.670	0.965	-.542	.115	.136	.230

Source: Field data, 2018.

For the students' experience with faculty, a general overall mean of 3.293 and standard deviation of .670 was established that more engagement were found with "lecturers using examples to explain difficult points to students", while "students were comfortable interacting with lectures", and "lecturers give prompt feedback on students on academic work" as vital to the students' experience with faculty. However, students discussing assignments, ideas and working on projects with their lecturers moderately contributed in their experience with faculty.

"Lecturers using examples and illustrations to explain difficult points" (SD=0.953) had the most homogenous responses and the greatest level of engagement.

Campus environment construct

The environment in which the student learn on campus may influence his or her engagement to a higher level if it is conducive to teaching and learning. Campus environment indicates that students are supported by their institutions and that students learn more when they are actively engaged in their environment. The presence of student support services such as school clinic, counseling unit, well equipped library, and a healthy relationship between students and staff of the institution goes a long way to support student learning. The responses from the students were found in Table 4.5.

Table 4.5: Mean distribution of Campus environment items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CE1	The school provides students with the support they need to help them succeed academically.	3.744	1.039	-.672	.115	.103	.230
CE2	There are good interactions between staff and students.	3.445	1.045	-.462	.115	-.192	.230
CE3	The school support students' overall wellbeing (recreation, healthcare, and counseling).	3.419	1.085	-.448	.115	-.262	.230
CE4	The school helps students cope with non-academic responsibilities (work, family, etc.)	2.931	1.181	.069	.115	-.816	.230
CE5	Students have good relationship with administrative personnel.	2.929	1.077	.035	.115	-.506	.230
CE6	Students have good relationship with faculty members.	3.036	1.105	-.011	.115	-.631	.230
CE7	Students have good relationship with other students.	3.906	0.947	-.936	.115	.890	.230
CE8	The school provides students with the best library facility.	4.027	1.017	-1.076	.115	.857	.230
CE9	The school cares for the physically challenged persons on campus.	3.546	1.034	-.475	.115	-.030	.230

Source: Field data, 2018.

Table 4.5 indicates respondents' responses to campus environment (Mean = 3.385, SD = .864) items were somewhat moderate. The mean ratings showed that, the school provides students with the best library facility (4.027). Other high-ranking campus environment factors include students having good relationships on campus as well as the school providing students with support, and good interactions between staff and students. The respondents agreed that the school cares for physically challenged persons on campus. However, the relationship between students and

administrative personnel were not so encouraging within the campus environment. Responses from the respondents on the campus environment items showed that they were homogenous. Meanwhile, according to the data, the school somewhat helps the students to cope with non – academic responsibilities. Responses for the school helping students to cope with non-academic responsibilities and students having good relationship administrative personnel were positively skewed. Skewness and kurtosis results for all the campus environment items indicated that the normality test result was not violated, which meant that the data for the campus environment was normally distributed.

Learning experience

Learning experiences of the students encompasses the opportunities that are available to the students both within and outside the lecture rooms. These opportunities include internship experiences, extra curriculum activities, and the students' abilities to critically think and practically reasoned to solve unfamiliar problems as a result of the academic courses there were studying. This is evidenced in Table 4.6.

Table 4.6: Mean distribution of Learning experience items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
LE1	Lecturers put lots of time into commenting on students' work.	3.076	1.071	-.064	.115	-.408	.230
LE2	Lecturers give students helpful feedback.	3.227	1.003	-.161	.115	-.386	.230
LE3	Lecturers motivate students to do their best work.	3.552	0.958	-.349	.115	-.290	.230
LE4	Lecturers are extremely good at explaining things to students.	3.693	0.903	-.359	.115	-.031	.230
LE5	Lecturers work hard to make their courses interesting.	3.717	0.917	-.473	.115	-.003	.230
LE6	Lecturers make real efforts to understand students' difficulties in their courses.	3.483	0.961	-.338	.115	-.083	.230
LE7	Internship sharpened students' analytical skills.	3.802	0.898	-.565	.115	.249	.230
LE8	Internship helped students to develop their abilities to work as team members.	3.853	0.931	-.887	.115	.821	.230
LE9	Courses improve students' skills in written communication.	3.864	0.910	-.818	.115	.814	.230
LE10	Courses develop students' problem-solving skills.	3.898	0.839	-.762	.115	1.044	.230
LE11	Students feel confident about tackling unfamiliar problems as a result of the courses they are studying.	3.855	0.886	-.642	.115	.452	.230
LE12	Courses help students to develop the ability to plan their own work.	3.902	0.913	-.829	.115	.901	.230

Source: Field data, 2018.

In the case of learning experience, the overall statistic shows (Mean = 3.862, SD = .715). The highest component was students ability to plan their work (3.902), develop problem- solving skills (3.898), improve upon their communication skills (3.864), internships opportunities providing

students with the ability to work with other team members (3.853) and having confidence to tackle unfamiliar tasks (3.855) contributed more to the learning experiences of the students. However, the data suggested that the presence of the lecturers did not contribute much to the learning experiences of the students; in the sense that, efforts of the lecturers to help students understand their academic work (3.483), give helpful feedback (3.227) and provide comments on students assignments (3.076) were rated as among the least of items that enhance students learning experiences.

Teaching quality

Students rate the performance of their lecturers to help diagnose non-effective teaching among faculty. In some instances, students assessing the effectiveness of lecturers have been used in hiring, firing, retaining, confirming, promoting and aligning lecturers to appropriate courses for them to teach. When lecturers are confident in the courses they handle while giving the students assignments and marking and giving the students feedback and treating the student with respect, the students become engaged and tend to perform well. In order to establish this, the study sought to find out the quality of teaching at the school. This is demonstrated in Table 4.7.

Table 4.7: Mean distribution of Teaching quality items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
TQ1	Lecturers engage students to actively learn.	3.706	.9650	-.730	.115	.643	.230
TQ2	Lecturers are good at explaining their course contents.	3.880	.8731	-.654	.115	.565	.230
TQ3	Lecturers are well organized.	3.880	.9180	-.820	.115	.762	.230
TQ4	Lecturers communicated their course areas with enthusiasm.	3.842	.9280	-.674	.115	.296	.230
TQ5	Lecturers treat me with respect.	3.759	.8292	-.517	.115	.555	.230
TQ6	Lecturers treat other students with respect.	3.780	.8904	-.544	.115	.353	.230
TQ7	Lecturers are available to discuss problems and questions relating to assignments and examinations.	3.728	.9412	-.612	.115	.349	.230
TQ8	Lecturers know their courses very well.	3.940	.8704	-.720	.115	.507	.230
TQ9	Courses were intellectually stimulating.	3.878	.8375	-.659	.115	.860	.230
TQ10	Lecturer comment on students' work in ways that help them to learn.	3.688	.9358	-.540	.115	.144	.230
TQ11	Lecturers motivate students to learn.	3.806	.9187	-.804	.115	.821	.230
TQ12	Lecturers give students helpful feedback on how they are doing in their courses.	3.604	1.0726	-.521	.115	-.262	.230
TQ13	Lecturers clearly explain what is required of students in their assessment items.	3.733	.9519	-.769	.115	.632	.230
TQ14	Lecturers show interest in students' academic needs.	3.561	.9666	-.338	.115	-.206	.230
TQ15	Lecturers seem helpful and approachable.	3.637	.9304	-.554	.115	.274	.230
TQ16	Lecturers set assessment tasks that challenge students to learn.	3.860	.8966	-.691	.115	.542	.230

Source: Field data, 2018.

The respondents acknowledged that their lecturers knew their courses well (3.940) as the most important item on the quality of teaching. To them, their "Lecturers were good at explaining their course content" (3.880) and "Lecturers were well organized" (3.880). Also, responses from the respondents did not vary much from each other, however, lecturers giving helpful feed back to the students reported the widest variation in responses from the respondents. The findings showed that responses for all the items were negatively skewed.

Flow experience

Flow is a state in which the student feels competent enough to face the academic demands of his/ her courses. In the flow state, students seem to have strong sense of focus on the academic work such that they keep enjoying every single experience without complaining or being frustrated about the difficulty of the task. The flow experiences of the respondents are summarized in Table 4.8.

Table 4.8: Mean distribution of Flow experience items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
FLW1	Students feel competent enough to meet the high academic demands of the semester.	3.955	.986	-1.049	.115	1.131	.230
FLW2	For this semester students' thoughts and actions run smoothly.	3.813	.819	-.304	.115	-.278	.230
FLW3	For this semester students have a strong sense of what they want to do.	3.951	.888	-.731	.115	.582	.230
FLW4	For this semester students' minds are completely clear on their performance.	3.991	.899	-.760	.115	.449	.230
FLW5	Students are focused on what they are studying this semester.	4.022	.911	-.863	.115	.806	.230
FLW6	Students feel they have total control over what they are studying.	3.851	.915	-.543	.115	.027	.230
FLW7	This semester students are totally absorbed in what they are studying.	3.853	.892	-.542	.115	.080	.230
FLW8	For this semester, the way time passes seems to be different from normal.	3.808	.925	-.596	.115	.269	.230
FLW9	Students' experiences this semester are extremely rewarding.	3.808	.873	-.548	.115	.396	.230

Source: Field data, 2018.

The computed mean rating outcome for flow experience showed that "Students were focused on what they are studying for the semester" (4.022) was rated the highest, followed by "Students' minds are completely clear on their performance for this semester (3.991) and "Students are competent enough to meet the high academic demands of the semester" (3.955). In terms of precision in responses among the flow experience items, almost all the items ranged within ±1

standard deviation. The results further revealed that skewness and kurtosis values were within range. However, all the items were negatively skewed.

Students' self-efficacy

Efficacy deals with the student's firm belief that he/ she has the competency, skill and confidence that he/she will do well academically. Students feel happy whenever they achieve their goals. A summary of findings on students' efficacy is shown in Table 4.9.

Table 4.9: Mean distribution of Self-efficacy items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
EFF1	Students can efficiently solve the problems that arise in their studies.	3.646	.819	-.316	.115	.122	.230
EFF2	Students believe that they can make effective contributions to the classes.	3.878	.827	-.697	.115	1.023	.230
EFF3	Students believe that they are good.	4.033	.854	-.886	.115	1.059	.230
EFF4	Students feel stimulated when they reach their study goals.	4.076	.807	-.856	.115	1.004	.230
EFF5	Students learn many interesting things.	4.056	.821	-.858	.115	1.155	.230
EFF6	During classes students feel confident that they are effective in getting things done.	4.002	.817	-.596	.115	.333	.230

Source: Field data, 2018.

Students' self-efficacy towards working hard to achieve their talents, skills goals were high.

The descriptive analysis showed that "Students feel stimulated when they reach their goals" (4.076), "Students learning many interesting things during the course of study" (4.056), students believing that they are good (4.033), and students feeling confident (4.002) were generally considered as the indicators of students efficacy. While "Students can efficiently solve problems that arise in their studies" (3.646) was ranked lowest among the items that measured the student's efficacy. The results implied that student self-efficacy was predicated on students focusing their attention on their goals, i.e. goal-getters, becoming a full student by appreciating diversity, having self-belief and self-confidence to do well. There was no noticeable variation in the responses from the respondents in relation to the items that measured student's efficacy.

Technology in teaching and learning

Another construct that the study explored was the use of technology in teaching and learning. Technology use refers the use of computers or smartphones for general social media usage, internet searching, emailing, and media sharing. It is the ability of students to use their smartphones to take pictures, record videos, watch videos, listen to music, check news feed and get directions on GPS using navigation applications. Similarly, when lecturers deploy technology in teaching and learning, it makes the academic content easy to understand and visually appealing to the students. This is produced in Table 4.10.

Table 4.10: Mean distribution of Technology use items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
TU1	Students use mobile phones to search for information on topics of interest.	4.109	.911	-1.125	.115	1.476	.230
TU2	Students like to share interests and reflections online.	3.688	1.046	-.524	.115	-.245	.230
TU3	Students search the internet for answers to assignments on mobile phones.	3.866	.933	-.725	.115	.418	.230
TU4	Students learn many things by interacting with other Internet users.	3.706	1.004	-.649	.115	.121	.230
TU5	Students check the school website for news on their phones.	4.100	.902	-1.024	.115	1.044	.230
TU6	Students use mobile apps to study course materials.	4.020	.924	-.925	.115	.773	.230
TU7	Students search the internet for videos to enrich their understanding.	4.125	.974	-1.242	.115	1.383	.230
TU8	Students share course materials with lecturers and course mates on their mobile phones.	3.385	1.161	-.428	.115	-.534	.230
TU9	Students learn course materials on their phones.	3.748	1.044	-.687	.115	-.094	.230
TU10	Students search for information on the internet during group discussions.	3.637	1.083	-.647	.115	-.142	.230
TU11	Students watch video clips on the internet for better understanding.	4.080	.890	-1.054	.115	1.324	.230
TU12	Students download course materials from lecturers and course mates on their phones.	3.457	1.221	-.402	.115	-.759	.230

Source: Field data, 2018.

In essence the respondents reported that they used technology for multiple reasons. It was evident from the study that technology is very much used in teaching and learning at the school. The study findings revealed that students searching the internet for videos enrich their understanding in the course (4.125) as the highest, followed by students using their mobile phones to search for information on topics of interest (4.109) and students watching video clips from the internet for better understanding (4.080) of the courses they were studying formed the greatest part of how technology was deployed for academic work. In terms of precision in the responses, all the items reported similar pattern and that their responses did not differ much from each other.

Peer and family support

Peer and family support that students receive during their course of study on campus greatly assist to promote effective, psychological and emotional growth. That is seen in the willingness and care of family members to support them in times of need. Also, the concerns of their peers in checking on them regularly ensure that they stay on track in school. The results is presented in Table 4.11.

Table 4.11: Mean distribution of Community Members' Support items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CMS1	Family/guardian(s) are there for their students.	4.334	.926	-1.474	.115	1.910	.230
CMS2	When something good happens at school, family/guardian(s) want to know about it.	4.225	.966	-1.328	.115	1.531	.230
CMS3	When students have problems at school their family/guardian(s) are willing to help them.	4.290	.859	-1.210	.115	1.400	.230
CMS4	Family/guardian(s) want students to keep trying when things are tough at school.	4.388	.789	-1.381	.115	2.251	.230
CMS5	Students' peers expect them to get good grades.	4.214	.834	-.952	.115	.856	.230
CMS6	Students' friends expect them to attend classes regularly.	4.198	.868	-1.157	.115	1.584	.230
CMS7	Students' peers expect them to study.	4.238	.855	-1.188	.115	1.618	.230
CMS8	Friends students hang out with expect them to graduate and continue to the postgraduate level.	4.236	.895	-1.176	.115	1.228	.230

Source: Field data, 2018.

Findings from the above table revealed that the students' family/guardian(s) want them to keep trying even when things are getting tough at school" (4.388) was scored higher than the others while their peers expected them to attend classes regularly (4.198) reported although high but lowest mean score among the items . Again, all the items for the peer and family support scale reported consistent responses from the respondents and higher expectations of support.

Academic performance of students

Academic performance is an indicator of students understanding of achieving good grades in school. Students are perceived to be academically inclined whenever they tend to persevere to complete tasks that other students cannot do and also when they have the passion to persevere to complete their course of study. Some previous studies have reported that students' non - cognitive skills have a positive relationship with their academic performance. Non-cognitive skills such as students' self-determination, resilience, honesty, self-awareness, self-efficacy, grit, integrity, adaptability, situation awareness, and ethical behavior were considered in the study. This is summarized in Table 4.12.

Table 4.12: Mean distribution of Academic performance attribute's items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
AP1	Students have not been withdrawn from a course or program.	4.151	1.178	-1.424	.115	1.109	.230
AP2	Students' graduation will not be delayed.	4.385	0.964	-1.782	.115	2.793	.230
AP3	Students have passed all their examinations at UPSA.	4.049	1.202	-1.095	.115	.105	.230
AP4	Students have the understanding of their strengths and weaknesses.	4.176	0.920	-1.168	.115	1.288	.230
AP5	Students have the belief that they can achieve good grades when they put in more efforts.	4.461	0.815	-1.676	.115	2.986	.230
AP6	Students have confidence in their ability to get good grades.	4.470	0.773	-1.674	.115	3.303	.230
AP7	Students have the passion and perseverance to graduate from school.	4.472	0.779	-1.529	.115	2.181	.230
AP8	Students are organized, careful and dependable in the completion of assignments and projects.	4.236	0.817	-1.002	.115	.986	.230
AP9	Students have the ability to complete tedious task other students ignored.	4.100	0.885	-.878	.115	.700	.230
AP10	Students have the ability to achieve their goals regardless of the obstacles faced.	4.089	0.813	-.790	.115	.852	.230
AP11	Students have the ability to bounce back from setbacks and emerge stronger than before.	4.216	0.837	-1.089	.115	1.401	.230
AP12	Students do the right thing even when no one is watching.	4.214	0.842	-.940	.115	.637	.230

Source: Field data, 2018.

The mean scores of academic performance items were fully affirmed by the respondents. To the respondents, the most pressing indicator of academic performance was the passion and perseverance to graduate from school (4.472) while lowest was to pass all their examinations at school (4.049). Meanwhile, all the items reported high academic performance indicators. Students agreed that they can achieve good grades by putting in more efforts (4.461) and were also confident of getting good grades (4.470) as well.

Almost, all the items of the academic performance scale had good precision in the responses from the respondents except items that sought to find out whether students have been withdrawn from a course or whether students have passed all their exams had responses the were little bit spread out. Further analysis also showed that skewness and kurtosis values were within the acceptable range.

Self-reported GPA

Students were also asked in the questionnaire to select the GPA range that they fall in. Table 4.13 shows the distribution of respondents that belong to the various GPA ranges.

Table 4.13: Distribution of Respondents Self-reported GPA

GPA	f (%)	Mean	SD	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Self-reported GPA		2.841	0.977	-.462	.115	.039	.230
Below 2.0	20 (4.5%)						
2.0 - 2.5	41 (9.1%)						
2.6 - 3.0	167 (37.2%)						
3.1 - 3.5	158 (35.2%)						
3.6 - 4.0	63 (14.0%)						

Source: Field Data (2018)

Findings indicated that majority of the respondents reported that their grade point averages (GPA) were within the range of 2.6 to 3.5 cumulative points. Also, the average GPA of the respondents was 2.84.

Student entrepreneurial activities

Student entrepreneurial activities are economic activities that students participate in to generate income. These activities could be full time or part time, online or on campus and in some cases petty trading that took the students off campus to work to support their schooling. Responses from the students on their entrepreneurial activities has been presented in Table 4.14.

Table 4.14: Mean distribution of Student entrepreneurial activities items (N=449)

Item #	Item description	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SEA1	Students engage in part-time work to support their education.	2.684	1.375	.278	.115	-1.209	.230
SEA2	Students engage in full-time work to support their education.	2.316	1.322	.742	.115	-.649	.230
SEA3	Students engage in online trading to support their education.	2.444	1.374	.548	.115	-.972	.230
SEA4	Students engage in economic activities on campus (lecture halls, student hostels, offices, etc.)	2.543	1.402	.403	.115	-1.057	.230
SEA5	Students engage in economic activities outside campus.	2.363	1.303	.530	.115	-.748	.230
SEA6	Students engage in petty-trading outside campus to support their education.	3.283	1.109	-.360	.115	-.450	.230

Source: Field data, 2018.

Descriptive results of student entrepreneurial activities revealed that the majority of the respondents were not engaged in entrepreneurial activities with mean scores of less than 3.0. Students did not engage much in online trading as well to support their education (2.444). On the other hand, students agreed that they engaged in economic activities on campus (3.283).

The skewness and kurtosis of the student entrepreneurial activities scale were within the recommended range and this implied that the data was normally distributed and that there were no outliers so the researcher could proceed further to do parametric analysis with the data.

OBJECTIVE ONE

Factor structure for student engagement construct and other study constructs

In order to determine the sets of constructs that measured the student engagement variable, the researcher performed the confirmatory factor analysis to ensure construct validity and discriminant validity were achieved for the student engagement construct and the other study constructs used in the study. The sub-variables for the student engagement variable consisted of the students learning experiences, campus environment, experience with faculty and academic challenge while the other study constructs included teaching quality, efficacy, flow, academic performance, family support, peer support, technology use and student entrepreneurial activities.

Factor analysis results for student engagement sub - variables

The exploratory factor analysis is heuristic in nature. Broadly speaking, it often allows the researcher to reduce the number items that specifically measures a construct from a larger set of items. The researcher used this approach to generate a model that was fit for analysis and consideration. As previously explained in chapter three of the study at the data analysis section, the researcher adopted the Five – Step Exploratory Factor Analysis Protocol(Williams, Onsman, & Brown, 2010). These steps are; 1. Suitability of the data for factor analysis, 2. How will factors be extracted, 3. The criteria used to determine factor extraction, 4. The rotational method used for factor extraction and 5. Interpretation and labelling of factors. Results of the factor analyses are established in the subsequent sections;

Kaiser – Mayer – Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity for student engagement sub-variables

Before factor extraction could be completed, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) was conducted to ascertain the suitability of the respondent data for the factor analysis. A significant level ($p < .05$) for Bartlett's Test of Sphericity made the data suitable for analysis. The Kaiser – Mayer – Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity results for the students' engagement sub – variables (see Appendix D).

The results for the Kaiser-Mayer-Olkin test and Bartlett's test showed that the sampling was adequate and the data set for the student engagement sub – variables were also suitable for factor analysis to be conducted, ($x^2 = 8874.798, \text{KMO} = .804, \text{df} = 903, \text{p} < .05$), (Hair et al., 2010; Awang, 2012; Baraldi & Enders, 2010; Watkins, 2018).

Communalities for student engagement sub-variables

Communalities for the student engagement sub-variables were all greater than the threshold value of .30 (Awang, 2012; Baraldi & Enders, 2010; Neill, 2008; Watkins, 2018). This finding further revealed that each item had some common variance with the other items on the student engagement sub-variable scale (see Appendix E).

The extraction method

The Principal Component Analysis (PCA) was used as the extraction method for the factor analysis. Principal Component Analysis (PCA) that was conducted by the researcher revealed that, in the initial analysis, nine factors were extracted. Six out of these nine factors had three or more

items that were measuring a construct. However, factors 7, 8, and 9 had extractions that were less than three items and that Awang (2012) had suggested that when factor extractions have less than three items, then those factors should be removed from the analysis. Therefore, a second extraction was conducted but this time the researcher fixed the number of factors to be extracted at six.

Yong and Pearce (2013) also indicated that it is very problematic for researchers to extract many factors that are likely to lead to imperfections in variance estimations while also, extracting too few factors may leave out important common variances. Therefore, it was important for the researcher to decide on the number of factors to be extracted.

Rotated component matrix for the student engagement sub-variables

The result for the rotated component matrix of factor loadings for the student engagement sub-variables indicated that six factors were extracted (see Appendix E). Learning experience (factor 1) reported an Eigen value of 11.44 that explained 26.61% of variance in student engagement. Campus environment (factor 2) had an Eigen value of 3.23 that explained 7.51 % of the variance in the student engagement variable. Experience with faculty (factor 3) reported an Eigen value of 2.69 that explained 6.26% of the variance in the student engagement variable. Academic challenge (Factor 4) reported an Eigen value of 2.23% that explained 5.18% of the variance of the student engagement variable. Lectures feedback (factor 5) also reported an Eigen value which explained 3.7% of variance of the student engagement variable. Finally, learning with peers (factor 6) reported an Eigen value of 1.40 which explained 3.62% of the variance in the student engagement variable. In all, the six factors extracted explained 52.52% of the total variance in the student engagement variable.

The criteria used to determine factor extraction

In this study, agreeing with Yong and Pearce (2013), Neill (2008), Watkins (2018) and Baraldi and Enders (2010), the researcher used Eigen values and scree test (scree plot) to determine the number of factors to retain. Again, Kaiser's criteria suggest that all factors that have Eigen values of one should be retained (Kaiser, 1960). The researcher also ensured that all the items that were used in the analysis of this study had factor loadings that were greater than point five (0.5).

The rotational method used for factor extraction

Varimax rotation was used by the researcher as the rotation method for the analysis because previous authors have indicated that the varimax criterion is widely used in orthogonal rotation (Watkins, 2018; Yong and Pearce, 2013; Awang, 2012). Meanwhile, Yong and Pearce (2013), opined that the varimax rotation has the tendency to minimize the number of variables that have high loadings on each factor and it functions well to make smaller loadings even negligible. The goal of varimax rotation is to amplify factor loadings as large as possible and make the rest as small as possible in absolute value (Tryfos, 1997).

Factor labelling for student engagement sub-variables

According to Neill (2008), researchers should provide meaningful names for the factors that would be extracted. Awang (2012) also indicated that factor labels can be done by maintaining the original theoretical construct. However, in situations where there are split loadings, labelling could be done based on the items with highest loading. In this study, learning environment was extracted

into factor one and factor five on the rotated component matrix for the student engagement variables.

Evidence from Table 4.15 revealed that the researcher maintained factor one as the learning experience construct in the student engagement variables with items LE11: Students feel confident about tackling unfamiliar problems as a result of the courses they are studying, LE10: Courses develop students' problem-solving skills, LE9: Courses improve students' skills in written communication, LE12: Courses help students to develop the ability to plan their own work, LE8: Internship helped students to develop their abilities to work as team members and LE7: Internship sharpened students' analytical skills.

Whiles factor-five was labelled lecturer's feedback using the item with the highest loading; "LE2: My lectures gave me helpful feedback on how I was doing" as suggested by Awang (2012). Lecturer's feedback (factor 5) was made up of items, LE2: Lecturers give students helpful feedback, LE3: Lecturers motivate students to do their best work, LE1: Lecturers put lots of time into commenting on students' work, LE4: Lecturers are extremely good at explaining things to students and LE6: Lecturers make real efforts to understand students' difficulties in their courses.

The remaining extractions were factor - two (campus environment – CE2: There are good interactions between staff and students, CE3: The school support students' overall wellbeing, CE4: The school helps students cope with non-academic responsibilities, and CE1: The school provides students with the support they need to help them succeed academically). Factor - three (experience with faculty – EF2: Students discuss assignments with their lecturers, EF3: Students discuss ideas from their classes with their lecturers outside class, EF8: Students are comfortable interacting with male lecturers, EF1: Students work on research projects with lecturers, EF7: Students are

comfortable interacting with female lecturers and EF4: Students work with faculty members on activities other than coursework.). Factor - four (academic challenge – AC1: Students spend significant amounts of time studying and doing academic work, AC2: Students spend significant amount of time preparing for class, AC4: Students are assigned a number of textbooks, books or book-length packs of course readings and AC6: Students harder than expected to meet instructors' standards or expectations). Finally, factor - six (learning with peers – LP6: Students have discussions with other students with different views, LP7: Students discuss ideas from readings with other students, LP5: Students teach their classmates, LP4: Students lead class or group presentations and LP3: Students contribute to class discussions) were all labelled according to the National Survey for Students Engagement (NSSE) criteria. The results of the Principal Component Analysis (PCA) is presented in Table 4.15.

Table 4.15: Rotated Component Matrix for student engagement sub-variables

Factor		1	2	3	4	5	6
Learning Experience (LE)	LE11	0.784					
	LE10	0.783					
	LE9	0.771					
	LE12	0.737					
	LE8	0.693					
	LE7	0.673					
Campus Environment (CE)	CE2		0.751				
	CE3		0.734				
	CE4		0.702				
	CE1		0.612				
Experience with Faculty (EF)	EF2			0.770			
	EF3			0.752			
	EF8			0.719			
	EF1			0.715			
	EF7			0.639			
	EF4			0.637			
Academic Challenge (AC)	AC1				0.756		
	AC2				0.716		
	AC4				0.696		
	AC6				0.670		
Lecturers Feedback (LE)	LE2					0.770	
	LE3					0.752	
	LE1					0.715	
	LE4					0.637	
	LE6					0.555	
Learning with peers (LP)	LP6						0.728
	LP7						0.719
	LP5						0.714
	LP4						0.695
	LP3						0.573

Extraction Method: Principal Component Analysis

The factor analysis results from Table 4.15 for the present study revealed a six-factor model construct for the student engagement namely learning experience, campus environment,

experience with faculty, academic challenge, lectures feedback and learning with peers' were extracted as one composite variable. The results indicated that the student learning experiences of the students was the highest predictor of student engagement. Conversely, learning with peers was the least predictor of student engagement in the study.

Convergent validity for the student engagement sub-variables

Fornell and Lacker (1981) reported that if the Average Variance Extracted (AVE) of a construct is greater than 0.5, then there is evidence that convergent validity has been established. Some authors have also indicated that high factor loadings and high composite reliability estimates are necessary for achieving convergent validity (Awang, 2012; Watkins, 2018; Hair et al., 2010). The results for the average variance extracted (AVE) and the composite reliability for the student engagement sub-variables is evidenced in Table 4.16.

Table 4.16: Convergent validity for student engagement sub-variables

Variables	Average Variance Extracted (AVE)	Composite reliability (CR)	Convergent validity
Learning Experience	0.550	0.880	Established
Campus Environment	0.532	0.773	Established
Experience with Faculty	0.500	0.857	Established
Academic Challenge	0.504	0.802	Established
Lecturers Feedback	0.519	0.811	Established
Learning with peers	0.510	0.806	Established

The Average Variance Extracted (AVE) for the student engagement sub-variables

From Table 4.16, the Average Variance Extracted (AVE) for the student engagement sub-variables, that is, Learning experience (λ^2 = .550), Campus environment (λ^2 = .532), Experience

with faculty (λ^2 = .500), Academic challenge (λ^2 = .504), Lecturer's feedback (λ^2 = .519) and Learning with peers (λ^2 = .510) were all above the recommended threshold of .50 (Fornell & Larker, 1981; Awang, 2012; Watkins, 2018). This implied that all the items were extracted for each construct accurately explained the variance in that construct and that the measurement was not due to error. The results further suggested that all the items were valid and that the researcher was confident in using in the study.

Composite reliability for the student engagement sub-variables

The composite reliability test is a more rigorous method for determining the internal consistency of the items measuring a construct than the Cronbach's Alpha. Results from the student engagement variables showed that, learning experience (CR = .880), campus environment (CR = .773), experience with faculty (CR = .857), academic challenge (CR = .802), lecturer's feedback (CR = .811) and finally, learning with peers (CR = .806) were all greater than the threshold of .70 (Fornell & Larker, 1981; Awang, 2012; Watkins, 2018). This results further confirmed the sufficiency, reliability and validity of the items that loaded for each construct of the student engagement sub - variables. Again, the researcher was very confident that the study constructs were suitable to be used.

Student engagement sub-variables (Mean ratings)

Student engagement is the idea of students' involvement and commitment in educational purposeful activities. The commitments of the students are directed toward the academic content, their friends, faculty members, campus environment and their learning experiences. The mean

ratings helped the researcher to determine the extent to which the individual constructs contributed to the student engagement variable. This information is provided in Table 4.17.

Table 4.17: Mean ratings of student engagement sub-variables (N=449)

Variable	Mean	Std. Deviation
Learning experience	3.862	.715
Campus environment	3.385	.864
Experience with faculty	3.293	.670
Academic challenge	3.861	.665
Lecturers feedback	3.406	.770
Learning with peers	3.624	.750

From Table 4.14, respondents rated Learning experience (M=3.862, SD= .715) as the highest weighted variable in the student engagement construct. This was followed by academic challenge (M= 3.861, SD= .665), Learning with peers (M= 3.624, SD= .750), Lecturers feedback (M= 3.406, SD= .770) and Campus environment (M= 3.385, SD= .864). However, experience with faculty (M=3.293, SD= .670) was rated the least among the student engagement sub-variables.

The results in general implied that in terms of students learning experience, they felt confident about tackling unfamiliar problems as a result of the courses they are studying. Also, the internship program students embarked on during vacation contributed to their analytical skills in solving problems and also working other people in teams. Equally, the course that students were studying also helped them to plan their work to meet the target they have set. These are the things that enhanced students learning experiences at school. Similarly, the results showed that students challenged themselves by spending significant amount of time learning, preparing for class and

also working hard to meet their lecturers' expectations. Again, students had discussions with other students with different views and discuss their readings with their colleagues. Moreover, the results also showed that the students received helpful feedback from their lecturers. The students acknowledged that their lecturers put a lot of time commenting on their work while encouraging them to do their best at school. The results revealed a cordial relationship between the staff and students and also the school providing enabling supportive environment for the students to succeed academically. Students interacting with faculty was the least emphasized dimension of student engaging at school.

Discriminant validity test for the student engagement sub-variables

Discriminant validity was demonstrated using the techniques indicated by Fornell and Larcker (1981), Hair et al. (2010) and Farrell (2010). The Average Variance Extracted estimate is an indication of the variation that a latent construct is able to explain in observed variables which have relations based on some theoretical underpinnings. The researcher proceeded further to provide empirical evidence on how discriminant validity for the student engagement sub – variables were established in the Table 4.18.

Table 4.18: Discriminant validity test for the student engagement sub-variables

Sub- Variable	λ^2	λ^2	λ^2	λ^2	λ^2	λ^2
Learning experience	**0.550**					
Campus environment	0.150	**0.532**				
Experience with faculty	0.095	0.177	**0.500**			
Academic challenge	0.157	0.102	0.103	**0.504**		
Lecturer's feedback	0.291	0.235	0.231	0.159	**0.519**	
Learning with peers	0.158	0.097	0.166	0.214	0.157	**0.510**

AVE in **bold,** λ^2 = square of the correlation estimates

Findings from Table 4.18 reveal that the AVE estimates which are in bold figures are greater than the shared variance estimates of the reliability coefficients. The results further indicate that the student engagement sub-variables are distinct from each other. This implies that the items measuring each construct were distinctively measuring that construct alone and that no single item measured more than one construct. For this reason, discriminant validity was established for all the constructs that cumulatively measured the student engagement variable (Table 4.18).

Factor analysis for other study variables

The researcher performed factor analysis using the principal component analysis (PCA) as extraction method for the teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables. The tests have been summarized in table 4.19.

Kaiser – Mayer – Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity for the other study variables

The Kaiser-Mayer-Olkin test shows the adequacy of sampling and suitability of the data set for factor analysis for the teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables (Baraldi & Enders, 2010; Neill, 2008; Watkins, 2018; Hair et al, 2010). Bartlett's test $\chi^2 = 16595.133, \text{KMO} = .831, \text{df} = 1953, \text{p} < .05$). This result implied that sampling was adequate and that the researcher could proceed further to perform the factor analyses for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables.

Communalities for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables

Communalities results for the teaching quality, efficacy, flow, academic performance, community members support (family), community members support (peers) and technology use variables were all greater than the threshold value of .30 (Neill, 2008; Baraldi & Enders, 2010; Watkins 2018; Awang, 2012). This finding also confirms that each item has some common variance with the other items on the observed variable scale (see Appendix D).

Total Variance Explained for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables

The result for the rotated component matrix of factor loadings for the teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables indicated that seven factors were extracted (See Appendix D). Teaching quality (factor 1) reported an Eigen

value of 18.07 that explained 28.68% of variance in teaching quality variable. Efficacy (factor 2) had an Eigen value of 4.38 that explained 6.95% of the variance in the efficacy variable. Flow (factor 3) reported an Eigen value of 3.56 that explained 5.65% of the variance in the flow variable. Academic performance (Factor 4) reported an Eigen value of 2.85% that explained 4.53% of the variance of the academic performance variable. Family support (factor 5) also reported an Eigen value of 2.58 which explained 4.09% of variance of the family support variable. Peer support (factor 6) reported an Eigen value of 1.68 which explained 2.27% of the variance in the peer support variable. Finally, technology use (factor 7) had an Eigen value of 1.43 which explained 2.27% of the variance in the technology use variable. In all, the seven factors extracted explained 54.83% of the total variance in the teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables.

Table 4.19: Rotated component matrix for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables

Factor		1	2	3	4	5	6	7
Teaching Quality (TQ)	TQ8	0.742						
	TQ7	0.729						
	TQ4	0.728						
	TQ5	0.704						
	TQ3	0.693						
	TQ6	0.685						
Efficacy (EFF)	EFF3		0.737					
	EFF4		0.721					
	EFF5		0.706					
Flow (FLW)	FLW3			0.749				
	FLW4			0.737				
	FLW2			0.724				
	FLW1			0.651				
	FLW7			0.677				
Academic Performance (AP)	AP5				0.747			
	AP6				0.74			
	AP8				0.711			
	AP7				0.698			
	AP4				0.66			
Family support (CMS)	CMS3					0.794		
	CMS4					0.753		
	CMS2					0.738		
	CMS1					0.672		
Peer support (CMS)	CMS6						0.732	
	CMS5						0.711	
	CMS7						0.708	
	CMS8						0.685	
Technology use (TU)	TU4							0.706
	TU3							0.672
	TU6							0.635
	TU5							0.616
	TU7							0.602

Extraction Method: Principal Component Analysis

From Table 4.19, the initial Principal Component Analysis (PCA) that was conducted by the researcher revealed that twelve factors were extracted. Seven out of these twelve factors had more than three items that were measuring a construct. However, factors 8, 9, 10, 11 and 12 had extractions that were less than three items and Awang (2012) had suggested that when factor extractions have less than three items, those factors should be removed from the analysis. Therefore, a second extraction was conducted but this time the researcher fixed the number of factors to be extracted at seven. The researcher also ensured that all the items that were used in the analysis of this study had factor loadings that were greater 0.5.

According to Awang (2012), factor labels can be done by maintaining the original theoretical construct. However, in situations where there are split loadings, labelling could be done based on the items with highest loading. In this study, community member support was split into factor five and six on the rotated component matrix for the student observed variables. The researcher renamed factor five as family support with items CMS3: When students have problems at school their family/guardian(s) are willing to help them, CMS4: Family/guardian(s) want students to keep trying when things are tough at school, CMS2: When something good happens at school, family/guardian(s) want to know about it, and CMS1: Family/guardian(s) are there for their students. Whiles factor six was renamed as peer support. Whiles factor five was labelled lectures feedback with items CMS6: Students' friends expect them to attend classes regularly, CMS5: Students' peers expect them to get good grades, CMS7: Students' peers expect them to study, and CMS8: Friends students hang out with expect them to graduate and continue to the postgraduate level. The remaining extractions, that is, factor one (teaching quality), factor two (efficacy), factor three (flow), factor four (academic performance) and factor seven (technology use) maintained their original theoretical construct labels. The factor loadings results suggested that the items that

were extracted for each component adequately measured that construct in that component. In view of this, the researcher then proceeded to transform the items into their respective variables for further analyses in the subsequent sections.

Descriptive Statistics for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables

The distribution of students' responses on teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables were assessed by their means, standard deviations, skewness, and kurtosis. These results are addressed in Table 4.20.

Table 4.20: Descriptive Statistics for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables.

Variables	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Self-reported GPA	3.472	0.991	-0.462	0.115	0.039	0.230
Academic performance attributes	4.252	0.597	-0.974	0.115	1.490	0.230
Student engagement	3.536	0.534	-0.113	0.115	-0.201	0.230
Teaching quality	3.768	0.644	-0.429	0.115	0.528	0.230
Family support	4.309	0.759	-1.206	0.115	1.538	0.230
Peer support	4.222	0.739	-0.989	0.115	1.353	0.230
Technology use	3.827	0.655	-0.496	0.115	0.348	0.230
Flow-experience	3.895	0.656	-0.499	0.115	0.344	0.230
Self-efficacy	3.948	0.638	-0.649	0.115	0.735	0.230
Student entrepreneurial activities	2.605	0.884	0.461	0.115	-0.444	0.230

Table 4.20 shows the summary of the mean ratings and standard deviations for the observed variables used in the study. The findings showed that the student received more support from family (Mean= 4.309, SD= .759) than their peers (Mean= 4.222, SD= .739). The students used technology (Mean= 3.827, SD= .655) to enhance learning. The students rated their self-efficacy (Mean= 3.948, SD= .638) above their flow experiences (Mean= 3.895, SD= 656). The results further revealed that majority of the students did not engage in entrepreneurial activities (Mean= 2.605, SD= .884) at the University of Professional Studies, Accra.

Convergent Validity for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables

Similarly, the results of the average variance extracted (AVE) and composite reliability for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables have been outlined in Table 4.21.

Table 4.21: Convergent validity for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables

Variables	Average Variance Extracted (AVE)	Composite Reliability (CR)	Convergent validity
Teaching Quality	0.504	0.781	Established
Efficacy	0.513	0.807	Established
Flow	0.502	0.834	Established
Academic Performance	0.507	0.837	Established
Family support	0.548	0.829	Established
Peer support	0.503	0.802	Established
Technology use	0.511	0.816	Established

From Table 4.21, the Average Variance Extracted (AVE) results for Teaching quality (λ^2 = .504), Efficacy (λ^2 = .513), Flow (λ^2 = .502), Academic performance (λ^2 = .507), Family support (λ^2 = .548), Peer support (λ^2 = .548), and Technology use (λ^2 = .511) indicated that they all met the recommended threshold of 0.5. This means that the items adequately explained their various construct with minimum or negligible error.

Composite reliability results from the variables that is, teaching quality (CR = .781), efficacy (CR = .807), flow (CR = .834), academic performance (CR = .837), family support (CR = .829), peer support (CR = .802) and finally, technology use (CR = .838). In summary, the composite reliability

for the variables were greater than the threshold of .70 (Fornell & Larker, 1981; Awang, 2012; Watkins, 2018). These findings were indicative that convergent validity was achieved for the teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables. These results meant that there were high internal consistencies among the items the measured each construct.

Discriminant validity for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables

Discriminant validity was demonstrated using the techniques indicated by Fornell and Larcker (1981), Hair et al. (2010) and Farrell (2010). The Average Variance Extracted estimate is a sign of the variation that a latent construct is able to explain in observed variables which have relations based on some theoretical underpinnings. Results from Table 4.22 below revealed that the Average Variance Extracted (AVE) estimates which are in bold are greater than the shared variance estimates of the reliability coefficients.

Table 4.22: Discriminant validity test for variables in the researcher's conceptual model in the structural equation modeling.

Variable	λ^2	λ^2	λ^2	λ^2	λ^2	λ^2	λ^2	λ^2
Academic performance	**0.507**							
Family support	0.087	**0.548**						
Peer support	0.090	0.408	**0.503**					
Student engagement	0.082	0.110	0.151	**0.519**				
Efficacy	0.253	0.132	0.147	0.274	**0.483**			
Flow	0.143	0.091	0.132	0.280	0.436	**0.502**		
Teaching quality	0.091	0.111	0.148	0.407	0.256	0.217	**0.504**	
Technology use	0.065	0.112	0.185	0.265	0.154	0.161	0.189	**0.511**

AVE in **bold,** λ^2 = square of the correlation estimates

Results from Table 4.22 further indicate that the teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables were all distinct from each other. Similarly, the results indicated that for example the items that were measuring academic performance was not measuring any other construct apart from academic performance. Therefore, all the constructs were sufficient to have establish discriminant validity for the study.

Factor analysis results for student entrepreneurial activities

The researcher also conducted factor analysis for the items that were used to measure the student entrepreneurial activities to ensure that they adequately and sufficiently measured the variable as intended.

The Kaiser-Mayer-Olkin test (see Appendix D) revealed that the adequacy of sampling and suitability of the data set for factor analysis for the student entrepreneurial activities variable, $x^2 =$

$701.930, \text{KMO} = .798, \text{df} = 15, p < .05$) (Baraldi & Enders, 2010; Neill, 2008; Watkins, 2018; Hair et al., 2010).

Communalities results for the student entrepreneurial activities

Communalities results for the student entrepreneurial activities (see Appendix D) were all above the threshold value of .30 (Neill, 2008; Baraldi & Enders, 2010; Watkins 2018; Awang, 2012). This outcome further reveals that each item has some common variance with the other items on the student entrepreneurial scale.

Total Variance Explained for the student entrepreneurial activities

The final result for the rotated component matrix of factor loadings for the student entrepreneurial variables showed that two factors were extracted (see Appendix D). Factor 1 had an Eigen value of 2.798 which explained 46.63% of the variance in the student entrepreneurial activities variable whiles factor 2 had an Eigen value of 1.052 that explained 17.53% of variance in the student entrepreneurial activities variable. In all, the two factors extracted explained 64.17% of the total variance in the student entrepreneurial activities variable.

Rotated component matrix for student entrepreneurial activities

Results of the Principal Component Analysis (PCA) that was conducted by the researcher showed that two factors were extracted. One out of the two factors had more than three items that were measuring a construct. However, factor 2 had extractions that were less than three items and was not used for further analysis as suggested by Awang (2012).

Table 4.23: Rotated component matrix for student entrepreneurial activities

Factor		1	2
Student Entrepreneurial Activities	SEA3	0.844	
	SEA4	0.802	
	SEA2	0.788	
	SEA1	0.729	
Deleted	SEA6		0.880
	SEA5		0.644

From Table 4.23, student entrepreneurial activities scale was fragmented into factor one and factor two on the rotated component matrix for the student entrepreneurial activities variable. The researcher upheld factor 1 as the student entrepreneurial activities construct with items SEA3: Students engage in online trading (e.g., sports betting, buying and selling) to support their education; SEA4: Students engage in petty-trading off campus to support their education; SEA2: Students engage in economic activities on campus (lecture halls, student hostels, offices, etc.); and SEA1: Students engage in part-time work to support their education. Factor 2 with items SEA6: Students engage in full-time work to support their education and SEA5: Students engage in economic activities outside campus were deleted since the number of items were less than 3 as recommended by Awang (2012).

Convergent and Discriminant validity for the student entrepreneurial activities

Convergent validity was performed for the student entrepreneurial activities variable and the results presented in Tables 4.24 and 4.25 respectively.

Table 4.24: Convergent validity for Student Entrepreneurial Activities

Variables	Average Variance Extracted (AVE)	Composite reliability (CR)	Convergent validity
Student Entrepreneurial Activities	0.627	0.870	Established

From Table 4.24, the Average Variance Extracted (AVE) for the student entrepreneurial activities variable, λ^2 = 0.627 was above the recommended level of .50 (Fornell & Larker, 1981; Awang, 2012; Watkins, 2018). This means that the items that loaded after performing the factors analysis for student entrepreneurial activities variable were indeed valid. Composite reliability results from the student entrepreneurship activities variable reported (CR= .870) which was also greater than the threshold of .70 (Fornell & Larker, 1981; Awang, 2012; Watkins, 2018). These results were indicative that convergent validity was achieved for the student entrepreneurial activities variable.

Table 4.25: Discriminant validity test for student entrepreneurship activities, student engagement and academic performance.

Variable	λ^2	λ^2	λ^2
Student entrepreneurial activities	**0.627**		
Student engagement	0.035	**0.519**	
Academic performance	0.010	0.082	**0.507**

AVE in **bold,** λ^2 = square of the correlation estimates

Findings from the Table 4.25 indicated that, the AVE estimates which are in bold are higher than the shared variance estimates of the reliability coefficients. The results confirmed that the academic performance, student entrepreneurial activities and student engagement variables were

distinct from each other. Therefore, they were adequate to have established discriminant validity for the study and that the researcher confidently proceeded with further analyses of the study.

OBJECTIVE TWO

Relationship between student engagement and self-reported GPA

Multiple regression was conducted to establish the influence of student engagement on the GPA of the respondents. The results have been presented in Tables 4.26, 4.27, 4.28 and 4.29.

Table 4.26: Multiple regression analysis: Self-reported GPA and student engagement sub-variables

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F	Adjusted R^2	R
	B	Std. Error	β					
(Constant)	2.826	.200	-	14.136	.000	16.385	0.171	0.427
Learning experience	.164	.050	.180	3.278	.001			
Campus environment	-.048	.039	-.064	-1.230	.220			
Experience with faculty	-.218	.044	-.263	-4.958	.000			
Academic challenge	.112	.050	.114	2.237	.026			
Lecturer feedback	.089	.049	.105	1.825	.069			
Learning with peers	.186	.044	.219	4.180	.000			

Dependent variable: Self-reported GPA

Multiple regression analysis from Table 4.26 showed that, learning experience (β= .180, p< .05), academic challenge (β= .114, p< .05), students' interaction with faculty (β= -.263, p< .05) and learning with peers (β= .219, p< .05) positively and significantly predicted academic performance. However, campus environment (β= -.064, p= ns) and lecturers' feedback (β= .105, p= ns) did not significantly influenced academic performance. The summary of the multiple regression computation established that the combined influence of learning experience, campus environment, experience with faculty, academic challenge, lecturers' feedback and learning with peers significantly explained 18% (R^2=.182) of the variance in academic performance [F (6, 442) =16.385, p<.05].

Table 4.27: Multiple regression: Student engagement sub-variables as a predictor of self-reported GPA after controlling sex, age and level of students

	Unstandardized Coefficients		Standardized Coefficients				Adjusted	
Variable	B	Std. Error	Beta	t	Sig.	F	R^2	R
(Constant)	2.766	.218		12.716	.000	10.346	.187	0.455
Learning experience	.169	.050	.185	3.360	.001			
Campus environment	-.043	.039	-.057	-1.103	.271			
Experience with faculty	-.121	.045	-.133	-4.081	.000			
Academic challenge	.105	.051	.107	2.081	.038			
Lecturer feedback	.110	.049	.129	2.239	.026			
Learning with peers	.182	.044	.215	4.137	.000			
Sex								
Female (RF)	-	-	-	-	-			
Male	-.149	.058	-.115	-2.583	.010			
Age								
Below 20 years (RF)	-	-	-	-	-			
20-25 years	.020	.072	.014	.282	.778			
26 years and above	-.157	.111	-.072	-1.415	.158			
level of students								
Level 200 (RF)	-	-	-	-	-			
Level 300	.118	.069	.085	1.717	.087			
Level 400	.134	.071	.094	1.872	.062			

Dependent variable: Self-reported GPA

Results from Table 4.27 indicated after controlling sex, age and level of students; finding revealed that learning environment (β= .185, p< .05), experience with faculty (β= -.133, p< .05),, academic challenge (β= .107, p< .05),, lecturers' feedback (β= .129, p< .05), and learning with peers (β= .215, p< .05), significantly predicted student self-reported GPA [F (11, 437) =10.346, p<.05]. However, campus environment did not influence the GPA of the students.

Table 4.28: Multiple regression: Student engagement as a predictor of self-reported GPA

	Unstandardized Coefficients		Standardized Coefficients					
Variable	B	Std. Error	Beta	t	Sig.	F	Adjusted R^2	R
(Constant)	3.121	.198		15.765	.000	40.263	.081	0.287
Student engagement	.351	.055	.287	6.345	.000			

Dependent variable: Self-reported GPA

Result from Table 4.28 established that student engagement (β= .287, p< .05) had significant influence on students' performance at school [F (1, 447) = 40.263, p< .05].

Table 4.29: Multiple regression: Student engagement as a predictor of self-reported GPA after controlling sex, age and level of students

	Unstandardized Coefficients		Standardized Coefficients					
Variable	B	Std. Error	B	t	Sig.	F	Adjusted R^2	R
(Constant)	3.132	.212		14.786	.000	9.791	0.105	0.343
Student engagement	.364	.055	.298	6.573	.000			
Sex								
Female (RF)	-	-	-	-	-			
Male	-.099	.092	-.050	-1.082	.280			
Age								
Below 20 years (RF)	-	-	-	-	-			
20-25 years	.042	.074	.030	.567	.571			
26 years and above	-.188	.116	-.086	-1.627	.104			
level of students								
Level 200 (RF)	-	-	-	-	-			
Level 300	.496	.109	.234	4.534	.000			
Level 400	.541	.113	.250	4.771	.000			

Dependent variable: Self-reported GPA

Results from Table 4.29 exhibited that, when sex, age, and levels of students were held as control variables, the findings indicated that student engagement significantly influenced self-reported GPA (β= .298, t (442)= 6.573, p< .05) and that student engagement significantly explained 11.7% (R^2= .117) of the variance in self-reported GPA scores [F(6, 442)= 9.791, p< .05]. Further findings revealed that sex and age did not predict self-reported GPA of the students. Findings showed that level 300 and 400 students were more likely to perform academically well than the level 200 students.

OBJECTIVE THREE

Relationships between demographic characteristics (levels of students, age and sex), student engagement sub-variables and academic performance.

Intercorrelation matrix for sex, age, levels of students, self-reported GPA, academic performance attributes and student engagement sub – variables.

The researcher conducted intercorrelation analyses among the sex, age, levels of students, self-reported GPA, academic performance attributes and student engagement sub-variables to establish the relationships that existed among the constructs. The results of the intercorrelations have been presented in Table 4.30.

Table 4.30: Spearman's Rho intercorrelations matrix for sex, age, levels of students, GPA, academic performance and student engagement sub-variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
Sex	1											
Age	-.097*	1										
Level of students	-.134*	.136*	1									
Self-reported GPA	.042	.157*	.195*	1								
Academic performance	.141*	.163*	.137*	.191*	1							
Learning experience	.006	.005	.178*	.204*	.312*	1						
Campus environment	-.048	-.060	.100*	.115*	.178*	.387*	1					
Experience with faculty	-.125*	.071	.033	.139*	.214*	.308*	.421*	1				
Academic challenge	.119*	-.019	.175*	.214*	.254*	.396*	.320*	.321*	1			
Lecturer feedback	-.116*	-.021	.136*	.198*	.205*	.539*	.485*	.481*	.399*	1		
Learning with peers	.009	.005	.086	.289*	.287*	.397*	.312*	.408*	.463*	.396*	1	
Student engagement	.038	.005	.148*	.184*	.257*	.709*	.717*	.708*	.643*	.742*	.680*	1

*. Correlation is significant at the 0.05 level (2-tailed).

From Table 4.30, the results of the intercorrelation matrix indicated that there were positive, practical and significant relationships among all the student engagement sub-variables of the study. A closer observation of the results revealed a strong positive practical and significant relationships between learning experience and lecturer feedback (r = .539, p = .000); campus environment and lecturer feedback (r = .485, p = .000); experience with faculty and lecturer feedback (r = .481, p = .000); and academic challenge and learning with peers (r =.463, p =.000). The results revealed that the constructs measuring students' engagement were moderately correlated with each other and therefore, they are related to each other to measure engagement at school.

Results from the intercorrelation matrix revealed that positive and significant relationships existed between sex and academic performance attributes (r = .141) and academic challenge (r = .119) among the respondents. However, there were negative but significant relationships between sex and students experience with faculty (r = -.125) and lecturers' feedback (r = -.116). Findings also showed that, there were no significant relationships between the ages of the respondents and their learning experience, campus environment, experience with faculty, academic challenge, lecturer feedback, learning with peers and their overall engagement at school. Conversely, positive relationships existed between age and; academic performance attributes (r = .163) and self-reported GPA (r = .157) reported by the students.

Findings also, indicated that, there were positive and significant relationships between the levels of students; and self-reported GPA (r = .195); and academic performance attributes (r = .137). The study, again, revealed that there were positive and significant between level of students and learning experience (r = .178), campus environment (r = .100), academic challenge (r = .175), lecturers' feedback (r = .136) and also the overall student engagement (r = .184).

Cross tabulations of level of students and student engagement sub-variable items.

Cross tabulations were conducted for the level of students and the student engagement sub-variable items. The cross tabulations were done to determine whether the relationships between the students' levels and student engagement items were significant or not, using the Chi- square tests. The results are presented in the Tables 4.31, 4.32, 4.33, 4.34, 4.35 and 4.36.

Table 4.31: Relationship between levels of students and academic challenge items.

Item #	Item description	Chi-square results
AC1	Students spend significant amounts of time studying and doing academic work.	χ^2 (8, N=449) =19.689, p = 0.120
AC2	Students spend significant amount of time preparing for class.	χ^2 (8, N=449) =25.186, p = 0.001
AC4	Students are assigned a number of textbooks, books or book-length packs of course readings.	χ^2 (8, N=449) =18.720, p = 0.016
AC6	Students work harder than expected to meet instructors' standards or expectations.	χ^2 (8, N=449) =14.817, p = 0.063

Source: Field Data (2018).

The Chi-square results from Table 4.31 for the academic challenge sub-variable showed that "students spent significant amount of time preparing for class" and "students were assigned a number of textbooks, books or book-length packs of course readings" differed across levels.

However, the computations revealed that there were no significant relationships between the levels of study and the time students spent in studying and doing their academic work and also working to meet expectations of lecturers' standard.

Table 4.32: Relationship between levels of students and learning with peers items.

Item #	Item description	Chi-square results
LP6	Students have discussions with other students with different views.	χ^2 (8, N=449) = 6.049, p = 0.642
LP7	Students discuss ideas from readings with other students.	χ^2 (8, N=449) = 5.218, p = 0.734
LP5	Students teach their classmates.	χ^2 (12, N=449) =19.763, p = 0.072
LP4	Students lead class or group presentations.	χ^2 (8, N=449) =6.501, p = 0.591
LP3	Students ask questions in class or contribute to class discussions.	χ^2 (8, N=449) =17.728, p = 0.023

Source: Field data, 2018.

The Chi – square analysis from Table 4.32 for learning with peers' variable showed that of the five studied, only one reported significant relationship. Thus, how students asked questions or contributed to class discussions was not the same for the level 200, 300 and 400 students. The raw data revealed that the level 400 students asked more questions and contributed more to class discussions that the level 300 and 200 students. On the other hand, there was no significant relationship between the levels of students and how they led presentations and discussions with other students.

Table 4.33: Relationship between levels of students and experience with faculty items.

Item #	Item description	Chi-square results
EF2	Students discuss grades or assignments with their lecturers.	χ^2 (8, N=449) =9.503, p = 0.302
EF3	Students discuss ideas from their classes with their lecturers outside class.	χ^2 (8, N=449) =7.612, p = 0.472
EF8	Students are comfortable interacting with male lecturers.	χ^2 (8, N=449) =11.289, p = 0.186
EF1	Students work on research projects with lecturers.	χ^2 (10, N=449) =11.477, p = 0.322
EF7	Students are comfortable interacting with female lecturers.	χ^2 (8, N=449) =2.729, p = 0.950
EF4	Students work with faculty members on activities other than coursework.	χ^2 (8, N=449) =13.418, p = 0.098

Source: Field data, 2018.

Findings from Table 4.33 revealed that irrespective of the levels of the students, their perception of how faculty interacted with them were the same. There were no significant relationship between the levels of students and them discussing grades or assignments with their lecturers, or ideas from their classes with their lecturers outside class, or comfortable interacting with lecturers or working on research projects with lecturers or working with faculty members on activities other than coursework.

Table 4.34: Relationship between levels of students and campus environment items.

Item #	Item description	Chi-square results
CE1	UPSA provides students the support they need to help them succeed academically.	χ^2 (8, N=449) = 20.886, p=0.007
CE2	There are good quality interactions between UPSA staff and the students at UPSA.	χ^2 (8, N=449) = 12.613, p=0.126
CE3	UPSA supports students' overall wellbeing (recreation, healthcare, counselling).	χ^2 (8, N=449) = 4.619, p=0.797
CE4	UPSA helps students cope with their non-academic responsibilities (work, family, etc.)	χ^2 (8, N=449) = 4.876, p=0.771

Source: Field data, 2018.

From Table 4.34, the computed Chi – square results indicated that was a significant relationship between the levels of students and the school providing the students with the support that they required to succeed academically (Table 4.34). However, irrespective of the levels of the students, the school treated the students same in terms of helping the students to cope their non-academic responsibilities, recreation, counselling, healthcare provision and staff interactions.

Table 4.35: Relationship between levels of students and learning experience items.

Item #	Item description	Chi-square results
LE11	Students feel confident about tackling unfamiliar problems as a result of the courses they are studying.	χ^2 (8, N=449) =24.761, p=0.002
LE10	Courses develop students' problem-solving skills.	χ^2 (8, N=449) =13.060, p=0.110
LE9	Courses improve students' skills in written communication.	χ^2 (8, N=449) =13.706, p=0.090
LE12	Courses help students to develop the ability to plan their own work.	χ^2 (8, N=449) =13.483, p=0.096
LE8	Courses help students to develop their abilities to work as team members.	χ^2 (8, N=449) =13.990, p=0.082
LE7	Courses taught have sharpened students' analytical skills.	χ^2 (8, N=449) =14.947, p=0.060

Source: Field data, 2018.

In analyzing the relationship between the levels of students and their learning experiences from Table 4.35, the findings suggested that students' ability to tackle unfamiliar problems had significant relationship with the levels of the student. Meanwhile, there was no significant relationship between the levels of students and the ability of the courses they were studying to improve their written skills.

Table 4.36: Relationship between levels of students and lecturer's feedback items.

Item #	Item description	Chi-square results
LE2	Lecturers give students helpful feedback.	χ^2 (8, N=449) =5.329, p=0.722
LE3	Lecturers motivate students to do their best work.	χ^2 (8, N=449) =23.000, p=0.003
LE1	Lecturers put lots of time into commenting on students' work.	χ^2 (8, N=449) =10.336, p=0.242
LE4	Lecturers are extremely good at explaining things to students.	χ^2 (8, N=449) =24.209, p=0.002
LE6	Lecturers make real efforts to understand students' difficulties in their courses.	χ^2 (8, N=449) =8.581, p=0.379

Source: Field data, 2018.

The Chi-square results from Table 4.36 tested the association between levels of students and how lecturers provided feedback revealed that there were significant relationships between the levels of the students and their understanding of the fact that their lectures explain things well for them and also motivating them to do their best.

Homogeneity of variances for student engagement variables

Levene's test was used to compute the test for assumption of homogeneity of variance for the student engagement variable and its sub variables. The results are given in Table 4.38.

Table 4.37: Test of homogeneity of variances for student engagement variables

Variable	Levene Statistic	df1	df2	Sig.
Academic challenge	1.926	2	446	.147
Experience with faculty	1.164	2	446	.313
Campus environment	1.394	2	446	.249
Learning experience	3.335	2	446	.037
Lecturer feedback	.718	2	446	.488
Learning with peers	1.851	2	446	.158
Student engagement	.617	2	446	.540

Results from Table 4.37 showed that academic challenge, F(2,446)= 1.926, p =.147; experience with faculty, (2,446)= 1.164, p= .313, campus environment F(2,446)= 1.394, p = .249; lecturers feedback, F(2,446)= .718, p= .448; learning with peers F(2,446)= 1.851, p=.158 and student engagement F(2,446)= .617, p=.540 had equal variances. Meanwhile, learning experience, F (2,446) = 3.335, p=.037 violated the test for equal variance. In this regard, in situations where the omnibus ANOVA test was significant, the Tukey HSD was used to conduct post hoc test for variables that met the equal variance assumption while the Dunnett C was used for those that violated test for equal variance assumption.

Demographic characteristics (level of students and age, sex) and student engagement

Significant mean difference between levels of students and the student engagement sub-variables

Analysis of Variance (ANOVA) was performed by the researcher to determine whether there were significant differences among the level 200, 300 and 400 students in relation to how students were engaged at the school. In instances where significant mean differences existed, the Tukey HSD

was conducted as post hoc test to find where the differences existed. The results are evidenced in Table 4.38.

Table 4.38: ANOVA significant difference between levels of student and the student engagement sub-variables (N=449)

Variables	Levels	N	Mean	SD	F	P-value	Eta-squared
Academic challenge	200	170	3.728	0.726			
	300	145	3.815	0.649	7.390*	0.001	0.033
	400	134	4.008	0.599			
Experience with faculty	200	170	3.073	0.742			
	300	145	3.018	0.078	1.136	0.322	
	400	134	3.152	0.836			
Campus environment	200	170	3.261	0.823			
	300	145	3.395	0.916	2.292	0.102	
	400	134	3.847	0.843			
Learning experience	200	170	3.724	0.770			
	300	145	3.795	0.711	7.980*	0.000	0.035
	400	134	4.028	0.641			
Lecturer feedback	200	170	3.264	0.820			
	300	145	3.403	0.742	4.328*	0.015	0.019
	400	134	3.521	0.737			
Learning with peers	200	170	3.509	0.843			
	300	145	3.668	0.730	2.122	0.121	
	400	134	3.676	0.737			
Student engagement	200	170	3.472	0.538			
	300	145	3.538	0.547	5.038*	0.007	0.023
	400	134	3.621	0.508			

* indicates significance at $p < .05$

Table 4.38 reveals ANOVA results for the significant mean differences between the levels of students and student engagement and its sub-variables. The computed results showed that

Academic Challenge F (2,446) =7.390, p = 0.001, η^2 =0.033; Learning Experience, F (2,446) = 7.980, p=0.000, η^2 = 0.035; Lecturer Feedback, F (2,446) = 4.328, p = 0.015, η^2 = 0.019 and Student Engagement, F (2,446) = 5.038, p = 0.007, η^2 = 0.23 reported significant mean differences and small practical effect among the various levels of the students. There were no significant mean differences among the levels of students and experience with faculty, Campus Environment, and Learning with Peers.

Post hoc analyses using Tukey HSD for the omnibus ANOVA results for levels of students and academic challenge showed that a significant mean differences exists between level 400 (M = 4.008, SD = 0.599) and level 200 (M = 3.728, SD = 0.726) with a p - value of 0.026; also between level 400 and level 300 (M = 3.815, SD = 0.649) and a p value of 0.001. These results implied that the level 400 students were more academically engaged than the level 200 and 300 students.

Also, post hoc computations using Dunnett C showed that the level 400 students (M = 4.028, SD = 0.641) reported greater learning experience than the level 200 (M = 3.724, SD = 0.770) and level 300 (M = 3.795, SD = 0.711). The post hoc test also revealed that the level 400 students (M = 3.521, SD = 0.737) reported that they received more feedback from their lecturers than the level 200 students (M= 3.509, SD = 0.843) with a p value of 0.011 but not with level 300 students (M = 3.403, SD = 0.742) p value of 0.357. Post hoc analysis showed that the level 400 (M = 3.621, SD = 0.508) were more engaged than the level 200 (M = 3.427, SD = 0.537) with a p value of 0.005 but not with the level 300 (M=3.538, SD=0.547) with a p value of 0.349.

Ages and student engagement

ANOVA results showed that there were no significant mean differences between the ages of students that participated in the study and their engagement level [F (3,445) = .612, p = .608]. This finding suggested that the ages of the students were within a homogeneous category and that there were no significant differences among their ages in relation to how they were engaged at school.

Sex and student engagement

An independent t-test conducted to determine whether there were significant differences in how males and females got engaged at school. The results indicated that the males (Mean= 3.557, SD= .549) did not differ significantly from the females (Mean= 3.516, SD= .521) in relation to how they were engaged at school [t (447) = .815, p = .416]. Further, analyses of the results revealed that a positive and significant relationship existed between gender and academic challenge, students' experiences with faculty and lecturers' feedback.

In the same way, females (Mean = 3.939, SD= .579) were more engaged academically than the males (Mean = 3.782, SD= .736). However, the males (Mean = 3.178, SD= .721) had more interactions with faculty members than the females (Mean = 2.982, SD= .837). Consequently, the males (Mean = 3.482, SD= .771) were observed to have received more helpful feedback from their lecturers than their female (Mean = 3.334, SD= .763) counterparts.

However, there were no significant mean differences between gender and campus environment, learning experiences and learning with peers. These findings implied that both the males and females had good interactions with the staff on campus. Also, there were no significant mean differences in the confidence both male and females used in tackling unfamiliar problems in their

courses of study. Similarly, both males and females equally engaged in study group discussions with other students.

Conceptual model testing

After the data was collected, the researcher subjected the data to Confirmatory Factor Analysis (CFA) to ensure data reduction was successful. The researcher made sure that convergent and discriminant validity were established for the observed variables and their corresponding latent constructs that were used in this study. For this reason, the researcher did not consider any item that cross – loaded and that each scale item loaded unto only one factor (Awang, 2012).

The researcher performed Confirmatory Factor Analysis (CFA) simultaneously to examine the measurement model and the structural equation model for the constructs used in the conceptual framework of the study to validate the structure. These constructs were teaching quality, technology use, flow, student engagement, efficacy, and academic performance. Also, the researcher used the Maximum Likelihood (ML) estimation to test the hypotheses associated with the conceptual framework of the study. The statistical significance of the path coefficients of the hypotheses were tested at a significance level of 0.05.

The researcher utilised Chi – square (χ^2), Root Mean Squared Error of Approximation (RMSEA), Tucker – Lewis Index (TLI), Comparative Fit Index (CFI), and Goodness of Fit Index (GFI) as model fit indices to examine the overall measurement and structural equation model of the study framework (Tucker and MacCallum, 1997; Awang, 2012; Hair et al., 2010). The results of the measurement and structural models have been presented in Table 4.39.

Table 4.39: Goodness of fit indices for structural model

Model	Chisq (χ^2)	Chisq/df	RMSEA	CFI	TLI	GFI
Measurement Model	χ^2=395.517; df=97; p=0.00	4.077	0.034	0.912	0.901	0.926
Hypothesized Structural Model	χ^2=320.821; df= 97; p= 0.00	3.307	0.026	0.968	0.959	0.971
Level of Acceptance	p > 0.05 / (Awang, 2012)	Chi square/ df < 5.0 (Awang, 2012)	RMSEA < 0.08 / (Awang, 2012)	CFI >= 0.90 means satisfactory fit / (Awang, 2012); (Hair et al., 2010)	TLI >= 0.9 means satisfactory fit / (Tucker and MacCallum, 1997); (Awang, 2012)	GFI >= 0.90 / (Joreskog & Sorbom, 1984); (Awang, 2012)

RMSEA: Root Mean Square of Error Approximation; Chisq: Discrepancy Chi Square; Chisq/df: Chi Square/Degrees of Freedom; GFI: Goodness of Fit Index; CFI: Comparative Fit Index; TLI: Tucker-Lewis Index; CoD: Coefficient of Determination

Measurement model analysis

Findings from Table 4.39 indicated that, the goodness - of - fit for the proposed model was satisfactory as the indices were within recommended levels of acceptance.

Structural equation modelling

The structural model has reported as very useful indicator in representing the linkages between variables and constructs used in a study (Hair et al., 2010). Although, the initial measurement model was satisfactory, the researcher dropped off problematic items that loaded after the factor analysis. Items that reported factor loadings that were less than 0.6 were dropped off to improve the model fit indices. The revised model fit indices for RMSEA, CFI, TLI, and GFI were all within

the acceptable threshold. The coefficient of determination explained 52.7 percent variation in the academic performance variable and that the model was deemed to be strong. The results of the proposed model and hypotheses results have been presented in the figure 4.1 and Table 4.40.

Conceptual Model

Figure 4.1: Conceptual Model

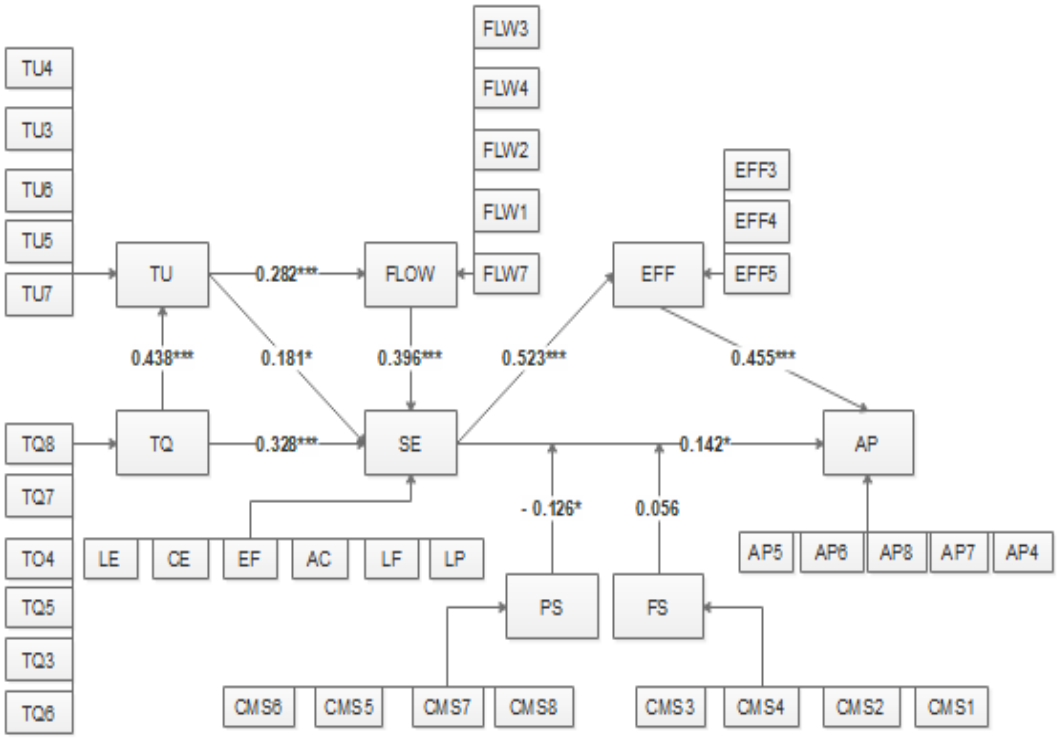


Figure 4.1: The Flow-Efficacy-Student Engagement Linkages Model in Higher Education.

TQ: teaching quality; TU: technology use; FLW: flow; SE: student engagement; LE: learning experiences; CE: campus environment; EF: experience with faculty; AC: academic challenge: LF: Lecturers' feedback; LP: learning with peers: PS: peer support; FS: family support: CMS: community members support: EFF: efficacy; AP: academic support.

The Flow-Efficacy-Student Engagement Linkages Model in Higher Education as shown in Figure 4.1 was developed and tested by the researcher as a result of mind-mapping of synthesized literature from studies from different cognates in education. In the tested conceptual framework model, the researcher proposed that when the lecturers know their courses very well and make themselves available to discuss problems and assignments with students, they are likely to integrate technology usage into their course delivery. This will help the students to engage academically. Also, as students tend to use technology, they tend to learn many things from the internet. As they use their mobile phones, they tend to enter into the state of flow where their minds are completely focused on their performance and what they intend to do. This helps the students to engage academically with their peers and lecturers. As students engage with their peers, lecturers and staff of the university, they tend to develop their skills and talents which intends make them gain confidence and believe in themselves that they are good and therefore can perform well academically. Similarly, when students engage with their peers, staff and lecturers, they tend to also do well academically.

Table 4.40: Structural model results (Test of Hypotheses)

Hypothesis			Path Coefficients	Standard Error.	Critical Ratio	p	Result
H1: Technology use	<-	Teaching quality	0.438	0.043	10.217	*	supported
H2: Flow	<-	Technology use	0.282	0.039	7.17	*	supported
H3: Student engagement	<-	Technology use	0.181	0.029	6.236	*	supported
H4: Student engagement	<-	Teaching quality	0.328	0.028	11.659	*	supported
H5: Student engagement	<-	Flow	0.178	0.027	6.658	*	supported
H6: Efficacy	<-	Student engagement	0.396	0.047	8.443	*	supported
H7: Academic performance	<-	Efficacy	0.455	0.048	9.552	*	supported
H8: Academic performance	<-	Student engagement	0.126	0.023	5.498	*	supported
Coefficient of determination (R^2)					0.527		

Note: *p < .05

Test of hypotheses

H1: A positive relationship will exist between Teaching Quality and Technology Use

The results from the Structural Equation Modelling (Table 4.40) showed that a positive and significant relationship exist between Teaching Quality and Technology Use (β=.438, $p < .05$). This result suggested that H1 was supported by data of the study.

H2: There will be a positive relationship between Technology Use and Flow.

The analysis from the Structural Equation Modelling (Table 4.40) revealed that there was a positive and significant relationship between Technology Use and Flow (β=.282, $p < .05$). H2 was supported by the data.

H3: There will be a positive relationship between Technology Use and student Engagement

Findings from the Structural Equation Modelling (Table 4.40) indicated that the relationship between Technology Use and student Engagement was positive and significant (β=.181, $p < .05$). This result was an indication that H3 was supported by the data.

H4: A positive relationship will exist between Teaching Quality and Student Engagement

The outcomes of the Structural Equation Modelling (Table 4.40) showed that there was a positive and significant relationship between Teaching quality and Student Engagement (β=.328, $p < .05$). Hypothesis 4 was supported by the findings of the study.

H5: There will be a positive relationship between Flow and student Engagement.

The study findings from Table 4.40 presented a positive and significant relationship between Flow and Student Engagement (β=.178, $p < .05$). This result also suggested that H5 was supported by the study findings.

H6: Student Engagement will have a positive relationship with Efficacy.

Study results from Table 4.40 showed that the relationship between Student Engagement and Efficacy was positive and significant (β=.396, $p < .05$). This finding revealed that H6 was supported by the study data.

H7: There will be a positive relationship between Efficacy and Academic Performance.

Study findings from Table 4.40 showed that there was a positive and significant relationship between efficacy and academic performance (β=.455, $p < .05$). The result indicated that H7 was supported by the findings.

H8: A positive relationship will exist between Student Engagement and Academic Performance.

Analysis from the Structural Equation Modelling (Table 4.40) specified that there was a positive and significant relationship between Student Engagement and Academic Performance (β=.126, $p < .05$). In view of this result, the researcher concluded that H8 was also supported by the study data.

OBJECTIVE FOUR

To determine the relationship between student entrepreneurial activities and academic performance.

Relationship between Student Entrepreneurial Activities and Academic Performance

The researcher conducted Pearson Correlation to ascertain the kind of relationship that existed between academic performance, self-reported GPA, student entrepreneurial activities and demographic characteristics (sex, age and levels of students). The results have been presented in the Table 4.41.

Table 4.41: Intercorrelations matrix between academic performance, self-reported GPA, student entrepreneurial activities and demographic characteristics (sex, age and levels of students)

Variable	1	2	3	4	5	6
Academic performance attributes	-					
Self-reported GPA	.191*	-				
Student entrepreneurial activities	-.099*	-.182*	-			
Sex	.141*	.042	-.063	-		
Age	-.063	-.157*	.163*	-.097*	-	
Levels of students	-.037	.195*	-.028	-.134*	.136*	-

*. Correlation is significant at the 0.05 level (2-tailed).

From Table 4.41, results of the intercorrelation matrix between student entrepreneurial activities; and academic performance attributes (r = -.099, p < .05) and self-reported GPA(r = -.182, p < .05) of the students were statistically negatively weak but significant. Inferences made by the researcher based on this result suggested that students' academic performance of the students improve as they engage less in entrepreneurial activities.

Similarly, analysis of the intercorrelation matrix between the self-reported GPA and student entrepreneurial activities yielded a negatively weak but statistically significant relationship (r = -.182, p < .05). Although, the effect was practically small, this result implied that as the students get themselves involved in more entrepreneurial activities, their cumulative grade point average would also tend to decrease.

Also, the results indicated that student entrepreneurial activities positively and significantly related with age (r = .163, p< .05). This means that the older students were more likely to engage in entrepreneurial activities. However, there was no significant relationship between student entrepreneurial activities and sex (r = -.063, p= ns) and level of students (r = -.028, p= ns).

Regression Analysis for Student Entrepreneurial Activities Predicting Self-Reported GPA

The researcher used regression coefficients to determine the influence of student entrepreneurial activities on students' academic performance. The findings are established in Table 4.42.

Table 4.42: Multiple regression: student entrepreneurial activities as a predictor of self-reported GPA after controlling sex, age and level of students

	Unstandardized Coefficients		Standardized Coefficients					
Variable	B	Std. Error	Beta	t	Sig.	F	Adjusted R^2	R
(Constant)	3.730	.151	-	24.724	.000	8.75	0.094	0.326
Student entrepreneurial activities	-.134	.041	-.149	-3.256	.001			
Sex								
Female (RF)	-	-	-	-	-			
Male	-.078	.091	-.040	-.866	.387			
Age								
Below 20 years (RF)	-	-	-	-	-			
20-25 years	-.186	.114	-.086	-1.631	.104			
26 years and above	-.630	.179	-.189	-3.519	.000			
level of students								
Level 200 (RF)	-	-	-	-	-			
Level 300	.483	.108	.228	4.480	.000			
Level 400	.508	.111	.235	4.581	.000			

Dependent variable: Self-reported GPA

Results from Table 4.42 indicate that, after, holding sex, age and level of students as control variables, the study results established that students who engaged in entrepreneurial activities were likely to report low GPA's (β= -.134, p< .05). The male students were less likely to engage in entrepreneurial activities and report high GPA's. The results also indicated that the level 300 and 400 students were more likely to engage in entrepreneurial activities and report high GPA's. Further results revealed that student entrepreneurial activities explained 10.6% (R^2= .106) of the variance in self-reported GPA.

In furtherance to these, a test of hypothesis was conducted;

H9: There will be a positive relationship between student entrepreneurial activities and academic performance

Findings from Table 4.41 indicated there was a negative relationship between student entrepreneurial activities and academic performance and that when students engaging in petty trading or online sport betting or online buying and selling they tend to perform poorly as suggested by the data. Therefore, Hypothesis 9 was not confirmed by the findings of the study.

Moderating effect of family support and peer support on the relationship between student engagement and academic performance

From Figure 4.41, results linked to the proposed conceptual framework for the study revealed that family support (β= 0.056, SE_B= 0.078, 95% CI [-.085, .242], p= .432) had a positive but not significant moderation effect on the relationship between by student engagement and academic performance. Interestingly, peer support (β= -.126, SE_B= 0.032, 95% CI [-.291, -.004], p = .042)

negatively and significantly moderated the relationship between student engagement and academic performance among the students of University of Professional studies, Accra.

Moderating effect of efficacy on the relationship between student entrepreneurial activities and academic performance

The SPSS PROCESS MACRO was used by the researcher to analyse the moderating role of efficacy in the relationship between student entrepreneurial activities and academic performance. The researcher estimated the coefficients, standard error and a 95% confidence interval at a significance level of 0.05 (Hayes, 2013). The results of the computations have been summarized in Table 4.43.

Table 4.43: ***Hayes' Process Regression Matrix for the moderating effect of Efficacy on the relationship between Student Entrepreneurial Activities → Academic Performance***

					95% Confidence interval	
	Coeff	SE	T	p	LLCI	ULCI
Efficacy	0.303	0.043	7.084	0.000	0.219	0.387
Student Entrepreneurial Activity	-0.064	0.027	-2.422	0.016	-0.117	-0.012
Student Entrepreneurial Activity* Efficacy	0.195	0.043	5.029	0.004	0.138	0.256

LLCI: Lower limit confidence interval; ULCI: Upper limit

The findings from Table 4.43 posit that there was a statistically significant effect of efficacy and student entrepreneurial activities on the dependent variable academic performance (β= 0.195; SE_B= 0.043; 95% CI = [0.138; 0.256]; $p < .05$). This result suggests that when the students believe in themselves that they are good and in addition they study very well, they can engage in entrepreneurial activities and still perform well academically.

Summary of findings

Findings that emerged from the study were that:

1. Student engagement construct that emerged at the University of Professional Studies, Accra which also has implications for higher education in Ghana revealed a six-factor structure model, namely; learning experience, campus environment, experience with faculty, academic challenge, lecturers feedback, and learning with peers.
2. Lecturer feedback was found to one of the important dimensions of student engagement within the Ghanaian higher education setting.
3. Learning experience (Mean= 3.862, SD= .715) significantly predicted academic performance [β= .185, t (448) = 3.360, p < .05].
4. Campus environment (Mean= 3.385, SD= .864) significantly predicted academic performance [β= -.057, t (448) = -1.03, p= ns].
5. Students experience with faculty (Mean= 3.293, SD= .670) was the least rated among the student engagement variable but significantly predicted academic performance [β= -.133, t (448) = -4.081, p < .05].
6. Academic challenge (Mean= 3.861, SD= .665) significantly predicted academic performance [β= .107, t (448) = 2.081, p < .05].
7. Lecturer feedback (Mean= 3.406, SD= .770) significantly predicted academic performance [β= .129, t (448) = 2.239, p < .05].
8. Learning with peers (Mean= 3.626, SD= .750) significantly predicted academic performance [β= .215, t (448) = 4.137, p < .05].
9. The level 400 students (Mean= 3.621, SD= .508) were significantly engaged more than the 200 students [Mean= 3.427, SD= .537, p= .005].

10. There was a negative significant relationship between student entrepreneurial activities and GPA ($r = -.182$, $p < .05$).
11. Students who reported engaging in petty trading were likely not to perform well academically.
12. The level 400 students received more feedback from their lectures than the 300 and 200 students.
13. The level 400 students reported more favourable experience with their lecturers than the 300 and 200 students.
14. Again, the level 400 students indicated greater learning experience than the level 300 and 200 students.
15. There was no significant mean difference between males and females in relation to their overall engagement at school.
16. Student engagement predicted academic performance through the flow- efficacy- student engagement linkages in higher education model.
17. Teaching quality predicted technology use.
18. Students achieved flow experience by using technology in their learning process.
19. There was a positive and significant relationship between teaching quality and technology use.
20. Students who achieved flow experience through technology use also got engaged at school
21. Students who were engaged were also self-confident.
22. Students' self-efficacy predicted academic performance.
23. Family support ($\beta = 0.056$, $SE_B = 0.038$, CI [-.085, .242], $p = .432$) did not significantly moderated the relationship between by student engagement and academic performance.

24. Peer support (β= -.126, SE_B= 0.032, CI [-.291, -.004], p = .042) negatively and significantly moderated the relationship between student engagement and academic performance.
25. Student self-efficacy positively and significantly moderated the relationship between student entrepreneurial activities and academic performance.

CHAPTER FIVE

DISCUSSION OF RESULTS

Introduction

This chapter discusses the results of this study in relation to previous literature and salient issues within the context of student engagement. The current study aimed to determine the influence of students' engagement on academic performance in higher education. Also, the study sought to investigate the relationship between students who engage in entrepreneurial activities and the influence on their academic performance.

Student engagement has been conceptualized by some previous authors as a multifaceted construct (Coates, 2005, 2010; Fredricks et al., 2004; Shah & Cheng, 2019). Engagement has been thought of as being a dimensional construct which is embedded with behavioural, cognitive and emotional components ; attention, cognitive and affective domains (Chen et al., 2008); cognitive, affective, behavioural and agency components (Veiga, 2016). Students engage in active involvement in their programs of study by participating in individual learning in the classroom and students' groups. Also, when students participate in research work, Kuh et al. (2008) refers to these activities as educational purposeful activities which has been part of the central issues in engagement.

Factor structure of student engagement in the Ghanaian higher education setting

In the first objective, the study sought to determine the factor structure of students' engagement in the Ghanaian educational setting.

Chen et al. (2008) highlighted that the concept of student engagement and its relationship with graduate achievement and aftermath effect is gradually gaining attention in higher education communities across the globe due the effort and attention of the National Survey for Student Engagement (NSSE). In the current study, factors that emerged from the confirmatory factor analysis established that student engagement variable emerged as a six-factor structure model within a Ghanaian higher education setting. The first-factor was the learning experiences of the students. The second-factor was the campus environment while the third-factor was the student experiences with faculty. Academic challenge was extracted as the fourth factor while lecturers' feedback and learning with peers emerged as the fifth and sixth factors respectively as indicated in Table 4.16. This result was not consistent with the findings of Fredricks et al. (2004), Shah and Cheng (2019) Tadesse et al. (2017), Pike and Kuh, 2005, and Veiga (2016) who reported different factor structures with different constructs at different times.

It is important to note that, in most instances the terminologies may be different but the meaning may share some similarities. For example, Tadesse et al. (2017) reported a nine-factor structure scale of student engagement using the confirmatory factor analysis. The first factor they extracted was integrative and collaborative leaning. The second factor was academic challenge while the third factor was student-teacher interaction. Classroom interaction was extracted as the fourth factor while assessment tasks came out as the fifth factor. They reported supportive campus environment as the sixth factor while interpersonal relationship emerged as the seventh factor. The eighth factor was enriching educational experience while the ninth factor was reading and writing.

During the factor analysis, student learning experiences variable was extracted into two factors. The two factors were treated based on the recommendation of Awang (2012) who reported that, anytime a variable splits during factor analysis, the researcher should ensure that the items loading under each factor were not less than three and also name the variables based on the items with the highest loadings or based on some theoretical underpinnings relevant to the body of knowledge that the researcher is investigating. Learning experience was extracted in factor one labelled learning experience and factor five labelled lectures feedback as indicated in Table 4.16. Prominent among the learning experiences that predicted student engagement within the Ghanaian higher educational setting was that students reported that they felt confident about tackling unfamiliar tasks as a result of the courses that they were studying (Table 4.6 and Table 4.16).

This finding was entirely different from that of Veiga (2016) who reported agency as the highest predictor of student engagement in Portugal. By agency, Veiga indicated that students intervening to express their point of view in class was a key determinant of engagement. In the current study, the addition of feedback from lecturers was a very important dimension for students' engagement at the University of Professional Studies, Accra as it was necessary to enhance the understanding of students on what they have been taught.

The results of this study provide an extension of literature for National Survey for Students Engagement (NSSE, 2017) benchmarks which reported a five – part model for the student's engagement variable. The NSSE benchmarks were academic challenge, learning experience, supportive campus environment, learning with peers and experience with faculty.

Again, the students reported that their courses helped them to develop problem-solving skills (Mean = 3.898, SD = 0.839; Table 4.6). For students to develop effective problem-solving skills,

they must first have the cognitive power to process information of different kinds that contain varying degrees of uncertainties, ambiguities and complexities in relation to their behavioural change. Neves (2016) reported that students taking responsibility for their own learning, challenging themselves to do their best and applying facts and theories to practice were the key areas student engaged. Students ability to submit assignment on time, copy materials from the blackboard, studying on their own when they are off campus and attending classes regularly gave the students memorable learning experiences (Shah & Cheng, 2019). These findings were consistent with Bandura (1977, 1991) and (Meral et al., 2012) who indicated that learners obtained relevant information to assess their self-efficacy in relation to their actual performance. This finding is very important as students must be prepared to embrace the world of work with confidence and professionalism. Their problem – solving skills for even non – existent problems would help them to remain relevant in their various fields of endeavours in life. When students are able to develop their problem-solving skills, then they would also tend to improve upon their critical thinking and practical reasoning skills which is a key ingredient in today's world. These findings bring to light that the learning experiences of the students gave them control of their thoughts, actions and feelings toward educational purposeful activities.

Campus environment was the second predictor of engagement at the University of Professional Studies, Accra (Table 4.16). The campus environment is an embodiment of support that student get from the university. The students reported that they had healthy interactions between themselves and staff of the university (Table 4.5). Again, they revealed that the school provides institutional support in terms of library services, health, counseling and recreational activities (Table 4.5). Krause and Coates (2008) believed that students experience their sense of belongingness when they come to campus very often.

Meanwhile, Kuh and Gonyea (2003) were also of the opinion that students who patronize their schools library services on regular bases are most likely to improve upon their learning experiences and also interact more often with their lecturers on new ideas that emerge from their inquiry for further explanations. As the adage goes “a sound mind resides in a healthy body”. Students often need sound mind to concentrate on their studies but on some occasions, they fall sick and are not able to cope with their studies. Some students may go home so they are taken care of until they get better before returning to school to continue with their studies, while some go to the school’s clinic to be taken care of by the school doctors, nurses, pharmacists, laboratory technologist and other healthcare workers. The issue that pops-up here is that those students who go home for healthcare are likely to miss out completely on activities in class in their absence and are likely to not catch up. Such students are most likely not to submit their assignments on time or would not even submit it all for marking.

However, students who patronize the school’s clinic are likely to get snippets of information that took place in their absence. These students are likely to submit their assignments on time through the help of their friends who were in class and on campus. With these students who interact more often with their friends on campus are likely to achieve a sense of belongingness beyond the academic experiences. Also, provision of counseling services for students on campus is very essential as it provides opportunities for students to talk to resource persons whenever they are experiencing stressful situations that are dehumanizing or very challenging to them. Similarly, some students become “hypnotized when they are in anxious mood, critical when they are in critical mood and positive when they are in positive mood” (McClusky, 1970) while on campus and these critical periods such as broken relationships, death of a loved one, diseased conditions, academic choice dilemmas, and misunderstandings may distract them from engaging in academic

purposeful activities as they will be going through sensitive periods of readjustment. Students who socialize during hall, departments, and faculty weeks celebrations also have opportunities to interact with other students from different disciplines as reported by pike and Kuh (2005). During this period, students tend to bridge acquaintances with colleagues the initially did not know. By so doing they see the campus as friendly with a sense of belonging that tends to enhance their campus experiences.

In reference to the academic challenge of the students, the respondents indicated that they spent significant amount of time studying and doing their academic works (Mean = 4.047, SD =1.009). Also, they spend significant amount of effort preparing for their classes (Table 4.2). These results were corroborated by the work of Meral et al. (2012) who reported that when students with strong sense of efficacy get involved in challenging tasks, they tend to spend more effort and they show resilience and persistence to achieve academic excellence unlike their counterparts who lack self-confidence. Students who show resilience are though thinkers who motivate themselves to plan their own cause of action and also act accordingly, believing that they would succeed in their endeavours. In as much as the above statement may be true in most instances, the researcher argues that in some occasions, students who may have high self-confidence in some courses may also tend to perform abysmally in some other courses.

Again, the students were assigned textbooks and course reading materials to learn and be conversant with the content during the course of the semester (Table 4.2). Whenever, students' progress through the learning situation, they tend to conduct self-evaluation to match-up their knowledge and skills to the tasks assigned in courses. That is, when the students come to the learning environment, they are usually given tasks to perform. In most instances, these students initially do not have the competencies and the skills to perform tasks that they have not been taught.

Therefore, they tend to be frustrated by the tasks assigned to them (Csikszentmihalyi, 1990). In some instances, when these frustrations persist for a protracted time, some of these students would become drop-outs and would not be able to persist as suggested by Tinto (2006).

These findings were supported by the works of Schreiber et al. (2014) and Tinto (2006) who indicated that in situations where students are not able to engage successfully with the academic challenges, they drop out of school. On the other hand, when the knowledge and skills of the student is higher than the task assigned them, then they students would find the task very easy. Future repetitions of such easy tasks would make it boring for the students and they would likely be complacent (Csikszentmihalyi, 1990). Meanwhile, when students are given assignments that are based on further readings of course materials, it would be evidenced that students would read the course materials be able to do the assignment while those who will not spend significant amount of time to read the course materials and other related materials would not be able to cope with the assignment. These assertions are corroborated by the flow theory (Csikszentmihalyi, 1990; Rheinberg, 2015) used in the current study.

Conversely, the researcher believed that it is also likely that when the students spend significant amount of time preparing and studying their academic materials and also attending classes regularly, they tend to acquire skills and competencies and are likely to enter into the state of flow which Csikszentmihalyi (1990) conceptualized as a positive psychology. When these students enter the state of flow, it is likely that they would be studying and be reading their course materials in a manner that they might not even know that time is far spent. They may become so much engulfed in their academics and therefore are very likely to do well academically. This assertion was supported by the works Fredrick et al. (2004) who advocated that when students invest their

time into active learning, they tend to have the willingness to incorporate thoughtfulness to comprehend complex ideas and master challenging tasks assigned to them.

Also, results of the study indicated that when students learn with their peers, they tend to also engage in academic purposeful activities as suggested by Kuh (2001) and NSSE (2017). The study findings revealed that, students learning with peers was predicated on the fact that students have discussions, with other students with different viewpoints (Table 4.3). Furthermore, students discussing ideas from readings with other students was also a significant predictor of students learning with peers. The results also indicated that, the students got engaged by teaching their colleagues (Table 4.3). This finding was also supported by Fredricks et al. (2004). In as much as this assertion may be true, it is also very likely that when students come together to learn, there may be some of them who may influence some of their colleagues positively or negatively through their interactions in school. The positive influences may range from doing group assignments together, reading together, motivating each other to study hard, encouraging each other to attend classes regularly, to networking on campus. Some of the negative influences students engage in when they interact with each other may include but not limited to excessive partying, clubbing, fashion, care-free lifestyle, engaging in illicit activities, occultism, gambling, online betting and joining gangsters on campus. Each of these levels of engagement may affect their academic performance positively or negatively.

In the current study, the data supported the idea that, students got engaged by interacting with their lecturers. The researcher observed from the data that, students discussing their grades with their lecturers was a key determinant of student experiences with faculty members. Another, interesting findings from the descriptive analysis also showed that the students reported not discussing their grades with their lecturers (Table 4.4). Therefore, it was not surprising to observe from the data

that students experience with faculty was the construct that least predicted the students' engagement variable (Table 4.18). This finding contradicted the work of Hu et al. (2012) which reported that students interacted with faculty to have firsthand information about learning content both within and outside the classroom.

Again, the researcher could deduce from the data that it was most probable that the students did not have much to do with the lecturers outside the lecture rooms. This could also be due to the fact that the lecturers were probably strict with the students and therefore made the students felt uncomfortable discussing their grades with them. It may also be suggestive that the students were secretive and that they discussing their grades with their lecturers, could mean invasion of their privacy. Also, the lecturers probably may be saving themselves from the issues of false accusations, sexual harassment, gossiping, implicating or blackmailing them for favours. On the other hand, too, the students may stay away from the lecturers for fear of victimization. However, Hu et al. (2012) reported that faculty members should serve as a role model, mentor and life-long guide to students.

Relationship between student engagement and academic performance

Results from the study (Table 4.26) showed that learning experience ($\beta = .180$, $p < .05$), academic challenge ($\beta = .114$, $p < .05$), students' interaction with faculty ($\beta = -.263$, $p < .05$) and learning with peers ($\beta = .219$, $p < .05$) positively and significantly predicted academic performance. These findings were consistent with that Daouk et al. (2016), who also reported students were interested in exploring opportunities that extends their skills, ideas which challenged them to participate in higher order thinking rather than just receiving information from lecturers. Also the findings

supported by the studies of Marton and Saljo (1976) who reported that group discussion among students of leads to deep understanding of the course materials and that students preferred lecturers who facilitate learning rather than just transmitting information. Quinton and Smallbone (2010) reported similar findings on the importance of lecturers' feedback towards enhancing teaching and learning.

However, campus environment (β= -.064, p= ns) did not significantly influenced academic performance. This result was not supported by Kuh et al. (2008) who reported that school library and institutional practices promote student success. Also, the results were not consistent with Kuh and Gonyea (2003) who reported that library use contributed significantly towards valuable educational activities such as students gaining information literacy.

Study results revealed that combined influence of learning experience, campus environment, experience with faculty, academic challenge, lecturers' feedback and learning with peers significantly explained academic performance of students at the University of professional Studies, Accra. These findings were supported by Astin (1984), Hu et al. (2012), Kuh (2001), Pascarella and Terenzini (2005), and Kuh (2001) who explained that students engage in educational purposeful activities such as spending significant amount of time studying and preparing for lectures, applying theories to solve practical problems, working with their colleagues to complete assignments and also asking questions in class.

The relationships between demographic characteristics (levels of students, age and gender) and the student engagement sub variables.

Relationship between levels of students and student engagement

The study results for the second objective sought to analyze the relationship between the levels of students and student engagement. Findings from the study (Table 4.38) revealed that there were significant mean differences between the levels of students and academic challenge ($p = 0.001$), learning experience ($p = 0.000$), feedback from lecturers ($p = 0.015$) and how the students were engaged ($p = 0.007$). Synthesizing between Table 4.30 and 4.37 suggested from the Chi Square results that the level 400 students spent significant amount of time preparing for class and reading more textbooks and study materials than the level 300 and 200 students that participated in the study. In terms of their learning experiences (Table 4.38), the level 400 students felt confident about tackling unfamiliar problems as a result of the courses they are studying than the level 300 and 200 students. This is because, the level 400 students are always in their final years who by the university regulations are required to do their project work.

Lecturers sometime perceive the level 400 students as matured individuals and therefore, in some situations they give them course materials and activities for class discussions, presentations and assignments. This tend to make the students independent and self-directing in their learning as it prepares them for the real world of word and also prepare the grounds for future academic work. The confidence of the level 400 students could be the result of their years of stay on campus, as they may have gained several experiences from their level 100 days through to 400. This finding is consistent with Tadesse et al. (2017) who reported that the seniors exhibited higher levels of engagement than their juniors.

The finding also indicated that the level 400 students believed that lecturers were extremely good at explaining things to them and also motivating them to do their best than the level 300 and 200 students. The researcher argued that this may be due to the fact that the Level 400 students may have spent more years in school than the Level 300 and 200 students and therefore, the results were likely to be influenced by the years of experience as students in the school. In all the scenarios, the study found out that the final year students (i.e., Level 400) were more engaged than the Level 300 and 200 students.

The researcher speculated that this may be due to the fact that the Level 400 students may have spent more years in school than the Level 300 and 200 students and therefore, the results were likely to be influenced by the years of experience as students in the school.

In terms of students' experiences with faculty, the results suggested that there were no significant differences in how the Level 400, 300 and 200 students interacted with their lecturers. Irrespective of the level of the students, they were not comfortable discussing their grades with their lecturers. Also, the students reported that the lecturers interacted with them in the same manner. The researcher could contend that the lecturers did not engage the students that much on a personal level especially outside the lecture room.

In the meantime, the level 400 students reported that the school provided them with the support they needed to succeed academically. It was likely that due to their length of stay on campus, they may have seen genuine efforts by the school's management in inspiring teaching and learning such as provision of state-of-the-art library and provision of internet facility on campus to support teaching, learning and research. This result is consistent with Kuh and Gonyea (2003) who

reported that library use contributed significantly towards valuable educational activities such as students gaining information literacy.

In relation to the learning experience of the students, the level 400 students indicated that they felt confident tackling unfamiliar problems because of the courses that they were studying. Irrespective of the levels of the students, they reported that the courses they were studying helped them to develop their problem-solving skills. A closer examination of the relationship between feedback from lecturers and the levels of students suggested that the level 400 students were motivated by the lecturers to do their best than the level 300 and 200 students. Also, the final year students reported that the lecturers were good at explaining things to them than the level 300 and 200 students.

Relationship between age and student engagement

Study findings revealed that there was no significant mean difference between the ages of the students and how the engaged at school. Evidence from Table 4.1 indicated that, among the students who participated in the study as respondents, 20% were below 20 year, 70.2% were between the ages of 20 to 25 years, while 8.5% were between 26 to 30 years and 1.3% were above 30 years of age. Their mean age score was 21.3 years and this clearly suggested that majority of the respondents were within their youthful age. Therefore, in terms of their ages, they did not differ significantly on how they were engaged at school. Interestingly, the mean age of the current study was similar to that of Tadesse et al. (2017) whose respondents were also youthful.

Relationship between sex and student engagement

The independent t-test revealed that there was no significant mean difference between the males and females in relation to how they were engaged at school. However, a positive and significant relationship existed between sex and academic challenge, students experiences with faculty members and learners' feedback. A microanalysis of the results further revealed that the female students made more academic efforts than the males. This finding implied that the females were more likely to spend significant amount of time studying and completing their assignments than their male counterparts. Also, it was likely that the female students were reading more of their study materials than the male students at the school.

The results also pointed to the fact that; the males had more interactions with their lecturers than the females. This result was at variance with Chickering and Gamson (1987) who argued that faculty members, management and staff must allocate much of their working time into understanding their students. By the nature of socialization, the males are mostly the gay-go type while female are usually reserved. It is very likely that as during the developmental growth stages as indicated by Schoeppe et al. (1953), males tend to have more friends than females.

This is likely to account for the male students interacting more with their lecturers than the females. On the other hand, females mostly stay back in the house with their mothers to do household chores. Afterwards, they are likely to watch television or read their story books to whirl away the time. These mindsets and upbringing traits are likely to account for the females spending significant amount of time studying and preparing for lectures than the males. In a similar fashion, the males reported receiving more feedback from their lecturers than their female colleagues who participated in the study as respondents.

Hypotheses testing for researcher's conceptual model

With respect to the hypotheses that guided the study, key findings emerged in relation to the flow-efficacy-student engagement linkages model in higher education. Results of the conceptual model revealed that the quality of teaching statistically and significantly influenced students' usage of technology (H1) to enhance teaching and learning (β=.438, $p < .05$), (Table 4.40). These findings suggested that as the lecturers knew their courses very well. That is, they are well experienced, professionals and expects in their respective fields. They tend to instruct the students to explore the internet to interact with other users to enhance teaching and learning. A similar result was reported by Rosen et al. (2013) who recounted that students use their smartphones to; search for information on the web, listen to music, take pictures, record videos, send and receiving emails, get directions through the Global Positioning Systems (GPS) and share and receive information on social media platforms such as Whatsapp, Instagram, Facebook, Tango, We Chat, Telegram, Badoo, Snap Chat, etc. Also, as lecturers make themselves available to the students, they probably request the students to search for information on their mobile phones to enhance teaching and learning.

Similar but mind-bothering assertions have been reported by Prensky (2001) in his work "digital natives, digital immigrants", that, the crop of students in today's world have completely changed and therefore, the educational system that was designed to teach their teachers are no longer fit to teach the current students. He further indicated that the today's students are all "native speakers" who fully understand the digital language of the internet, computers and video games. The researcher has also observed that the current crop of students are very fixated to their smartphones and computers. They are ambitious students who seek for alternative answers and are also inquisitive. For this reason, whenever the lecturers position the content of the learning materials

into digital spaces that the students could assess using the phones, they tend to learn while engaging with their phones. Also, this finding was supported by Gebre et al. (2015) who recounted that Professors who perceived effective teaching to be transmitting knowledge mainly used technology in the classroom for presentation purposes and accessing information. For those who thought effective teaching was about engaging students also used technology for discussions, interactions and communication as well as providing students with a hands-on experience.

The study findings indicated that technology use had statistically significant effect on flow (β=.282, $p < .05$), (Table 4.46). Therefore, H2 was affirmed by the results from the data. This probably indicated that as the students used their mobile phones to search for academic information and share them with their peers, they get to a state they enjoy the process and get used to their phones such that they feel much attached to their phones in high concentration of their minds. In some other instances, students become so confused whenever they misplaced their phones. Similar findings have been reported Shernoff et al. (2017) on students flow experiences.

Again, for H3, it is also worth noting that some students may use technology for negative reasons aside using it for educationally purposeful activities. The negative tendencies may include but not limited to watching indecent movies and pictures. Other students may use it for internet fraud, scamming, online gambling, loom, online dating and online hacking. Also, student use technology to share academic materials, send emails and receive feedback in real-time from their lecturers. Therefore, technology use statistically and significantly predicted student engagement (β=.181, $p < .05$). This finding was consistent with Rosen et al. (2013) who reported positive uses of technology in teaching and learning. This result showed that H3 was affirmed by the study findings.

Teaching quality significantly predicted student engagement (β=.328, p < .05), (Table 4.40). In view of this, H4 was therefore confirmed by the data. It was very likely that when the lecturers get to the lecture rooms, they discussed questions relating to assignments and examinations. Also, the lecturers probably assigned the students to tasks that made them spend significant amount of time studying and doing their assignments. This finding was supported by the work of Neves (2016). These tasks probably made the students to work in groups to dwell on the knowledge of each other. It is also possible that those who probably may have read ahead got the opportunity to teach their colleagues who were finding it difficult to cope.

The study results showed that flow positively and significantly predicted student engagement (β=.178, p < .05), (Table 4.40). In line with this result, H5 was supported by the data. These findings indicated that when the students remain resolute in their minds with a clear sense of what they want to do and achieve within the semester, they tend to take their academic work serious by spending significant amount of time studying and also preparing for lectures. They also tend to work collaboratively with their peers and also utilize the school's library and are likely to discuss their assignments with their lecturers.

This finding was in agreement with Shernoff et al. (2003) who indicated that students were more engaged when they perceived that they possessed the necessary competence to tackle a particular challenge. Students were more engaged when doing individual or group assignments rather than listening to lectures. Weaver and Qi (2005) indicated that when students immersed themselves into learning educationally assigned materials, can lead to high retention rates and understanding. Also, Shernoff et al. (2017) reported a positive relationship between student flow experiences and student engagement when they were studying the influence of seating positions on student engagement and academic performance. Student engagement positively and significantly also

influenced the self-efficacy of students (β=.396, p < .05). In line with this result, H6 was confirmed by the research data. This result was supported by Schunk and Mullen (2012) who reported that self-efficacy has direct effects on student engagement. This finding probably indicated that as the students spent significant amount of time reading their study materials, preparing for lecturers, utilizing the library, studying with their peers and also interacting with faculty members in class and out of class help them to build their self-confidence to solve unfamiliar problems.

The widely accepted relationship between student self-efficacy and academic performance (H7) was also confirmed in this study (β=.455, p < .05), (Table 4.40) and it was consistent with the studies of Shah and Cheng (2019) who reported that majority of their respondents indicated that they were able to write clearly, communicate effectively in English and have become independent learners.

With respect to H8, student engagement positively and significantly influenced academic performance (β=.126, p < .05), in the current study (Table 4.40). This finding implies that when students become more engaged with their studies, library facilities, friends and faculty members in academic purposeful activities, they tend to be more resilient, self-disciplined and self-determined to do well academically. Conceptually, the researcher thought through the work of Astin (1984) who suggested that whenever students come to the learning situation, they come purposefully to involve themselves in educational related activities and that anything outside this tend to distract the learner. Astin specifically mentioned that ‘’a highly involved student is the individual who spends significant amount of physical and psychological energy to studying, participating in students’ activities, spending time on campus and frequently interacting with faculty members and students”. He finally suggested that students’ time is the most precious resources in the school. Astin further use the zero-sum game to refer to this phenomenon as the

situation where teachers are said to be competing with other forces in the student's life in relation to the time the student has which is fixed. These assertions from Astin (1984) made the researcher curious to find out the role of family members support and peers support in the relationship student engagement and academic performance.

Findings from the study showed that the relationship between student engagement and academic performance was moderated positively but not significant by family members support. Hofstede (2011) and Grant and Asimeng-Boahene (2006) have reported similar results that Africans and for that matter Ghanaians belong to the collectivist society, they are born into families, live in families, die and are buried by families. Therefore, students in higher education cannot be isolated from them. In this case, uncles, aunts and in-laws have close linkage in supporting them morally, spiritually, materially, for them to succeed academically. Sometimes, they visit to see how these students are faring at school.

Relationship between Student Entrepreneurial Activities and Academic Performance

Surprisingly, the data revealed that peers support negatively and significantly moderated the relationship between student engagement and academic performance. These results may probably suggest that the students may be engaging with peers alright, but their colleagues may not necessarily tell them to attend lectures regularly and take their studies serious. It is likely that the students may be influenced negatively by their peers in engaging in more leisure activities that tend to distract them from their academic studies. Yarnal et al. (2013) reported that when students use their leisure time wisely, it could lead to positive outcomes such as stress reduction, health improvements and effective coping strategies. They cited excessive consumption of alcohol as a

vice that students use their free-time for. Some students may also engage in excessive smoking which may turn out to be detrimental to their health in some instances in the long run.

Another important finding from the study was the fact that students engaging in entrepreneurial activities negatively influenced their GPA ($\beta = -.182$, $p < .05$), (Table 4.41). This means that H9 was not supported by the study data. Salamonson and Andrew (2006) reported similar findings in Australia that, hours of part-time employment had a negative influence on the academic performance of the students. However, these findings contradicted the work of Shah and Cheng (2019) who reported that working students are more inclined in innovation and creativity and they tend to do well academically because they are more of self-directed learners. However, the researcher conceptually believes that as the students come to the learning situation, they tend to have financial needs such as monies for their up keep, study materials, internet bundle, clothing, transportation and others as also suggested by Robotham (2009). In situations where these financial needs are not met, the students tend to be distracted from their academic work and consequently they tend to perform poorly in their studies.

In view of this, the researcher further moderated the relationship between student entrepreneurial activities and academic performance with student self-efficacy (Table 4.43). The results demonstrated that student self-efficacy positively and significantly moderated the relationship ($\beta = 0.195$; $SE_B = 0.043$; 95% CI = [0.138; 0.256]; $p < .05$). The result is likely to imply that when students tend to believe in themselves, they understand their strengths and weaknesses, they are likely to appreciate the things they know and do not know. Knowledge of these assertions could enhance the students' confidence and readiness to meaningfully engaged in entrepreneurial activities and successfully perform well academically.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECCOMENDATIONS

Introduction

This chapter provides an overview of the entire study, from the background to the objectives that guided the study through to the methodology and findings that emerged from the data analysis. Furthermore, the conclusion and implications for further research have been presented in this chapter.

Summary of the study

Student engagement in higher education is conceptualized as students involving themselves in educational purposeful activities that promote learning and predict academic performance. Student engagement at school is evidenced in activities such spending significant amount of time studying and preparing for lectures, applying theories to solve practical problem, and working with their colleagues to complete project work or assignments that meet the lecturers expectations. Also, students tend to engage at school by asking questions in class, discussing their assignments with their lecturers, discussing new ideas from their studies with their lecturers outside their lecture hours and also by receiving prompt feedback from their lecturers. Also, by attending counseling sessions on campus when they are in critical periods that require a process of readjustment are part of the support that help students to engage at school.

Students attending hall week, department week, faculty week celebrations and other social activities on campus while feeling confident about tackling unacquainted tasks are also part of the

ways students involve themselves to engage at school. Engaged students are willing to participate in routine activities that are sanctioned by the school such as going for lectures, adhering to school regulations, participating in group work and submitting their assignments on time. Students who do not participate fully in these academic purposeful activities are sometimes socially isolated or alienated and are not able to do well academically at school. Students who perform academically well are usually persistent in their goals. They are goal getters who show resilience to achieve desired outcomes. They are mostly problem solvers who are confident in tackling unfamiliar tasks they come across.

In some instances, students come to the learning situation and are confronted with financial burden that sometimes compel them to engage in entrepreneurial activities. While some students also believe that they are in school to acquire life-skills that will help them to cope with the uncertainties in life and therefore resort to engaging in entrepreneurial activities on campus. As students tend to engage in entrepreneurial activities, they also tend to trade-off the amount of time they have to spend on learning, preparing for lectures and doing their assignments to catch up with submission deadlines. This is likely to lead to an ethical dilemma in such a way that students who do not engage in entrepreneurial become overly dependent on their parents, guardians, family members, and loved ones for financial support. In situations where funds are not forthcoming as it used to be, they become restless, disturbed, apprehensive, vulnerable, and sometimes emotionally and psychologically alienated from their books and this is also likely to influence their academic performance negatively. Therefore, the study sought to find out about the influence of students engaging in academic purposeful activities on their academic performance within the Ghanaian higher education setting.

The objectives that guided the current research were to determine the sets of constructs that measure the student engagement variable and the other study variables; find out about the relationships that exist between student engagement and academic performance; identify the relationships between student engagement and demographic characteristics (level of students, age and sex) of the respondents; and determine how student entrepreneurial activities affect academic performance. The purpose of the study was to describe and explain the factors of student engagement and how they influence the academic performance of the students at the University of Professional Studies, Accra, Ghana which has implications for higher education in Ghana.

The researcher adopted the quantitative techniques as the research design. The cross-sectional survey strategy was used by the researcher to select level 200, 300 and 400 students at the University of Professional Studies, Accra. The stratified simple random sampling and proportional techniques were used to select the 449 students who returned their questionnaires out of the 462 students through the balloting system that were sampled from the target frame of 7,357 students. The researcher used descriptive statistics and inferential statistics to analyse the data.

Major findings

The major findings from the study indicated that student engagement variable emerged as a six-factor structure model. Findings showed that, when sex, age and level of students were controlled, student learning experience ($\beta = .185$, $p < .05$), student experience with faculty ($\beta = -.133$, $p < .05$), academic challenge ($\beta = .107$, $p < .05$), lecturer feedback ($\beta = .129$, $p < .05$) and learning with peers significantly predicted student engagement. Conversely, campus environment ($\beta = -.057$, p=ns) did not predict student engagement. Student engagement significantly influenced student's GPA ($\beta =$

.298, t (448) = 6.573, p< .05). Students participated in activities that challenged them to learn to meet their lecturer expectations (Academic challenge, Mean= 3.861, SD=.665). Students rated their experiences with faculty (Mean= 3.293, SD= .670) as the least dimension of the student engagement variable. Student engagement positively and significantly influenced academic performance. Although, majority of the students did not engage in entrepreneurial activities (Mean=2.605, SD=.884), results indicated that students who engaged in entrepreneurial activities were not likely do well academically (r= -.182, p< .05).

Findings point to the fact that student engagement is positively and significantly related to the quality of teaching perceived by the students and the use of technology in teaching and learning. The self-efficacy theory and the flow theory adequately explained the relationship between student engagement and academic performance and that student engagement positively and significantly influenced academic performance through the flow-efficacy-student engagement linkages model in higher education. Family support (β= 0.056, SE_B= 0.078, CI [-.085, .242], p= .432) had a positive but not significant moderation effect on the relationship between by student engagement and academic performance. Remarkably, peer support (β= -.126, SE_B= 0.032, CI [-.291, -.004], p = .042) negatively and significantly moderated the relationship between student engagement and academic performance among students of University of Professional studies, Accra.

Moreover, the level 400 students were more engaged at school than the level 300 and 200 students. On one hand, the female students spent significant amount of time preparing and studying for lectures than their male counterparts. The male students interacted more with faculty members than the female students.

Besides, few students engaged in entrepreneurial activities with those who engaged in petty trading were likely to perform poorly academically. Students' with high self-efficacy could engage in entrepreneurial activities and still perform well academically.

Conclusion

The flow theory was very useful in the explanation of students using technology to enhance teaching and learning. As students continuously use their mobile phones to send and receive course materials, download music and videos from the internet and share them, they tend to enjoy the process. These experiences helped them to nurture their intrinsic strengths, character and emotions to enjoy the full potential of their phones and computers for academic purposes. This invariably affected their academic goals.

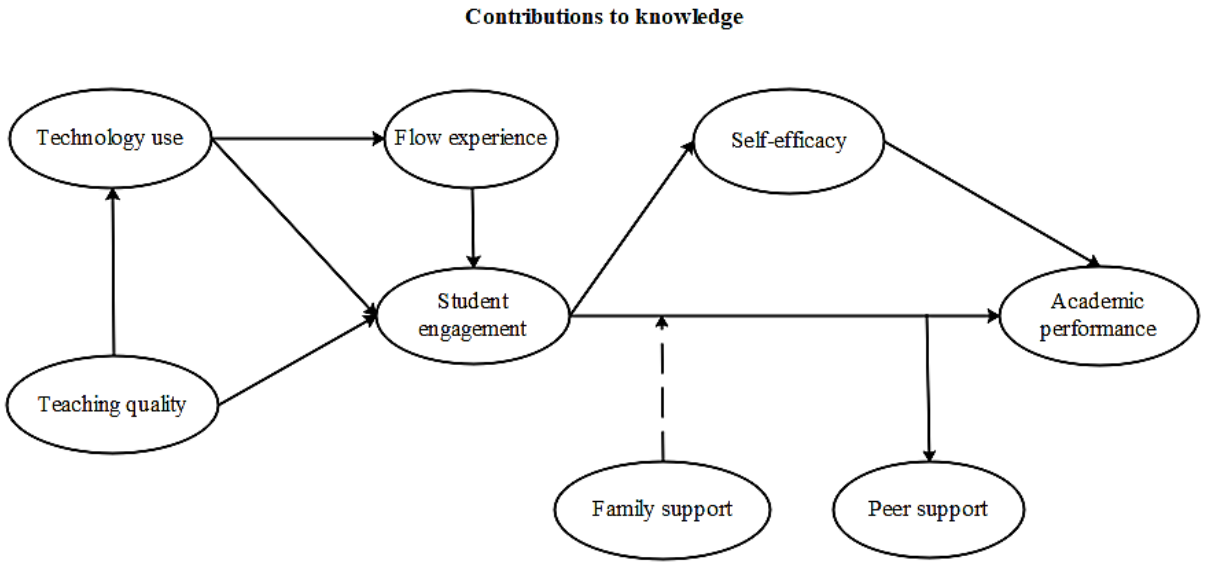
Also, the student efficacy theory explained the intrinsic motivation of the student to perform academically well. Students with high self-efficacy were likely to be goal-getters, confident, honest, resilient and well organized to achieve their academic goals of completing school successfully. The female students spent significant amount of time learning than the male students while the male students received more helpful feedback from the lecturers than their female counterparts. Student engagement and student self-efficacy influenced students' academic performance. As students engaged in entrepreneurial activities were likely to perform poorly academically. Campus environment had less influence on students' academic performance at University of Professional Studies, Accra indicating that just few students used the library, sports facilities and other student support services on campus.

The relationship between students' engagement and academic performance is not linear but multi-faceted interactions of the learners' efforts, teaching quality, lecturers' feedback, technology use, institutional support, staff and faculty support, family support and peer support systems. In summary, student engagement in higher education has significant influence on academic performance of students.

Contributions to knowledge

The researcher's contribution to knowledge has been detailed in this section. The tested, validated and proposed the Flow-Efficacy-Student Engagement Linkages Model in Higher Education which has been explained in this section.

Figure 6.1: Flow-Efficacy-Student Engagement Linkages Model in Higher Education



Author's construct: The Flow-Efficacy-Student Engagement Linkages Model in Higher Education

Explanation to the conceptual framework

The concept of student engagement has been conceptualized differently by different researchers. In this study, the researcher through empirical analysis of the data proposed and tested the hypothesis for the Flow-Efficacy-Student Engagement Linkages Model in Higher Education. The researcher decided to name the model this way to enhance Search Engine Optimization (SEO) with the key words; "Flow", "Efficacy", "Student Engagement", and "Higher Education". This will make the proposed model available to other researchers to also test the hypothesis in similar studies to confirm, amend, and critique the model.

Overview from the Flow-Efficacy-Student Engagement Linkages Model in Higher Education suggest that teaching quality will influence student to use technology in the form of searching information on the internet, sending and receiving emails from lecturers and colleagues, and also sharing media to enhance the quality of learning. The researcher believes that as the student use the technology over a period of time, they will enjoy using it and that is likely to lead them into a state of flow. Students who experience flow through using technology to enhance their learning experiences will be engaging in academic purposeful activities. As the lecturers appear to know their courses very well and also make themselves available to students, they will help the students to engage in academic purposeful activities that can enhance their academic success.

As students get themselves involved with spending significant amount of their time reading their course materials, studying and preparing for lectures, working with their lecturers on projects outside class hours, discussing new ideas that emerge from their readings with their lecturers, using library resources, studying with peers and also getting helpful feedback from their lecturers will boost their self- efficacy. Students with high self-efficacy will set high goals and persist and

persevere to achieve them. At this point the researcher proposed that students with high levels of efficacy will perform well academically while on the other hand students with high levels of engagement will also lead to higher academic performance. Findings from the model also suggested that family support positively but not significantly moderated the relationship between student engagement and academic performance while peer support negatively influenced the relationship between students' engagement and academic performance at the University of Professional Studies, Accra.

Contributions to literature

Finding from the study provides empirical evidence that adds up to the body of literature in relation to the influence on student engagement

- The researcher validated the psychometric properties of the National Survey for Student Engagement (NSSE, 2017) Instrument using confirmatory factor analysis that uniquely influenced the Ghanaian university context. Results of the factor analysis reviewed a six-factor structure for students' engagement context in a single institution within the Ghanaian university setting. The indicators of student engagement that emerged from the study were learning experience of the students, followed by campus environment, experience with faculty, academic challenge lecturers' feedback, and learning with peers.
- Lecturer feedback was discovered as an extension to the National Survey for Student Engagement (NSSE, 2017) dimensions within the Ghanaian higher education setting.
- Student engagement predicted academic performance through the Flow-Efficacy-Student Engagement Linkages Model in Higher Education within a higher education setting in Ghana.

- When sex, age and level of students were controlled, learning experience, experience with faculty, academic challenge, learning with peers and lecturer feedback significantly predicted the GPA of the students while campus environment did not have any influence on student's GPA.
- This study provided a micro-analysis on the relationships between sex (male or female) of the students and their levels of engagement. Although, the results showed that males did not differ significantly from females in relation to their overall engagement at school, there were some differences in the individual components of engagement and these were;
    - The females engaged in activities that challenged them to learn more than the males. The majority of the females reported spending significant amount of time studying, and doing their academic work, and preparing for lectures (reading, doing assignment and other academic activities) than the males. The majority of the females reported that they work extra hard to meet their lecturers' expectations.

    - The males had more contacts and interactions with their lecturers than the females. Again, the males received more helpful feedback from their lecturers than the females. The majority of the males taught their colleagues than the females. The majority of the males indicated that the courses they were studying helped them to be problem solvers than the females.

    - While student entrepreneurial activities negatively predicted academic performance, student self-efficacy positively and significantly moderated the

relationship between students engaging in entrepreneurial activities and their academic performance.

Implications of the study

For higher education practice and policy

To the Management of the University of Professional Studies, Accra, which also has implications for higher education managers, the new global era requires a new breed of students who are knowledgeable in evaluating and synthesizing new information. In coping with this new challenging phenomenon, it is imperative for students to be critically engaged both in and out of their lecture rooms. The researcher argues that not all students could be counted automatically to be engaged with their academic content, peers, school facilities, staff and faculty members and that the university authority have a role to ensure that students engage successfully.

Management has a commitment role to ensure that students participate meaningfully in academic purposeful activities. Attention to relook at the curriculum content to consider making it a requirement for faculty to give group assignments and presentations with work schedule of each member of the group clearly spelt out as part of students' formative assessment for the semester. By so doing, students would take such tasks serious and, in the process, they will be engaging more with their peers for academic purposeful activities and also with faculty members through class presentations and constructive feedback.

Policy makers in the school's management committee and the National Council for Tertiary Education (NCTE) have empirical evidence to serve as basis to develop policy guidelines on students-faculty interactions at the various universities at the national level. The lecture room is a key common place for students, lecturers and content to interact and therefore, extending the

boundaries of the lecture rooms by embracing technology applications such as Sakai, Moodle, Blackboard, and social media to help entrench the content, institutional values, traditions and also alerting students about procedures on campus, deadlines and events on campus are matters that require attention.

Findings of the study provides management a proactive opportunity for conducting training on upholding ethical and professional standards among staff and lecturers in higher education settings. Again, lectures performance appraisals for promotion should not only be limited to teaching, research publications and extensions services to the community but should be incorporated with innovative ways of engaging students in the cause of the academic year.

For adult education practice

The study findings echoed the need for adult educators to consider going into life coaching training so as to help re-orient the students from some of the negative influences of their peers that prevent them from involving themselves in academic purposeful activities. As adult educators, giving intentional attention to the students for them to appreciate that someone is interested in their welfare and academic development is worth considering. Also, gender advocacy and lobbying to promote the recruitment and selection of more qualified female applicants for lecturing opportunities to encourage the female students to interact more with the lecturers. Motivation for lecturers who work together with their students on projects and publish articles together to promote engagement and academic achievements.

For theory and future research

Since the study sought to bring out the various engaging activities that student could involve in to enhance their learning and academic development. The researcher suggested that data could be collected from international populations to conduct cross-counting comparisons especially in Africa. By this, it would be possible to examine the researcher's conceptual framework to determine its variance and stability in different context.

The current study was conducted using the cross-sectional survey where data was collected at a single point in time. This made the proposed hypothesized model static rather than over a period of time. Therefore, the researcher suggest that the study could be expanded by future research to include the longitudinal study design to test their findings over a period of time. In the conceptual framework hypothesis of the study, the researcher through critical review of literature observed that there was abundance of information on the relationship between student self-efficacy and academic performance conducted at the primary, secondary and tertiary levels. However, scanty research studies were available in respect to the relationship between technology use and flow. Therefore, the researcher is suggesting future studies to explore these contracts to provide a clean relationship. With delight, the researcher acknowledged that the current conceptual framework fitted well with the data that was gathered and therefore, other researchers could also explore the variables and some other variables of interest to propose alternative models for student engagement. Other researchers should also conduct future studies with the same variables using longitudinal research design to advance the boundaries of literature in this area.

Lastly, the researcher observed that the relationship between students engaging in entrepreneurial activities and their academic performance was complex and also inconclusive. To resolve this dilemma, the researcher proposes that future studies could focus on the interactions of other

variables such as the personality of the student, class attendance, socio economic status, teaching quality and students' interactions with faculty in the relationship. Again, inclusion of project-based learning in activities that enhances students' entrepreneurial intentions and practices at school.

For human resource practice

Findings from the study showed that students were more comfortable when interacting with the administrators and staff of the university than the lecturers. This was because the faculty officers and the administrators were usually the first point of call when the students come to school to register for the semester. Again, the administrators were the ones who usually resolve the issues with time-table clashes. The class representatives mostly go to the administrators for class attendance sheets for students and lecturers, projectors and microphones for lectures. Students usually report issues of missing grades and discrepancies on their transcripts to the faculty officers before being referred to the course lecturers for resolution. In view of this critical role that the staff and administrators play at the university, on-the-job-training for the faculty officers and administrators to be more intentional and caring in their interactions with the students could lead to building a culture of trust and assurances in the minds of the students.

Key recommendations

The researcher made the following key recommendations based on the findings that emerged from the study;

1. Student - faculty interactions least contributed students' engagement. Henceforth, there is the need for faculty members to pay critical attention to this weak link to help students to involve themselves fully in academic purposeful activities. There is the need for faculty to work on projects such as writing journal articles for publication with their students aside lecture room engagement to also help build the confidence of the learners. On the other hand, students should be encouraged to discuss their academic progress with their course advisors for at least once in every semester.
2. There is the need to consider hiring qualified female applicants for lecturing opportunities to provide a level platform for the female students to interact with the female lecturers. Also, there is the need to call on the female lecturers who are already in the university to serve as mentors and role-models to the female students. There should be an intentional policy to recruit and employ qualified female applicants for lecturing opportunities to motivate female students to interact more with their lecturers as this can bring about positive feedback and mentorship opportunities for female students to discuss their academic challenges and progress with persons of the same sex.
3. The research was conducted among level 200, 300 and 400 students at the University of Professional Studies, Accra (UPSA). In this light, the research findings could be generalized to the students of UPSA who are in level 200, 300 and 400. The research study excluded the level 100, postgraduate, professional and diploma students from participating in the study. In view of this, the researcher proposed that future studies should be extended to other universities (both public and private) so as to further generalize the hypothesized relationships in the flow-efficacy-student engagement linkages model in higher education in Ghana.

4. From the results, campus environment did not significantly influence student engagement and therefore, there is a need for continuous training for lecturers, faculty officers, and staff of the university to intentionally provide care and attention to the students to build a culture of trust necessary for engagement.
5. Also, peer support negatively moderated the relationship between student engagement and academic performance, hence, there is a need to encourage students to form peer-counseling groups that could be used as vehicle to orient students toward good practices that will help them to succeed academically while reducing the tendencies of negative peer influences at the same time encouraging students to discuss their challenges with their course advisors.
6. Learning with peers significantly influenced student engagement and therefore, there is a need for curriculum design that will require lecturers to engage students in group-based assignments with work schedule of the roles the individual students played to prevent loafing around during group assignment.
7. From the conceptual model, technology use significantly predicted student engagement hence, Universities and the National Council for Tertiary Education should embrace the use of technology as a policy to enhance teaching and the learning experiences of the students.
8. There should be an intentional effort by managers of the universities to promote entrepreneurial skills development among the student to reduce the levels of graduate unemployment in the country but these should not be at the detriment of academic work and students' performance.

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APPENDICES

Appendix A

QUESTIONNAIRE

UNIVERSITY OF GHANA

Dear Respondent,

I am a PhD Candidate at the University of Ghana conducting a research into students' engagement in assuring quality in teaching and learning in higher education in Ghana. The research is purely for academic purposes and any information obtained shall remain private and confidential. Your cooperation in providing information would be very much appreciated.

Thank you.

Section A: Demographics of Respondent

Please tick (✓) or provide the information that represents your particular circumstance

1. Program of study

Business Administration	☐	Marketing	☐
Public Relation	☐	IT	☐
Accounting	☐	Banking and Finance	☐
Actuarial Science	☐	Law	☐

2. Gender

Male ☐ Female ☐

3. Age Group

Below 20 years old	☐	26 – 30 years old	☐
20 – 25 years old	☐	above 30 years old	☐

4. Current Level

Level 100 ☐ Level 300 ☐

Level 200 ☐ Level 400 ☐

5. Session

Morning ☐ Evening ☐ Weekend ☐

Section B: Students' engagement sub - variables

For each of the questions below (designed to measure your expectation of quality (A) and to measure the actual service you receive from UPSA (B)), tick (✓) the response that best indicates your level of agreement with the statements. Where from **1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.**

Academic challenge	**1**	**2**	**3**	**4**	**5**
1. UPSA emphasizes that I spend significant amount of time on my academic work.					
2. I spend significant amount of time preparing for lectures (studying, reading, writing, doing homework and other academic activities).					
3. I combine ideas from different courses when completing assignments.					
4. I am assigned a number of course materials.					
5. I write a number of assignments, written papers, and reports of 4 pages or more.					
6. I work harder than expected to meet my lecturers' standards or expectations.					
7. Course assignment emphasize that I apply theories/concepts to practical problems.					
Learning with peers	**1**	**2**	**3**	**4**	**5**
1. I work with other students on projects during class.					
2. I work with my classmates outside of class to prepare class assignments.					
3. I ask questions in class or contribute to class discussions					
4. I lead a class or group presentation.					
5. I teach other students.					

6. I have discussions with students from different ethnicity, religion and political views.					
7. I discuss ideas from my readings and classes with other students outside of class.					
Experience with faculty	**1**	**2**	**3**	**4**	**5**
1. I work or plan to work on a research project with lecturers outside of course or program requirements.					
2. I discuss grades or assignments with my lecturers.					
3. I discuss ideas from my classes with my lecturer outside of class.					
4. I work with faculty members on activities other than coursework.					
5. Lecturers use examples and illustrations to explain difficult points.					
6. Lecturers give prompt written or oral feedback to a student on academic performance.					
7. I am comfortable interacting with my female lecturers.					
8. I am comfortable interacting with my male lecturers.					
Campus environment	**1**	**2**	**3**	**4**	**5**
1. UPSA provides me the support I need to help me succeed academically.					
2. There are good quality interactions between UPSA staff and the students at UPSA.					
3. UPSA supports my overall wellbeing. (recreation, healthcare, counseling).					
4. UPSA helps me cope with my non-academic responsibilities (work, family, etc.)					
5. I have good relationship with UPSA administrative personnel					
6. I have good relationship with UPSA faculty members.					
7. I have good relationship with other students at UPSA.					
8. UPSA provides me with the best library facility.					
9. UPSA cares for the physically challenged persons on campus.					
Students' learning experience	**1**	**2**	**3**	**4**	**5**

1. My lecturers put lots of time into commenting on my work.					
2. My lecturers gave me helpful feedback on my performance.					
3. My lecturers motivated me to do my best work.					
4. My lecturers were extremely good at explaining things to me.					
5. My lecturers worked hard to make their courses interesting.					
6. My lecturers made real efforts to understand my difficulties in their courses.					
7. The courses I am studying have sharpened my analytical skills.					
8. The courses I am studying have helped me to develop my ability to work as a team member.					
9. The courses I am studying have improved my skills in written communication.					
10. The courses I am studying have developed my problem-solving skills.					
11. As a result of the courses I am studying, I feel confident about tackling unfamiliar problems.					
12. The courses I am studying have helped me to develop the ability to plan my own work.					

Section C: Student entrepreneurial activities

For each of the questions below, tick (✓) the response that best indicates your level of agreement with the statements. Where from **1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.**

Student entrepreneurial activities	1	2	3	4	5
1. I engage in part-time work to support my education at UPSA.					
2. I engage in full-time work to support my education at UPSA.					
3. I engage in online trading to support my education at UPSA.					
4. I engage in economic activities on campus (lecture halls, student hostels, offices, etc.)					
5. I engage in economic activities outside campus.					
6. I engage in petty-trading outside campus to support my education at UPSA.					

Section D: Community Members' Support

For each of the questions below, tick (✓) the response that best indicates your level of agreement with the statements. Where from **1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.**

Community members' support	**1**	**2**	**3**	**4**	**5**
1. My family/guardian(s) are there for me when I need them.					
2. When something good happens at school, my family/guardian(s) want to know about it.					
3. When I have problems at school my family/guardian(s) are willing to help me.					
4. My family/guardian(s) want me to keep trying when things are tough at school.					
5. My peers expect me to get good grades.					
6. My friends expect me to attend classes regularly.					
7. My peers expect me to study.					
8. Friends I hang out with expect me to graduate and continue to the postgraduate level.					

Section E: Technology use

For each of the questions below, tick (✓) the response that best indicates your level of agreement with the statements. Where from **1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.**

Technology use	1	2	3	4	5
1. I use a mobile phone to search for information on topics of interest.					
2. I like to share interests and reflections online.					
3. I search the internet for answers to assignments on a mobile phone.					
4. I learn many things by interacting with other Internet users.					
5. I check the school website for news on my phone.					
6. I use mobile apps to study course materials on my smart phone.					
7. I search the internet for videos to enrich my understanding in a particular course.					
8. I share course materials with lecturers and course mates on a mobile phone.					
9. I study course materials on my phone.					
10. I search for information on the internet during group discussions.					
11. I watch video clips on the internet for better understanding of a particular course.					
12. I download course materials from lecturers and course mates on my phone.					

Section F: Teaching quality

For each of the questions below, tick (✓) the response that best indicates your level of agreement with the statements. Where from **1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.**

Teaching quality	1	2	3	4	5
1. My lecturers engaged me to actively learn.					
2.My lecturers were good at explaining their course contents.					

3.My lecturers were well organized.					
4.My lecturers communicated their course areas with enthusiasm.					
5. My lecturers treated me with respect.					
6. My lecturers treated other students with respect.					
7.My lecturers were available to discuss problems and questions relating to my assignments & examinations.					
8.My lecturers knew their courses very well.					
9.My courses were intellectually stimulating.					
10. My lecturer commented on my work in ways that helped me to learn.					
11.My lecturers motivated me to learn.					
12. My lecturers gave me helpful feedback on my performance in their respective courses.					
13.My lecturers clearly explained what was required of me to do in their assessment items.					
14. My lecturers showed interest in my academic needs.					
15. My lecturers seemed helpful and approachable.					
16. My lecturers set assessment tasks that challenged me to learn.					

Section G: Flow experience

For each of the questions below, tick (✓) the response that best indicates your level of agreement with the statements. Where from **1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.**

Flow experience	**1**	**2**	**3**	**4**	**5**
1. I feel I am competent enough to meet the high academic demands of this semester.					
2. For this semester my thoughts and actions run fluidly and smoothly.					
3. For this semester I have a strong sense of what I want to do.					
4. For this semester my mind is completely clear on how well I am performing.					
5. I am focused on what I am studying for this semester.					
6. I feel I have total control over what I am studying this semester.					

7. For this semester I am totally absorbed in what I am studying.					
8. For this semester the way time passes seems to be different from normal.					
9. My experience this semester is extremely rewarding.					

Section H: Students' efficacy

For each of the questions below, tick (✓) the response that best indicates your level of agreement with the statements. Where from **1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.**

Students' efficacy	**1**	**2**	**3**	**4**	**5**
1. I can efficiently solve the problems that arise in my studies.					
2. I believe that I can make effective contributions to the classes that I attend.					
3. In my opinion, I am a good student.					
4. I feel stimulated when I reach my study goals.					
5. I learned many interesting things during the course of my studies.					
6. During classes I feel confident that I am effective in getting things done.					

Section I: Students' Academic performance

For each of the questions below, tick (✓) the response that best indicates your level of agreement with the statements. Where from **1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree.**

Academic performance	**1**	**2**	**3**	**4**	**5**
1. I have not been withdrawn from a course or program.					
2. My graduation will not be delayed.					
3. I have passed all my examinations at UPSA.					

4. I have the understanding of my strengths and weaknesses in the courses I am studying.					
5. I can achieve good grades when I put in more efforts.					
6. I have confidence in my ability to get good grades.					
7. I have the passion and perseverance to graduate from school.					
8. I am organized, careful and dependable in the completion of assignments and projects.					
9. I have the ability to complete tedious task that other students ignored.					
10. I have the ability to achieve my goals regardless of the obstacles I face.					
11. I have the ability to bounce back from setbacks and emerge stronger than before.					
12. I do the right thing even when no one is watching.					

Section J: Students' self-reported GPA

Please answer the following question by placing a tick (✓) on the appropriate answer.

1. My current cumulative grade point average (CGPA) is:

   Below 2.0 ☐

   2.0 - 2.5 ☐

   2.6 - 3.0 ☐

   3.1 - 3.5 ☐

   3.6 – 4.0 ☐

Thank You

Appendix B

APPENDIX C: INFORMED CONSENT FORM

"I have been informed about the relevance of participating in the study ***(INFLUENCE OF STUDENT ENGAGEMENT ON ACADEMIC PERFORMANCE IN HIGHER EDUCATION IN GHANA)*** and my right as a respondent has duly been made known to me in a language that I understand. I have had the opportunity to ask questions about it and all the questions I have asked the researcher have been answered to my satisfaction. I therefore consent voluntarily to participate in this study and I understand that I have the right at any point to withdraw from the study without it affecting my position as a student at the University of Professional Studies, Accra.

Please, you could contact me on:

Joshua Ofori Essiam

Adult Education and Human Resource Studies

University of Ghana, Legon

Tel: 0244732773

Email: joessiam@st.ug.edu.gh

……..... …….....

Signature of Respondent **Date**

I trust the respondent is giving an informed consent to be participate in this study.

……..... …….....

Signature of Researcher **Date**

Appendix C

Modifications to pilot test questionnaire items.

Academic Challenge			
Item	**Author**	**Modification**	**Remarks**
1. UG emphasizes that I spend significant amounts of time studying and on academic work.	NSSE, (2017)	1. UPSA emphasizes that I spend significant amounts of time studying and on academic work.	UG was replaced with UPSA to make the question relatable.
2. I spend significant amount of time preparing for class (studying, reading, writing, doing homework and other academic activities)		2. I spend significant amount of time preparing for lectures (studying, reading, writing, doing homework and other academic activities).	Class was substituted with lectures
3. I combine ideas from different courses when completing assignments.		3. I combine ideas from different courses when completing assignments.	Adopted
4. I am assigned a number of textbooks, books or book-length packs of course readings.		4. I am assigned a number of course materials.	Adopted
5. I write a number of written papers, assignments, and reports of 4 pages or more.		5. I write a number of assignments, written papers, and reports of 4 pages or more.	Adopted
6. I work harder than expected to meet my instructors' standards or expectations.		6. I work harder than expected to meet my lecturers' standards or expectations.	Adopted
7. Course assignment emphasize that I apply theories/concepts to practical problems.		7. Course assignment emphasize that I apply theories/concepts to practical problems.	Adopted

Learning with Peers			
Item	**Author**	**Modification**	**Remarks**
1. I work with other students on projects during class.	NSSE, (2017)	1. I work with other students on projects during class.	Adopted
2. I work with my classmates outside of class to prepare class assignments.		2. I work with my classmates outside of class to prepare class assignments.	Adopted
3. I ask questions in class or contribute to class discussions.		3. I ask questions in class or contribute to class discussions	Adopted
4. I lead a class or group presentation.		4. I lead a class or group presentation.	Adopted
5. I teach other students.		5. I teach other students.	Adopted
6. I have discussions with students from different ethnicity, religion and political views.		6. I have discussions with students from different ethnicity, religion and political views.	Adopted
7. I discuss ideas from my readings and classes with other students outside of class.		7. I discuss ideas from my readings and classes with other students outside of class.	Adopted

Experience with Faculty			
Item	**Author**	**Modification**	**Remarks**
1. I work or plan to work on a research project with lecturers outside of course or program requirements.	NSSE, (2017)	1. I work or plan to work on a research project with lecturers outside of course or program requirements.	Adopted
2. I discuss grades or assignments with my lecturers.		2. I discuss grades or assignments with my lecturers.	Adopted
3. I discuss ideas from my classes with my lecturer outside of class.		3. I discuss ideas from my classes with my lecturer outside of class.	Adopted
4. I work with faculty members on activities other than coursework.		4. I work with faculty members on activities other than coursework.	Adopted
5. Lecturers use examples and illustrations to explain difficult points.		5. Lecturers use examples and illustrations to explain difficult points.	Adopted
6. Lecturers give prompt written or oral feedback to a student on academic performance.		6. Lecturers give prompt written or oral feedback to a student on academic performance.	Adopted
7. I am comfortable interacting with my female lecturers.		7. I am comfortable interacting with my female lecturers.	Adopted
8. I am comfortable interacting with my male lecturers.		8. I am comfortable interacting with my male lecturers.	Adopted

Campus Environment			
Item	**Author**	**Modification**	**Remarks**
1. UG provides me the support I need to help me succeed academically.	NSSE, (2017)	1. UPSA provides me the support I need to help me succeed academically.	UPSA was inserted to reflect the institution
2. There are good quality interactions between UG staff and the students.		2. There are good quality interactions between UPSA staff and the students at UPSA.	UPSA was inserted to reflect the institution
3. UG supports my overall wellbeing. (recreation, healthcare, counselling)		3. UPSA supports my overall wellbeing. (recreation, healthcare, counseling).	UPSA was inserted to reflect the institution
4. UG helps me cope with my non-academic responsibilities (work, family, etc.)		4. UPSA helps me cope with my non-academic responsibilities (work, family, etc.)	UPSA was inserted to reflect the institution
5. I have good quality relationships with administrative personnel.		5. I have good relationship with UPSA administrative personnel	UPSA was inserted to reflect the institution
6. I have good quality relationships with faculty members		6. I have good relationship with UPSA faculty members.	UPSA was inserted to reflect the institution
7. I have good quality relationships with other students.		7. I have good relationship with other students at UPSA.	UPSA was inserted to reflect the institution
8. UG provides me with the best library facility.		8. UPSA provides me with the best library facility.	UPSA was inserted to reflect the institution
9. UG cares for the physically challenged persons on campus.		9. UPSA cares for the physically challenged persons on campus.	UPSA was inserted to reflect the institution

Student's learning experience			
Item	**Author**	**Modification**	**Remarks**
1. My lecturers put lots of time into commenting on my work.	NSSE, (2017)	1. My lecturers put lots of time into commenting on my work.	Adopted
2. My lecturers gave me helpful feedback on how I was doing.		2. My lecturers gave me helpful feedback on my performance.	Adopted
3. My lecturers motivated me to do my best work.		3. My lecturers motivated me to do my best work.	Adopted
4. My lecturers were extremely good at explaining things to me.		4. My lecturers were extremely good at explaining things to me.	Adopted
5. My lecturers worked hard to make their courses interesting.		5. My lecturers worked hard to make their courses interesting.	Adopted
6. My lecturers made real efforts to understand my difficulties in their courses.		6. My lecturers made real efforts to understand my difficulties in their courses.	Adopted
7. The courses I am studying sharpened my analytical skills.		7. The courses I am studying have sharpened my analytical skills.	Modified to make it simple and understandable for target respondents.
8. The courses I am studying helped me to develop my ability to work as a team member.		8. The courses I am studying have helped me to develop my ability to work as a team member.	Modified to make it simple and understandable for target respondents.
9. The courses I am studying improved my skills in written communication.		9. The courses I am studying have improved my skills in written communication.	Modified to make it simple and understandable for target respondents.
10. The courses I am studying developed my problem-solving skills.		10. The courses I am studying have developed my problem-solving skills.	Modified to make it simple and understandable for target respondents.

11. As a result of the courses I am studying, I feel confident about tackling unfamiliar problems.	NSSE, (2017)	11. As a result of the courses I am studying, I feel confident about tackling unfamiliar problems.	Adopted
12. The courses I am studying helped me to develop the ability to plan my own work.		12. The courses I am studying have helped me to develop the ability to plan my own work.	Adopted

Student entrepreneurial activities			
Item	**Author**	**Modification**	**Remarks**
1. I engage in part-time work to support my education at UPSA.	Salamonson & Andrew, (2006)	1. I engage in part-time work to support my education at UPSA.	Adopted
2. I engage in full-time work to support my education at UPSA.		2. I engage in full-time work to support my education at UPSA.	Adopted
3. I engage in online trading to support my education at UPSA.		3. I engage in online trading to support my education at UPSA.	Adopted
4. I engage in petty-trading off campus to support my education at UPSA.		4. I engage in petty-trading off campus to support my education at UPSA.	Adopted
5. I engage in economic activities outside campus.		5. I engage in economic activities outside campus.	Adopted
6. I engage in economic activities on campus (lecture halls, student hostels, offices)		6. I engage in economic activities on campus (lecture halls, student hostels, offices)	Adopted

Community members' support			
Item	**Author**	**Modification**	**Remarks**
1. My family/guardian(s) are there for me when I need them.	Neves and Hillman, (2016); Virtanen, Lerkkanen, Poikkeus and Kuorelahti, (2014).	1. My family/guardian(s) are there for me when I need them.	Adopted
2. When something good happens at school, my family/guardian(s) want to know about it.		2. When something good happens at school, my family/guardian(s) want to know about it.	Adopted
3. When I have problems at school my family/guardian(s) are willing to help me.		3. When I have problems at school my family/guardian(s) are willing to help me.	Adopted
4. My family/guardian(s) want me to keep trying when things are tough at school.		4. My family/guardian(s) want me to keep trying when things are tough at school.	Adopted
5. My peers expect me to get good grades.		5. My peers expect me to get good grades.	Adopted
6. My friends expect me to attend classes regularly.		6. My friends expect me to attend classes regularly.	Adopted
7. My peers expect me to study.		7. My peers expect me to study.	Adopted
8. Friends I hang out with expect me to graduate and continue to the postgraduate level.		8. Friends I hang out with expect me to graduate and continue to the postgraduate level.	Adopted

Technology use			
Item	**Author**	**Modification**	**Remarks**
1. I use a mobile phone to search for information on topics of interest.	Rosen, Whaling, Carrier, Cheever, & Rokkum, (2013)	1. I use a mobile phone to search for information on topics of interest.	Adopted
2. I like to share interests and reflections online.		2. I like to share interests and reflections online.	Adopted
3. I search the internet for answers to assignments on a mobile phone.		3. I search the internet for answers to assignments on a mobile phone.	Adopted
4. I learn many things by interacting with other Internet users.		4. I learn many things by interacting with other Internet users.	Adopted
5. I check the school website for news on my phone.		5. I check the school website for news on my phone.	Adopted
6. I use mobile apps to study course materials on my smart phone.		6. I use mobile apps to study course materials on my smart phone.	Adopted
7. I search the internet for videos to enrich my understanding in a particular course.		7. I search the internet for videos to enrich my understanding in a particular course.	Adopted
8. I share course materials with lecturers and course mates on a mobile phone.		8. I share course materials with lecturers and course mates on a mobile phone.	Adopted
9. I study course materials on my phone.		9. I study course materials on my phone.	Adopted
10. I search for information on the internet during group discussions.		10. I search for information on the internet during group discussions.	Adopted
11. I watch video clips on the internet for better understanding of a particular course.		11. I watch video clips on the internet for better understanding of a particular course.	Adopted
12. I download course materials from lecturers and course mates on my phone.		12. I download course materials from lecturers and course mates on my phone.	Adopted

Teaching quality			
Item	**Author**	**Modification**	**Remarks**
1. My lecturers engaged me to actively learn.	Ali, Zhou, Hussain, Nair & Ragavan, 2015; Byrne & Flood , 2003; Chakrabarty, Richardson, & Sen, (2016)	1. My lecturers engaged me to actively learn.	Adopted
2. My lecturers were good at explaining their course contents.		2. My lecturers were good at explaining their course contents.	Adopted
3. My lecturers were well organized.		3. My lecturers were well organized.	Adopted
4. My lecturers communicated their course areas with enthusiasm.		4. My lecturers communicated their course areas with enthusiasm.	Adopted
5. My lecturers treated me with respect.		5. My lecturers treated me with respect.	Adopted
6. My lecturers treated other students with respect.		6. My lecturers treated other students with respect.	Adopted
7. My lecturers were available to discuss problems and questions relating to my assignments & examinations.		7. My lecturers were available to discuss problems and questions relating to my assignments & examinations.	Adopted
8. My lecturers knew their courses very well.		8. My lecturers knew their courses very well.	Adopted
9. My courses were intellectually stimulating.		9. My courses were intellectually stimulating.	Adopted
10. My lecturer commented on my work in ways that helped me to learn.		10. My lecturer commented on my work in ways that helped me to learn.	Adopted
11. My lecturers motivated me to learn.		11. My lecturers motivated me to learn.	Adopted
12. My lecturers gave me helpful feedback on my performance in their courses.		12. My lecturers gave me helpful feedback on my performance in their respective courses.	Modified to make it simple and understandable for target respondents.

13. My lecturers clearly explained what was required of me to do in their assessment items.		13. My lecturers clearly explained what was required of me to do in their assessment items.	Adopted
14. My lecturers showed interest in my academic needs.		14. My lecturers showed interest in my academic needs.	Adopted
15. My lecturers seemed helpful and approachable.		15. My lecturers seemed helpful and approachable.	Adopted
16. My lecturers set assessment tasks that challenged me to learn.		16. My lecturers set assessment tasks that challenged me to learn.	Adopted

Flow experience			
Item	**Author**	**Modification**	**Remarks**
1. I feel I am competent enough to meet the high academic demands of this semester.	Csikszentmihalyi, (1990); Rheinberg, (2015)	1. I feel I am competent enough to meet the high academic demands of this semester.	Adopted
2. For this semester my thoughts and actions run fluidly and smoothly.		2. For this semester my thoughts and actions run fluidly and smoothly.	Adopted
3. For this semester I have a strong sense of what I want to do.		3. For this semester I have a strong sense of what I want to do.	Adopted
4. For this semester my mind is completely clear on how well I am performing.		4. For this semester my mind is completely clear on how well I am performing.	Adopted
5. I am focused on what I am studying for this semester.		5. I am focused on what I am studying for this semester.	Adopted
6. I feel I have total control over what I am studying this semester.		6. I feel I have total control over what I am studying this semester.	Adopted
7. For this semester I am totally absorbed in what I am studying.		7. For this semester I am totally absorbed in what I am studying.	Adopted

8. For this semester the way time passes seems to be different from normal.	Csikszentmihalyi, (1990); Rheinberg, (2015)	8. For this semester the way time passes seems to be different from normal.	Adopted
9. My experience this semester is extremely rewarding.		9. My experience this semester is extremely rewarding.	Adopted

Students' efficacy			
Item	**Author**	**Modification**	**Remarks**
1. I can efficiently solve the problems that arise in my studies.	Bandura, (1977); Usher & Pajares, (2009)	1. I can efficiently solve the problems that arise in my studies.	Adopted
2. I believe that I can make effective contributions to the classes that I attend.		2. I believe that I can make effective contributions to the classes that I attend.	Adopted
3. In my opinion, I am a good student.		3. In my opinion, I am a good student.	Adopted
4. I feel stimulated when I reach my study goals.		4. I feel stimulated when I reach my study goals.	Adopted
5. I learned many interesting things during the course of my studies.		5. I learned many interesting things during the course of my studies.	Adopted
6. During classes I feel confident that I am effective in getting things done.		6. During classes I feel confident that I am effective in getting things done.	Adopted

Academic Performance			
Item	**Author**	**Modification**	**Remarks**
1. I have not been withdrawn from a course or program.	Gordon, Williams, Hudson & Stewart, (2010)	1. I have not been withdrawn from a course or program.	Adopted
2. My graduation will not be delayed.		2. My graduation will not be delayed.	Adopted
3. I passed my final WASSCE exam at the first sitting.		3. I have passed all my examinations at UPSA.	Modified to make it simple and understandable for target respondents.
4. I have the understanding of my strengths and weaknesses.	Davidson (2017)	4. I have the understanding of my strengths and weaknesses.	Adopted
5. I have the belief that I can achieve good grades when I put in more efforts.		5. I can achieve good grades when I put in more efforts.	Adopted
6. I have confidence in my ability to get good grades.		6. I have confidence in my ability to get good grades.	Adopted
7. I have the passion and perseverance to graduate from school.		7. I have the passion and perseverance to graduate from school.	Adopted
8. I am organized, careful and dependable in the completion of assignments and projects.		8. I am organized, careful and dependable in the completion of assignments and projects.	Adopted
9. I have the ability to complete tedious task others ignore.		9. I have the ability to complete tedious task that other students ignored.	Adopted
10. I have the ability to achieve my goals while navigating around obstacles as they arise.	Davidson (2017)	10. I have the ability to achieve my goals regardless of the obstacles I face.	Modified to make it simple and understandable for target respondents.
11. I have the ability to bounce back from setbacks and emerge stronger than before.		11. I have the ability to bounce back from setbacks and emerge stronger than before.	Adopted

12. I do the right thing even when no one is watching.		12. I do the right thing even when no one is watching.	Adopted

Appendix D

Kaiser – Mayer – Olkin (KMO) for study constructs

Kaiser – Mayer – Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity for Student Engagement sub-variables

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.804
Bartlett's Test of Sphericity	Approx. Chi-Square	8874.798
	Df	903
	Sig.	0.000

KMO and Bartlett's Test for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.831
Bartlett's Test of Sphericity	Approx. Chi-Square	16595.133
	Df	1953
	Sig.	0.000

KMO and Bartlett's test for student entrepreneurial activities

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.798
Bartlett's Test of Sphericity	Approx. Chi-Square	701.930
	Df	15
	Sig.	.000

Appendix E

Tables for Communalities and total variance explained for study constructs

Communalities for Student Engagement sub-variables

	Initial	Extraction
AC1	1.000	.647
AC2	1.000	.626
AC3	1.000	.495
AC4	1.000	.471
AC5	1.000	.426
AC6	1.000	.569
AC7	1.000	.483
LP1	1.000	.587
LP2	1.000	.427
LP3	1.000	.629
LP4	1.000	.594
LP5	1.000	.616
LP6	1.000	.662
LP7	1.000	.575
EF1	1.000	.624
EF2	1.000	.717
EF3	1.000	.665
EF4	1.000	.641
EF5	1.000	.522
EF6	1.000	.520
EF7	1.000	.599
EF8	1.000	.683
CE1	1.000	.600
CE2	1.000	.661
CE3	1.000	.627

CE4	1.000	.646
CE5	1.000	.671
CE6	1.000	.646
CE7	1.000	.561
CE8	1.000	.661
CE9	1.000	.472
LE1	1.000	.630
LE2	1.000	.749
LE3	1.000	.713
LE4	1.000	.630
LE5	1.000	.587
LE6	1.000	.556
LE7	1.000	.615
LE8	1.000	.633
LE9	1.000	.656
LE10	1.000	.696
LE11	1.000	.701
LE12	1.000	.609

Total variance explained for student engagement sub-variables

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.441	26.607	26.607	11.441	26.607	26.607	4.222	9.819	9.819
2	3.229	7.508	34.115	3.229	7.508	34.115	4.170	9.698	19.517
3	2.693	6.263	40.378	2.693	6.263	40.378	3.956	9.200	28.717
4	2.228	5.181	45.558	2.228	5.181	45.558	3.491	8.118	36.835
5	1.592	3.703	49.261	1.592	3.703	49.261	3.426	7.967	44.802
6	1.402	3.260	52.521	1.402	3.260	52.521	3.319	7.720	52.521
7	1.290	3.000	55.521						
8	1.155	2.686	58.207						
9	1.067	2.482	60.689						
10	.962	2.238	62.927						
11	.898	2.089	65.015						

12	.865	2.012	67.027
13	.832	1.935	68.962
14	.769	1.788	70.750
15	.751	1.747	72.497
16	.716	1.666	74.163
17	.681	1.584	75.747
18	.664	1.545	77.292
19	.646	1.503	78.795
20	.597	1.388	80.183
21	.571	1.329	81.511
22	.554	1.289	82.800
23	.540	1.256	84.056
24	.510	1.186	85.242
25	.490	1.139	86.380
26	.472	1.098	87.478
27	.446	1.037	88.515
28	.428	.996	89.511
29	.424	.986	90.497
30	.395	.919	91.417
31	.377	.876	92.293
32	.370	.860	93.153
33	.361	.839	93.992
34	.328	.762	94.754
35	.322	.749	95.503
36	.307	.714	96.217
37	.281	.652	96.869
38	.273	.636	97.505
39	.255	.593	98.098
40	.223	.519	98.617
41	.220	.512	99.129
42	.199	.463	99.592
43	.175	.408	100.000

Extraction Method: Principal Component Analysis.

Communalities for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables

	Initial	Extraction
TQ1	1.000	.508
TQ2	1.000	.666
TQ3	1.000	.611
TQ4	1.000	.654
TQ5	1.000	.610
TQ6	1.000	.618
TQ7	1.000	.626
TQ8	1.000	.657
TQ9	1.000	.582
TQ10	1.000	.573
TQ11	1.000	.627
TQ12	1.000	.642
TQ13	1.000	.522
TQ14	1.000	.668
TQ15	1.000	.697
TQ16	1.000	.602
EFF1	1.000	.527
EFF2	1.000	.655
EFF3	1.000	.703
EFF4	1.000	.649
EFF5	1.000	.618
EFF6	1.000	.599
FLW1	1.000	.654
FLW2	1.000	.700
FLW3	1.000	.746
FLW4	1.000	.696
FLW5	1.000	.640
FLW6	1.000	.694
FLW7	1.000	.725
FLW8	1.000	.540
FLW9	1.000	.629
AP1	1.000	.575
AP2	1.000	.649
AP3	1.000	.456
AP4	1.000	.548

AP5	1.000	.743
AP6	1.000	.752
AP7	1.000	.673
AP8	1.000	.656
AP9	1.000	.681
AP10	1.000	.713
AP11	1.000	.679
AP12	1.000	.565
CMS1	1.000	.725
CMS2	1.000	.764
CMS3	1.000	.782
CMS4	1.000	.705
CMS5	1.000	.711
CMS6	1.000	.718
CMS7	1.000	.746
CMS8	1.000	.655
TU1	1.000	.529
TU2	1.000	.615
TU3	1.000	.675
TU4	1.000	.700
TU5	1.000	.680
TU6	1.000	.621
TU7	1.000	.602
TU8	1.000	.574
TU9	1.000	.682
TU10	1.000	.626
TU11	1.000	.547
TU12	1.000	.575

Extraction Method: Principal Component Analysis.

Total Variance Explained for teaching quality, efficacy, flow, academic performance, family support, peer support and technology use variables.

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	18.065	28.675	28.675	18.065	28.675	28.675	8.238	13.077	13.077
2	4.376	6.947	35.622	4.376	6.947	35.622	6.926	10.993	24.070
3	3.560	5.651	41.273	3.560	5.651	41.273	5.211	8.271	32.341
4	2.851	4.526	45.799	2.851	4.526	45.799	4.350	6.905	39.247
5	2.581	4.097	49.897	2.581	4.097	49.897	4.068	6.457	45.704
6	1.675	2.658	52.555	1.675	2.658	52.555	3.317	5.266	50.969
7	1.432	2.273	54.828	1.432	2.273	54.828	2.431	3.858	54.828
8	1.321	2.097	56.925						
9	1.276	2.026	58.951						
10	1.237	1.964	60.915						
11	1.100	1.747	62.661						
12	1.086	1.724	64.385						
13	.987	1.567	65.952						
14	.875	1.389	67.341						
15	.853	1.354	68.694						
16	.817	1.296	69.991						
17	.788	1.250	71.241						
18	.760	1.206	72.447						
19	.754	1.197	73.645						
20	.714	1.133	74.777						
21	.681	1.081	75.859						
22	.669	1.062	76.921						
23	.664	1.054	77.975						
24	.629	.998	78.973						
25	.603	.957	79.930						
26	.581	.923	80.852						
27	.569	.903	81.755						
28	.537	.852	82.607						
29	.520	.826	83.433						
30	.503	.798	84.231						
31	.482	.766	84.997						
32	.461	.732	85.729						
33	.449	.712	86.441						
34	.441	.700	87.141						
35	.435	.690	87.831						
36	.427	.678	88.508						
37	.417	.662	89.170						

38	.392	.623	89.793
39	.382	.607	90.400
40	.373	.592	90.992
41	.365	.580	91.572
42	.331	.525	92.097
43	.325	.516	92.612
44	.323	.513	93.125
45	.316	.501	93.626
46	.313	.497	94.123
47	.295	.468	94.591
48	.281	.446	95.037
49	.270	.429	95.465
50	.254	.403	95.869
51	.250	.397	96.266
52	.243	.385	96.651
53	.231	.366	97.017
54	.223	.354	97.371
55	.217	.344	97.715
56	.213	.338	98.053
57	.201	.320	98.373
58	.190	.301	98.674
59	.186	.295	98.969
60	.174	.276	99.245
61	.166	.263	99.508
62	.161	.256	99.765
63	.148	.235	100.000

Extraction Method: Principal Component Analysis.

Communalities for Student Entrepreneurial Activities

	Initial	Extraction
SEA1	1.000	.539
SEA2	1.000	.638
SEA3	1.000	.732
SEA4	1.000	.655
SEA5	1.000	.511
SEA6	1.000	.775

Extraction Method: Principal Component Analysis.

Total Variance Explained for the student entrepreneurial activities

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.798	46.631	46.631	2.798	46.631	46.631	2.605	43.410	43.410
2	1.052	17.535	64.166	1.052	17.535	64.166	1.245	20.756	64.166
3	.759	12.649	76.815						
4	.550	9.164	85.979						
5	.514	8.566	94.545						
6	.327	5.455	100.000						

Appendix F

MISSING VALUE ANALYSIS

Variable Summary

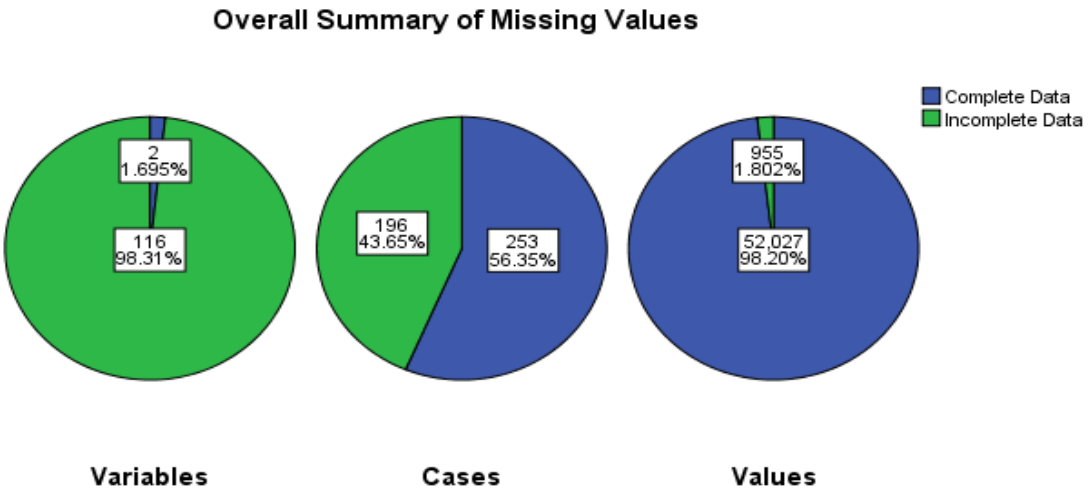
	Missing		Valid		Std.
	N	Percent	N	Mean	Deviation
AC3: I combine ideas from different courses when completing assignments.	16	3.6%	433	3.764	.995
AP7: I have the passion and perseverance to graduate from school.	20	4.5%	429	4.503	.748
AP6: I have confidence in my ability to get good grades.	15	3.3%	434	4.498	.758
AP11: I have the ability to bounce back from setbacks and emerge stronger than before.	15	3.3%	434	4.230	.831
AP4: I have the understanding of my strengths and weaknesses.	13	2.9%	436	4.195	.913
AP5: I have the belief that I can achieve good grades when I put in more efforts.	13	2.9%	436	4.477	.809
AP9: I have the ability to complete tedious task other students ignored.	13	2.9%	436	4.112	.868
AP1: I have not been withdrawn from a course or program.	12	2.7%	437	4.169	1.171
AP10: I have the ability to achieve my goals regardless of the obstacles I face.	12	2.7%	437	4.098	.811
AP12: I do the right thing even when no one is watching.	12	2.7%	437	4.236	.814
AP2: My graduation will not be delayed.	12	2.7%	437	4.396	.958
AP3: I have passed all my examinations at UPSA.	12	2.7%	437	4.069	1.187

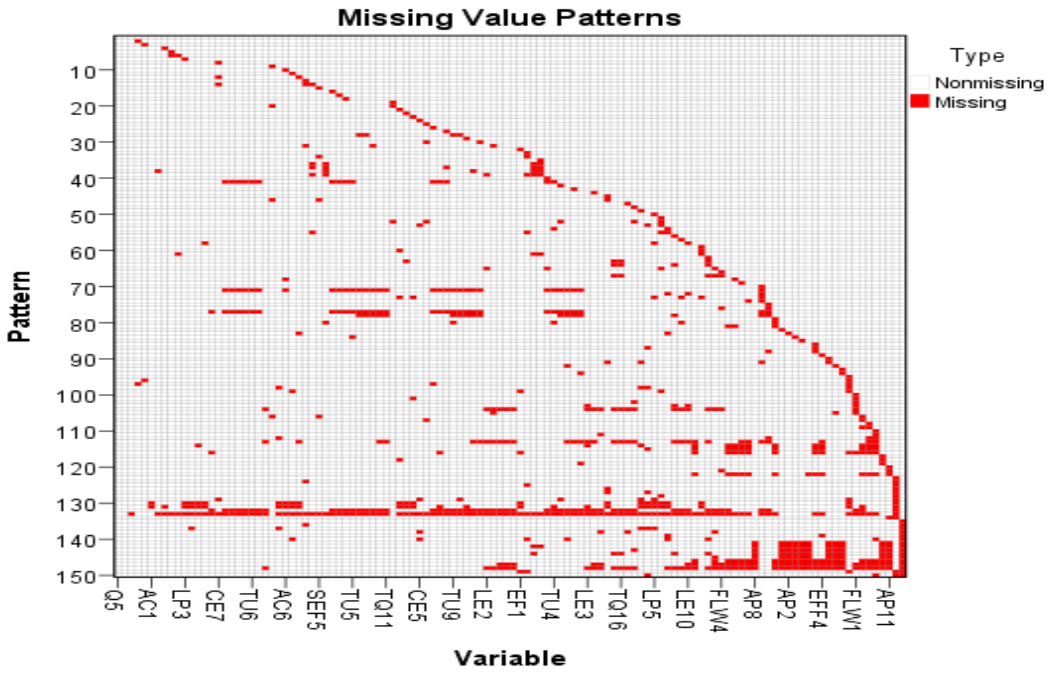
AP8: I am organized, careful and dependable in the completion of assignments and projects.	11	2.4%	438	4.365	2.554
EFF2: I believe that I can make effective contributions to the classes that I attend.	15	3.3%	434	3.899	.806
EFF1: I can efficiently solve the problems that arise in my studies.	14	3.1%	435	3.669	.807
EFF4: I feel stimulated when I reach my study goals.	13	2.9%	436	4.108	.773
EFF3: In my opinion, I am a good student.	11	2.4%	438	4.053	.831
EFF5: I learned many interesting things during the course of my studies.	11	2.4%	438	4.084	.780
FLW1: I feel I am competent enough to meet the high academic demands of this semester.	14	3.1%	435	3.970	.982
FLW6: I feel I have total control over what I am studying this semester.	14	3.1%	435	3.874	.901
FLW7: For this semester I am totally absorbed in what I am studying.	13	2.9%	436	3.874	.882
FLW9: My experience this semester is extremely rewarding.	12	2.7%	437	3.822	.875
LP1: I work with my course mates on projects during lectures.	14	3.1%	435	3.770	1.194
TQ12: My lecturers gave me helpful feedback on my performance in their respective courses.	12	2.7%	437	3.632	1.060
TQ4: My lecturers communicated their course areas with enthusiasm.	12	2.7%	437	3.860	.907

a. Maximum number of variables shown: 25

b. Minimum percentage of missing values for variable to be included: 0.0%

Appendix H





UNIVERSITY OF GHANA
ETHICS COMMITTEE FOR THE HUMANITIES (ECH)

P. O. Box LG 74, Legon, Accra, Ghana

My Ref. No.....

29th June, 2018

Mr. Joshua Ofori Essiam
Department of Adult Education and Human Resource Studies
University of Ghana
Legon

Dear Mr. Essiam,

ECH 162/17-18: STUDENTS' ENGAGEMENT IN ASSURING QUALITY IN TEACHING AND LEARNING IN HIGHER EDUCATION AT THE UNIVERSITY OF PROFESSIONAL STUDIES, ACCRA

This is to advise you that the above reference study has been presented to the Ethics Committee for the Humanities for a full board review and the following actions taken subject to the conditions and explanation provided below:

Expiry Date:	28/06/19
On Agenda for:	Initial Submission
Date of Submission:	14/05/18
ECH Action:	Approved
Reporting:	Bi-Annually

UG/ISSER/ECH VALID UNTIL 28 JUN 2019 APPROVED DOCUMENT

Please accept my congratulations.

Yours Sincerely,

Rev. Prof. J. O. Y. Mante
ECH Chair

CC: Prof. Olivia A. T. F. Kwapong, Department of Adult Education and Human Resource Studies, University of Ghana.

Tel: +233-303933866 Email: ech@ug.edu.gh | ech@isser.edu.gh

UNIVERSITY OF PROFESSIONAL STUDIES, ACCRA

P. O. Box LG 149, Accra, Ghana. Tel: (+233) 0302 500171 / 500722 Fax: (+233) 0302 - 513503
Website: www.upsa.edu.gh E-mail: enquiry@upsa.edu.gh admissions@upsa.edu.gh

My Ref. No.: IM/ROB/RCC/0117

7TH MAY, 2018

MR. JOSHUA OFORI ESSIAM
SCHOOL OF CONTINUING AND DISTANCE EDUCATION
DEPARTMENT OF ADULT EDUC. AND HUM. RES. STUDIES
UNIVERSITY OF GHANA
LEGON.

Dear Mr. Essiam,

RE: PERMISSION TO CONDUCT RESEARCH AT UPSA

This is to inform you that your request to carry out your PhD research at UPSA on the topic below has been approved by Management.

- **Students' engagement in assuring quality in teaching and learning in higher education at the UPSA.**

You are however advised to ensure a high level of confidentiality with regards to all official information in the course of your work. We wish you success in your endeavors.

Yours Sincerely,

Dr. Ibrahim Mohammed
(Director, Research and Consultancy)
For: Registrar

Cc:
File

UNIVERSITY OF GHANA
ETHICS COMMITTEE FOR THE HUMANITIES (ECH)

P. O. Box LG 74, Legon, Accra, Ghana

My Ref. No.....

29th June, 2018

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Department of Adult Education and Human Resource Studies
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CC: Prof. Olivia A. T. F. Kwapong, Department of Adult Education and Human Resource Studies, University of Ghana.

Tel: +233-303933866 Email: ech@ug.edu.gh | ech@isser.edu.gh

NSSE
national survey of
student engagement

The College Student Report
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The undersigned hereby consent to the terms of this Agreement and confirm that they have all necessary authority to enter into this Agreement.

For The Trustees of Indiana University:

Digitally signed by Alexander McCormick
DN: postalCode=47405, o=Indiana University, street=900 E. 7th St., street=900 E. 7th St., st=IN, l=Bloomington, c=US, cn=Alexander McCormick, email=amcc@indiana.edu
Date: 2018.08.13 12:57:14 -04'00'

Alexander C. McCormick
Director
National Survey of Student Engagement

Date

For Licensee:

Joshua Ofori Essiam
PhD Candidate
University of Ghana

8th August, 2018
Date

For Advisor:

Dr. Samuel Badu-Nyarko
Senior Lecturer
University of Ghana

8/8/2018
Date

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