UNIVERSITY OF CAPE COAST

INFLUENCE OF SELF-REGULATED LEARNING ON ACADEMIC ENGAGEMENT, THE MODERATING ROLE OF OCEAN PERSONALITY TRAITS AMONG SHS STUDENTS IN THE BEREKUM MUNICIPALITY OF GHANA

BY

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature:…… Date:……

Name:……

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature:…… Date:……

Name:……

Co-Supervisor's Signature:…… Date:……

Name:……..

ABSTRACT

The study was about the influence of self-regulated learning on students' academic engagement in the Berekum Municipality. The investigation process was steered by four research questions and two hypotheses. It adopted the quantitative descriptive survey design. A sample of 305 senior high school students was selected using probability sampling techniques for the study. Adopted questionnaires on self-regulated learning (Chen & Lin, 2018; α=.91), students' engagement (Maroco et al, 2016; α=.81) and personality trait (Soto & John, 2017; α=.70) were used to collect data from the students. Data gathered with the questionnaires were analysed descriptively (frequencies, means and standard deviations) and inferentially (regression, MANOVA and Hayes Process). The study found that students were moderately self-regulated and moderately academically engaged. Again, the study revealed that conscientious personality dominated among students. It was found that male students possessed self-regulated learning abilities than female students while the open-minded type of personality trait nagatively moderated the interaction of self-regulated learning and students' engagement. It was recommended that management in the Berekum Municipality should organise educative and job-oriented - academic and career guidance workshops, seminars and programmes to help develop higher levels of academic engagement in students. However, ad-hoc committee should be set where necessary to ensure that individualised personality traits of students are properly managed.

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DEDICATION

To my wife, Georgette Appiah-Kubi and my elder brother, Mr. Kumi Acheaw.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

OCEAN- Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism

SRL- Self-Regulated Learning

SE- Students Engagement

SAE- Students' Academic Engagement

CHAPTER ONE

INTRODUCTION

In educational institutions all over the world, teachers often look for new and efficient ways to engage students actively in learning activities. Nevertheless, identifying new ways of deepening and improving the involvement o students requires teachers to become aware of how their students experience and participate in learning activities (Pizzimenti & Axelson, 2015). In view of this, researchers have stated hinting that students' academic engagement could be related to their self-regulated learning.

Background to the Study

Holding onto a situation in order to progress in it is nothing but an invaluable component of success. When an individual is able to make this reflective in his or her life, then the person might be showing signs of self-regulated learning (Smith et al, 2015). According to Lemay (2017), students' academic success is the product of various variables that jointly support their involvements and increase their chances of higher achievement. Lemay (2017) is concerned with the effect of self-regulated instruction on the dedication of students in literature. Self-regulated learning (Ramdass & Zimmerman, 2011) and Conley, (2013) are referenced in the capacity and the desire to analyse and monitor thoughts, ideas and behaviour for the achievement of one's goals, which reaffirms that these abilities are regarded as core drivers of school engagement.

The opinion of Hoyle (2006) is that self-regulation is the mechanism by which people regulate their emotions, feelings and behaviours. If individual succeed in self-regulating learning, he manages his understanding of self and his effective self-regulated learning is necessary for the adaptive functioning of

any area of life and it is not surprising that a large number of literature has grown on this subject given the fundamental role of self-regulated learning in adaptive and maladaptive functioning. In recent times, self-regulated learning ability and students' engagement has attracted stakeholders in education, as these variables are perceived to be linked (Lemay, 2017). This development could be because of concerns raised by students, parents, and employers for increased accountability from institutions regarding what they can provide. It is noted that exceptionally gifted self-regulated students show various skills by setting objectives, portraying learning procedures, observing and measuring objective advancement, looking for help when required, exhausting more exertion and industriousness for learning, and defining new objectives when earlier objectives are accomplished (Zimmerman & Schunk, 2007).

He said students benefit from self-governed learning actions when they learn to continue to face difficult challenges, find solution, and feel achievement and satisfaction in the effort they have made (Nibali, English, Griffin, Graham, Alom, & Zhang, 2018). Students are required to set themselves targets, complete their planned assignments and review their completed work to identify what they have learned as they engage and take responsibility for their education (Harding et al., 2018). Ramdass and Zimmerman (2011) noted that as students regulate their personal learning, they become more independent and proficient, progressively evolving, adjusting and accessing prospects in learning better than as expected of them by their teachers. According to Ramdass and Zimmerman (2011), during childhood students have a self-regulating learning environment and, as they age, they rely on this ability. Self-regulatory learning is a critical mechanism in which people strive to take control of their emotions, feelings,

desires and appetites, and task results, says Baumeister, Gailliot, DeWall, and Oaten (2006). The human frontier with respect to self-regulated learning seems to be broader than what is found in different creatures, which may support development principles that guide the determination of qualities that make up human instinct.

In general, the commitment of students leads to greater effort and involvement in academic activities and encourages the achievement of educational performance (Abolmaali, Rashedi & Ajilchi, 2014). Student engagement refers to the practice in which legitimate instructional training is carried out and is student-centred in order to obtain attractive outcomes (Linenbrink & Pintrich, 2002). The involvement of students consist three aspects: behavioural, cognitive and motivational. Behavioural engagement means learning habits such as effort and patience when faced with difficulties while at home and asking teachers or friends to help them learn and appreciate the lesson. Cognitive engagement of students deals with the mechanisms they learn from (Ravindran, Greene, & Debaker, 2005), while motivation includes internal curiosity and value for material and assignments, and the existence of positive affections and the absence of negative emotions, such as anger, anxiety and irritation while doing homework and teaching (Vahid, 2017).

Personality is an integral component of appreciating human beings. By definition, Feist and Feist (2006) indicated that personality is a configuration that is quite constant, involving irreplaceable qualities, dispositions or characteristics within people who display some consistent markers about human behaviour. Personality serves as the basis on which human beings are described among fellow humans. Drawing from Allport's view, Feist and Feist (as cited

in Purnamaningsih, 2017) defined personality as a forceful organization within an individual that makes up a psychophysical system. Personality determines self-adjustments among human beings in the environment (Purnamaningsih, 2017). Hampson, Edmonds, Barckley, Goldberg, Dubanoski, and Hillier, (2015) have suggested the personality characteristics as drivers of self-regulated training and that persons with higher personality characteristics in connection with self-regulated learning will likely value their decisions and participate in activities promoting their goals. Hampson et al. (2015) researchers including Chamorro-Premuzic et al. (2005) and Lesson, Ciarrochi and Heaven (2008), Heaven, Ciarrochi and Vialle (2006) demonstrated that there are aspects of learning that are not cognitive and that they still account for high participation among students. For example, the individuality of students is an essential part of the students' work (Pasarica & Ciorbea, 2013). Heaven, Ciarrochi, and Vialle (2007) reported that students' personality and students' engagement feature the effect of Eysenck's three dimensions, and of Big-Five personality factors. Neurotic individuals are portrayed as having certain characteristics, for example, timidity, large amounts of tension and a shaky personality. Extrovert individuals are social and self-assured people who are idealistic as far as life experience is concerned. Open individuals are depicted as being receptive, with a functioning creative mind and autonomous judgment. They look for assortment in their lives. They are extremely inquisitive about their surroundings and always trying to increase new encounters. Agreeable individuals will, in general, accentuate the requirement for trust and persistence, and regard laws and the convictions of others. Conscientious individuals have a high feeling of responsibility (Santrock, 2008). Conversely, other sources like

Lesson, Ciarrochi and Heaven (2008) argued that students' engagement is diverse as it relates to both the Big Five dimensions of personality and self-esteem.

Similarly, Wang, Hu, Zhang, Chang and Xu (2012), Hoyle (2006), Broadbent and Poon (2015) and Ljubin-Golub, Petricevic and Rovan (2019) conducted a research on self-regulated learning, motivation, achievement, students' engagement, self-efficacy, personality and academic procrastination but these only found a direct relationship among the variables. Again, many of these studies are different from the current focus in terms of students' exposure, location and approach. Despite the lack of similar studies in Ghana, it is worth mentioning that students who purposely and thoughtfully self-regulate their learning are probably more engaged academically to be successful (Zimmerman & Schunk, 2001).

Given the issues raised, it is possible to believe that the relationship that exists between self-regulated learning, students' engagement and personality are intertwined and seemingly directional. However, earlier research by Chamorro-Premuzic and Furnham (2005) with the Big Five personality traits revealed that conscientiousness was the only dimension that related positively with self-regulated learning and students' engagement. This current study, therefore, seeks to create an extended impression that an individual's personality trait could moderate the effect of self-regulated learning on students' academic engagement in the Berekum Municipality.

Statement of the Problem

For decades, it is acknowledged that self-regulated learning among students could lead to their engagement such as student's psychological and

behavioural efforts and investment in learning, understanding or mastering skills and knowledge in academic work (Fredricks, Blumenfled & Paris, 2004; Lemay, 2017). According to Ruffing, Wach, Spinath, Brunken and Karbach (2015), the absence of personalised effort and students' engagement are two of the primary worries of most parents, teachers and other stakeholders because students have not had the preference to improve their learning and performance regardless of knowledge and aptitude they possess. This was evident because their learning and academic accomplishment were dependent on factors such as self-regulated learning and engagement (Ruffing, et al, 2015).

However, students' academic performance in the Berekum Municipality has been inconsistent from 2014-2018. For instance, grand performance for the municipality in 2015 was 49.90% and this dropped to 22.58% in 2016 (Municipal Education Performance Data, 2019). Though this trend seems to be inexcusable, it is likely to be the results of inadequate motivation and self-regulation to study, boredom, and disengagement among students.

Again, education in Ghana has attracted many reforms and research studies in the educational terrain are skewed to areas that exclude the combination of self-regulation, engagement and personality trait. Ghana Education Service has been operating since independence in 1957. Scholars have been produced from many academic institutions under the supervision of the Ghana Education Service. However, from the researcher searches, it does seem there are sufficient studies on this issue conducted to reflect the self-regulated learning abilities of students and how students become engaged academically based on the moderation role of their personalities. This therefore, brings about the existence of a knowledge gap in the literature. Therefore, the

current study focuses on broadening the comprehension of self-regulated learning and students' engagement with their appropriate supporting context and practice in terms of personality traits moderating the relationship, among Senior High School students in the Berekum Municipality.

Purpose of the Study

The purpose of the study is to examine the influence of self-regulated learning on academic engagement, the moderating role of OCEAN personality traits' among SHS students in the Berekum Municipality of Ghana

Objectives of the Study

Specifically, the study addressed the following objectives:

1. Assess the levels of self-regulated learning among SHS students in the Berekum Municipality.
2. Assess the levels of academic engagement among SHS students in the Berekum Municipality.
3. Find out the dominant personality type among SHS students in the Berekum Municipality.
4. Examine the influence of self-regulation on SHS students' engagement in the Berekum Municipality.
5. Find out gender differences in (a) self-regulation and (b) academic engagement among SHS students in the Berekum Municipality.
6. Examine the moderating role of personality type on self-regulation and SHS students' engagement in the Berekum Municipality.

Research Questions

1. What is the level of self-regulated learning among SHS students in the Berekum Municipality?

2. What is the level of academic engagement among SHS students in the Berekum Municipality?
3. What is the dominant personality type among SHS students in the Berekum Municipality?
4. What is the influence of self-regulation on SHS students' engagement in the Berekum Municipality?

Research Hypotheses

1. **Ho_1:** There is no significant gender difference in self-regulation among students in the Berekum Municipality.

   $H1_1$: There is significant gender difference in self-regulation among students in the Berekum Municipality.

   Ho_2: There is no significant gender difference in student academic engagement among students in the Berekum Municipality.

   $H1_2$: There is significant gender difference in student academic engagement among students in the Berekum Municipality.
2. **Ho_1:** Personality type will not moderate the influence of self-regulation on students' engagement in the Berekum Municipality.

   $H1_1$: Personality type will moderate the influence of self-regulation on students' engagement in the Berekum Municipality.

Significance of the Study

The findings of this study may provide information for policymakers in education on how self-regulated learning abilities in students can influence academic engagement. As such, efforts will be made to device strategies in making it possible for all students to learn self-regulation in academic endeavours.

Again, the findings may guide curriculum developers in planning and designing an enriched self-regulation curriculum for Ghanaian Basic schools.

The findings will serve as the bases for organizing professional development courses and in-service training programmes for teachers on self-regulated learning and students' academic engagement.

Moreover, it is envisaged that the findings may contribute to the existing knowledge of theory, practice and policy on self-regulated learning and students' academic engagement.

Lastly, the outcome of the study will be a source of reference to stakeholders in the teacher education sector.

Delimitations

In cognizance of the fact that this study will benefit all basic schools in the country, it would have sufficed the researcher to conduct a nation-wide study. This notwithstanding, the study is restricted to Berekum Municipal. Self-regulation and students' engagement have a wide coverage. However, the study considered only the following aspects; the impact of self-regulated learning on senior high school students' academic engagement: moderating role of personality traits (OCEAN) in Berekum Municipal. It was also restricted to students in public Senior High Schools and not any other private senior schools anywhere. In any case, the outcome of the study could be generalized to other districts in the country which have the same characteristics as Berekum Municipal.

Limitations

This study was subjected to methodological setbacks in as much as the use of questionnaire as a quantitative data collection tool is concerned. That is,

with self-reported questionnaire, respondent is highly subjective in answering questions on the questionnaire. The search for local oriented literature was also a challenge but then, efforts were made to review literature related to the studies within the African Sub-Region. Finally, there was difficulties in getting data from institutional authorities due personal and ethical concerns, but the right protocols were used to break-through such barriers.

Organisation of the Study

This study was organised into five chapters. Chapter one provides the introduction which covers the background to the study, statement of the problem, purpose of the study, research questions and the significance of the study. It also contains the delimitations, limitations, definitions of terms and organization of the rest of the study. The second chapter reviews literature that are relevant to the issue under investigation. It provides the conceptual, theoretical and empirical reviews for the study.

The procedures and techniques employed to carry out the study are described in chapter three. It describes the research design, population, sample and sampling procedure, instrument, validity and reliability of the instrument, data collection procedure and data analysis. Chapter Four is devoted to results and discussions. Chapter five contains summary, conclusions, recommendations and suggestions for further research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Overview

This chapter presents literature based on three themes such as the theoretical framework, theoretical review, conceptual framework, empirical review, and summary of the chapter.

Theoretical Review

Pintrich Model of Self-Regulated Learning

For this study, the researcher followed the Self-Regulated Learning (SRL) model by Pintrich (2000; 2004), which lays out a system that can govern the definition of four learning spheres: (a) cognition; (b) motivation and affect; (c) behaviour; and, (d) context. While there are several other SRL frameworks that indicate some different structures and processes involved in the process of learning (Winne & Hadwin, 2008; Zimmerman, 2000), the paradigm of Pintrich was chosen as a structure because it focuses on certain dimensions of student learning. Pintrich's SRL model, specifically, provides context (one element of special interest for this study) in a segment that is devoted solely to the learning environment for students. Each of the four fields of SRL will be discussed below, including techniques that can be used by teachers to encourage the SRL of students for their instruction.

Cognition

The first field of learning that students are entitled to regulate is techniques for information or learning, such as metacognitive strategies, used by students (Pintrich, 2000). There are several different types of cognitive techniques where students are taught using different methods, including

rehearsal, learning and organisation (Hofer, Yu, & Pintrich as cited in Hoops, Yu, Wang, & Hollyer, 2016). Detailed understanding of learning material has evolved as a consequence of comprehensive and systematic approaches. Cognitive management is well-established to be central to deep and substantive learning (Winne & Hadwin as cited in Hoops, Yu, Wang, & Hollyer, 2016). Teachers can facilitate emotional control of students in many respects. Teachers, for example, may encourage students to use specific strategies for studying or doing a job, encouraging students to track their own comprehension, or measuring their understanding, or training students to learn new information (Hoops, Yu, Wang, & Hollyer, 2016).

Motivation and Affect

Motivation and affective components are also a central component of SRL (Zimmerman & Schunk, 2007). Students should control motivation and influence just as their intellect can be controlled and tracked (Pintrich, 2004; Wolters, 2003). In relation to success-enhancing approaches, academic results over and beyond certain faces of SRL students and the ability level have been shown to increase (Robbins, Lauver, Le, Davis, Langley & Carlstrom, 2004). The students will not be using self-regulation techniques if unmotivated (Zimmerman, 2000). Both student desires and goals and beliefs (Eccles, 2009) are key components of their drive for success (Hidi & Renninger, 2006). Teachers should demonstrate the value of learning assignments to promote student engagement in the classroom and encourage students to participate in the course material. Students who are interested in their teachers prefer to enter the classroom (Gump, 2004) to reinforce the social desires of their peers by using humour.

Behaviour

Behavioural dimensions of SRL reflect the activities of learners, including support quest and time management (Pintrich, 2004). To enable, facilitate and support the learning process, students must engage in activities purposefully. Academic support can help enhance the learning and success of students (Pintrich, 2004). The use of different learning opportunities and on-campus facilities, such as schools and workshops, involves contributing improve search behaviour of students. Time Management activity, like the development of study schedules, helps guide the learning process and is usually illustrated in the SRL (Pintrich, 2004). Active self-regulated teachers engage regularly in activities such as counselling and time management to help students meet their academic goals. Teachers may allow students to participate in such activities outside the classroom or encourage positive behavioural control during the regular education era. A teacher may, for example, recommend students visit the campus lesson centre to receive assistance with challenging tasks or use it for in-class learning assignments from students.

Context

SRL meaning or the environment involves specific factors relevant to teaching assignments such as environments in the classroom or assignment guidelines (Greene & Azevedo, 2007; Lodewyk, Winne & Jamieson-Noel, 2009; Pintrich, 2004). The student must therefore use specific strategies to track, adjust and regulate his or her learning environment. While students cannot monitor the teaching styles of teachers or the quality of their assignments, their classroom environment can be controlled in some ways (Pintrich, 2004). The context area is not entirely "self-regulated" because many of the learning

activities and experiences of students are external and beyond their reach, but context is called an SRL field because students control their way of learning. Academic resources such as reviews from professors or assessment work often act as an entity in the SRL phase by learning (Nicol & Macfarlane-Dick, 2006; Perry & Rahim, 2011). Training assignments can help students control awareness, motivation, and impact on behaviour.

Engagement theory by Kearsley and Schneiderman (1999)

The purpose behind engagement philosophy is to create effective joint teams working on ambitious projects, which will be of interest to individuals outside the classroom. Students must engage actively by interaction with others in their learning experience. The concept of engagement is the foundation for technology-based education and learning. The core concept behind engagement theory is to deliberately involve students in learning by communicating and collaborating with others (Kearsley & Schneiderman, 1999). Although this form of engagement can occur without the use of technology in principle, technology can facilitate interaction in ways that are unlikely otherwise. According to the theory, any project is always designed around the three key components of engagement theory which are Relate-Create-Donate. These three ingredients of engagement theory imply the learning activities which are given as project-based learning (relate), problem solving learning (create), authentic learning (donate) (an outside focus). Such three approaches are said to result in imagination, meaning and quality of learning (Kearsley & Schneiderman, 1999).

Relate: The first component of the engagement theory is project-oriented, collaborative research that involves teamwork, planning, management and

social skills. Students of various backgrounds form their own project group and are supervised by the project coordinator. Upon preparation, students will have the chance to work successfully on their project. In each field of the project, students will apply. Students gain experience in all facets of project-based learning and can improve their interpersonal and working relationships. In the transition from the abstract or limited awareness of the classroom to the wider workforce, the concept has proved a productive tool (Miliszewska, & Horwood, 2004).

Create: The question of development is the settlement of learning tasks. The students must examine the problem, develop a system, and include it in the real world in the creative process. In reality, learning is innovative and directed at the core element of engagement theory. The students usually have no sense of control over their learning from "traditional classroom schooling", but they have a sense of control in troubleshooting tasks. The students then continue to focus on the issue and complete the work with a high standard. The focus of the project is the nature of problem-based learning methods (PBLs), often used for medical and other professional training forms (Barrows & Tamblyn 1980).

Donate: Donate is the third key element of the engagement theory. It emphasizes the importance of the learning experience, which is important and useful. Students must face the real-world issue and address major problems in the real world when working on this initiative. Getting a project-based group job, they connect with group members and they eventually get a sense of satisfaction and trust in their skills, offers us some advantages. The true learning background of the study, on the other hand, increases enthusiasm for the students. This concept is consistent with the emphasis on school-to-work schemes, as well as the

business theory of current company training programs, in many school systems and colleges (Miliszewska, & Horwood, 2004).

Effective collaboration teams are contained in "Engagement Theory." Both students participate in their assignments and participate in it. Collaborative learning is a tool that can be used in any field. Students in a school can work on problems in mathematics, English students can work on work and science can solve scientific problems, etc. They can work together. Collaboration may be as simple as a 2-minute class workout with a couple of students or as complex as a multi-year research project involving several teams for the production of curricula (Kearsley & Shneiderman, 1999).

Big Five Personality Traits (Costa & McCrae's, 1992, OCEAN)

Costa and McCrae acknowledged the important role that Eysenck played when he identified extraversion and neuroticism as second-order personality factors, and for developing the Maudsley Personality Inventory, the Eysenck Personality Inventory, and the Eysenck Personality Questionnaire (Eysenck, 1997) as tools for measuring these factors. However, they disagreed with Eysenck regarding psychoticism. They initially proposed a different factor called openness. When they discussed this issue with Eysenck, he felt that openness might be the opposite pole of psychoticism, but McCrae and Costa believed the factors were significantly different (Costa & McCrae, 1986). Since that time, Costa and McCrae have moved beyond the third factor of openness, and added two more second-order factors: agreeableness and conscientiousness (Costa & McCrae, 1989; McCrae & Costa, 2003). Together, Costa and McCrae developed the NEO Personality Inventory (or NEO-PI) to measure neuroticism, extraversion, and openness, and later they developed the Revised NEO-PI, or

NEO-PI-R, which also measures agreeableness and conscientiousness (see McCrae & Costa, 2003).

The five factor personality traits show consistency in interviews, self-descriptions, and observations, as well as across a wide range of participants of different ages and from different cultures. It is the most widely accepted structure among trait theorists and in personality psychology today, and the most accurate approximation of the basic trait dimensions (Funder, 2001). Because this model was developed independently by different theorists, the names of each of the five factors and what each factor measures differ according to which theorist is referencing it. Paul Costa and Robert McCrae's version, however, is the most well-known today and the one called to mind by most psychologists when discussing the five factor model. The acronym OCEAN is often used to recall Costa and McCrae's five factors, or the Big Five personality traits: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

Neuroticism (N)

Costa and McCrae conceptualize in much the same way as Eysenck defined it. People who score high on neuroticism tend to be anxious, temperamental, self-pitying, self-conscious, emotional, and vulnerable to stress-related disorders. Those who score low on N are usually calm, even-tempered, self-satisfied, and unemotional. High neuroticism is characterized by the tendency to experience unpleasant emotions, such as anger, anxiety, depression, or vulnerability. Neuroticism also refers to an individual's degree of emotional stability and impulse control. People high in neuroticism tend to experience emotional instability and are characterized as angry, impulsive, and hostile.

Watson and Clark (1984) found that people reporting high levels of neuroticism also tend to report feeling anxious and unhappy. In contrast, people who score low in neuroticism tend to be calm and even-tempered.

Extraversion (E)

People who score high on extraversion tend to be affectionate, jovial, talkative, joiners, and fun-loving. In contrast, low E scorers are likely to be reserved, quiet, loners, passive, and lacking the ability to express strong emotion. Not surprisingly, people who score high on both extraversion and openness are more likely to participate in adventure and risky sports due to their curious and excitement-seeking nature (Tok, 2011).

Openness to Experience (O)

Openness to experience distinguishes people who prefer variety from those who have a need for closure and who gain comfort in their association with familiar people and things. People who consistently seek out different and varied experiences would score high on openness to experience. For example, they enjoy trying new menu items at a restaurant or they like searching for new and exciting restaurants. In contrast, people who are not open to experiences will stick with a familiar item, one they know they will enjoy. People high on openness also tend to question traditional values, whereas those low on openness tend to support traditional values and to preserve a fixed style of living. In summary, people high on openness are generally creative, imaginative, curious, and liberal and have a preference for variety. By contrast, those who score low on openness to experience are typically conventional, down-to-earth, conservative, and lacking in curiosity.

Agreeableness (A)

The Agreeableness Scale distinguishes soft-hearted people from ruthless ones. People who score in the direction of agreeableness tend to be trusting, generous, yielding, acceptant, and good-natured. Those who score in the other direction are generally suspicious, stingy, unfriendly, irritable, and critical of other people.

Conscientiousness (C)

Conscientiousness describes people who are ordered, controlled, organized, ambitious, achievement focused, and self-disciplined. In general, people who score high on C are hardworking, conscientious, punctual, and persevering. In contrast, people who score low on conscientiousness tend to be disorganized, negligent, lazy, and aimless and are likely to give up when a project becomes difficult.

Units of the Five-Factor Theory

In the personality theory of McCrae and Costa (2003), behaviour is predicted by an understanding of three central or core components and three peripheral ones. The three central components include: basic tendencies, characteristic adaptations, and self-concept.

Basic tendencies: McCrae and Costa (1996), defined basic tendencies as the universal raw material of personality capacities and dispositions that are generally inferred rather than observed. Basic tendencies may be inherited, imprinted by early experience or modified by disease or psychological intervention, but at any given period in an individual's life, they define the individual's potential and direction. In earlier versions of their theory, McCrae and Costa (1996) made it clear that many different elements make up basic

tendencies. In addition to the five stable personality traits, these basic tendencies include cognitive abilities, artistic talent, sexual orientation, and the psychological processes underlying acquisition of language.

Characteristic adaptations, that is, acquired personality structures that develop as people adapt to their environment. The principal difference between basic tendencies and characteristic adaptations is their flexibility. Whereas basic tendencies are quite stable, characteristic adaptations can be influenced by external influences, such as acquired skills, habits, attitudes, and relationships that result from the interaction of individuals with their environment. McCrae and Costa (2003) explained the relationship between basic tendencies and characteristic adaptations, saying that the heart of their theory "is the distinction between basic tendencies and characteristic adaptations, precisely the distinction that we need to explain the stability of personality" (p. 187). All acquired and specific skills, such as the English language or statistics, are characteristic adaptations. How quickly we learn (talent, intelligence, aptitude) is a basic tendency; what we learn is a characteristic adaptation. Moreover, our dispositions and tendencies are the direct influence on our characteristic adaptations. Characteristic responses are shaped and molded by basic tendencies. What makes them characteristic is their consistency and uniqueness; hence, they reflect the operation of enduring personality traits. Characteristic adaptations differ from culture to culture.

McCrae and Costa (1996) explains self-concept as "set of knowledge, views, and evaluations of the self, ranging from miscellaneous facts of personal history to the identity that gives a sense of purpose and coherence to life" (p. 70). The beliefs, attitudes, and feelings one has toward oneself are characteristic

adaptations in that they influence how one behaves in a given circumstance. For example, believing that one is an intelligent person makes one more willing to put oneself into situations that are intellectually challenging.

Peripheral Components/Factors

There are three peripheral components; biological bases, objective biography, and external influences. Biological bases: The Five-Factor Theory rests on a single causal influence on personality traits, namely biology. The principal biological mechanisms that influence basic tendencies are genes, hormones, and brain structures. Objective biography emphasizes what has happened in people's lives (objective) rather than their view or perceptions of their experiences (subjective). It is defined as "everything the person does, thinks, or feels across the whole lifespan" (McCrae & Costa, 2003, p. 187). External influences; people constantly find themselves in a particular physical or social situation that has some influence on the personality system. The question of how we respond to the opportunities and demands of the context is what external influences is all about. According to McCrae and Costa (2003), these responses are a function of two things: (1) characteristic adaptations and (2) their interaction with external influences.

Criticisms

Critics of the Five-Factor Model, in particular, argue that the model has limitations as an explanatory or predictive theory and that it does not explain all of human personality. Some psychologists have dissented from the model because they feel it neglects other domains of personality, such as religiosity, manipulativeness, honesty, sexiness/seductiveness, thriftiness, conservativenes

s, masculinity/femininity, snobbishness/egotism, sense of humour, and risk-taking/thrill-seeking.

Another frequent criticism is that the Five-Factor Model is not based on any underlying theory; it is merely an empirical finding that certain descriptors cluster together under factor analysis. This means that while these five factors do exist, the underlying causes behind them are unknown.

Factor analysis, the statistical method used to identify the dimensional structure of observed variables, lacks a universally recognized basis for choosing among solutions with different numbers of factors. A five-factor solution depends, in some degree, on the interpretation of the analyst. A larger number of factors may, in fact, underlie these five factors; this has led to disputes about the "true" number of factors. Proponents of the five-factor model have responded that although other solutions may be viable in a single dataset, only the five-factor structure consistently replicates across different studies.

As a basis for studying personality, the Five-Factor Model has proven quite comprehensive. The five factors stand up well when measured with a variety of other tests and within other theoretical perspectives, including a thorough comparison with the list of human needs proposed by Henry Murray. Particularly important in psychology today, the Five-Factor Model has also stood up very well when examined across cultures.

Cattell's Trait Theory of Personality

Cattell's trait theory of personality attempts to explain the interaction between the genetic and personality systems and the socio cultural milieu within which the organism is functioning. It delves deep into the complicated transactions between the personality system and the more inclusive

sociocultural matrix of the functioning organism. According to him these traits are genetically and environmentally determined, and the ways in which genetic and environmental factors interact decide the behaviour of the individual. Cattell opines that an appropriate theory of personality must take into account the multiple traits that comprise the personality. The theory should be able to indicate the ways in which genetic and environmental factors interact to influence behaviour. He believes that an appropriate theory of personality functioning and growth must be based on systematic research methods and precise measurements. Multivariate statistics and factor analysis are his preferred methods of personality study.

According to Cattell (1965), personality is that which permits us to predict what a person will do in a given situation. With the help of mathematical analysis of personality, he suggests that the prediction of behaviour can be made by a specification equation. The formula used by Cattell to predict behaviour with any degree of accuracy is given: R = f (S, P), Where R refers to the nature of a person's specific response, f refers to the unspecified function, S refers to the stimulus situation at a given moment in time and P refers to the Personality structure. To be more specific, this formula signifies that the nature of a person' specific response(R), meaning what the person does or thinks or verbalises, is some unspecified function(f) of the stimulus situation(S) at a given moment in time and also of the individual's personality structure(P). The specification equation shows that the person's specific response to any given situation is a function of all the combined traits relevant to that situation. Here each trait is interacting with situational factors that may affect it.

Cattell also accepts that it is difficult to predict a person's behaviour in a given situation. In order to increase predictive accuracy, the personality theorist must consider not only what traits a person possesses but also the many non-trait variables such as for example, the person's moods and particular social roles called for in the situation and related aspects. According to Cattell, behaviour is determined by the interaction of traits and situational variables, but his major organising concept of personality resides in his descriptions of the various kinds of traits he has identified. Traits are relatively permanent and pervasive tendencies to respond with consistency from one situation to another and from one time to another. Traits are hypothetical mental structures inferred from behaviour which predispose the person to behave uniformly across various circumstances and across time. Traits reflect the person's stable and predictable characteristics and are by far the most important of Cattell's concepts. Cattell (1965) relies heavily on factor analysis to investigate the structural elements of personality. He concludes that traits can be classified in several ways (Cattell also uses the term factors) such as (i) surface traits (ii) source traits (iii) constitutional traits (iv) Environmental mould traits (v) ability trait (vi) temperament (vii) dynamic traits (viii) common traits (ix) Unique traits.

A surface trait is a set of behavioural characteristics that all seem to 'hang' together. For instance, the observed characteristics of inability to concentrate, indecisiveness, restlessness etc., may cluster together to form the surface trait of neuroticism. Here, the trait of neuroticism is observed by a cluster of overt elements that seem to go together. It does not derive from any single factor or element. Surface traits do not have a unitary basis and are not consistent overtime and hence, they are not given much value for behavioural

accountability. On the other hand, source traits are the basic, underlying structures which constitute the building blocks of personality. They represent the unitary dimension or factors that ultimately determine the consistencies in each person's observed behaviour. Source traits exist at a "deeper" level of the personality and are the causes of behaviour in diverse domains over an extended period of time. After extensive factor analytic research, Cattell (1979) concluded that there are approximately 16 source traits that constitute the underlying structure of personality. These were put forward by him as (i) warmth (ii) Reasoning (iii) Emotional stability (iv) Dominance (v) Liveliness (vi) Rule Consciousness (vii) social boldness (viii) Sensitivity (ix) vigilance (x) Abstractness (xi) Privateness (xii) Apprehension (xiii) Openness to change (xiv) Self-reliance (xv) Perfectionism (xvi) Tension.

Source traits can be divided into two subtypes-depending on their origin. Constitutional traits derive from the biological and physiological conditions of the person. For instance, recovery from cocaine addiction may cause a person to be momentarily irritable, depressed, and anxious. Cattell would suggest that these behaviours result from changes in the person's physiology and thus reflect constitutional source traits. Environmental-mold traits are determined by influences in the social and physical environment. These traits reflect learned characteristics and styles of behaving and form a pattern that is imprinted on the personality by the individual's environment. Thus, a person who is raised in a rural setting behaves differently from a person, who grows up in an urban area.

Source traits can further be classified in terms of the modality through which they are expressed. Ability traits determine the person's skill and effectiveness in pursuing a desired goal. For example, intelligence, musical

aptitude. Temperament traits relate to other emotional and stylistic qualities of behaviour. For example, people may either work quickly or slowly on a task. Cattell considers temperament traits to constitutional source traits that determine a person's emotionality. Dynamic traits reflect the motivational elements of human behaviour. These are traits that activate and direct the person toward particular goals. Thus, a person may be characterised as ambitious, power-oriented, or interested in acquiring material possessions.

A common trait is one that is shared in varying degrees by all members of the same culture. For example, self-esteem, intelligence, and introversion. Unique traits are those that are shared by few or no other people. Unique traits are especially observed in the areas of interests and attitudes. Cattell gives much significance on the use of factor analysis to identify the major traits of personality. Cattell draws his data from three basic sources: life record data (L-data), self-rating questionnaire data (Q-data), and objective test data (OT data).

Empirical Review

Levels of self-regulated learning among students

The analysis of the same characteristics in high and low achieved students is a possible technique to better comprehend how to develop SRL (Nandagopal & Ericsson, 2012). In line with this, Proctor, Prevatt, Adams, and Reaser (2006) compared self-reported studies of students with normal accomplishment and academically struggling. Proctor et al. found that students with low GPAs had lower SRLs than high GPAs, who had higher SRL rates using their Learning and Research approaches inventory. The performance of the cognitive and behavioural dimensions of SRLs vary between individuals and vary in time in relationships with various subject areas, as shown by a

longitudinal study among students (Magi, Mannamaa & Kikas, 2016). The survey found that the SRL skills also increased among the students with high level of words comprehension, listening understanding, number sequences and troubleshooting skills.

Levels of academic engagement among students

Stakeholders in education are increasingly absorbed in student engagement as a measure of reducing teaching and learning problems among students (Fredricks, Blumenfeld, & Paris, 2004). To have this done, stakeholders need to appreciate the levels of students' academic engagement. A student engagement review showed a close association with growth and a negative connection with school dropout likelihood (Fredricks, Blumenfeld & Paris 2004). More likely to lead to higher qualifications and a better performance on standard assessments are students with a higher degree of academic participation (Fredricks, Blumenfeld, & Paris, 2004). Analysis shows that the academic participation of students in the high-schools and middle-schools is seen to decrease, hitting their lowest high-school levels (National Research Commission, Institute of Medicine, 2003). This decrease can be more dramatic, given the poor and high poverty schools that students enjoy (Yazzie-Mintz, 2007).

The type of personality trait that is dominant among students

In recent years, the role of personality as the most unique characteristic of the human being has been studied by a wide range of disciplines (Dörnyei, 2009) and personality features are consistent and stable, in many different contexts (Dewaele, 2013; Komarraju & Karau, 2005). Thus, while every person is different, as the personality theory suggests, the individual's characteristics,

attitudes or disposition are unchanging (Sharp, 2012). A 2016 study carried out by Oz compared components of Big-Five personality characteristics finding that 62% of participants had extraversion, 64% decided upon, 63% conscientious, 64% neurotic and 63% were open to experience as their dominant personality characteristics. The relationship between conscientiousness and negative academic association was consistently positive between Chamorro-Premuzic and Furnham (2005). The relationship between the great five features of personality, styles of learning and academic achievements of 308 university students was examined by Komarraju et al. (2011). Their research found that knowledge and cohesion have a positive relationship with styles of learning and extraverse behaviour, and openness to experience linked to complex processing (Komarraju et al., 2011).

Influence of self-regulation on engagement among students

Effective approaches to improve the motivation of students should be established as they are the primary prerequisite for effective learning (Kadivar, 2016). Self-regulation and engagement techniques are some of these strategies. In their study, Berger and Karabenick (2010) stressed that there is a connection between self-regulated learning techniques and students' engagement. According to Guryay's (2016) study findings, self-regulating students were academically driven and exhibited higher learning engagement and efficiency. Throughout his study, Aksan (2009) found that deficiencies in students' self-regulation contribute to low engagement and decreased performance. Based on this, Mirhosseini, Lavasani, and Hejazi (2018) noted that such self-regulation competencies help students to choose effective learning strategies for their

needs and to use them in their academic engagements. Students, therefore, need to know how to practice and how to learn self-regulation.

The Amini (2008) study shows a strong link between the ability of all the components to expect academic achievement and self-regulation. Various research has found that the design of self-regulation approaches would increase academic performance. For example, Dignath et al. (2008) listed a review of verbal and metacognitive skills in the third and fifth grades of 1984, 1986 and 1986. The results of this study show that students with such skills can read and understand the content better than students without such skills. The control group students learned about the use and effect of cognitive and metacognitive approaches (Seif, 2008). The impacts of the SRL on high school students' strategic skills were examined by Cleary, Velardi and Schnaidman (2017). In this study, self-regulation, academic involvement and academic performance in the experimental group showed significant increase in the results. The findings of research on English-speaking students by Smith et al. (2015) showed the influence of auto-regulation training on enhancing self-regulation and the success of university students. The use of self-regulation methods and academic participation was found to be linked by Fonteyne et al. (2017).

Academic performance and automotive efficiency can therefore be improved on the basis of Turan and Demirel (2010) when self-regulation thought becomes more successful. In Ismail, Awang, Rahman, & Makhtar (2015), who worked on the impact of self-regulation on the achievements of school students, self-controlled courses were considered effective to the participation of students. The self-regulation learning among students predicts the engagement of students, according to Ning and Downing (2010) and a lack

of understanding of effective approaches in different situations in learning is the source of much of the loss of motivating. In his study, Aksan (2009) has found that deficiencies in self-regulation contribute to low motivation and decreased schooling. In reporting study findings, Mirhosseini, Lavasani, and Hejazi (2018) indicated that students that acquire self-regulatory learning strategies are more engaged, driven and self-efficient at the academic level.

With respect to the assumption that self-regulation programming methods improve the self-efficiency of students, the results of their research showed that the average values of covariance analysis testing and control groups vary greatly. This indicates that auto-sufficient self-regulation methods influence students ' academic engagement (Mirhosseini, Lavasani & Hejazi, 2018). Paris and Oka (as cited in Mirhosseini, Lavasani, & Hejazi, 2018) stressed on the need to consider a wide range of practical approaches for schooling and achievement and the success of those responsible for practising these techniques. Self-regulation approaches are among the required tools for students to excel and have a close relationship to their dedication, performance and achievement. The results of Christopher et al. (2017) indicate a major impact on academic participation on cognitive and interpersonal skills in self-regulation.

The Hedeshi (2017) findings indicate a major effect in self-regulatory teaching techniques on the academic commitment and tasks importance of the students. The results of this study can be accompanied by two main approaches: Firstly, the effectiveness of self-regulation strategies in order to enhance the academic participation of male high-school students in all classes. The results of the second path indicate the effectiveness of self-regulating methods to

enhance students ' academic commitment and therefore to enhance student role value in all courses.

Personality moderating the relationship between self-regulation and students' engagement

Characteristics of personality influence the thinking of individuals as well. A traits are personal qualities that are characteristic or distinctive. Throughout our everyday life, people frequently adopt characteristic approaches that define the temperament of the person. People are prone to choosing key characteristics or factors and use them to summarize the person's appearance (Schultz & Schultz, 2008). Grouping individuals by attributes is easy and feasible through the use of good sense. Studies of Watson and Kelark (2008) on 100 male and female students showed that high-quality extraverted personality of students could cope better with routine stress than low-quality extraversion students. Extraverts will also try to help and encourage them emotionally in coping with their pain.

Dadashi (2010) explored the relationship between characteristics of personality and self-regulated learning methods and participation by students in two studies. The assessment of five personality characteristics of neuroticism, extraversion, transparency, coincidence and perception. Factor analytic research has found that daily learning with characteristics of personality sensitivity and intensive learning with openness. Another hypothesis found substantial variations in personality traits between Islamic Azad and female students and Payam Noor in Maku (Iran) (Kabriaii, Samadi, & Fadavi 2014). The Entwistle research (2008) showed the correlation between five key characteristics of personality and girls' and boys' auto-regulatory learning styles. Jones and Green

(2004) study support essential linkages in the estimation of self-regulation strategies between the five main factors of personality. Zeidner and Matthews (2009) research demonstrates that personality can be a predictor of education and job success.

In their study Kabriaii, Samadi and Fadavi (2014) found that personality characteristics on self-regulated learning and the academic participation of students have been predicted positively. In the regression equation, variables such as consciousness, self-regulated motivation, behavioural autonomy and consistency were added and as predictor variables each of which predispose to a 47.5% and 18% respectively, 30 percent and 48.9 percent improvement in the self-regulated learning criterion and engagement of students. There is a detailed documentation of the role of personality in student academia (Farsides & Woodfield, 2006).

Conscience was especially accurately and effectively related to examination and experimental success, while neuroticism was seen as a negative predictor of academic performance (Heaven, Ciarrochi & Vialle, 2007; O'Connor & Paunonen, 2007) and examination performance (Chamorro-Premuzic & Furnham, 2005).

More generally, academic achievement was linked to cohesion, expertise and open-mindedness (Poropat, 2009). However, there is little to give to the position of student participation regarding personality features. Earlier research has generally looked at academic performance and methods of education (Zhang & Huang, 2001). Komarraju and Karau (2005) research helped the commitment of the students by showing extraversion and comfort for the expertise.

Limited research has identified a correlation between appropriate involvement and engagement per se, but this is not repeated, perhaps because of differences in the way engagement occur among students (Caspi, Chajut, Saporta & Beyth-Marom, 2006). It is interesting to note that research suggests that a student's emotional approach to studying can be related with agreeable attitude and such outcomes highlight the need to explore a multidimensional engagement model (Wise, Skues & Williams, 2011).

Gender differences in self-regulated learning and students' academic engagement

A few studies explicitly covering gender differences have been identified in self-regulating learning. Although the studies consistently reveal certain differences between men and women, the trend in the results remains inconclusive (Bidjerano, 2005). A qualitative study investigated how genders can be distinguished with the use of 14 self-regulatory learning techniques, through interviews with 5, 8, and 11 graders. The authors found that girls appear to track their study setting, set goals, schedule and organize more often than boys (Zimermann & Martinez-Pons, 1990). In comparison to high school boys, girls in secondary school used more metacognitive, cognitive, and self-regulatory strategies as a subject has replied (Pokay & Blumenfeld, 1990). Wolters (2003) has also identified that girls use more self-regulatory techniques than boys for learning. Gender differences have been found in Niemivirta (1997) that are favouring girls; students have tended to use less apparent learning strategies, such than boys.

Likewise, Temi (2005) analysed the differences in gender among Northeastern University's undergraduates, U.S.A. There is no substantial

difference in the use of self-regulatory learning strategies between male and female students. Stanikzai's (2019) research found that most University students have a high level of self-regulated learning. But gender differences did not indicate a big difference in self-regulated learning between male and female university students. The key explanation for this is the changed culture, equal education opportunities, and the balanced learning climate for men and women in Afghanistan.

Work on the gaps in gender in student engagement and self-regulated schooling was analyzed by Pintrich and Zusho (2007). They explained that one of the greatest perceptible disparities is that girls view themselves less successfully in education, even if they do better than boys (Meece & Eccles, 1993). Another explanation is because girls are more likely to play sexually stereotypical roles during puberty (Wigfield, Eccles & Pintrich, 1996). The study also summarized that gender differences in student motivation and self-regulation of learning in some instances are not due to gender per se but to sex stereotypes. Students generally perceive research to be a masculine field and science achievement to be a men's imperative. In short, there is justification for the difference between the sexes (Pajares & Valiante, 2001).

Gender is a very influential personal trait in terms of the self-conception of the bio-sex from 2 to three years of age (Fagot & Leinbach, 1985). Sex or gender disparities in academic engagement should be more closely linked to a specific sex or variant as to the rest of the subject in line with our current topic. One of the stronger results of studies is that young adults are typically less interested in education and have lower drop-out rates than young people (Lamote, Speybroeck, Van Den Noortgate & Van Damme 2012; Van de Gaer,

Van Damme, & De Munter, 2006; Wang & Eccles 2012). This study found less progress in schools and more often in education. For 1, 132 grade 9-12 students in the U.S., Cooper (2014) found the same results. Lamote et al. (2013), for example, took a survey of 4,063 high school students and found that male children are probably more academically engaged than girls in a low commitment category or strongly and decreasingly committed category. It emphasizes the more destructive functions of boys in high schools. As a result, it remains important to look at gender gaps in the participation of high school students. A research was carried out by Lietaert, Roorda, Laevers, Verschueren and De Fraine (2015) on the possible differential role of teacher support for boy and girl participation. The study found that children were less interested than girls and their teacher indicated a lower level of support.

Conceptual Review

The researcher posits that self-regulated learning (SRL) influences student's engagement (SE) but how personality trait (PT) moderate is not substantiated, hence the study. In the conceptual framework the researcher posits that self-regulated learning (SRL) influences students' academic engagement (SAE) all things being equal. However, the interaction of personality trait (OCEAN) moderating the relationship between SRL and SAE is not substantiated, hence the study.

Conceptual Framework

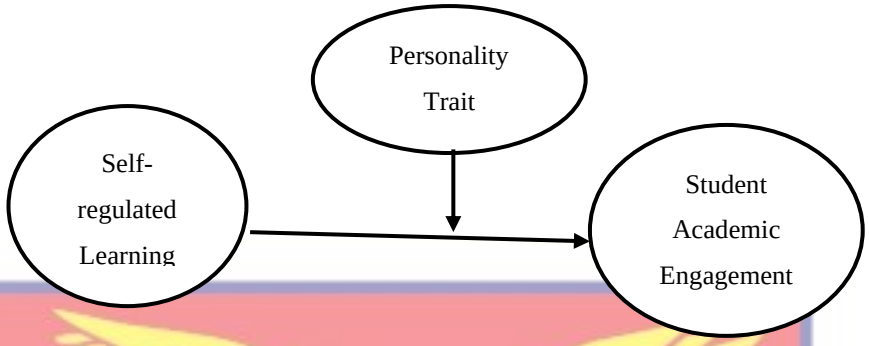

Figure 1: Conceptual Framework

Source: Author's Construct (2020)

Self-regulated learning influence students' academic engagement while OCEAN personality traits moderate the relationship between the independent variable, self-regulated learning and the dependent variable, student academic engagement. Self-regulated learning has relationship with students' academic engagement but the strength of the relationship depends on one's personality traits.

Self-regulated learning

School students, on the job, and those in their interests' research a lot of knowledge-terms like inertia or speed, discrepancies in political systems and engines like gasoline and diesel engines, how backflows can be avoided in wastewater systems and more (Winne, 2015). Besides huge variation in subjects, learners often vary tremendously as learners. We start to learn from through information backgrounds. We are looking for different goals and perseverance if there are obstacles. At least one characteristic is universal among a host of individual differences. Once students get ready, participate in and talk about studying, they decide. Self-regulated curriculum includes the ideas of learners and studies in a wide area of learning, decision-making

variables, the frequency and ease of the decision-making and how these elements relate to other qualities of learning, such as motivation and achievement (Winne, 2015).

The students self-regulate learning by evaluating the learning environment and observing learning processes in order to inform decisions about the management of learning procedures according to Winnie (2015). Learning is not a state, it is a mechanism. Learning involves activities that operate on information in a way that learners intend to build knowledge or set a stage to build knowledge, most of which are mental but also openly behavioural. Learning has many main corollaries when it comes to the mental operations that learners' control (Winnie, 2015). Winnie (2015) not explicitly states that information is knowledge, but can be translated by a learner into knowledge. Rehearsing is one typical cognitive form, where information such as a sense of a word are continually remembered or behaved like movements to tie a bowling knot. Another growing cognitive method is the incorporation of knowledge in multiple formats. Drawing a quadratic equation algebraically in a parabola is an example.

SRL is, therefore, a metacognitive event (Nelson & Narens, 1990) which aims to make decisions on how to turn information into knowledge through cognitive operations and environmental affordable that can be employed in learning processes. Decisions of a learner about learning are not random decisions. The decision is geared against targets, with similar outcomes, if a specific method of activities is used, the leaner predictions will or will very likely result. This was described by Bandura (1997). The estimation that a given result is provided by certain operations varies from the evaluation of the

possibility of these operations occurring. This latter assessment concerns capacity; it is the principle of Bandura's performance. Across three ways, SRL is therefore fundamentally empowering (Winne & Marx, 1989). Next, students choose which goals they want to achieve. Firstly, students decide how to execute their goals. Thirdly, students decide how much longer they have not yet accomplished a goal. As students make these decisions which have to do with inspiration, they are responsible for the results and undergo affective reactions.

A student can understand progress because of effort and consider other than knowledge growth. The learner will fulfil his desire for knowledge if he has correctly predicted outcomes or has been able to translate an algebraic expression into a graphic form. Specific decisions may be influenced by external conditions, like a parent's pledge of compensation for a successful test score or a teacher's warning of extra assignments for a poor result. Nonetheless, it is students who choose goals and how they are to accomplish objectives given the constraints and opportunities in their setting. The potential influence of different results can vary in weight in the value system of the pupil (Winnie, 2015). A student could judge how productive rehearsing is, but not as effective as translating information. Nonetheless, an algebraic graph may be preferred. This refers to a property called an entity that the applicant has such choices to make and makes. In the SRL process, the learner demonstrates his / her company by deciding how it evolves.

Panadero (2017) also notes that the cognitive and metacognitive, mental, motivative and emotional/affective dimensions of learning are included in self-regulated learning. Therefore, it is a very special paradigm under which a comprehensive and systematic approach is used to study a large number of

variables such as self-efficacy, volition and cognitive techniques affecting performance. The central philosophical structure for understanding the cognitive, motivational, and emotional aspects of learning consists of self-regulated learning (SRL). In its first study, scientists have started to discern between SRL and metacognition (Zimmerman; Pintrich et al. as cited since Panadero, 2017). SRL has therefore become one of the most important fields of research in the area of educational psychology.

Self-regulation is learning which results from the self-generated thinking and behaviour of students that is structured in order to achieve their learning goals (Al-Mutawah, Thomas, & Khine, 2017). Self-regulated learning requires goal-directed behaviours that students instigate, alter, and maintain (Zimmerman, 1994, 1998). Students interpret the recent findings by active knowledge searching and processing. The promotion, preparation and continuity of effective practices can impact learner understanding (Bandura, 1997; Zimmerman, 1998). Tracking, self-monitoring and other self-regulatory ability include (Harris and Graham, 1999; Schraw, Crippen & Hartley, 2006). Self-regulation can contribute to improving study patterns and enhancing student skills (Harris, Friedlander, Sadler, Frizzelle & Graham, 2005) and tracking performance (Harris et al., 2005) and evaluating progress in academics (De Bruin & Gog, 2012). Self-regulation will improve academic findings for students. Self-regulated students maneuver through the educational system to meet their needs (Kolovelonis, Goudas & Dermitzaki, 2011).

In addition, scientists have found that self-regulated students appear to seek consultation and information and strive to build positive learning environments (De Bruin et al., 2012; Labuhn et al., 2010). In a high school

report, Labuhn et al. (2010) noted that pupils with the ability to self-regulate learning by guidance and simulation are far more likely to achieve higher academic self-efficacy and to take greater measures of university success than pupils without a self-regulating learning program. The students perform their own tasks through self-regulating learning (Boekaerts & Corno 2005). Self-regulation involves strategies for regulating people's feelings, desires and behaviour. This helps people adapt their social and physical circumstances, and is a psychological mechanism of critical significance (Schmeichel & Baumeister, 2006). Training is good for improving performance, but training can also be important for improving physical activity. Under the theory of self-improvement, man aims to increase positive feelings or handle obstacles effectively (Deci & Ryan, 2002). Self-regulation of learning can lead in a more efficient way to people's established abilities and aspirations for success (e.g., Zimmerman, 2006).

Bandura's (1986) social cognitive theory is one of the cognitive theories of self-regulated analysis, commonly used in educational contexts. He said that human behaviour stems from experiences with triadic variables, including personal, behavioural and environmental. The concept of reciprocal relations between these three variables can be seen as auto-regulated learning since it is not established and has to be controlled during the learning process (Schunk, 2009). On that theory Zimmermann (1994) develops a conceptual structure for self-regulated learning strategies for students. Its model explains these factors in the self-regulation, the physical and social environment and in the self-regulation of the cognitive and emotional (personal) state and the automatic motive behaviour in conjunction with writing. The model contains six scientific

and metaphysical and psychological problems. The measures can be interpreted in 4 SRL-categories including metacognition, perception, motivation and behaviour, according to Andrade and Evans (2013). Dembo and Eaton (2000) supported the methodology and suggested that it is unusual in that the model is unrelative to academic achievement, using non-subject school results. They suggested how teachers can help students learn the skills of self-regulation.

Stages of self-regulated learning

One stage, also defined as predictive or preparation (represents the preparing of the students, the activation of prior knowledge, and other frequently occurring stages prior to structured task initialization (Pintrich, 2004). Setting goals is one key stage within this process as a fundamental function of all models of self-regulated learning. This stage is also crucial to encouragement, as the initial positions and views about the supposed status or relevance of the learning material and the interest of the task are triggered by the students. Zimmerman (as cited in Wolters & Taylor, 2012) further emphasized that this first stage includes stimulating students' self-efficacy or trust in their ability to achieve a task or carry out an apprenticeship at a specified level of competence. Likewise, with Winne and Hadwin (as cited in Wolters & Taylor, 2012) and Pintrich (2004) recommended that students first identify their role by providing insight into what the task entails and what constraints and tools are actually at their disposal. After developing these proposals, students set goals and prepare for performing the task. This stage cognitively demonstrates attempts on the part of people in order to take stock of what they know about the subject or topic, how to understand the content and the specific learning methods to complete the task (Wolters & Taylor 2012).

A second stage, called monitoring by Pintrich (2004) and Pintrich et al. (2000), identifies the attempts of students to monitor or be aware of consistent improvement and success in their assignments or activities. Zimmerman (2000) provided students' self-observation of their success, the circumstances of their mission and the effects of their efforts. Metacognitive tracking during the execution of this mission was defined by Winne and Hadwin (as cited in Wolters & Taylor, 2012). As demonstrated by Butler and Winne (as cited in Wolters & Taylor, 2012), different types of feedback provide success towards the goal, the effectiveness of certain techniques and personal ability or skills is a significant by-product of this process (Wolters & Taylor, 2012). According to Wolters and Taylor (2012), the development of these different forms of input produces the knowledge or items needed in self-regulated learning by other methods Monitoring often allows students to generate evaluations, such as that the assignment is too challenging or that their goals may not be met.

Besides supervision, control, management, or just regulation, the third stage is frequently taken up by the students during their activities (Greene & Azevedo 2007; Winne & Hadwine 2008 and Zimmerman 2000). Strength, control or regulation is the third step. This process reflects the effectiveness, output or accomplishment of the task that Pintrich et al. (2000) and Zimmerman (2000) described. This process consists of students' direct use and management of the different learning techniques and approaches to achieve their objectives (Pintrich et al. 2000; Zimmerman 2000). It represents the willingness of learners to monitor, adjust or alter their practice effectively to ensure their success and achievement. Zimmerman (2000) demonstrated how students show self-control during the initial stage through the use of particular strategies and techniques.

The role of will in carrying out the task was also highlighted by Corno (2001). Once students are confident that they are studying, volitional processes are used to ensure that distractions do not stop trying to do the job.

The fourth stage, called the reaction or reflection, involves the attempts of students to evaluate and respond to information provided by observation and input, as well as their participation in a mission in general. The creation of new meta-level knowledge of activities, policies or oneself is a key aspect of this process. For examples, students are obtaining information on object level through this method in Winn and Hadwin (as stated in Wolters & Taylor, 2012) and adapting their approach to mission participation, removing differences in actual performance and optimum criteria for monitoring. In line with this notion, Zimmerman (2000) thought that through this self-regulated learning process students themselves measure their current success with some predestined expectations or goals. Simply planned, or linearly causal (Pintrich, 2004; Winne & Hadwin, 2008; Zimmerman, 2000) are typically not regarded simply as causal. The phases have a history and emphasize that self-regulated learning depends on the active engagement of students before, during and after their education.

Self-regulated learners should at all stages participate or re-engage in cyclical, fluid and resilient loops of systems ending up in certain phases in order to be able to achieve their academic work efficiently and successfully. For example, in a few weeks a student might initially set targets for a thesis (Wolters & Taylor, 2012). As the author continues researching and writing, he follows his progression and discovers his original plans to finalize the paper have to be modified, setting new targets. He also wonders whether it would be helpful to

illustrate the article as it progresses, and he employs this technique. He again acknowledges his success and understands that this approach is beneficial to accomplish his goals. After the paper has been completed, this student understands the advantages of tactics he has used and decides to use them again.

Importance of self-regulated learning among students

Self-regulation of learning can contribute to proven skills and performance aspirations for people in a more efficient way (Zimmerman, 2006). Built on theoretical self-effectiveness, self-regulation is regarded as a mechanism involving self-generated thoughts, emotions and behaviour to achieve academic goals (Zimmerman 2006). The prototypical self-regulated student considers that learning is a structured, supervised and results-oriented process. Prototypical auto-regulated learners work closely, actively, and efficiently in their efforts to find knowledge, to try and manage it as effectively as possible (Schunk, Pintrich, & Meece, 2008). Their ideas are metacognition, motivation, and behaviour, Schunk, Pintrich, and Meece (2008).

From this view, several metacognitive and self-regulatory learning techniques the student has for his/her mission are assumed to successfully use the nature of motivational factors that fuel participation in an exercise. Research showed that self-regulated learners value the importance of commitment and the inherent involvement in the task. The self-apportionment of the student is strong (i.e. they take responsibility for success and failures). The self-efficacy of students will increase their confidence, which in turn leads to self-directed learning. Evidence has also shown that students who are high-performers in college use more self-regulatory approaches than do low-performing students.

They can also use a wider range of techniques such as self-assessment, setting goals, planning, and record-keeping, reporting and tracking (Weiner, 2004).

Eilam, Zeidner and Aharon (2009) performed an exploratory field study to explore the connection between personality and science results. They researched 52 eighth grade students and collected data on their characteristics, self-reported research methods and the accomplishment of science projects. The results of the study revealed the essential connections between knowledge and achievement. Velayutham et al. (2012) examined the effect on self-regulation of students at the academic classroom of students' motivational views on learning sciences. Data were obtained in 5 public schools in Perth, Australia from 719 males and 641 girls in 8-10 grade classes. The findings of the study of structural equation models revealed that all three motivating mechanisms were good forecasters of autonomous students' self-regulation.

Sparkman, Maulding and Roberts (2002) indicated that university achievement might contribute to non-cognitive variables. Their study found that their desire to succeed and graduate from the university were impaired by emotive intelligence. Strayhorn (2015) also studied factors, which affect the interest, readiness and performance of undergraduate students in mathematics and science learning, as well as preparation for STEM careers. His studies showed that the value and relevance of students' academic success is self-efficacy and a sense of belonging. Besides, he underlined the value of future policies, activities and study. Teachers should also encourage students to sustain a commitment to excel and be creative, not only in their future careers.

The learning cycle is known as a multisource of the universe (Iran-Nejad et al., as stated in Al-Mutawah, Thomas & Khine, 2017). One of these considerations is the willingness of the students to monitor their performance. Also, their views in general knowledge and mathematics in particular will influence the self-regulative actions of the student (Paulsen & Feldman, 2007). The success of students depends on their patterns of learning. Self-regulated research activities are very useful in studying mathematics and science because they grow their curiosity and conceptualize their knowledge. A broad spectrum of US research has investigated the correlation between self-regulation and academic success. The studios have shown self-regulation to be in relation to school success (Becker, McClelland, Loprinzi, & Trost, 2014). In particular, developmental performance at school is evident in the need for self-regulation (Kinney, 2001).

The self-regulated principle of learning (Zimmerman, 2008; Zimmerman & Moylan, 2009) can be affected by the interests of someone (Spruce & Bol, 2015) and, more precisely, the instruction of the teacher. The ability of subjects to coordinate their learning tasks, developments and strategies for dealing with events and challenges is self-regulated learning (Perrenoud as cited in Basso & Abrahao, 2018). According to Direito, Pereira, and de Oliveira-Duarte (2012), students need to develop skills to track the success of implemented curriculum approaches to achieve good school results. Many authors have been studying self-regulated learning, highlighting how important this mechanism is to schooling and teaching, finding that this is a diverse trend, which plays an important role in school student achievement (Zimmerman 2001; Rueda, Posner, & Rothbart, 2004; Simao, Malpique, Frison, & Marques,

2016). Students need to improve their ability to learn and monitor their learning to enhance their academic performance (Zimmerman, 2001). The teachers must play a role in implementing self-regulating learning strategies (Azevedo, Witherspoon, Chauncey, Burkett, & Fike, 2009; Paris & Paris, 2001; Spruce & Bol, 2015). If teachers can provide an atmosphere in which students can be independent and responsible in the classroom, enabling them to have lifelong abilities, they will be able more easily to self-regulate their talents along the course of schools (Rosario, Núñez, González-Pienda, Valle, Trigo, & Guimarães, 2010).

Teachers can promote autonomous learning through teaching techniques that allow students to navigate unexpected situations and to modify their progress based upon information gained over time (Morin & Michaud, 2007). As an educational institution, schools should therefore provide students with a better understanding and flexibility of studying, enabling them to maximize skills collection, building and transition (Punhagui, & de Souza, 2013). In the field of education, self-regulated learning can be analyzed from various angles. Work in school settings frequented by elderly students is nevertheless more comprehensive, as techniques used and classroom-learned behaviours are more apparent. There are fewer reports on educational activities including self-regulated learning by learners beginning the structured literacy cycle.

Studies such as Basso and Abrahao (2018) and Ferreira, Simão, and Da Silva (2015) show that the self-regulated students of learning (Abrahao, Frison, 2012; Mottier, 2015; Zimmerman, Simao, 2011). Self-regulated learning would therefore be structured to maximize students' learning and understanding of their performance and control over learning processes. Gestsdottir et al. (2013)

discuss various features associated with a pattern of self-regulation and the lack of improved results in student learning.

Evidence by the researchers described above shows that learning appears to be more effective when students have a constructive role in the process, for example, when they have strong motivation and clear goals to choose a technique that is relevant to their learning. The literacy teachers will teach these self-regulated methods, as a means to use a more proactive approach rather than a remedial approach. All students with poor academic performance and in particular will benefit through a beneficial instructional practice from self-regulative approaches in the classroom. Basso and Abrahao (2018) state that students beginning at school can learn to increase resources in the classroom, learn to monitor understanding during time reading, use memory strategies, plan, control negative knowledge, affective, motivational state, etc. Identifying instructional events and recognizing the teaching-learning framework at the start of formal education will help to understand the approach used in every business environment while offering insights into teaching contexts leading up to a further self-regulated learning growth. Teachers should use a large activity model which considers teaching-learning within a social system connecting the subject to an object, to explain the various ways of learning how first-time learning is self-regulated (Engestrom as cited in Basso & Abrahao, 2018).

Al-Alwan (2008) explored the disparities between high-and poorly qualified students who are admitted to Al-Hussein Bin Talalal University (AHU) in Jordan as far as student study is linked to self-regulated learning. The sampling consisted of 90 students divided into two classes based on their first

GPA semester: 50 high-profit students (GPA 0.86 of 1), and 40 low-differences (GPA 0-0.60). The intervention was self-regulated in learning. The results showed that in both high and low-level classes, there were substantial difference in student self-regulation in relation to (a) aim alignment, (b) goals orientation, (d) tasks value, (d) learning beliefs consciousness, (e) autosophy, (f) study anxiety, (g) metacognition, and (h) environment management time and study. In addition, it has been shown that there are no major gaps in (a) initiative controls, (b) peer learning and (c) aid searches. Finally, self-regulated subscales of learning have proven interconnected.

Students' academic engagement

A 2013 survey found that about 55 % of students from all over the United States are active in their current school, leaving 28% unbundled and 17% markedly unbundled (Finn, & Zimmer, 2012). Students suggest their demands and actions are counterproductive to school (Archambault, Janosz, Morizot & Pagani, 2009). Schools can work positively in order to increase their attendance and thus their academic success through student awareness and encouragement. For students to acquire knowledge and skills, active involvement in post-secondary programs and future careers is essential (Wang & Eccles, 2012a, 2012b). Knowledge of student participation is critical for schools that wish to foster positive youth growth (Li & Lerner 2011).

Student participation research history consists primarily of psychologists in colleges who first researched the dividing factors that drive students to attend schools (Jimerson, Campos & Greif, 2003). Russell, Ainley and Frydenberg (2005) have formulated the basic concept of student participation as an active participant in schools and a "force in motion." Over

the years, the concept of contact has grown to include emotional and cognitive processes (Fredricks, Blumenfeld & Paris, 2004). Many scholars therefore view student involvement as a multi-dimensional structure, which reflects both observed external and less observable internal influences (Fricks, & Morris, 2004; Appleton, Christenson & Furlong, 2008). The differentiation of these variables depends on the individual models. For example, some models break down these dimensions more into academic and/or behavioural (observable, external) and cognitive and/or affective/ psychology (less experienced, internal) sub-types (Fricks, & Morris, 2004).

Student academic engagement is a term used to describe the commitment and passion of a child towards schools that influence their academic performance and behaviour (Finn, & Zimmer, 2012). Student engagement is a complicated concept that makes it even harder to grasp. The engagement of students includes constructive student behaviour, such as attendance, caring and involvement, as well as social awareness of school identity, and the sense that one is being cared about, valued and part of the school environment (Anderson, Christenson, Sinclair, & Lehr, 2004). Students may also shift within certain engagement dimensions (Archambault et al., 2009). For example, a student can show a high level of engagement to reading but display low levels of engagement during mathematics and science. Different levels of engagement are visible in individual students and particular students.

Student engagement in school refers to student understanding, enthusiasm, involvement, excitement and passion, which can translate through their sense of encouragement and success in education. In education, the students are committed to studying and are teaching. The definition of "student

engagement" is usually based on a belief in learning that promotes learning when students are excited, fascinating or motivated, and that learning fails to be dull, emotional, unimpaired, or otherwise "disengaged" (Olson & Peterson, 2015). In the process of developing recommendations for designing successful online courses, there is a need for engagement (Roblyer & Ekhaml, 2000). Engagement approaches are intended to deliver constructive learning experiences, including active learning activities such as attendance in joint group work, organizing workshops and conversations, effectively sharing resources, designing hand-to-hand classes, and incorporating case studies and reflections. Student engagement can be shown as a measure of the students' considerable effort in their cognitive development and their own ability to develop an understanding of themselves and to achieve greater outcomes (Banna, Lin, Stewart, & Fialkowski, 2015); Meyer, 2014).

In the past, the material has played a crucial role in fostering education; dedication is a major factor. Banna et al. (2015) In order to achieve an enhanced student-content, student-educator and student-student commitment three basic interaction learning strategies have been developed (Bernard et al., 2009). Lear, Ansorge and Steckelberg (2010) suggest that students should be more involved and interested in content, staff and students' experiences. Interactivity and a sense of community contribute to high-quality education. The student's commitment is established through interaction and the promotion of interaction is essential for learning and interaction is interconnected and frequently used interchangeably. The dedication of schools is defined as a centripetal relationship for school students, with specific cognitive, affective, emotional and organic aspects respectively (Reeve & Tseng, 2011; Veiga, 2013). SES has

been operationalized to inspire and enable students to learn to be dedicated to school (Simon-Morton & Chen 2009).

More than seven decades have passed since the word student engagement was used by academics, educators and researches (Axelson & Flick 2010). For the most part, the involvement of students in meeting learning objectives was seen as associated with student success. Nonetheless, research into student engagement in the 21st century incorporated a dynamic and multidimensional perspective (Reschly & Christenson, 2012), which integrated sociological, strategic, scholarly, political, organizational and economic viewpoints (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006). The idea of student engagement in learning environments has caught the imaginativeness of scientists in discussing different theories on how to enhance engagement by focusing on students' activity and motivation (Schuetz 2008; Umback & Wawrzynski, 2005) the effect of teacher experience and the influence of teacher interactions with students; environmental factors like socioeconomic background (Law, 2005).

According to Kahu (2013), these theories were categorized as mental, social, socio-cultural and structural (Kahu, 2013). They are in four groups. The behavioural approach explores the relation between effective education and the actions of students. The lack of focus on the feelings of students has contributed to a psychological perspective that examines the affective aspects that shape student interaction (Askham, 2008). In the socio-cultural perspective, the background influences such as training, learning tradition and a focus on success are analysed to what extent student education and participation were affected (Mann, 2001). Bryson and Hand (2007) point to three degrees of

engagement from a holistic perspective: student debate, passion for the subject and maturity in the process of teaching. Zepke, Leach and Butler (2010) identified different research viewpoints contributing to student engagement in the holistic model including inspiration, transactional interaction with teachers and students, structural and non-establishment support, and active citizenship. Over the years, student participation has evolved into a successful education-based practise that endorses the completion of school and prevents early departure (Appleton et al., 2008). The student's withdrawal and loss in intellectual engagement have been stressed in this paper (Elmore & Huebner, 2010).

Finn and Zimmer (2012) note that students' engagement is technically distinct from student motivation. This dedication represents the emotional, cognitive and behaviourally stimulating motivation and intensity for the students (Assor, 2012). The commitment is defined as energy in practice in a sphere where dedication is studied in the sense of academic engagement (Finn & Zimmer 2012) and classroom participation (Skinner & Pitzer 2012). In the meantime, Zyngier (2007) argued that training which links student experiences with their experiences in learning will lead to a better relationship with students, particularly risky and disadvantaged students. Student participation at Harper and Quaye (2009) is defined as "participation in activities that provide observable outcomes within and outside the school" (p. 2). There are several reasons behind the growing interest in student engagement (Fredricks, Blumenfeld & Paris, 2004), including political, cultural, theoretical and realistic evidence.

While Fredricks et al. (2004) have proposed metrics of involvement, including emotional, behavioural and cognitive variables, McMahon and Portelli (2004) emphasize that the engagement of students must include elements of civic and social action and raise questions about how engagement work is operational. In this vein, McMahon and Portelli (2004) promote a culture in which debate, students are encouraged to take up the basic and democratic dimension of participation and to become engaged citizens. This was rendered further by Barnett and Coate (2005) and was contrasted between functional and ontological engagement. The ontological engagement includes a desire for students to partake in the teaching process in order to extend the boundaries of the program through essential involvement (Zepke, Leach, & Butler, 2014). In this context, the student's quest for social justice Smyth (2012) maintains that students may be forced to speak of a structure which perpetuates inequality and replicates the situation. The students should be reacted to the lack of respect for the faiths and traditions of the oppressed and the impoverished qualifications, which cause them to underestimate and end up in mediocre employment, according to Smyth (2012).

Importance of students' academic engagement

Student academic engagement is a fertile field of research. Educators need to continue to seek to understand and apply strategies, which promote student participation both inside and without the classroom and which are well accepted if not decided. It is stated that the effects of not engaging learners are dire (Prensky, 2001; Gilbert, 2007; Willms, 2003; Claxton, 2007). Many educationists see the presence of disengaged pupils as one of the biggest challenges' educators are facing as 25 percent (Willms, 2003) and more than 66

percent (Cothran & Ennis, 2000). Students are living in a world that affects them differently from the society their parents have seen. It is almost clear that students respond to this environment and have evolved over the last 20 years as a result of their engagement in the abundance of technologies and improvements in education. The reaction of schools is key to the success of students. A major concern could be that students leave school in a Learning Society in which they live and move, unable or unprepared for productive and healthy life (Gilbert, 2007). Unless our pedagogy, methodology and appraisal approaches are not changed, our results will not succeed and our success will be jeopardized (Willms 2003).

Research shows that dedication can increase student success (Thomas 2012), boost performance by improving student experience (Kuh et al., 2011; Streeting & Wise 2009), and promote curriculums to enhance student success (Bovill & Bulley, 2011). The engagement of students in school and later in life is seen as a precursor of academic achievement, projected as academic success and acceptable behaviour (Apleton, Christenson, & Furlong, 2008; Fredricks et al., 2004; Furrer & Skinner, 2003; Reeve & Tseng, 2011; Veiga et al., 2012), which warrant its study's relevance. It is very important to know how well students invest in participation and which activities promote that participation (Zepke, 2015). Common indices of commitment and behaviour, there have been market advances. Participation can be seen as something that needs to be addressed now by educators and politicians (McInnis 2003).

Personality

Personality is a product of what you are doing. Your attitude ultimately determines who you are. The behaviour reflects the temperament and teaches

you about how special you are. According to Allport (1961), personality is a complex structure, within the person, of psychophysical processes which establish the person's distinctive emotions, feelings and behaviours, continuities, coherences and stabilities of the personality features and provisions over time (Larsen & Buss, 2008). Features or a combination of features that make a person special (Weinberg & Gould 1999). The identity of an organism is the set of mental properties that make it unique to others. This includes all the thought and cognitive habits that make us do and utter things in particular. On the basic level, our disposition or mental expression reflects a personality. Nevertheless, our principles, convictions and aspirations affect personalities as well. In the development of an individual, there are many potential factors. In the last several decades, psychological research has increasingly emphasized inherited influences, particularly for basic personality characteristics such as emotional tones.

Nevertheless, the development of values, opinions and desires seems more to be related, particularly during infancy, to socialization and unique experiences.

Factors Influencing Personality

Parke, Griffiths, and Irwing (2004) suggested factors that influence personality development:

Heredity

The statutory biological and physiological factors that affect personality may be summarized as a genetic influence. Biological factors apply to the functions, features and repetitive actions of the nervous system and glands. When deciding on the personality type of a person, the constitution is an

important factor. For example, the way people see you and ultimately, how you see yourself has an effect on your genetically inherited personality. Mostly such genetic factors will make you feel good, horrific, or just adequate.

Personality is affected by adrenal, amygdala, hypothalamus and endocrine gland. Adler points out that deficiencies in personality contribute to complex inferiority production and punishment emotional processes. The child's mental ability is included in this dimension. This is the capacity to shape the social environment according to its needs. Intelligence is largely inherited. Very smart persons will better adapt to their families, schools and communities than individuals than less smart individuals. In the formation of individual personality, cultural differences play a vital role. Boys are stronger and stronger. Girls are more silent in intimate, emotional and social problems and are more hurt.

Psychological factors

It encompasses our motivations, learned desires, behaviours, desire, and temperament, our ability to think, understand, interpret, visualize and reason, for example. Perception. Such factors influence our responses and impact our attitude, development and course in various circumstances. A person with sufficient determination will take decisions quicker than others.

Environment

Many studies are evolutionary, whereas others are environmental and experiential. Most scholars now find heredity and the environment to be profoundly interwoven with each other (Parke, Griffiths, & Irwing, 2004), and also engaging continuously with the nurturant (Hetherington et al., 2006). They both consider themselves part of a complex system of growth (Gottlieb, 1991).

Literature revealed that an important component of the environment that influences personality includes, physical, cultural, social, family and the school environment.

Chapter Summary

In conclusion, many self-regulated learning processes are essential determinants for academic success, student participation, as well as personality characteristics. Pintrich's SRL model, specifically, provides context in a segment that is devoted solely to the learning environment for students. With student's academic engagement, three ingredients of engagement theory imply the learning activities which are given as project-based learning, problem solving learning, and authentic learning, these three approaches are said to result in imagination, meaning and quality of learning. Eysenck indicated that the person inherits a kind of nervous system that determines their ability to learn and adapt to the environment, thus considering the individuals personality, immediate environment and other psychological factors.

Conceptual and theoretical foundations were discussed to support the study's objectives. Finally, the study explored the value of autonomous, personally controlled learning of student participation.

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CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter addresses the procedure for carrying out the research. First, the chapter offers a description of the profile of the study area. The remaining parts of the chapter present the research design, data types and sources. It also includes the sampling size and sampling procedure, data collection instruments, and the method of data analysis.

Research Design

The research design deemed appropriate for this study was the descriptive survey design. The researcher deemed the descriptive survey as the most suitable research design because of its high degree of representativeness and the ease in which opinions can be obtained from participants. The purpose for the use of the descriptive research design was that it is suitable for either a quantitative or qualitative research which involves the formulation of hypotheses or research questions to be tested in order to describe a perplexing situation (Amedahe, 2004; Polit & Beck, 2004).

The descriptive survey design can, according to Mertens (2010), be a powerful and useful tool for data gathering on human characteristics, like their beliefs, attitudinal positions, thoughts and behaviour, and the survey design therefore fits very well into this study. Whatever the strengths of the descriptive survey, Fraenkel and Wallen (2013), indicated that it was hard to ensure that the questions to be asked were free of uncertainty when implementing the descriptive survey design. Another setback is also to answer honestly the questionnaires. In addition, it would be also a step backwards to complete and

return a sufficient number of questionnaires to allow useful analyses. However, the respondents were certain that their answers would be regarded as confidential and used for academic use to minimize vulnerabilities related to descriptive design.

Research Setting

This study was conducted in the Berekum Municipality in the Bono Region of Ghana. Berekum Municipality is located in the North-Western corner of Bono. The population of the Berekum Municipality in 2010 was 150,748 based on a selection of twenty communities and out of these figures, 73,867 (49.9%) were males and 76,881 being females representing (50.1%) (Ghana Statistical Service, 2010). The current projected population of the Municipality for 2018 is 179,656 (Ghana Statistical Service, 2018). The Akan ethnic group forms the majority amongst the dialect groups in the Municipality.

Agriculture is the dominant economic activity in terms of employment and income. The major crops cultivated are plantain, cocoyam, cassava, vegetables, yam, maize and some exotic crops cultivated are cashew, cocoa, citrus, palm kernel, pawpaw, and mango. Some of the major trees found within the Municipal are Wawa, Odum, Sapele, Teak, and Mahogany, etc. There are a total number of 164 schools both privately and publicly owned in the Municipality. Out of this number, 48 are pre-schools (KG), 69 are Primary Schools, 41 Junior High Schools, 4 Senior High Schools, and 2 Vocational/Technical School.

The Municipality has Eight (8) circuits, which consist of both rural and urban communities. The urban segment of this Municipality is among the few privileged places in the Region where access to basic social amenities is

guaranteed. The availability of these amenities has attracted many rural dwellers. This, therefore, has placed pressure on these basic social amenities. The school is among the overused social amenities: classroom, furnishings and other school services, including instructional materials for ordinary classes, are not sufficient to meet the demands of the growing number of students in populated Municipality and rural communities. This has led to a high student-teacher ratio in the classroom. Furthermore, the municipality is chosen for research, as it will give High School students the opportunity to practice autonomous learning constantly.

Population

The large group to which the researchers wish to generalize the results of the study becomes the targeted population (Ary, Jacobs, Sorenson & Razaviah, 2010). The study population covered all Senior High School students within the Berekum Municipality. The population was 5,558 students from the three public senior high schools namely Methodist Senior High/Technical School Berekum Senior High School Berekum Presbyterian Senior High School in the Municipality based on the census. The accessible population for the study was 2,294 form two students. This group met the inclusion criteria for the study because they were the only group that might not be facing transitional challenges in terms of preparing to complete or now trying to adjust to new environmental situations, which may affect their self-regulation and engagement in school.

Sampling Procedures

A sample is a segment of the population that is selected for investigation. The size of a sample may be small (less than 30) or large (greater than or equal

to 30) depending on the nature of the study, manageability or accessibility of target population (Ofori & Dampson, 2011). The sample size for the study was 315 respondents based on Nwana (1992) proposition that between 5 to 10 percent of a population could serve as an appreciable sample for a quantitative study. The sampling procedures applied in this study were stratified and systematic sampling techniques.

Stratified sampling procedure: With the stratified sampling technique, the researchers divide the population into different groups, called strata, with stratified sampling. Then, each group draws a probability sample. Sampling with stratification has many benefits over plain random sampling. The reason for using this procedure was that each sampled school had a different number of students in terms of population, so it demands that samples are assigned based on population contribution. Table 1, 2 and 3 show the population, proportions and sample sizes of the sampled schools:

Table 1: Population of Senior High School Two (2,294)

Schools	SHS 2	Green	Gold	Boys	Girls
Methodist S.H.S.	706	369	337	355	351
Berekum S.H.S.	816	379	437	483	333
Presby S.H.S.	772	397	375	426	346
Total	2,294	1,145	1,149	1,264	1,030

Source: Berekum Municipality Education Service Data (2018/2019)

Table 2: Proportions based on Schools, Tracks and Gender (100%)

Schools	Proportion	GN-Prop.	GD-Prop.	B-Prop.	G-Prop.
Methodist	30.0	52.00	48.0	50.0	50.0
Berekum	36.0	46.0	54.0	59.0	41.0
Presby	34.0	51.0	49.0	55.0	45.0

Source: Berekum Municipality Education Service Data (2018/2019)

Table 3: Sample size based on Schools, Tracks and Gender (n=315)

Schools	S-Sample	GN-Sample	GD-Sample	B-Sample	G-Sample
Methodist	102	48	54	51	51
Berekum	110	51	59	68	42
Presby	103	52	51	57	46

Source: Berekum Municipality Education Service Data (2018/2019)

Systematic sampling procedure: Systematic sampling is a type of probability sampling process, in which samples from a larger population are randomly selected but with a normal interval. This interval is determined by dividing population size by the sample size you want. As an offshoot of random sampling, it was used because each participant needed to be given an equal chance to partake in the study. With this, the probability was based on the Kth term of 8.

Data Collection Instrument

The instrument for data collection was adopted questionnaires on self-regulation, engagement and personality type.

Self-Regulation

The Short Self-Regulation Questionnaire (SSRQ, .91) with 22-items developed by Chen, and Lin (2018). The scale had five (5) dimensions such as

goal attainment (7-items, .88), mindfulness (7-items, .86), adjustment (3-items, .84), proactiveness (3-items, .80) and goal setting (2-items, .82). The scale is scored based on agreement and disagreement where Strongly Disagreed (SD)=1, Disagreed (A)=2, Undecided (U)=3, Agreed (A)=4 and Strongly Agreed (SA)=5. With the adaptation, the researcher reduced the scale to four-point Likert type, making the scoring look as Strongly Disagreed (SD)=1, Disagreed (A)=2, Agreed (A)=3 and Strongly Agreed (SA)=4.

Students Engagement

The University Student Engagement Inventory (USEI, .81) by Maroco et al. (2016) with 15-items was used. The scale had three (3) dimensions such as Emotional Engagement (5-items, .88), Cognitive Engagement (5-items, .82) and Behavioural Engagement (5-items, .74). The scale is scored based on agreement and disagreement where Strongly Disagreed (SD)=1, Disagreed (A)=2, Not Sure (U)=3, Agreed (A)=4 and Strongly Agreed (SA)=5. With the adaptation, the researcher reduced the scale to four-point Likert type, making the scoring look as Strongly Disagreed (SD)=1, Disagreed (A)=2, Agreed (A)=3 and Strongly Agreed (SA)=4.

Personality Type

The Big-Five Personality Inventory (Big-Five, .70) with 30-items developed by Soto and John (2017) was used. The scale has five (5) dimensions such as openness (6-items, .65), conscientiousness (6-items, .69), extraversion (6-items, .77), agreeableness (6-items, .70) and neuroticism (6-items, .68). The scale is scored based on agreement and disagreement where Strongly Disagreed (SD)=1, Disagreed (A)=2, Neutral (N)=3, Agreed (A)=4 and Strongly Agreed (SA)=5. With the adoption, the researcher reduced the scale to four-point Likert

type, making the scoring look as Strongly Disagreed (SD)=1, Disagreed (A)=2, Agreed (A)=3 and Strongly Agreed (SA)=4.

A questionnaire is easy to administer, friendly to complete and fast to score and therefore take relatively less time from researchers and respondents (Osuola, 2001). Regardless of the strength of a questionnaire, it has a low response rate and also response bias are more likely to occur (Creswell, 2012). The questionnaire was chosen because it requires little time for the respondent to complete. It also allows for broad geographical sampling and it can be used to cover a large sample as well (Osuola, 2001; Amedahe, 2002).

Pilot Testing of Instruments

Wilkinson and Birmingham (2003) assert that it is common to construct a questionnaire with ambiguous layouts and mistakes in items. Similarly, Awanta and Asiedu-Addo (2008) caution that, it is possible to design a questionnaire that is reliable but invalid, due to inconsistencies in responses and failure to measure exactly what the scales are intended to measure. Because of this, the instrument in this study was pilot tested to minimize mistakes and errors to increase reliability and validity. Piloting research instruments is a procedure in which a researcher tries the instruments on a small number of individuals and makes necessary changes to improve the instruments, based on feedback from those involved in the trial (Creswell, 2012).

The instrument was piloted in the Berekum West of the Bono region of Ghana. Berekum West was chosen for the pilot study because the selected population for the work has comparable characteristics as those in Berekum Municipality. Also, the school environment in terms of infrastructure, teaching and learning materials were similar to those selected for the main study. Three

hundred (300) students were used for the pilot test. The pilot test helped to assess the strengths and/ or weaknesses of the research instruments. Also, it enabled the researcher to modify and change some of the statements that looked inappropriate and difficult to understand. This helped to reduce ambiguity and misinterpretation. According to Awanta and Asiedu-Addo (2008), piloting a test enables the researcher to modify items that are difficult to understand, ambiguous and incorporate new categories that could be relevant to the study. Two days were used to distribute the questionnaire to the students. A student used a maximum of ten (10) minutes to complete the questionnaire.

Reliability of the Instruments

The Cronbach's Alpha statistics were used to calculate for the internal consistency for the questionnaire. This was done using the Statistical Package for Social Science (SPSS) version 22. Dillman (2002) asserted that piloting a test of a research instrument helps to ensure the internal validity and reliability of the data. The questionnaire was piloted among three hundred students (300) in the Berekum West District. Berekum West District was used for the pilot study because they are similar to the area of the study. The reliability coefficient of the questionnaire was determined using SPSS v. 22. The reliability coefficient of the questionnaire was calculated.

Validity of Instruments

Validity is the exactness and precision of deductions based on the findings from the research (Mugenda & Mugenda, 2003). The validation of the instrument was carried out to check for the correctness of the data collection instruments. Wiersma (2016) emphasized that pre-testing of a study instruments support criterion and construct validation of the instruments. In order to enhance

the validity of the study, the questionnaire was given to my supervisors for expert assessment. This was to ensure both face and content related evidence to the items and examine whether the items related to the research questions and also comprehensively cover the details of the study. Content validity was ensured by effectively indicating the interests of the study (Fraenkel & Wallen, 2013).

Ethical Consideration

"Research ethics refers to the correct behavioural rules needed in conducting research. It outlines the need for participants to understand the objectives, targets and potential damage to them (Seidman, 2006). The ethics also states that, even after consent has been granted, participants have a right to withdraw. Cohen, Manion, and Morrison (2002), stated that informed consent stems from the right of liberty of a participant. The moral responsibility of researchers is to protect participants from harm. The researcher is primarily responsible for performing ethical research. Researchers have a responsibility to ensure that research participants do not suffer from a detrimental impact on their physical, social and psychological wellbeing. Whenever possible, mutual respect and trust should mark research relationships. In this study, each group of participants examined the purpose of the studies carefully before participating in the research.

Punch (2008) believes that researchers should pay particular attention to ethical issues in social research as the data about people is involved. Consideration for moral issues and respect for participants is essential in social research. Hence, in this research, several ethical issues were taken into

consideration. The research addressed all ethical concerns which include informed consent, anonymity and confidentiality.

The researcher obtained an informed verbal consent from the students before commencement. The participants were made aware that their participation was voluntary, and that they were free to decline or accept or decline to engage in the research. Anonymity of participants was highly taken into consideration in the study. Oliver (2010), noted that the concern of anonymity in research ethics is vital because it allows the participants to mask their identity. Names nor any identifiable information from participants were not taken as a way of ensuring the ethical principle of anonymity. This was to prevent possible victimization of respondents where certain responses may be viewed as revolting to other stakeholders."

"On the issue of confidentiality, efforts were made to maintain confidentiality of the responses of the participants. Participants were told that their responses would be kept confidential and that no one known to them would have access to the information provided and none of the respondents names were recorded in the study."

Most importantly on the ethical issues of the study, pieces of information that were cited from earlier studies were duly acknowledged through both citation and referencing in order to avoid academic dishonesty otherwise known as plagiarism."

Data Collection Procedures

To clarify to management the aim of the study, the researcher made a formal visit to the selected schools. The interviewees raised ethical questions regarding science. As such, the intention of the study has been made clear to the

respondents regarding issues of confidentiality and anonymity. The questionnaires were given to the respondents after access. The purpose and how the questionnaire should be answered were made known to the selected students. Also, further clarification was given on any item that looked ambiguous to respondents. The process covered three weeks.

Data Processing and Analysis

The research questions data and hypothesis data were analysed quantitatively. Research question one to three data were analysed using frequencies, means and standard deviations. Research question 4 data was analysed using multiple linear regressions because the objective was to test the impact between the variables. Research hypothesis one data was tested using One-Way MANOVA because the objective was to find differences between males and females in the study. Research hypothesis two was tested using Hayes process because the aim was to test moderation between variables.

Chapter Summary

The descriptive design was employed for the study. All senior high school in the municipality formed the population for the study. The descriptive survey design was adopted and questionnaire and was used to gather data from participants. On the collection of data, a clearance letter was obtained from the Institutional Review Board (IRB) to enable the researcher to obtain permission from the Headmasters and teachers to collect data from the students. SPSS version 22 was used to analyse the data. The next chapter which is chapter four deals with the presentation and discussion of the data obtained.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter covers the analysis, presentation and interpretation of the findings resulting from this study. The purpose of the study is to examine the influence of self-regulated learning on academic engagement, the moderating role of OCEAN personality traits' among SHS students in the Berekum Municipality of Ghana. The analysis and interpretation of data were carried out based on the research questions and hypotheses set for the study. A total of three hundred and fifteen (315) questionnaires were distributed to the respondents. However, three hundred and five (305) questionnaires were retrieved from the respondents, representing a response rate of 96.85%. Ten (10) questionnaires were not used for the analysis because they contained a lot of missing data that could distort the findings of the study. Nevertheless, the response rate obtained in this study was considered acceptable based on the suggestion of Saunders, Lewis and Thornhill (2009) that a response rate of 30% to 40% is adequate in surveys.

The data was analysed using descriptive statistics (frequencies, percentages, means and standard deviations) and inferential statistics (Multiple Linear Regression, One-Way MANOVA and Andrews Hayes Process). The first part of this chapter described the demographic characteristics of the respondents in terms of their gender. The second part presented results based on the research questions and hypotheses formulated for the study.

Presentation of Demographic Results

Part of the questionnaire examined the demographic characteristics of the respondents in terms of their gender. Table 4 presents the information on the demographic information of the respondents:

Table 4: Distribution of respondents based on Gender

Gender	Frequency	Percentage
Male	140	45.9
Female	165	54.1
Total	305	100.0

Source: Field Survey (2020)

The study considered the gender of the respondents and it was revealed that female respondents dominated the sample with a frequency of 165 (54.1%) while male respondents had a frequency of 140 (45.1%). Therefore, female respondents were more than male respondents in the Berekum Municipality.

Presentation of Main Results

Before running the analysis, the data gathered was checked cleaned in terms of missing values, outliers and errors. This was checked initially so that assumptions could be met for the use of all the statistical test tools. Although there were no missing values present in the data, there were some outliers in the data. However, these outliers were not many and could not skew the data, hence the use of all the statistical test tools were appropriate. Figure 2 presents boxplot with outliers in appendix B.

After becoming satisfied with this process, it was necessary to test the appropriate assumptions using descriptive statistics before running the regression test. Table 5 presents the results.

Table 5: Descriptive Statistics for all the Scales

	N	Min.	Max.	Mean	SD	Skewness		Kurtosis	
Scales	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SRL	305	41.00	88.00	65.4033	8.18684	.166	.140	-.042	.278
SE	305	26.00	60.00	47.5508	6.87804	-.439	.140	.050	.278
PT	305	67.00	109.00	83.9377	7.55110	.355	.140	.184	.278

Source: Field Data (2020)

In Table 5, skewness of data was checked based on the value range between -1 and +1 values and kurtosis was checked based on the value range between -2 and +2. Using self-regulated learning, it produced a skewness statistic of .166 and kurtosis statistic of -.042. This showed that distribution for self-regulated learning was skewed to the right while kurtosis showed negative values, making the data platykurtic kurtosis (where distribution was relativity flat with more extreme values in the tails). Again, distribution for students' engagement produced skewness statistic of -.439 and kurtosis statistic of .050. This showed that distribution was skewed to the left while kurtosis showed positive value, making the data lepykurtic (where more cases peaked in the centre of the distribution with less extreme values in the tails). Furthermore, distribution of personality produced skewness statistic of .355 and kurtosis statistic of .184. This showed that the distribution was skewed to the right while kurtosis showed positive value, making the data lepykurtic. Based on the results, it is assumed that the distribution was approximately symmetrical as skewness value of zero (0) indicates a perfectly symmetrical distribution.

Research Question One*: What is the level of self-regulated learning among SHS students in the Berekum Municipality?*

The question sought to find out the level of self-regulated learning among Senior High School students in the Berekum Municipality. In answering the research question, twenty-two (22) items under the self-regulated learning scale were used and scored using agreement and disagreement dimensions but determination of level was based on low (22-44), moderate (45-66) and high (67-88) against average mean of 65.40. In this sense, observed mean similar to determination range becomes the description of students self-regulated level in the study. Table 6 presents the results:

Table 6: Results for Self-Regulated Level of Students

Criterion Mean=65.40	
Score Range	Interpretation
22-44	Low
45-66	Moderate
67-88	High

Source: Field Survey (2020)

Table 6 showed results on competency level based on score range. Looking at the outcome, it can be deduced that self-regulated levels among students were moderate as the established mean score was between moderate score range of 45-66. This means that Senior High School students were moderately self-regulated in their academic pursuits in the Berekum Municipality.

Research Question Two: ***What is the level of academic engagement among SHS students in the Berekum Municipality?***

The question sought to find out the level of engagement among Senior High School students in the Berekum Municipality. In answering the research question, fifteen (15) items under the academic engagement scale were used and scored using agreement and disagreement dimensions but determination of level was based on low (15-30), moderate (31-45) and high (46-60) against average mean of 47.55. In this sense, observed mean similar to determination range becomes the description of students self-regulated level in the study. Table 7 presents the results:

Table 7: Results for Academic Engagement Level of Students

Criterion Mean=47.55	
Score Range	Interpretation
15-30	Low
31-45	Moderate
46-60	High

Source: Field Survey (2020)

Table 7 showed results on levels of academic engagement of students based on score range. It can be deduced that engagement levels among students were moderate as the established mean score was between moderate score range of 31-45. This means that Senior High School students were moderately engaged in their academic pursuits in the Berekum Municipality.

Research Question Three: ***What is the dominant personality type among SHS students in the Berekum Municipality*****?**

The question sought to find out the most dominant personality type among Senior High School students in the Berekum Municipality. In answering the research question, thirty (30) items under the Big-Five Personality scale were used and scored using agreement and disagreement dimensions but determination of dominant personality type was based on the average means of the five major categories of the personality types. In this, the higher the mean the higher the personality type dominated and the lower the mean the lesser the personality type dominated. Table 8 presents the results:

Table 8: Most Dominant Personality Type among Senior High School Students

Personality Type	Sample	Mean	Standard Deviation
Extraversion	305	16.32	2.40
Agreeableness	305	18.19	3.20
Conscientiousness	305	18.22	3.00
Negative emotion	305	14.35	2.78
Open mindedness	305	16.88	2.20

Source: Field Survey (2020)

Table 8 showed results on personality types of students based on means. It can be deduced that conscientiousness personality type (M=18.22, SD=3.00) was dominant among students, followed by agreeableness (M=18.19, SD=3.20), open-mindedness (M=16.88, SD=2.20), extraversion (M=16.32, SD=2.40) and negative emotions (M=14.35, SD=2.78). Comparing the means,

it was realised that most of the students' personalities fell in Agreeableness, Conscientiousness, Open mindedness and Extraversion. This means that Senior High School students were disciplined, dutiful, plan their lives and aim for achievement than being along with others, making decisions based on what others say, being talkative and exhibiting loneliness in the Berekum Municipality. The revelation is overwhelming and fits the purpose of every student in most Ghanaian Senior High Schools. In the Ghanaian context, it is expected that students show some level of self-discipline, aim positively and dutiful in their academic tasks.

Research Question Four: ***What is the influence of self-regulation on SHS students' engagement in the Berekum Municipality*****?**

The question sought to find out the impact of self-regulated learning on students' engagement. To answer this question, standard multiple regression was deemed appropriate for the analysis. Proceeding to perform the regression, certain assumptions might be met. This included a normality test, linearity and multicollinearity test. The researcher checked these assumptions before conducting the main regression test. Figure 3 and Figure 4 showed the normality and linearity test for the test variables in appendix B:

With Figure 3, the data was normal as a diagonal line run through a bunch of little circles from down left to up-right. This indicates that the data met the requirement for regression analysis. With Figure 4, there was a linear regression relationship between the independent and dependent variables as the scatter-plot indicated with convergent observation of cases. This equally catered for homoscedasticity. Concerning the multicollinearity, the coefficient output of the collinearity statistics produced Variable Index Factors (VIF) of 1.00 that

fall between 1 and 10. This indicates that there was no multicollinearity observation among the variables.

Table 9: Results of Descriptive Statistics

Variables	Mean	SD	N
Engagement	47.5508	6.87804	305
Self-regulated	65.4033	8.18684	305

Source: Field Survey (2020)

Table 9 shows the descriptive statistics (means and standard deviations) of the test variables. The results indicated that self-regulation produced the highest mean and standard deviation (M=65.40, SD=8.19) followed by students' engagement (M=47.55, SD=6.88).

Table 10: Results of Regression Analysis of Influence of Self-Regulated Learning on Students' Engagement

Variable	B	SEB	β	R	t	Sig.	R^2	Ad R^2	F	p
SRL	.453	.041	.540	.540	11.16	.000	.291	.289	124.55	.000

Source: Field Survey (2019) *Significant @ 0.05 level

a. Predictors: (Constant), (Self-Regulated Learning)

b. Dependent Variable: Students' Engagement

Table 10 indicates the result of regression analysis of self-regulated learning against students' engagement. Symbol interpretations are the unstandardized beta (B), the standard error for the unstandardized beta (SE B), the standard deviation beta (β), the t-test statistic (t), the significant value (sig), the ANOVA value (F), the ANOVA p-value (p), the correlation (r), the R square

value (R^2), and the Adjusted R Square value (Ad R^2). The result showed that self-regulated learning has a significant strong positive relationship with students' engagement. The results of the regression indicated that self-regulated learning explained 45.3% of the variance (R^2=.291, F (1, 304) =124.55, p=.000). It was found that self-regulated learning significantly predicted students' engagement (β =.540, p=000). The results mean that a unit increase in self-regulated learning among students will lead to their academic engagement. The results revealed an effect size of .41, which was large using Cohen's (1988) formula.

Research Hypothesis 1: ***There will be a significant gender difference in the (a) self-regulated learning and (b) students' engagement in the Berekum Municipality***

One of the objectives of the study was to determine the differences in gender with respect to self-regulated learning and students' engagement. Based on the variable combination, MANOVA was appropriate for the analysis because the dependent variables were of two levels against gender (male and female). Before running the MANOVA test, homogeneity of variance-covariance assumption was met using the Box's M Sig. value of .340, which was greater than .05. Again, Levene's Test was checked for violation of equality of variance for both self-regulated learning and students' engagement. The results showed that none of the variables violated the equality of variance assumptions as self-regulated learning produced a sig. value of .221, which was greater than .05 while students' engagement produced a sig. value of .129, which was also greater than .05. Table 11 presents the results on the descriptive statistics:

Table 11: Descriptive Statistics

Variable	Gender	Mean	SD	N
Self-Regulated	Male	66.80	7.74	140
Learning	Female	64.22	8.39	165
	Total	65.40	8.19	305
Engagement	Male	48.15	6.42	140
	Female	47.04	7.23	165
	Total	47.55	6.89	305

Source: Field Data (2020)

Table 11 showed that descriptive results of the study variables indicated that there were differences in some mean scores of the gender of students in terms of self-regulated learning and engagement. The results suggested that male respondents (M= 66.80, SD = 7.74) were different from female respondents (M=64.22, SD= 8.39) at .05 level of significance in terms of self-regulated learning. In terms of engagement, the results suggested that male respondents (M= 48.15, SD = 6.42) engage more than female respondents (M=47.04, SD= 7.23) at .05 level of significance. It implied that descriptively, male students were higher in self-regulated learning and academic engagement than female students. But then, the descriptive results were not enough to prove differences in mean scores of the respondents, hence the need to examine the MANOVA Multivariate Tests in Table 12

Table 12: Multivariate Tests

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.987	11309.876[b]	2.000	302.000	.000	.987
	Wilks' Lambda	.013	11309.876[b]	2.000	302.000	.000	.987
	Hotelling's Trace	74.900	11309.876[b]	2.000	302.000	.000	.987
	Roy's Largest Root	74.900	11309.876[b]	2.000	302.000	.000	.987
Gender	Pillai's Trace	.025	3.841[b]	2.000	302.000	.023	.025
	Wilks' Lambda	.975	3.841[b]	2.000	302.000	.023	.025
	Hotelling's Trace	.025	3.841[b]	2.000	302.000	.023	.025
	Roy's Largest Root	.025	3.841[b]	2.000	302.000	.023	.025

Source: Field Data (2020)

Table 12 presents the results of the multivariate test (MANOVA) which checked for statistical differences between male and female students in terms of self-regulated learning and engagement. The Table 11 showed that differences existed between male and female students as the Wilks' Lambda results showed statistically significant differences in gender, *F* (2, 302) =3.41, p=.023; Wilks' Lambda=.98, partial eta squared =.025. Based on the statistically significant difference detected, there was the need to find out which dependent variable

contributed to that difference using the Tests of Between-Subjects Effects. Table 13 presents the results:

Table 13: Tests of Between-Subjects Effects

Source	DV	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	SRL	504.851[a]	1	504.851	7.698	.006	.025
	Eng.	92.909[b]	1	92.909	1.970	.161	.006
Intercept	SRL	1300095.566	1	1300095.566	19824.77	.000	.985
	Eng.	686304.608	1	686304.608	14553.63	.000	.980
Gender	SRL	504.851	1	504.851	7.698	.006	.025
	Eng.	92.909	1	92.909	1.970	.161	.006
Error	SRL	19870.545	303	65.579			
	Eng.	14288.553	303	47.157			
Total	SRL	1325040.000	305				
	Eng.	704011.000	305				
Corrected Total	SRL	20375.397	304				
	Eng.	14381.462	304				

Source: Field Data (2020)

Table 13 showed the results for the Tests of Between-Subjects Effects to substantiate the differences observed in the multivariate analysis. Before going further to report, it was important for protocols to be followed in order to avoid statistical errors in terms of Type I Error (getting a difference where indeed there is none). In controlling for Type I Error, Tabachnick and Fidell (2013, p. 272) simple formula (.05/4=.0125) was considered to arrive at a new alpha level of .0125 purposely for establishing a genuine difference between

male and female students. After that, the results for the dependent variables were separately considered using the new alpha level of .0125. Careful examination showed statistical differences in self-regulated learning, F (1, 303) =7.70, p=.006, partial eta squared=.025). With this, the effect size established was small according to Cohen (1988, p. 284-287) suggestion.

Based on the findings, the null hypothesis for self-regulated learning was not rejected because differences were observed while the null hypothesis for students' engagement was rejected because differences were not observed. Deducing from the findings, it was revealed that male students significantly differed from female students in terms of self-regulated learning but same was not reported for students' engagement. In this sense, male students exhibited self-regulated learning abilities than female students in the Berekum Municipality but academic engagement was virtually the same for both male and female students.

Research Hypothesis 2: ***Personality type will moderate the influence of self-regulation on students' engagement in the Berekum Municipality.***

To achieve this objective, the data was examined and assumptions were tested for moderation analysis. As a subsidiary of multiple regression, moderation analysis was conducted to examine the role of personality trait type in the influence of self-regulated learning and students' engagement. The predictor for the moderation was self-regulated learning, the moderator was personality trait (OCEAN) type and the criterion was students' academic engagement. The predictor, criterion (behaviour engagement, cognitive engagement and emotional engagement) and the moderator (openness, conscientiousness, extraversion, agreeableness, and negative emotions) were all

multidimensional but the predictor and criterion dimensions were transformed to composite while moderator was examined dimensionally. The running of moderation was based on bootstrap samples of 5,000.

Table 14 presents the results on extraversion moderating the self-regulation and students' engagement:

Table 14: Moderating Role of Extraversion in the influence of self-regulation one engagement

Variables	Coeff	BootSE	BootLLCI	BootULCI	t-value	p
Constant	9.3858	18.2093	-18.8027	52.4224	0.5415	.5885
Self-regulation	.5551	.2794	-.1050	.9931	2.0526	.0410
Extraversion	.5673	1.0929	-1.9795	2.3644	.5408	.5891
SRL*EXT.	-.0069	.0166	-.0345	.0315	-.4264	.6701

Model summary: R^2=.2934; *F* (3, 305) =41.66, *p=.000*

SRL*EXT: R^2 *change*=.0004; *F* (1, 305) =.1818, *p=.6701*

Predictor: Self-regulation

Criterion: Engagement

Moderator: Extraversion

The result in Table 14 showed that extraversion did not moderate the influence of self-regulation on students' engagement, b=-0069, t=-.43, CI (-.0345, .0315). Figure 5 indicated the graphical representation of the moderation result:

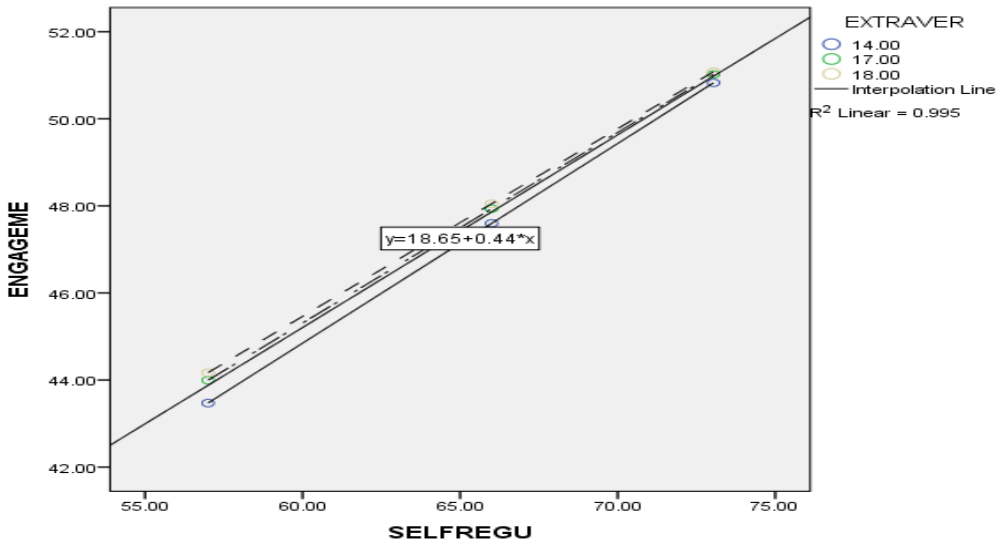

Figure 2: The role of extraversion in the influence of self-regulation on students' engagement

Figure 2 indicated that no significant moderation effects were evident for extraversion on self-regulation and students' engagement. It can be deduced that the graph is linear, showing no moderation effect.

Table 15: Moderating Role of agreeableness and conscientiousness in the influence of self-regulation one engagement

Variables	Coeff	BootSE	BootLLCI	BootULCI	t-value	p
Constant	13.7056	16.7250	-20.0464	46.4610	.8425	.4002
Self-regulation	.4054	.2538	-.1015	.9036	1.6452	.1010
Agreeableness	-.1467	1.1294	-2.3722	2.0994	-.1537	.8780
SRL*AGR.	.0048	.0166	-.0270	.0382	.3351	.7378
Conscientiousness	.6152	1.1550	-1.5319	3.0037	.6102	.5422
SRL*CON	-.0056	.0170	-0409	.0257	-.3678	.7133

Unconditional effects of the focal predictor at values of the moderators

Agreeableness	.0003	.1123	1.0000	299.0000	.3351	.7378
Conscientiousness	.0003	.1353	1.00000	299.0000	.6102	7133

Source: Field Data (2020)

Model summary: R^2=.3136; *F* (3, 305) =27.32, *p=.000*

SRL*AGR: R^2 *change*=.0003; *F* (1, 305) =.1123, *p=.7378*

SRL*CON: R^2 *change*=.0003; *F* (1, 305) =.1353, *p=.7133*

Predictor: Self-regulation

Criterion: Engagement

Moderators: Agreeableness, Conscientiousness

The result in Table 15 showed that agreeableness did not moderate the influence of self-regulated learning and students' engagement, b=.0048, t=.3351, CI (-.0270, 0382) and conscientiousness did not moderate influence of self-regulated learning and students' engagement, b=-.0056, t=-.3678, CI (-.0409, .0257).

Figure 6 presents the moderation results graphically:

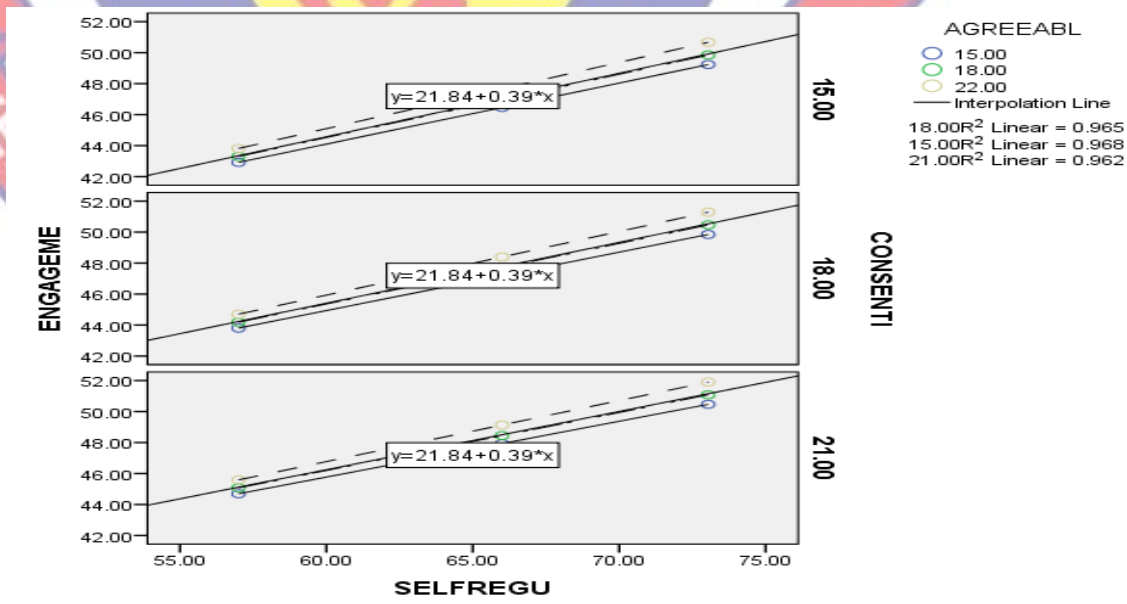

Figure 3: The role of agreeableness and conscientiousness in the influence of self-regulation on students' engagement.

Figure 3 indicated that no significant moderation effects were evident for agreeableness and conscientiousness on self-regulation and students' engagement. It can be seen that the graph is linear, showing no moderation effects.

Table 16-Moderating Role of negative emotions and open mindedness in the influence of self-regulation on engagement

Variables	Coeff	BootSE	BootLLCI	BootULCI	t-value	p
Constant	-57.100	25.5732	-107.9207	-7.9127	-2.1396	.2332
Self-regulation	1.5166	.3897	.7605	2.2860	3.7442	.0002
Negative Emotions	1.4017	.8933	-.3276	3.2534	1.4473	.1489
SRL*NEG.	-.0194	.0129	-.0466	.0049	-1.3681	.1723
Open Mindedness	3.2044	1.2987	.6079	5.7162	2.4594	.0145
SRL*OMD	-.0457	.0195	-.0836	-.0065	-2.3153	.0213
Unconditional effects of the focal predictor at values of the moderators						
Negative Emotions	.0043	1.8717	1.0000	299.0000	.3351	.1723
Open Mindedness	.0123	5.3608	1.0000	299.0000	.6102	.0213

Source: Field Data (2020)

Model summary: R^2=.3151; F (3, 305) =27.51, p=.000

SRL*NEG: R^2 *change*=.0043; *F* (1, 305) =1.8717, *p*=*.1723*

SRL*OMD: R^2 *change*=.0123; *F* (1, 305) =5.3608, *p*=*.0213*

Predictor: Self-regulation

Criterion: Engagement

Moderators: Negative Emotions, Open Mindedness

The result in Table 16 showed that open-mindedness negatively moderated the influence of self-regulated learning and students' engagement, b=-.0457, t=-2.3153, CI (-.0836, -.0065) but negative emotions did not moderate influence of self-regulated learning and students' engagement, b=-.0194, t=-1.3681, CI (-.0466, .0049). Figure 7 presents the moderation results graphically:

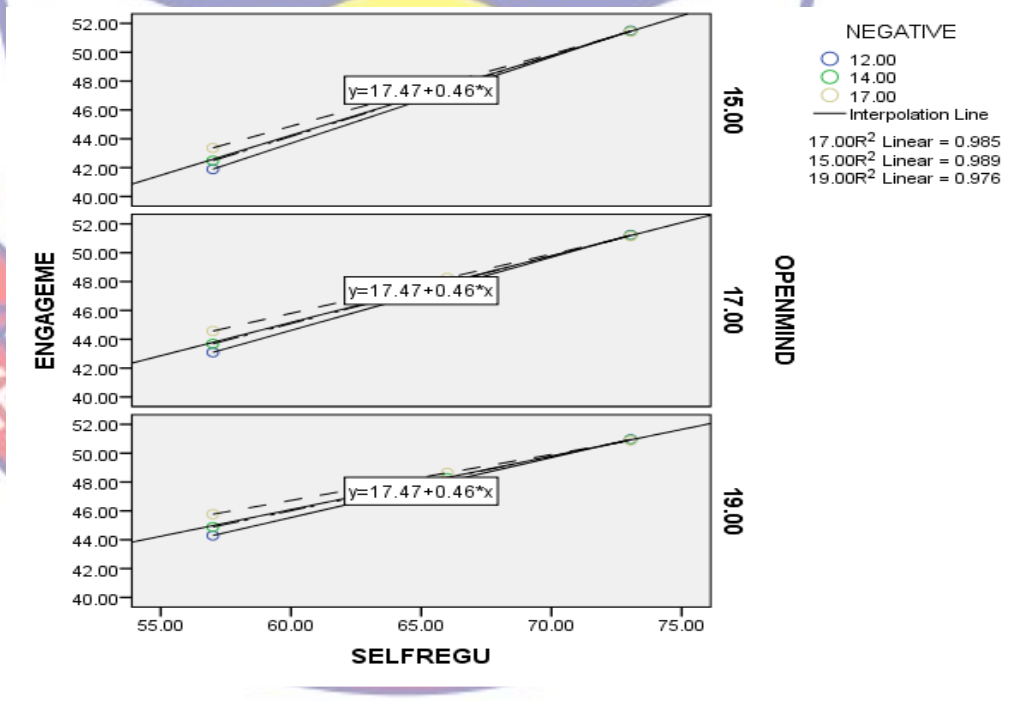

Figure 4: The role of negative emotions and open-mindedness in the influence of self-regulation on students' engagement

Figure 4 indicated that significant moderation effects were evident for open-minded on self-regulation and students' engagement but such was not

evident for negative emotions. In this sense, students who exhibit higher open-minded type of personality might have a reduced self-regulated learning, which could in turn affect their academic engagement. Generally, all types of personality traits used as moderators did not interact with the influence of self-regulated learning on students' engagement except the open-minded type of personality trait.

Discussion of Findings

Research Question One

The focus of this question was about the level of self-regulated learning abilities among students. The study revealed that students were moderately self-regulated in their academic pursuits in the Berekum Municipality. With such revelation, it is assumed that students are capable of controlling the learning process positively and are likely to exhibit academic prowess in their chosen subject areas. It is possible also that students are likely to own their thoughts in the process of learning as they may become self-disciplined and capable of withstanding difficult academic situations. The findings of the current study support Proctor et al. (2006) study findings that indicated that moderate to high levels of self-regulated learning abilities are good as they could lead students to perform better in school. Their study revealed that students with low GPAs had lower SRLs than high GPAs, who had higher SRL rates using their Learning and Research approaches inventory. The current study findings further confirmed that of Magi, Mannamaa and Kikas (2016). Their study found that the SRL skills were increased among the students and this helped in their academic discourse.

Research Question Two

The question aimed at finding out the level of academic engagement among students. The study revealed that students were moderately engaged in their academic pursuits in the Berekum Municipality. The findings, presumably, is understood that students become engaged in academic situations in school. They moderately get themselves involved in the learning process and this is resounding as they stood the chance to learn better and pass better as well. The study revelation is backed by the assertions of Fredricks, Blumenfeld and Paris (2004), where students with higher academic engagement are more likely to achieve higher credentials and have a better outcome on standardized tests. The current study finding debunked those of Marks (2000), National Research Council (2003) and Yazzie-Mintz (2007), which found that academic engagement among students in the high-schools and middle-schools is shown to decline, reaching their lowest high-school levels as they progress academically. These studies further indicated that academic engagement becomes reduced more among students who find themselves in low-performing and high-poverty schools. However, this was not the case among the respondents as these students came from diverse backgrounds, yet their engagement levels were appreciable.

Research Question Three

The question sought to find out the dominant personality trait type that was exhibited by students. The study revealed that the dominant personality was conscientiousness. The findings, based on the revealed personality-trait type indicated that students were disciplined, dutiful, plan their lives and aim for achievement as compared to being along with others, making decisions based

on what others say, being talkative and exhibiting loneliness. The revelation is overwhelming and fits the purpose of every student in most Ghanaian Senior High Schools. In the Ghanaian context, it is expected that students show some level of self-discipline, aim positively and dutiful in their academic tasks. The current study finding goes against a study finding reported by Oz (2016), which revealed that components of Big-Five Personality Traits dominant among students were extraversion (62%), agreeableness (64%), conscientiousness (63%), neuroticism (64%), and openness to experience (63%). With this, conscientiousness was the second most dominant, which was the opposite of the current study finding. However, the current study in some way supports Chamorro-Premuzic and Furnham (2005) and Komarraju et al. (2011), as they reported a consistent revelation that conscientiousness has been dominant and linked to many learning factors such as learning styles and performance of students.

Research Question Four

The question sought to examine the influence of self-regulation on SHS students' engagement in the Berekum Municipality. The study revealed that self-regulated learning was positively related to students' engagement and as well, self-regulated learning influenced students' engagement with a large effect size. This means that students who are able to regulate their learning are capable of becoming engaged academically. So, it is important that students are nurtured to regulate their learning situations as it could serve as a panacea for engaging in most academic situations in their various programme areas. Unsurprisingly, the current study confirmed many studies findings. For instance, Berger and Karabenick (2010) found self-regulated learning techniques influence students'

engagement. Futhermore, Guryay's (2016) study findings had it that self-regulating students were academically driven and exhibited higher learning engagement and efficiency while Aksan (2009) found that deficiencies in students' self-regulation contribute to low engagement and decreased performance. This make it clear that self-regulated learning among students is a panacea to their academic engagement. The current study finding is also supported by Fonteyne et al. (2017), Turan and Demirel (2010) and Ifenthaler (2012), who found in their studies that self-regulation learning techniques and academic engagement were related as self-regulated learning could influence students' academic engagement.

Research Hypothesis one

The hypothesis aimed to test if male students and female students could differ in terms of regulating their learning and becoming engaged in their academic programmes. The study revealed that students differed only in their self-regulated learning ability, where male students exhibited self-regulated learning abilities than female students. The findings mean that male students are likely to regulate their learning situation than their female counterparts but both sexes could similarly engage in their academic pursuits in the Berekum Municipality. The current find was debunked by Stanikzai (2019) and Temi (2005). In his study on gender difference among students, it was revealed that no significant difference between male and female students with respect to the use of self-regulated learning strategies.

Research Hypothesis Two

The objective was about finding out how the personality trait type possessed by students could moderate or intervene in their self-regulated

abilities and their academic engagement. The study revealed that out of the five personality trait types used in the process, only open-minded personality trait type could negatively moderate students' self-regulated learning abilities and academic engagement. In this sense, students who exhibit higher open-minded type of personality will have a reduced self-regulated learning, which will in turn affect their academic engagement and performance in general. The current study finding partly supports what literature as only the open-minded component moderated self-regulated learning and students' engagement. For instance, the study by Entwistle (2008) has shown that five primary personality characteristics are linked to the self-regulated learning styles of girls and boys. This was further supported by Kabriaii, Samadi, and Fadavi (2014), who found in their study that there was a positive significant influence of personality traits on self-regulated learning and academic engagement of students, where conscientiousness and agreeableness were used as moderators for self-regulated learning and students' engagement.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The chapter presents the summary of the study, methods employed for study, summarizes the key findings of the study, conclusions drawn from the study, relevant recommendations and proposals for further research.

Overview of the Study

The study sought to investigate the impact of self-regulated learning on students' engagement in the Berekum Municipality of Ghana. The descriptive survey research design with a quantitative approach was adopted for the study. All the public senior high schools in the Municipality were used in the study. Three-set adopted questionnaires for students in terms of self-regulated learning (22-items), students' engagement (15-items), personality trait (30-items) were used for the study. The questionnaires were the closed-ended type that was subdivided into five (5) sections (A-D) and comprised 68 items. Section "A" implored demographic information of respondents in terms of gender. Section "B" required information from the respondents on self-regulated learning. Section "C" collected information on students' engagement. Section "D" solicited information on the personality traits of the respondents. The data gathered with questionnaires were analysed descriptively and inferentially using frequencies and percentages, means and standard deviations, Multiple Linear Regression, One-Way MANOVA and Hayes Moderation Process.

Major Findings

` The study revealed that students were moderately self-regulated in their academic pursuits in the Berekum Municipality. With such revelation, it is

assumed that students are capable of controlling the learning process positively and are likely to exhibit academic prowess in their chosen subject areas. It is possible also that students are likely to own their thoughts in the process of learning as they may become self-disciplined, capable of withstanding difficult academic situations.

Also, the study revealed that students were moderately engaged in their academic pursuits in the Berekum Municipality. The findings, presumably, is understood that students become engaged in academic situations in school. They moderately get themselves involved in the learning process and this is resounding as they stood the chance to learn better and pass better as well.

Similarly, the dominant personality was the conscientiousness. The findings based on the revealed personality-trait type indicated that students were disciplined, dutiful, plan their lives and aim for achievement in the Berekum Municipality. The revelation is overwhelming and fit the purpose of every student in most Ghanaian Senior High Schools. In the Ghanaian context, it is expected that students show some level of self-discipline, aim positively and dutiful in their academic tasks.

The study revealed that self-regulated learning was positively related to students' engagement and self-regulated learning influence students' engagement with a large effect size. This means that students who are able to regulate their learning are capable of becoming engaged academically. So, students must be nurtured to regulate their learning situations as it could serve as a panacea for engaging in most academic situations in their various programme areas.

Furthermore, students differed only in their self-regulated learning ability, that is, male students exhibited self-regulated learning abilities than female students. The findings mean that male students are likely to regulate their learning situation than their female counterparts but both sexes could similarly engage in their academic pursuits in the Berekum Municipality.

Lastly, out of the five personality trait types used in the process, only open-minded personality trait type could negatively moderate students' self-regulated learning abilities and academic engagement. In this sense, students who exhibit higher open-minded type of personality will have a reduced self-regulated learning, which will in turn affect their academic engagement and performance in general.

Conclusions

Based on the findings, the following conclusions were drawn:

Senior High School students in the Berekum Municipality are moderately self-regulated in their learning activities. This could be related to students following guidance or rules and regulations that are established for most schools in the Municipality. With such behaviours, students stand the chance to benefit as they could manage their learning activities and choose the best learning approach could get them to achieve reasons why they attend school.

Students in the Berekum Municipality are moderately academically engaged in their learning activities. This could be associated to the fact that students already know why they are in school, hence their quest to involve themselves in most academic activities. Exhibiting such engagement behaviours

by students could spur them to academic success because they are involved in anything important to them and relates to their academic and life journeys.

Berekum Municipality senior high school students exhibited the conscientiousness type of personality trait. This was because most students are in the boarding schools and adhere to rules and regulations set the schools. This personality trait could be a temporal one among students because they are likely to shift to their real personality traits when they complete school and leave for their various homes. Therefore, there is no doubt that students acted in this way because it is desirous behaviour (social desirability) in most schools in Ghana.

Senior High School students in the Berekum Municipality self-regulated learning abilities influence their academic engagement positively. This could happen because the school system in the Municipality has a standard of academic behaviours among students and such could self-regulate learning. As students become regulated personally, they show ownership of their learning situations and adequately engage in the learning process.

Male Senior High School students in the Berekum Municipality exhibited self-regulated learning abilities more than female students. Most probably, male students are able to impede their instincts, stifle their desires, counter attractions with school rules, accept hard activities, reduce undesirable and intrusive opinions, and control their expressive demonstrations in the midst of others things as compared to female students.

Senior High School students in the Berekum Municipality self-regulated learning abilities and their academic engagement was intervened by open-minded type of personality trait negatively. With this, if students are helped to

become curious could lead to low self-regulated learning abilities and consequently reduce their academic engagement in school.

Recommendations

Based on the conclusion, the following recommendations are proposed:

1. Management of Senior High schools in the Berekum Municipality should put in place guidance and counselling services and programmes for students which will monitor their study habits and learning processes. This will also make students more individualised to take responsibility for their learning situations. This will also enable students to become independent in their lives in later life as they might have matured in self-regulated abilities that could push them to pursue higher academic exploits.
2. Senior High Schools management in the Berekum Municipality should organise educative and job-oriented - academic and career guidance workshops, seminars and programmes to help develop higher levels of academic engagement in students. When students are consistently nurtured through such activities of the school, they could transfer behavioural potencies in their academic-life into higher productivity in any occupation they may find themselves.
3. Authorities of Senior High Schools in the Berekum Municipality should have a standing disciplinary committee which will constantly be tasked with managing students' behaviours. However, ad-hoc committee should be set where necessary to ensure that individualised personality traits of students are properly managed. This is so because any personality has a positive role in the person's life and when such traits

are truncated through stringent measures, it may end up killing the future potentials of many students.

4. Stakeholders such as the PTA of Senior High schools in the Berekum Municipality should exhibit keen interest in the activities of students. Parents intermittently checking up on wards in their schools, communicating with teachers on their wards academic performance, attending school events and organised meetings and also personally encouraging and monitoring their wards to study both in the school and at home could ensure self-regulated learning abilities among students. This could also propel students to continually engage in their academic activities.
5. To help females self-regulate their academic abilities, Senior High Schools in the Berekum Municipality should pay attention to the female-child education. School authorities should intermittently organised educative programmes that will tackle the academics, social life, financial and the psychological state of the female students. Stakeholders within the municipality should strive for financial scholarships from NGOs and governmental organisations for female students. This in a way will motivate and also ease female students to develop the ability to self-regulate in their academic abilities in the Berekum Municipality.
6. Senior High schools authorities in the Berekum Municipality should have a re-look at how open-minded personality trait individuals in school taken care of much more so that their traits would not derail the importance of self-regulation in them. This recommendation can start by

categorising students based on their personality types, where the emphasis should be placed on problematic behaviour traits so that they may not ruin the academic lives of students.

Suggestions for Further Research

It is suggested that the future focus of research in this area should consider exploring the relationship between curiosity and self-regulated learning because it was revealed that open-mindedness, where curiosity is embedded could negatively influence ownership of learning situations.

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APPENDICES

APPENDIX A: QUESTIONNAIRE

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES

FACULTY OF EDUCATIONAL FOUNDATIONS

DEPARTMENT OF EDUCATION AND PSYCHOLOGY

QUESTIONNAIRE

Dear Respondent,

I am embarking on study would be grateful if you could answer the questions below. There is no right or wrong answer. I am interested in your personal experience and opinion. The confidentiality of your information is guaranteed.

Instruction: For each item, please choose the answer which best describes your experiences by ticking [√]

SECTION A

Demographic Data

1. **Gender/Sex:** Male **[ ]** Female **[ ]**

SECTION B

Instruction: In the tables below for each statement mark how much you agree with a tick **[√]** in the box to the right of each statement. The responses are on the scale **1-4**, where **1** = Strongly Disagree **[SD], 2** = Disagree **[D], 3** = Agree **[A]** and **4** = Strongly Agree **[SA].**

Taiwanese College Students Short Self-Regulation Questionnaire (TSSRQ)

SN	Statements	SD	D	A	SA
D1	Goal Attainment	Response Set			
1	When I am trying to change something in school, I pay attention to how I am doing it.				
2	I set goals for myself and keep track of my progress in the goals.				
3	Once I have a goal, I can usually plan how to get it done.				
4	I am able to finish goals I set for myself.				
5	If I make a plan to change something, I pay a lot of attention to how I am doing it.				
6	I usually keep track of my progress toward my goals.				
7	I have personal standards, and try to live up to them in school.				
D2	Mindfulness	Response Set			
8	I get easily distracted from my plans. (R)				
9	I have problem following through with things once I have made up my mind to do something in school. (R)				
10	I stop making decisions concerning academics in school. (R)				
11	I give up quickly in school activities. (R)				
12	I do not notice the effects of my actions in school until it is too late when doing something. (R)				

13	Most of the time I do not pay attention to what I am doing in school. (R)				
14	I have problem making up my mind about things I do in school. (R)				
D3	Adjustment	Response Set			
15	I do not seem to learn from my mistakes. (R)				
16	I learn from my mistakes.				
17	As soon as I see a problem or challenge in school, I start looking for possible				
D4	Proactiveness	Response Set			
18	I can stick to a plan that is working well.				
19	I usually only have to make a mistake one time in order to learn from it in school.				
20	I can usually find different possibilities when I want to change something in school.				
D5	Goal Setting	Response Set			
21	I have problem making plans to help me reach goals in school. (R)				
22	I have a difficult time setting goals for myself in school. (R)				

SECTION C

University Student Engagement Inventory (USEI) by Maroco et al. (2016).

SN	Statements	SD	D	A	SA
D1	**Behavioural Engagement**	**Response Set**			
1	I pay attention in class.				
2	I follow the school's rules and regulations				
3	I usually do my homework and exercises on time.				
4	When I have doubts, I ask questions and participate in activities in the classroom.				
5	I usually participate actively in group assignments and discussions.				
D2	**Emotional Engagement**	**Response Set**			
6	I do not feel very accomplished at this school. (R)				
7	I feel excited about the schoolwork.				
8	I like being at school all the time.				
9	I am interested in the schoolwork.				
10	My classroom is an interesting place to be.				
D3	**Cognitive Engagement**	**Response Set**			
11	When I read a book, I question myself to make sure I understand the subject I am reading about.				
12	I talk to people outside the school on matters that I learned in class.				

13	If I do not understand the meaning of a word, I try to solve the problem, for example by consulting a dictionary or asking a colleague.				
14	I try to use the knowledge I have gained in solving new problems in class.				
15	I try to use subjects from different courses into my general understanding.				

SECTION D

Instructions: Tick the box that corresponds with your motivation on your right against each statement. For example, I like school ……**1 (SD)……**

1= Strongly Disagree

2= Disagree

3= Agree

4= Strongly Agree

Personality Inventory

SN	Statements	SD	D	A	SA
D1	**Extraversion**	**Response Set**			
1	I am someone who tends to be quiet (R)				
2	I am someone who is control, acts as a leader.				
3	I am someone who is full of energy.				
4	I am someone who is outgoing, sociable.				
5	I am someone who prefers to have others take charge. (R)				
6	I am someone who is less active than other people. (R)				
D2	**Agreeableness**	**Response Set**			
7	I am someone who is sympathetic, has a soft heart.				
8	I am someone who is sometimes rude to others. (R)				
9	I am someone who assumes the best about people.				
10	I am someone who can be hard and uncaring. (R)				

11	I am someone who is respectful, treats others with respect.				
12	I am someone who tends to find fault with others. (R)				
D3	**Conscientiousness**	**Response Set**			
13	I am someone who tends to be disorganized. (R)				
14	I am someone who has difficulty getting started on tasks. (R)				
15	I am someone who is reliable, can always be counted on.				
16	I am someone who keeps things neat and clean.				
17	I am someone who continue to works until the task is finished.				
18	I am someone who can be somewhat careless. (R)				
D4	**Negative Emotionality**	**Response Set**			
19	I am someone who worries a lot.				
20	I am someone who tends to feel unhappy.				
21	I am someone who is emotionally stable, not easily upset. (R)				
22	I am someone who is relaxed, handles pressure well. (R)				
23	I am someone who feels secure, comfortable with self. (R)				
24	I am someone who is temperamental, gets emotional easily.				
D5	**Open Mindedness**	**Response Set**			

25	I am someone who is fascinated by art, music, or literature.				
26	I am someone who has little interest in abstract ideas. (R)				
27	I am someone who is original, comes up with new ideas.				
28	I am someone who has few artistic interests. (R)				
29	I am someone who is difficult and a deep thinker.				
30	I am someone who has little creativity				

APPENDIX B: DATA OUTPUT

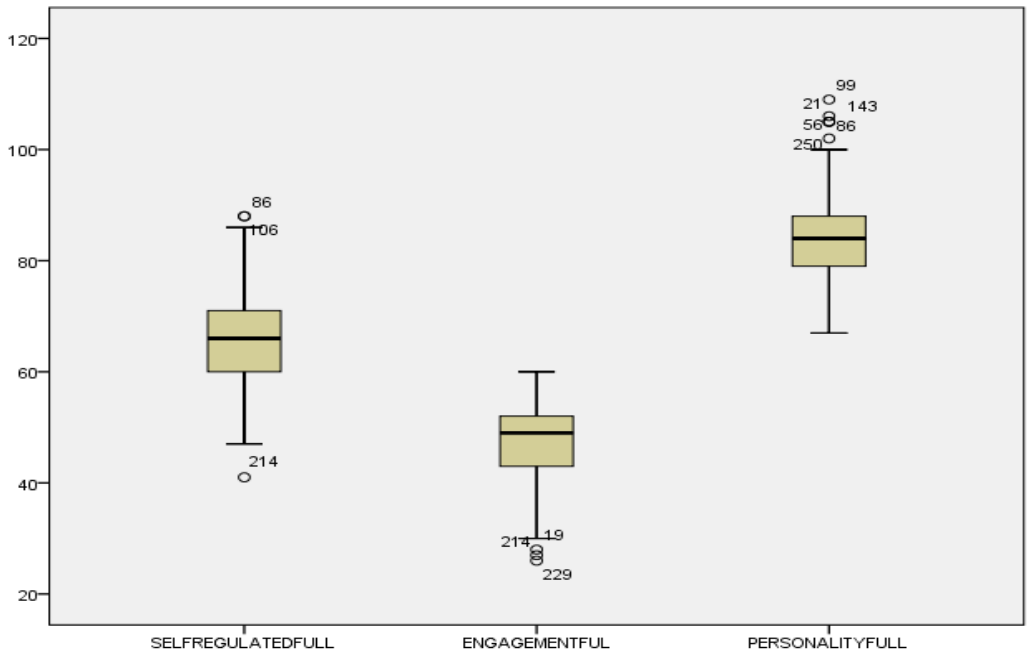


Figure 5: Boxplots indicating variables with outliers

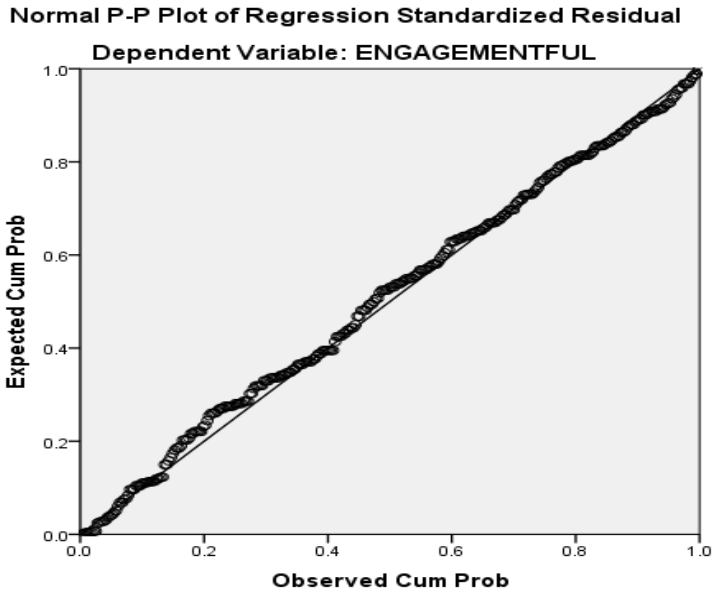


Figure 6: Normal P-P Plot

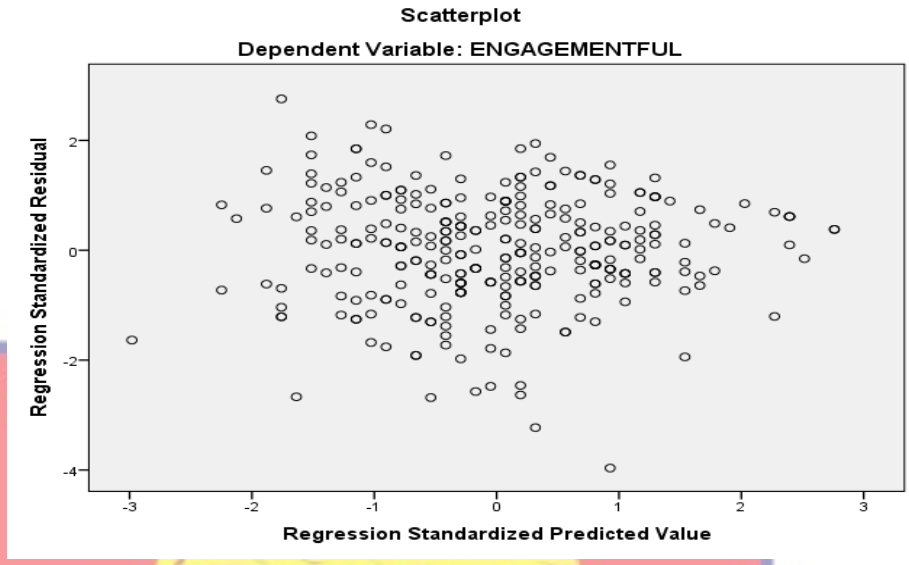
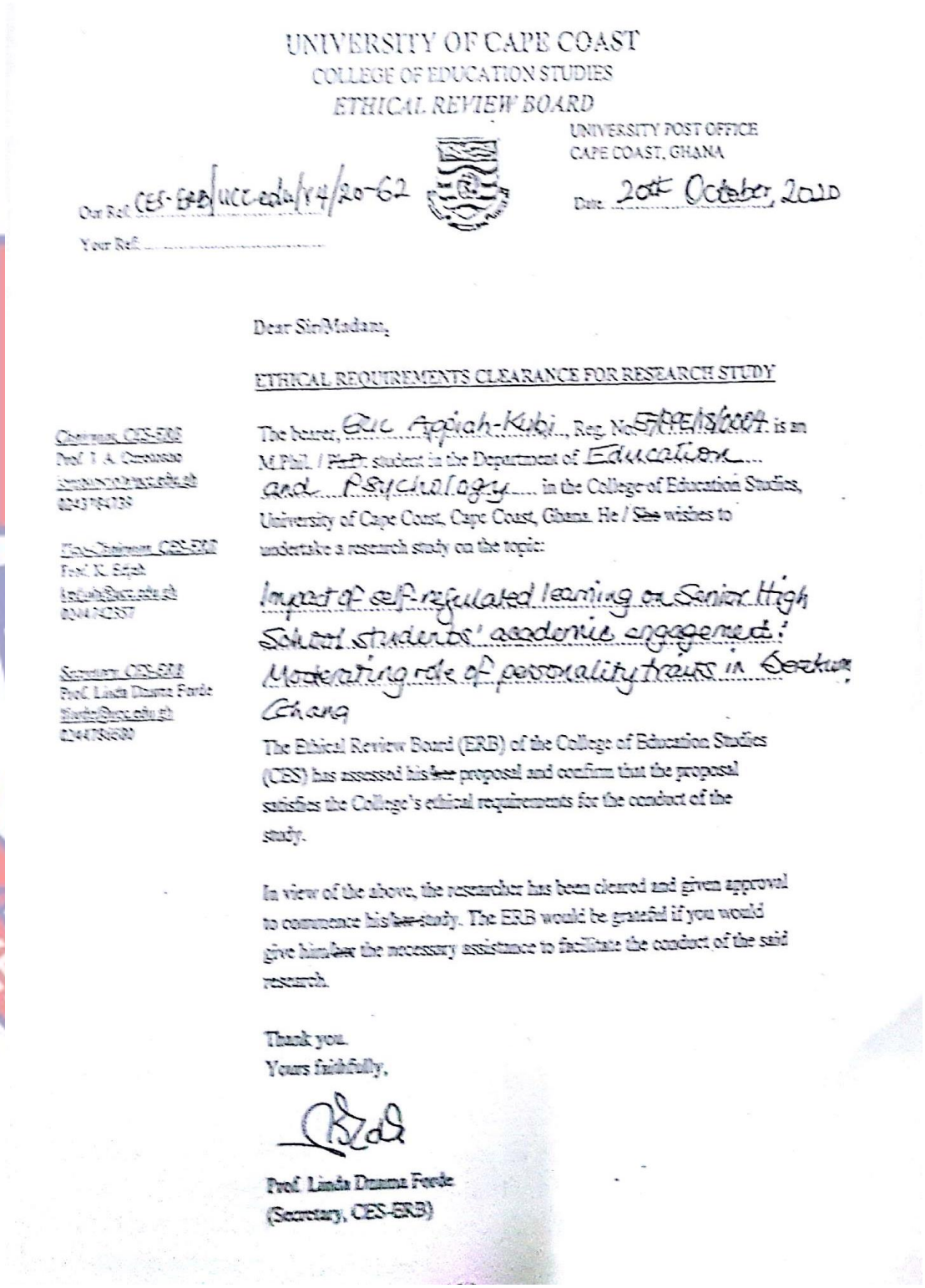


Figure 7: Linearity Graph

APPENDIX C: ETHICAL REVIEW



UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref. CES-ERB/UCC-edu/14/20-62

Your Ref. .....

Date. 20th October, 2020

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

Chairman, CES-ERB
Prof. I. A. Cavinson
[illegible]
0243784739

Vice-Chairman, CES-ERB
Prof. K. Eshun
[illegible]
0244742557

Secretary, CES-ERB
Prof. Linda Dzama Forde
[illegible]
0244756680

The bearer, Eric Appiah-Kubi, Reg. No. [illegible] is an M.Phil. / ~~Ph.D~~ student in the Department of Education and Psychology in the College of Education Studies, University of Cape Coast, Cape Coast, Ghana. He / ~~She~~ wishes to undertake a research study on the topic:

Impact of self-regulated learning on Senior High School students' academic engagement: Moderating role of personality traits in Secondary Ghana

The Ethical Review Board (ERB) of the College of Education Studies (CES) has assessed his/~~her~~ proposal and confirm that the proposal satisfies the College's ethical requirements for the conduct of the study.

In view of the above, the researcher has been cleared and given approval to commence his/~~her~~ study. The ERB would be grateful if you would give him/~~her~~ the necessary assistance to facilitate the conduct of the said research.

Thank you.
Yours faithfully,

Prof. Linda Dzama Forde
(Secretary, CES-ERB)