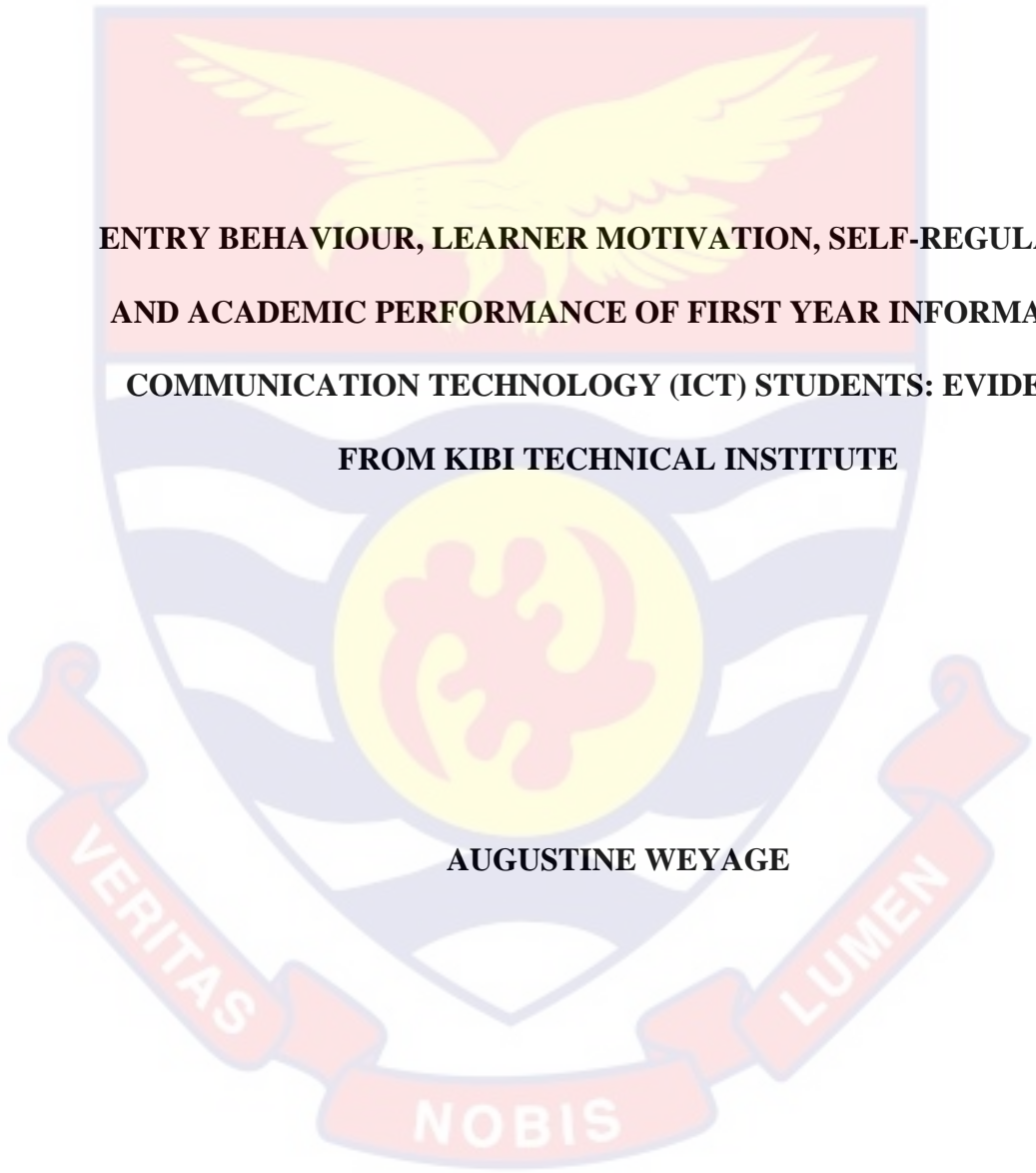


UNIVERSITY OF CAPE COAST

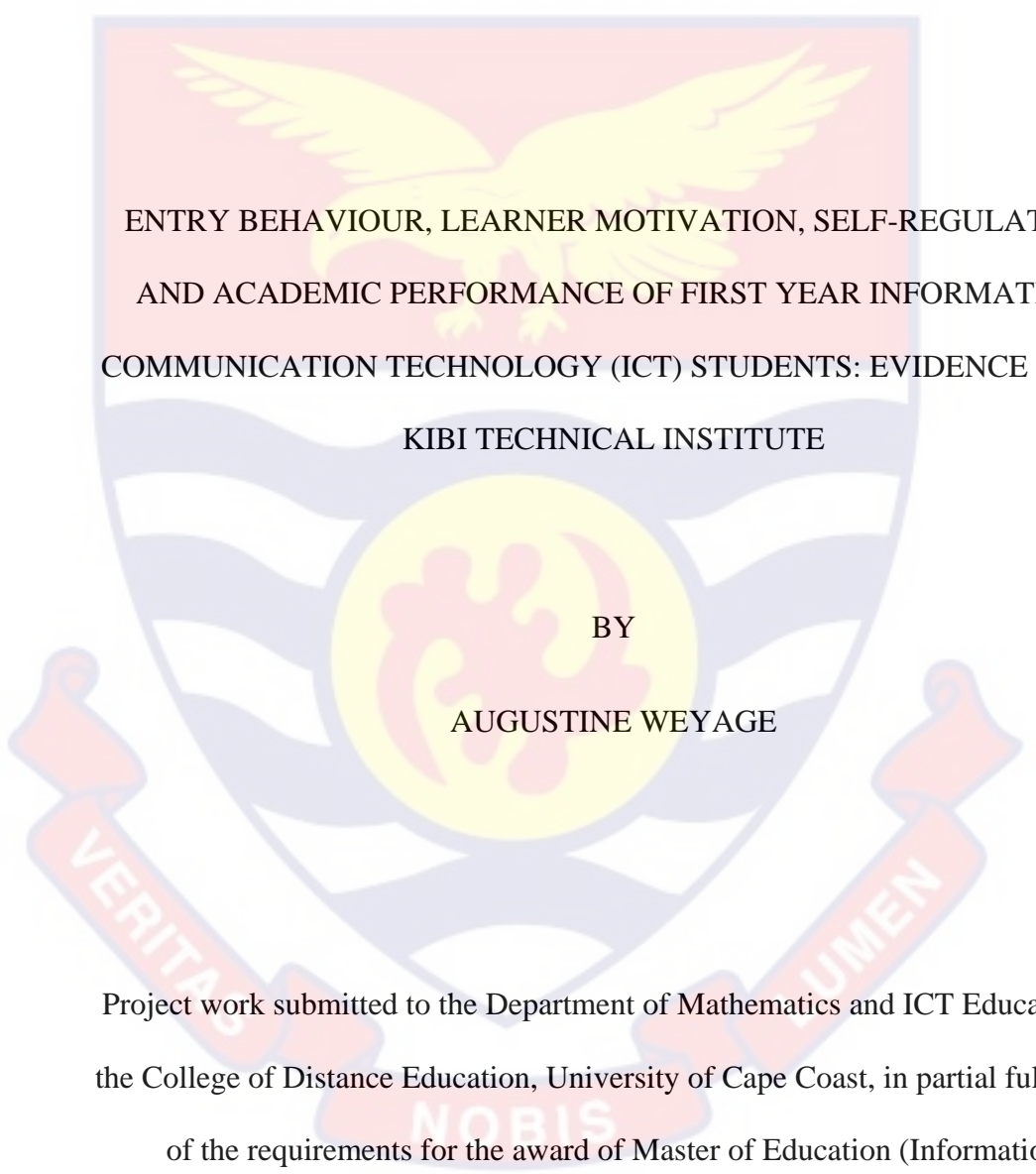


**ENTRY BEHAVIOUR, LEARNER MOTIVATION, SELF-REGULATION  
AND ACADEMIC PERFORMANCE OF FIRST YEAR INFORMATION  
COMMUNICATION TECHNOLOGY (ICT) STUDENTS: EVIDENCE  
FROM KIBI TECHNICAL INSTITUTE**

**AUGUSTINE WEYAGE**

2023

UNIVERSITY OF CAPE COAST



ENTRY BEHAVIOUR, LEARNER MOTIVATION, SELF-REGULATION  
AND ACADEMIC PERFORMANCE OF FIRST YEAR INFORMATION  
COMMUNICATION TECHNOLOGY (ICT) STUDENTS: EVIDENCE FROM  
KIBI TECHNICAL INSTITUTE

BY  
AUGUSTINE WEYAGE

Project work submitted to the Department of Mathematics and ICT Education of  
the College of Distance Education, University of Cape Coast, in partial fulfilment  
of the requirements for the award of Master of Education (Information  
Technology) degree.

DECEMBER 2023

## DECLARATION

### Candidate's Declaration

I hereby declare that this project work 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: Augustine Weyage

### Supervisor's Declaration

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

Supervisor's Signature ..... Date .....

Name: Dr. Justice K. Armah

## ABSTRACT

The study sought to examine the effect of entry behaviour on academic performance of first year ICT students of the Kibi Technical Institute. The study also examined learner motivation and self-regulation as predicting factors that affect elective ICT students' academic performance. The study was grounded in two theoretical frameworks: theory of motivation and self-regulation. It adopted a positivist paradigm and utilized an explanatory design. Both primary and secondary data were collected. The primary data was collected using a close-ended structured questionnaire. In addition, the study used of Basic Education Certificate Examination (BECE) and end-of-term results of the students as the secondary data source. Purposive sampling technique was employed to select a sample of one hundred (100) first-year ICT students. The gathered data were analysed using IBM SPSS Statistics v26. The findings indicate that entry behaviour and learner motivation had an insignificant influence on the academic performance of first-year ICT students. However, self-regulation emerged as a significant predictor of academic performance in the first model. Additionally, there was a positive but insignificant influence of entry behaviour on learner motivation and entry behaviour had an insignificant effect on self-regulation. The study, therefore, recommends that educational institutions and policy makers incorporate self-regulation training programmes into the curriculum for first-year ICT students. These programmes can provide students with the necessary knowledge, strategies, and techniques to effectively manage their learning process.

## KEYWORDS

Entry Behaviour

Learner Motivation

Self-Regulations

Academic Performance



## ACKNOWLEDGEMENTS

I wish to first thank the almighty God for his protection. I also wish to appreciate my lecturers for their guidance, and finally I wish thank and appreciate my supervisor Doctor Justice Armah for his pains-taking guidance and contributions to bring this work to a successful completion.



## DEDICATION

To my family, my wife, Dorcas Nimakowaa, my children – Sean, Kean, Ida and  
Ivy Bakiamoh.



## TABLE OF CONTENTS

	Page
DECLARATION	ii
ABSTRACT	iii
KEYWORDS	iv
ACKNOWLEDGEMENTS	v
DEDICATION	vi
LIST OF FIGURES	xi
LIST OF TABLES	xii
CHAPTER ONE: INTRODUCTION	
Background to the Study	1
Statement of Problem	5
Purpose of the Study	7
Research Objectives	7
Research Hypotheses	8
Significance of the Study	8
Delimitations of the Study	9
Limitations of the Study	10
Organisation of the Study	10
CHAPTER TWO: LITERATURE REVIEW	

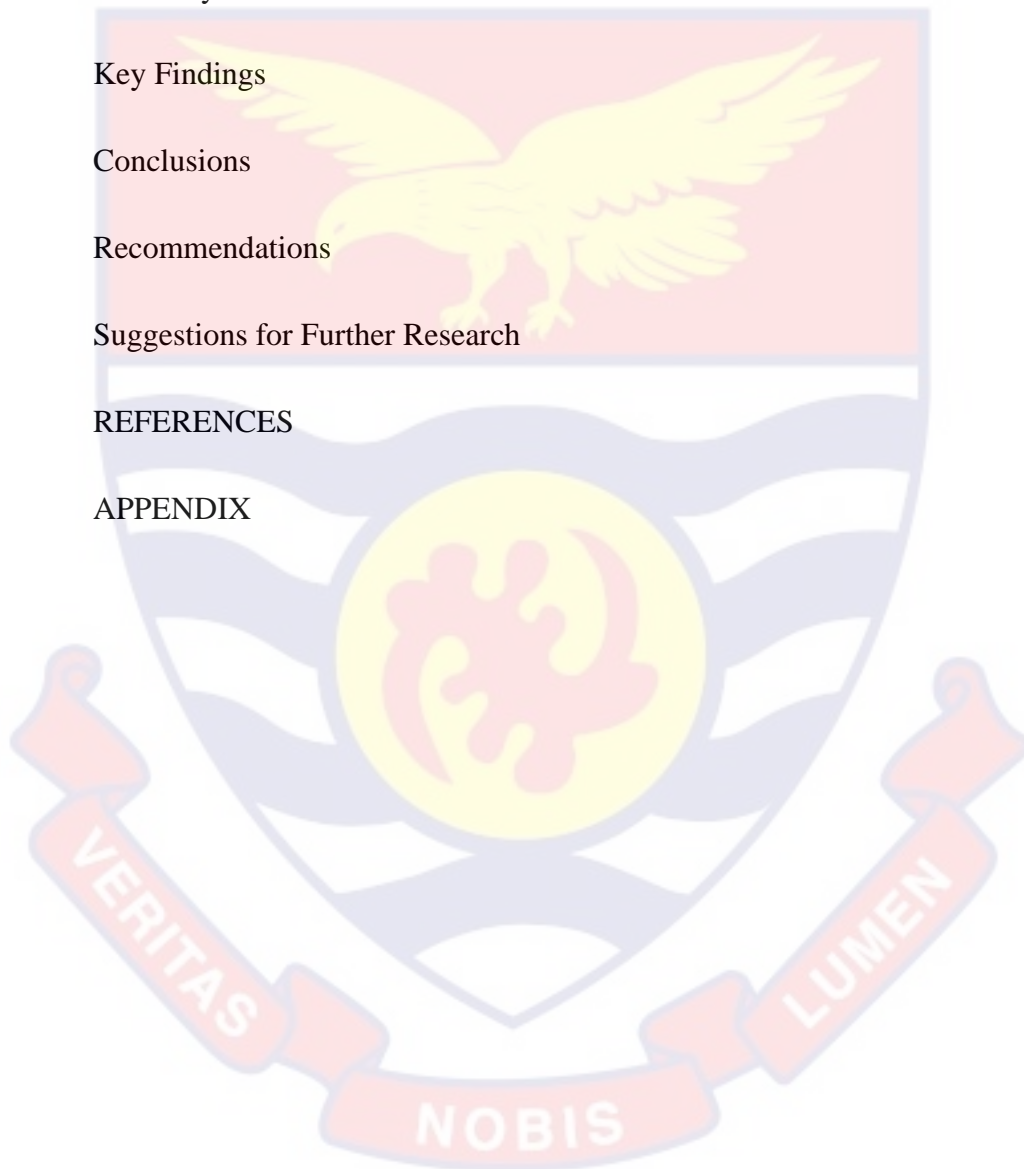


Introduction	11
Theoretical Review	11
Theory of Motivation	11
Self-Regulation	13
Entry Behaviour	14
Academic Performance	15
Entry behaviour and academic performance	15
Learner motivation and academic performance	17
Self-regulation and academic performance	18
Entry behaviour and learner motivation	21
Entry behaviour and self-regulation	23
Conceptual Framework of the Study	25
Chapter Summary	26
<b>CHAPTER THREE: RESEARCH METHODS</b>	
Introduction	27
Research Paradigm	27
Research Approach	28
Research Design	29
Study Area	30
Population	30

Sampling Procedure and Sample Size	31
Data collection instruments	32
Validity and Reliability	35
Data processing and analysis	36
Ethical Clearance	37
Chapter Summary	37
<b>CHAPTER FOUR: RESULTS AND DISCUSSION</b>	
Introduction	39
Socio-Demographic Characteristics of Respondents	39
Normality (Skewness and Kurtosis) of the main construct	41
Descriptive Statistics of the Main Construct	42
Entry Behaviour	42
Academic Performance	43
Relationship among the Main Constructs	45
Assessment of model 1	46
Assessment of model 2	51
Assessment of model 3	54
Summary of Hypothesis	57
Discussion of Findings	59
Chapter Conclusion	62

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND  
RECOMMENDATIONS

Introduction	64
Summary	64
Key Findings	65
Conclusions	66
Recommendations	71
Suggestions for Further Research	73
REFERENCES	74
APPENDIX	91



## LIST OF FIGURES

Figure	Page
1: Conceptual Framework of the Study	25



## LIST OF TABLES

Table	Page
1: Socio-Demographic Characteristics of Respondents	40
2: Test for Normality (Skewness and Kurtosis)	42
3: Entry Behaviour - BECE Results	43
4: Academic Performance – Terminal Results	44
5: Descriptive Statistics of the main construct	45
6: Assess the relationships among the main constructs.	46
7: Model Summary 1	47
8: ANOVA <sup>a</sup>	48
9: Coefficients <sup>a</sup>	49
10: Model Summary 2	51
11: ANOVA <sup>a</sup>	53
12: Coefficients <sup>a</sup>	54
13: Model Summary 3	55
14: ANOVA <sup>a</sup>	56
15: Coefficients <sup>a</sup>	57
16: Results of regression and hypothesis testing	58

## CHAPTER ONE

### INTRODUCTION

#### Background to the Study

The use of Information and Communication Technology (ICT) is essential in the modern world, making it an important area of study for students. In order to excel in the field, students need to have strong academic performance, which can be affected by various variables such as pre-entry behavior, learner motivation, and self-regulation. Muller 2018, Darling-Hammond and Cook-Harvey 2018, Peng and Kievit 2020, Trigueros, Aguilar-Parra, Cangas, Bermejo, Ferrandiz and López-Liria 2019, have demonstrated that a multitude of factors contribute to students' academic deficiencies in education, including but not limited to low socio-economic status, cognitive aptitude, school-related variables, domestic milieu, and familial support.

Governments, parents, and various stakeholders must go beyond merely investing in education; they need to guarantee the provision of factors that contribute to enhanced and successful educational outcomes. Entry behaviour stands out as a crucial factor in this regard. It has been contended that entry behaviour significantly predicts students' academic advancements (Baraza & Simatwa, 2018). Previous research on entry behaviour indicates that learners' initial conduct in the classroom and learning environment plays a vital role in influencing the quality of their studies and ultimate learning achievements.

Academic performance is a broad term that includes a student's accomplishments in a range of academic endeavors (Kumar, Agarwal & Agarwal, 2021). It usually consists of grades from assignments, tests, and general in-class performance. Academic performance is more than just numbers; it's a measure of a student's understanding of the material, their capacity for analysis, and their application of newly learned information. Academic performance is influenced by a wide range of factors, from personal study habits and time management to the efficacy of instructional strategies and institutional assistance (Magulod, 2019). Understanding the importance of academic achievement can be critical to determining the educational trajectory and prospects of an individual.

Entry behaviour refers to the activities, traits, and attitudes students bring to an academic programme or institution (Al Shehry & Youssif, 2017). It includes academic achievement, preparation, study habits, motivation, and learning attitudes. Entry behaviour can significantly affect students' academic performance (Roşeanu & Drugaş, 2011; Aciro, Onen, Malinga, Ezati & Openjuru, 2021). Students with strong entry behavior, good study habits, and a positive learning attitude are more likely to achieve academically. Student performance is predicted by entry behaviours for the following reasons. It facilitates educational institutions in identifying pupils who might encounter academic difficulties (Njoroge, Mulwa & Kiweu, 2023). Focusing on students who will benefit from academic support services helps schools distribute resources more efficiently.

Among other factors, Educationists also believe that, learner characteristics such as learner motivation and self-regulation impact positively on learning

outcomes/academic performance. The term motivation is important for all dimensions of life since it explains the ‘whys’ of behaviour. Motivation has thus been defined as goal-directed behaviour (Weiten, 2006). According to Williams and Williams (2011), student motivation is one of the most important variables in predicting the success of a student's educational experience. They claimed that regular encouragement of pupils was crucial to their success in school. Boynazarov (2021) likewise characterised driving forces behind goal-oriented actions as intrinsic elements. Motivation can be thought of as the forces that propel an individual to take some sort of action in order to achieve some kind of end.

According to Muhammad, Bakar, Mijinyawa and Halabi (2015), an individual's level of motivation affects both their academic success and the length of their academic career. It shows itself in students' academic habits: what they choose to study, how much time and energy they put into each subject, and how long they stick with a subject. The ability to overcome difficulties encountered during the learning process is another benefit of motivation (Al-Kumaim, Alhazmi, Mohammed, Gazem, Shabbir & Fazea, 2021). Zainuddin (2018) and Huang, Kuo and Chen (2020) both state that increasing student motivation is one of the most effective ways to boost students' academic performance.

In an effort to change students' attitudes and actions in the classroom, Muhammad et al. (2015) claimed that intrinsic motivation is crucial. The findings revealed a robust positive association between student motivation and academic achievement. Motivating students make them aware whether they are on the right path, encourages and shows students that the teacher or parent is interested in what



he/she is doing (Koomson et al., 2017). Denhardt and Aristigueta (2008) emphasised how difficult it is to directly examine people's motivation. They explained that people's motivation stems from an emotional state that drives them to take specific actions in order to accomplish their aims. and that motivation cannot be controlled directly. Despite the significance of motivation to enhancing students learning, it appears at times that students do not receive the needed motivation to make them succeed in their learning.

The degree to which pupils are able to self-regulate is yet another element that has the ability to impact their academic achievement. A variety of personal, familial, and social levels were investigated in the beginning stages of research on self-regulation. Self-regulation is defined by Reparaz et al. (2020) as the capacity to engage in and withdraw from essential activities, social and educational opportunities, as well as the capacity to delay the accomplishment of a desired activity or objective. Theorists like Zimmerman and Tsikalas (2018) also played a crucial feature in shaping the growth of self-regulation. The skill to regulate one's own thoughts, feelings, and the steps taken to achieve one's own goals is what they called "self-regulation," and it was described as such by the researchers. A person's capacity for self-regulation is called upon whenever there is a need to modify behaviour in order to achieve certain objectives (Werner & Milyavskaya, 2019).

Self-regulation involves managing one's thoughts, and distinct characteristics set self-regulated kids apart (Zarouk et al., 2020). Key traits include cognitive strategy deployment, time management, control of mental processes, fostering conducive learning environments, and inadequate effort in academic task

management (Montalvo & Torres, 2004). This background sets out the importance of students' entry behavior, motivation and self-regulation for enhanced academic performance among students. However, these studies Werner and Milyavskaya 2019, Denhardt and Aristigueta (2008) and Muhammad et al. (2015) reveals that these variables together have been understudied in the Ghanaian literature, particularly at the secondary school level and specifically among elective ICT students. Hence, the need for further study to explore the influence of these variables on ICT students' performance in the Ghanaian context.

### **Statement of Problem**

Entry behaviour as a predictor of students' academic performance has largely been understudied. There is also no doubt that success is cumulative hence students' subsequent performances may be greatly influenced by their previous performances (Roşeanu. & Drugaş, 2011; Aciro et al., 2021; Manganelli et al., 2019). Entry behaviour, especially in Ghana is perceived to be a key factor that influences academic performance. It is generally believed that students who enter the secondary level with good BECE results perform better at their studies than those who enter with poor results. According to Anderson and Bourke (2013), children that exhibit positive entry qualities are more likely to pay attention, persist, and achieve academic excellence across all learning contexts. It therefore, suffices to say that, learners' entry behaviors may be an important predictive factor of students' academic performance.

To the best of the researcher's knowledge, studies on how entry behavior influences academic performance of students at the secondary level are almost non-

existent, particularly in the Ghanaian context. Irvine et al. (2021); Aciro et al. (2021); and Rosalba et al. (2021) all studied entry behaviour and academic achievement. However, all these studies were in other contexts and were conducted at the tertiary level. Aciro et al. (2021) was a review of literature on the subject and the results revealed mixed findings. Kwaah and Palojoki (2018) study was the only study on entry characteristics and academic achievement conducted in the Ghanaian context but it was focused on teachers and not primarily focusing on secondary students which is a gap the study seeks to fill.

Students' motivation is also an important factor perceived to be a predictor of academic performance, motivation is crucial for learners to flourish in any educational setting (Anwer & Saleem, 2018; Kokkinos & Voulgaridou, 2018). Previous studies have shown that students who are not motivated often encounter academic difficulties in their studies. This is because, when students are motivated to learn, they are more likely to adopt appropriate learning strategies and skills to enhance their learning and subsequent performances. (Melesse & Molla, 2018; Rahawarin et al., 2020). Sukor et al. (2017); Alamer and Alrabai (2022) and El-Adl and Alkharusi (2020) found a positive significant association between motivation and academic performance. Therefore, students' performance may greatly depend on their motivation.

In addition, previous studies have established a significant association between students' self-regulation and their performances (Thierry et al., 2016; Harding et al., 2019; Lim et al., 2020; Irvine et al., 2021; El-Adl & Alkharusi, 2020; Kaur et al., 2018; Li et al., 2018; Sahranavard et al., 2018). However, little studies

have considered the association between students' self-regulation and their academic performance in Ghana. It also appears from the researcher's readings that no research has yet studied the influence of students' entry behavior on their academic performance with students' motivation and self-regulation as mediators in the relationship. Irvine et al. (2021) is the only study found that examined entry characteristics, self-regulation and academic performance. It was however conducted in the Australian context at the tertiary level without consideration of learner motivation.

### **Purpose of the Study**

The purpose of the study is to assess the effect of entry behaviour on academic performance, with an emphasis on learner motivation and self-regulation as predicting factors of first year ICT students of the Kibi Technical Institute.

### **Research Objectives**

The specific objectives of the study are to:

1. Assess the effect of entry behaviour on the academic performance of first year ICT students in senior high school.
2. Evaluate the influence of learner motivation on academic performance of first year ICT students in senior high school.
3. Assess the impact of self-regulation on academic performance of first year ICT students in senior high school.
4. Determine the influence of entry behaviour on learner motivation of first year ICT students in senior high school.

5. Analyze the effect of entry behaviour on self-regulation of first year ICT students in senior high school.

### **Research Hypotheses**

From the research objectives, the following hypotheses are formulated to guide the study and aid in the attaining of the study's objectives:

H1<sub>0</sub>: Entry behaviour does not significantly influence academic performance of first year ICT students in senior high school.

H2<sub>0</sub>: Learner motivation does not significantly influence academic performance of first year ICT students in senior high school.

H3<sub>0</sub>: Self-regulation does not significantly influence academic performance of first year ICT students in senior high school.

H4<sub>0</sub>: Entry behaviour does not significantly influence learner motivation of first year ICT students in senior high school.

H5<sub>0</sub>: Entry behaviour does not significantly influence self-regulation of first year ICT students in senior high school.

### **Significance of the Study**

This research is significant because it sheds light on what influences first-year secondary school ICT students. This research adds to existing knowledge of how entry behaviour, students' motivation, self-regulation, and academic success are interconnected. The study's results sheds light on how students' entry behaviours relate with their subsequent academic performance. Such information can help school counsellors, teachers and head teachers to put in appropriate measures and

intensify guidance and counselling services in schools to help the students to further develop their academic performance. For instance, students with low entry behaviours can be supported to improve their performance and those with high entry behaviours can be encouraged not to become complacent to jeopardise their performance.

The results of this research provide some noteworthy implications to the management of academically high schools especially those in the technical schools and the recommendations are also helpful to them on how best to help their students by motivation and teaching of self-regulation skills to enhance their academic performance thus making them very appreciative of their programme. Finally, the study may provide a strong empirical data for further studies on the subject. Researchers may base on the results of this research to advance knowledge in this area to improve students' learning and performance in their respective programmes. Overall, this study is going to be a great contribution for education at the secondary level.

### **Delimitations of the Study**

First of all, this study focuses on entry behaviour on academic performance, with an emphasis on learner motivation and self-regulation as predicting factors of first year ICT students. Although there may be other factors that account for academic performance of first year ICT students, the study focuses on only these three factors. This was important for the attainment of the study's requirements. The study also focuses on only first year elective ICT students. Second- and third-year students were not considered as part of the study's population.

### **Limitations of the Study**

The research will not be able to examine all first-year at the secondary level in Ghana due to time and resource constraints. Specifically, first year elective ICT students in senior high school of Kibi Technical Institute. Due to this, the study's results may not be generalizable to other groups of similar characteristics if the chosen sample is underrepresented. Therefore, generalization of the study results must be done cautiously. The quantitative research approach utilised in this research may also result in the findings of the study being not replicable due to underrepresentation of the target demographic.

### **Organisation of the Study**

The study is broken up into five chapters. The study's background, the problem statement, the study's purpose and objectives, the research questions, and the significance of the research, delimitation, limitations, and study organisation are all covered in Chapter One. The literature on the effects of entry behaviour and motivation on students' academic success is reviewed in Chapter Two. The whole third chapter is devoted to the study's methods, which covers the study's research design, population, sample, and sampling methods, as well as the data gathering tool, procedure, and technique. The examination of data gathered from the research field is covered in the fourth chapter. The last and final chapter looks at the summary of the main findings, conclusion and recommendations for future research.

## CHAPTER TWO

### LITERATURE REVIEW

#### Introduction

The initial section of this chapter discusses the theoretical review which provides context for this research. The next section reviews the various concepts under study and conceptualizes them in line with the objectives which the research seeks to achieve. The chapter then reviews literature that are relevant to the topic under study. It reviews literature in line with the various relationships under study thus providing empirical evidence for the hypotheses formulated in this study. The final part of the chapter addresses a conceptual framework for the research which will function as a guide for the achievement of the study's objectives.

#### Theoretical Review

##### Theory of Motivation

Motivation is defined as “a theoretical construct to explain the commencement, direction, intensity, persistence, and quality of behavior, particularly goal-directed behavior” (Gustiani, 2020). This pertains to the mental and emotional processes of individuals in the context of dynamic interactions between students and their educational environment, taking into account contextual and social factors that may serve as facilitators or constraints (Schuck et al., 2014; Gustiani, 2020; Khan et al. 2019). Often called the "engine of learning," motivation has a significant impact on the how, when, and what of a learner's education (Gustiani, 2020). Motivation is an internal energy shift marked by emotional



arousal and anticipated goal response (Puspitarini & Hanif, 2019). Learners' motivation states determine their efforts, persistence, intensity, and immersion in any given endeavor.

There are two kinds of learning motivation: intrinsic motivation and extrinsic motivation (Puspitarini & Hanif, 2019). The longing to study, the determination to accomplish learning objectives, the impetus to fulfill individual educational requirements which originate from inside the learner are examples of intrinsic motivation. The research of Ryan and Deci (2000) suggests that learners who are intrinsically motivated to learn are more likely to take on difficult assignments, which in turn encourage them to actively seek out and implement effective strategies for enhancing their own knowledge retention and acquisition, while also showing signs of enjoyment, persistence, and originality in their approaches to learning.

Extrinsic motivation, on the other hand, originates from sources external to the student, such as parental pressure, a comfortable teaching environment, engaging class discussions, and enjoyable classmates or teachers. The significance of motivation in the educational process is evidenced by the observation that pupils who possess intrinsic motivation to acquire knowledge and enhance their academic achievements exhibit more substantial progress in both areas (Gopalan et al., 2016; Budiman, 2016). Creating and maintaining academic motivation is crucial because it leads to greater student engagement, persistence, and effort, all of which are necessary for academic performance (Khan et al., 2019). It is clear from the review that learner motivation influences their performance.

## Self-Regulation

Self-regulated is the process through which learners activate and maintain cognitions, actions, and emotions, which are systematically directed toward completion of their objective (Matcha et al., 2019; Zimmerman, 2023). Self-regulation pertains to the extent to which learners engage in the active monitoring of their own learning, encompassing metacognitive, motivational, and behavioural aspects. The process of acquiring academic skills encompasses various components, namely cognitive, metacognitive, motivational, behavioural, and emotional processes (Zheng et al., 2020; Wong et al., 2019; Zheng et al., 2020). SR is an active, constructive process wherein learners create objectives for learning and then strive to monitor, control, and manage their thoughts (Lee et al., 2019). It's a productive procedure whereby students set goals and attempt to keep tabs on and control their own thinking, emotion, and action in the classroom

According to Inzlicht et al. (2021), self-regulation encompasses the different ways in which individuals adjust their ideas and actions in service of a particular purpose. The stages of SRL are the planning, the performance, and the reflection phase. Learners who successfully use self-regulation enter the planning phase with clear objectives and a well-developed strategy. In the performance phase, students actively engage with the material, reflect on their progress and actively seek out guidance as required. The last stage of the learning process is reflection, when students evaluate their own performance and the efficacy of their cognitive approaches (Wong et al., 2019). Self-regulation may take place between a student and a subject, between students, and between students and a teacher (Cho

& Cho, 2017; Lim et al., 2020). Learners who engage in SRL are able to create their own way of learning and choose their own studies outcomes.

### **Entry Behaviour**

The term "entry behaviour" pertains to the pre-existing knowledge, cognitive aptitude, drive, and socio-cultural context of a student prior to commencing a particular academic programme. A clearly delineated educational programme tailored for secondary school students has the potential to elicit a significant transformation in their academic and professional development. Success in secondary education depends on students coming in with the correct mindset and having the necessary academic preparation (Al Shehry & Youssif, 2017). Prerequisite knowledge, are needed before moving on to learn a new subject or concept (Çaliskan, 2014). Interest, attitude, and academic self-concept in relation to a course or the learning units within that course make up a student's affective entry behaviors (Çaliskan, 2014). Students' entry behaviors are frequently defined by their level of achievement and quality in secondary school.

Teachers can evaluate entry behaviours in several ways. Students take a short pre-test before starting a new unit. The pre-test helps teachers detect student's weaknesses. Students can complete a skill inventory before starting a new lesson. The abilities inventory helps teachers detect student skill gaps (Al Shehry & Youssif, 2017). In this current study, entry behaviour is measured using BECE grades obtained by the students that got their admission as first year elective IT students.

## Academic Performance

Academic performance is a measure of how well a student does in school and how proficient they are in school activities (Schwinger et al., 2014). Furthermore, academic performance is a final outcome that illustrates how well one has performed in respect to achieve targeted outcomes that were the focus of efforts made in classroom settings like basic school, high school, and college. The majority of educational systems' cognitive goals are either broad in scope (such as fostering critical thinking) or focused on fostering mastery of a specific body of information. Due to the breadth and inclusiveness of the concept, measures used to assess academic performance are crucial to articulating its meaning.

General indicators of academic performance can be categorised as either general (such as test scores or performance on an instructional test taken) or curricular (such as certificates and degrees earned) or cumulative (such as procedural and declarative knowledge acquired through educational systems) (Binder et al., 2018; Greene, Cartiff & Duke, 2018). Consequently, academic performance has to be seen as a multifaceted term that incorporates a wide range of scholastic competencies. In this study, academic performance is measured using students' scores in the core subject together with elective IT in the first and second term of school.

## Entry behaviour and academic performance

The study reviewed literature on the relationships that exist between entry behaviour and academic performance. First and foremost, a study by Roşeanu and Drugaş (2011) was to determine how well the requirements for entering the

university may predict how well the applicant would do in their studies. The effectiveness of the entrance criterion factors in predicting grades in two very distinct subjects within the psychology education programme was examined using a series of regression analyses (neuropsychology and history of psychology). Based on the data collected, it seems that the high school grade point average is the sole admissions criterion that is successfully predictive of academic performance in both subjects.

Also, Aciro et al. (2021) reviewed research on the correlation between high school grades and subsequent academic performance in college. The purpose of their research was to compile the existing literature on the relationships between high school grades and academic performance in college in order to verify any earlier assertions. The most important results were the fact that 26, 4, and 13 of the 53 publications analyzed, respectively, found positive, negative, and mixed associations between entry grade levels and subsequent academic performance among university freshmen.

Overall, the results showed that there is no consensus on whether students' academic performance in high school is a good predictor of their academic performance in college, highlighting the need for further research in this area. However, as the positive associations found were greater than the negative and mixed associations, it is safe to say that entry behaviour most likely positively affects academic performance than otherwise.

In comparison to the studies conducted by Roşeanu and Drugaş (2011) and Aciro et al. (2021), the current research at Kibi Technical Institute delves into entry

behavior's impact on academic performance among first-year ICT students, specifically focusing on learner motivation and self-regulation as predictive factors. While Roşeanu and Drugaş concentrated on the broader aspects of university entry requirements and their correlation with academic success in psychology courses, their findings highlighted the significance of high school grade point average as a predictor. Aciro et al., on the other hand, conducted a comprehensive review across various regions, revealing mixed associations between high school grades and subsequent academic performance in college. In contrast, the present study narrows its focus to entry behavior, emphasizing the unique context of first-year ICT students and the influence of learner motivation and self-regulation on academic outcomes.

### **Learner motivation and academic performance**

The research by Manganelli et al. (2019) accounted for the impact of prior achievement as they looked at the relationship between intrinsic motivation and the usage of cognitive methods to predict academic performance among college students. Students' academic performance, motivation, and use of cognitive methods were all shown to be affected by their level of prior achievement. A student's academic performance would suffer if his/her motivation is strictly controlled. Overall, their results imply that students who are self-motivated have higher academic outcomes and are more likely to use critical thinking to solve problems.

It is common knowledge that motivated people are effective second language (L2) learners (Alamer & Alrabai, 2022). Researchers in second language

acquisition have followed suit by investigating the ability of several motivational components to predict successful language acquisition. However, this viewpoint seems to disregard accomplishment evaluation as a potential predictor of future motivation. Alamer and Alrabai (2022) initially used the latent growth curve model (LGCM) to analyse the starting points and development trajectories of the two variables to draw conclusions about the likelihood of this scenario. They also used a recently established statistical technique called the random-intercept cross-lagged panel model (RI-CLPM) to investigate the link between the two variables.

In comparison to Manganelli et al.'s (2019) research, the current study at Kibi Technical Institute focuses on the predictors of academic success specifically within the context of first-year ICT students. While Manganelli et al. found that prior achievement influenced students' academic performance, motivation, and use of cognitive methods, the current study delves into the unique context of ICT education, emphasizing the role of learner motivation and self-regulation in predicting academic outcomes. Additionally, Manganelli et al.'s findings highlighted the positive effects of autonomous motivation on critical thinking, reinforcing the importance of self-motivation. Both studies underscore the significance of motivation in academic performance, with the current research offering a specialized perspective within the ICT domain.

### **Self-regulation and academic performance**

The current study reviewed literature on the relationships that exist between self-regulation and academic performance. Despite widespread agreement on the value of motivating learners to have their own strategies for managing their own

learning. Irvine et al. (2020) note that relatively little research has been conducted into the relationships between students' entry characteristics, the self-regulation, and their subsequent academic performance. Academic performance is a key indicator of students' capacity to apply what they have learned; thus, the competences of self-regulation and collaborative learning are particularly crucial. Due to this, Lim et al. (2020) undertook research to examine the effect of Self-Regulated-Learning and peer learning on academic performance. The data revealed that students' social learning capacities greatly affected their use of SRL techniques and had a beneficial impact on their academic performance.

Students' ability to self-regulate and the quality of their learning environments are both being recognized for their potential to influence their academic performance. The term "self-regulated learning" is used to describe the process by which a person monitors and adjusts their own cognitive function before, during, and after a learning session (Li et al., 2018). Li et al. (2018) conducted a meta-analysis to determine the most effective and least effective methods of self-regulated learning for Chinese primary and secondary school students, and they analyzed the crucial stages of this learning process in light of Zimmerman's theory. Overall, the results suggested that the impact of self-regulated learning on students' academic performance in elementary and secondary school in China was positive.

Self-regulation affects academic achievement was examined by Kaur et al. (2018). Self-control was vital to respondents' academic achievement. Harding et al. (2019) claim that self-regulated learners get the most out of education, however



research have found conflicting results. Harding et al. (2019) found that self-regulated learning improves academic performance and reveals grade- or age-related disparities. Kickert et al. (2019) examined how different assessment methods affected students' performance, motivation, and self-regulation in two unique student populations: education and child studies (ECS) and psychology.

Under the ECS policy, students had higher motivation and self-regulation, as measured by minimum grade objectives, performance self-efficacy, task value, time and study environment management, and test anxiety, but not academic self-efficacy, effort regulation, or intended grade goals. Both evaluation techniques showed similar intrinsic motivation-academic performance relationships.

Sahranavard et al. (2018) looked into the relationship between self-regulation and academic achievement among the daughters of police officers in public and Payame Noor schools in Birjand City, Iran. Their study was a cross-sectional correlational analysis. The study concluded that helping kids learn to self-regulate would have a positive influence on their academic performance. As a result, students' academic performance should be built on that foundation in order to improve their academic performance and their ability to self-regulate.

Students' use of self-regulated learning mechanisms, intrinsic motivation, and mathematics performance were all areas of inquiry in the work by El-Adl and Alkharusi (2020). The analysis was conducted using a descriptive strategy. The event included 238 ninth-graders from across the Sultanate of Oman. Questionnaire was used to assess the students' ability to self-regulate their learning and their level of motivation. Academic standing could be gauged by adding together the test

scores in mathematics. Self-regulated learners had greater levels of intrinsic motivation, extrinsic motivation, self-efficacy, and academic success, according to the authors of this study.

The studies by Kaur et al. (2018), Harding et al. (2019), Kickert et al. (2019), Sahranavard et al. (2018), and El-Adl and Alkharusi (2020) all investigate the relationship between self-regulation, motivation, and academic achievement in diverse contexts and populations. In comparison, the current study on first-year ICT students at Kibi Technical Institute introduces the variable of entry behavior alongside learner motivation and self-regulation as predicting factors for academic performance. While sharing a common thread with the previous studies, the uniqueness of the population and variables considered in the current study contributes to a more understanding of factors influencing academic success in this specific context.

### **Entry behaviour and learner motivation**

Also, the study reviewed literature on the relationships that exist between entry behaviour and learner motivation. The first study reviewed noted that the link between motivation and academic accomplishment is bi-directional, such that academic achievement is also a substantial antecedent of academically relevant motivational components such as self-concept and self-efficacy (Schober, Boer & Schwarte, 2018; Suárez, Regueiro, Estévez, del Mar Ferradás, Guisande & Rodríguez, 2019). According to these studies, students' face low academic outcomes as a result of a spiral they face. Students who perform better prior to their

entry into the secondary schools have a high perception of competence. Those who do not perform well have a low sense of competence.

Also, a research by Suárez, Regueiro, Estévez, del Mar Ferradás, Guisande and Rodríguez (2019) was to examine whether or not students' intrinsic motivation toward homework mediates or modifies the link between past accomplishment and the homework engagement factors. The findings revealed that past accomplishment had a significant, although un-moderating, influence on the three factors of homework engagement (time spent, time management, and amount of teacher-assigned homework done) via the mediation of intrinsic motivation. With the motivation arrived at from past accomplishment (pre-entry behaviour), students are more likely to perform better in their studies. They are more inclined to focus better and on all aspects of their studies leading to enhance performance.

A research by Manganelli et al. (2019) accounted for the effect of past accomplishment while investigating the relationship between intrinsic motivation and the use of cognitive methods in forecasting the academic success of undergrads. The results demonstrated that students' motivation and use of cognitive methods were impacted by their past accomplishment. This means that students whose prior performance at the junior high level were good will be highly motivated to perform better at the secondary level while those who perform poorly will be less motivated to perform better.

The research by Rodriguez et al. (2019) and Manganelli et al. (2019) both delve into the impact of past accomplishment on academic performance and motivation. Both studies underscore the influence of prior academic performance

on motivation and engagement. In contrast, the current study on first-year ICT students at Kibi Technical Institute introduces the variable of entry behavior alongside learner motivation and self-regulation as predicting factors for academic performance. While Rodriguez et al. (2019) and Manganelli et al. (2019) focus on the influence of past accomplishment, the current study extends the examination to encompass the impact of entry behavior, providing a more comprehensive understanding of factors influencing academic success in the context of first-year ICT students.

### **Entry behaviour and self-regulation**

The current study reviewed literature on the relationships that exist between entry behaviour and self-regulation. According to Hetherington et al. (2020), the capacity to regulate one's own emotions, conduct, and attention is known as self-regulation. Song et al. (2016) investigated the impact of students' prior knowledge, ability to self-regulate, and level of desire on their success in advanced multimedia learning environments. The results of the structural model indicate that the prior knowledge of medical students positively influences their performance- and goal-oriented learning strategies. The students' capacity for self-regulation had a clear, favorable impact on their final grades. Students with adequate prior knowledge from their former level of education are more likely to have enhanced self-control and organization in their studies at the next level for enhanced performance.

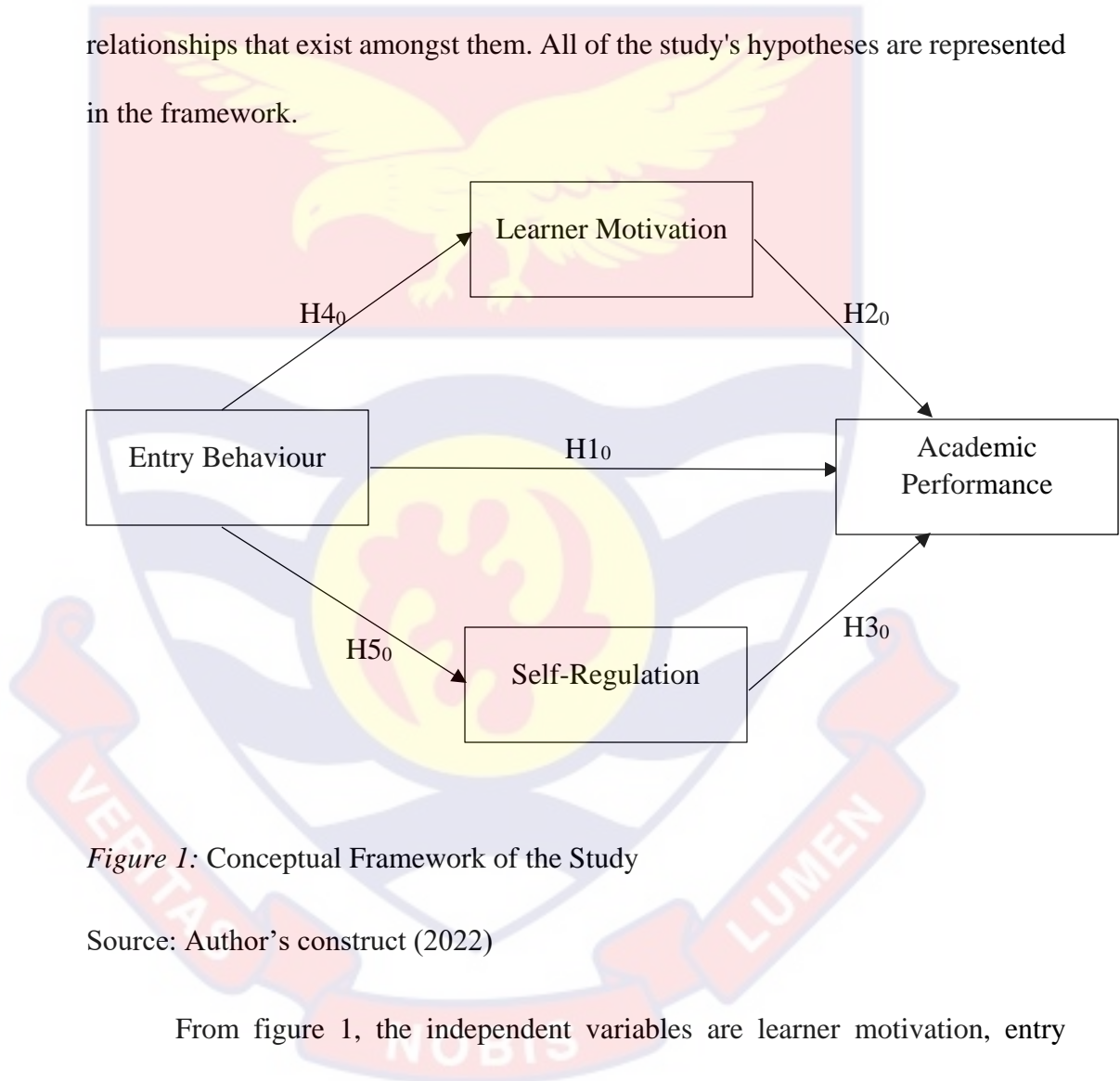
According to Ashaeryanto et al. (2017), effective and efficient learning is thought to be affected by factors such as student entrance criteria, intrinsic drive to learn, and cognitive techniques for doing so. The aim of their research was to

evaluate the effects of the three different admissions criteria used by Halu Oleo University, Kendari, on the academic motivation, study habits, and performance of students registered in the School of Medicine. Students' success was related favorably to their learning styles, levels of intrinsic drive to learn, use of effective study techniques, and overall admissions rates. It can thus be inferred from this study's results that students who pre-entry results are high have a high internal drive to do well in their studies. They are therefore highly self-regulated and organized in their learning which enhanced their academic performance.

Both the study by Ashaeryanto et al. (2017) and the current research on first-year ICT students at Kibi Technical Institute share a focus on factors influencing academic performance, with an emphasis on entry characteristics. Similarly, the current study investigates the impact of entry behavior, learner motivation, and self-regulation on academic performance among first-year ICT students. Both studies acknowledge the importance of entry factors in predicting academic outcomes. However, they differ in the specific variables considered, as Ashaeryanto et al. (2017) focus on admissions criteria, while the current study explores a broader set of predictors. This distinction offers a more comprehensive understanding of the dynamics influencing academic success among first-year ICT students at Kibi Technical Institute compared to the specific context of medical students at Halu Oleo University.

## Conceptual Framework of the Study

Based on the concepts and the review of extant literature on the subject, this section presents a conceptual framework that depicts the research constructs: entry behaviour, self-regulation, learner motivation and academic performance and the relationships that exist amongst them. All of the study's hypotheses are represented in the framework.



*Figure 1:* Conceptual Framework of the Study

Source: Author's construct (2022)

From figure 1, the independent variables are learner motivation, entry behavior and self-regulation while academic performance is the dependent variable. The hypotheses (H1-H5) demonstrate the relationships that exist between the main variables in this model.

## Chapter Summary

This chapter analysed the previous literature that was relevant to the investigation and discussed the theories that underpinned the research. The chapter also explained the various concepts under study in this research and presented a conceptual framework for the study. The paradigm, methods, strategies, and approaches utilized to attain the study's objectives are detailed in the next chapter.



## CHAPTER THREE

### RESEARCH METHODS

#### Introduction

In this chapter, the study's methodologies utilized for this research are detailed in depth. The following is a breakdown of the research methodology: the research paradigm, method, design, study area, and population; the sampling technique; data collection instruments and procedures; data processing, analysis, and ethical considerations.

#### Research Paradigm

A research paradigm is a theoretical framework that explains the motivations and methods behind a specific line of study (Park et al., 2020). The research employed positivism as a result of the study's objectives (Johnson et al., 2018). According to Popovici (2022) and Johnson et al. (2018), positivism is founded on Auguste Comte's work and advocates realism, objectivity, and scientific interpretations. Quantification and statistical analysis and interpretation are fundamental to the positivist perspective.

The central tenet of positivist empiricism is that everything verifiable by human senses must be true, which entails the presence of an objective world reality subject to universal rules and processes (Majeed, 2019). Quantification and statistical interpretation and analysis are key to the positivist worldview. According to Park et al. (2020), positivism in research involves the use of procedures that build



and explain relationships between variables. Positivism's emphasis on impartiality and avoiding the researcher's prejudices is one of its many excellent characteristics.

Positivism has the ability to produce repeated, widely applicable results (Shah et al., 2018). However, it does have its detractors. Positivism is a philosophy based on deductive reasoning and intimately linked to hypotheses that validate or reject theoretical assertions (Behfar & Okhuysen, 2018).

### **Research Approach**

The method utilised to collect adequate data for scientific investigation is known as the research approach (Pandey & Pandey, 2021). The suitable methodology for conducting this study is determined by its research objectives (Dźwigoł & Dźwigoł-Barosz, 2018). This study utilised a quantitative methodology. Ability to collect adequate data for evaluating and comprehending numerical results from quantitative research methods is a crucial factor when selecting a research method (Abutabenjeh & Jaradat, 2018). Given the study's objective, research premise, and research questions, a quantitative technique is preferable over a qualitative one.

The objective of this research was to analyze the association among learner motivation, entry behavior, self-regulation and performance of first year elective IT students; hence, a quantitative technique was employed. This is due to the fact that quantitative approaches emphasize the use of statistics to analyse correlations and causation (Deeks et al., 2019). This study employed a quantitative methodology, allowing for a more objective assessment of the findings. Since the

quantitative strategy encourages the use of traditional statistical procedures, such as descriptive statistics and regression, this method has also gained popularity. This research technique was conducted to gain a deeper understanding of the issue at hand.

### **Research Design**

Depending on the applied approach, a suitable study or research design might be determined (Creswell, 2014). Creswell (2014) recognises qualitative, quantitative, and mixed research methods as the three most prevalent methods. Analyzing the relationship between learner motivation, entry behaviour, self-regulation and performance of first year elective IT students required the use of quantitative approaches and objective data. Since this was a quantitative investigation, an explanatory research design was used. The explanatory design provides scientists more control over their experiments (Sharma et al., 2022). When one has a complete comprehension of a topic, as supplied by the explanatory framework, it is simpler to generalise outcomes (Creswell, 2014).

An explanatory design was utilised to gather information from a geographically diversified sample of respondents utilising structured questionnaires. The design is functional for collecting data from the numerous students. This method likewise uses statistical instruments and considerable numerical data to examine the relationship between factors and their consequences. This methodology was selected because it establishes links between effects of learner motivation, entry behaviour, self-regulation on performance of first year elective ICT students. A variety of flaws in the study's explanatory design could

have influenced the study's conclusions (Robson et al., 2015; Wildemuth, 2016). Wildemuth (2016) notes that this methodology may provide biased findings since it depends on respondents' subjective impressions and judgements. This may impact the objectivity of the findings (Creswell & Creswell, 2017).

### **Study Area**

The research was carried out in the Kibi Technical Institute of Ghana. Kibi Technical Institute is in the Eastern Region of Ghana in the town of Kibi. The institute was founded in September 1978 with programmes such as carpentry and masonry. The institute later added other programmes such as general electricals, motor vehicle mechanics, computer hardware, etc. Kibi as a Technical Institute, was selected for this research as most of the other secondary schools in Ghana seldom have elective ICT as an option for students. This therefore makes this study area appropriate for the achievement of the study objectives.

### **Population**

Every investigation is predicated on a topic that collects data from which the study is developed. The elements or individuals of a study that have comparable properties or characteristics make up the population, as defined by (Mohajan, 2018). According to Wang et al. (2020), population is any collection of individuals or items with comparable qualities from which a sample is taken. The population, as defined by Stratton (2021), is the entire set of events from which a representative sample is drawn. Based on the above descriptions, the study's population comprises all first-year students of the Kibi Technical Institute of Ghana. The inclusion criteria

are from one (1) students who are doing ICT elective subjects. All others who do not take this subject as an elective are excluded from the study's population. Kibi Technical Institute of Ghana has one hundred and forty-four (144) form one ICT students as at 2022/2023 academic year (Field data, 2023 – School Administration).

### **Sampling Procedure and Sample Size**

Sampling is a method for generalising from information gathered about a subset of a population to that of the entire population (Rahi, 2017). Probability sampling and non-probability sampling are the two most used approaches to studying populations. It is hard to accurately estimate the probability of selection when using a probability sampling technique like this one (Rahi, 2017). When using a non-probability sampling method, it is impossible to get an accurate estimate of the likelihood of selection because some affiliates of the population have no possibility of being chosen at all (Omeihe, 2021). This research utilised a non-probability sampling method. Examples of non-probability sampling methods include quota sampling, self-selection, snowball sampling, and purposive sampling (Berndt, 2020).

Participants were selected for this research using a non-probability purposive sampling strategy. Studies frequently employ a non-probability sampling strategy called purposeful sampling (sometimes called judgemental or selective sampling) (Pace, 2021). It involves selecting participants who are specifically chosen because they meet the study's inclusion criteria and can provide rich and relevant information to present the research questions. This approach helped the researcher to concentrate on specific subgroups that are most

likely to provide valuable insights, rather than randomly selecting participants who may not be relevant or knowledgeable about the topic being studied (Yin, 2014). According to Yin, it is also used in cases where the population of interest is small, and it would be challenging to obtain a representative sample using probability sampling techniques. However, as purposive sampling depends on the researcher's decision and selection, it is subject to researcher bias, which can limit the generalizability of the findings.

Statistical methods are utilised by certain quantitative researchers to identify the “proper” sample size (Lakens, 2022). This is founded on the idea that the sample size may be computed scientifically if precise data is supplied in a way that minimises, accepts, or anticipates sampling errors. Lakens (2022) claims that statisticians and social scientists utilise a variety of sophisticated methods to calculate sample size. A primary data collection tool was utilised to obtain information from 100 respondents from first-year ICT students at Kibi Technical Institute using purposive sampling technique. The research reached these students to fill out the questionnaires using a purposive sampling technique.

#### **Data collection instruments**

The research utilised both primary and secondary data for the purpose of data analysis. Secondary data was collected by means of documented information, i.e., BECE and test results. For the collection of primary data, the questionnaire was employed. A questionnaire is a research instrument that consists of a series of questions and other signals to collect data from respondents (Stockemer, Stockemer & Glaeser, 2019). This data collection instrument has a number of

questions, which may be closed-ended or open-ended, requesting respondents to offer a short description of the present population's behavior, circumstances, or characteristics throughout a specified time frame (Dalati & Marx Gómez, 2018; Borgobello, Pierella & Pozzo, 2019).

The researcher chose closed-ended questions because they are easy to ask, do not demand a long response from the respondent, and their findings are simple to interpret and evaluate. Likert scale options ranging from strongly disagree to strongly agree i.e., 1 – 5, are used in the design of the questionnaire. The questionnaire (see appendix A) has three sections in all: A, B and C. Section A comprises questions on the socio-demographical characteristics of the study's participants, Section B comprises questions on learner motivation and Section C has questions on self-regulation skills of study participants.

The study pilot tested the questionnaire to make sure it was comprehensive enough to capture the data needed. Pilot testing is a small-scale study to test a research tool or solution (Story & Tait, 2019). Researchers can find and fix issues before using the study design. Pilot testing improves study methodology and data quality. The questionnaire items were derived from earlier studies. My supervisor, his colleagues, and experts in the subject of study subsequently evaluated it. These were done to guarantee the questionnaire items measure what they're supposed to. A mini-test was conducted among fifty (50) students in the Fashion and Design Technology department at Kibi Technical High School, and their feedback was incorporated into the questionnaire.

The study examines four main variables which are entry behaviour, learner motivation, self-regulation and academic performance. The measurement of these variables in this study is outlined below. For entry behaviour the grading system or score was used. The grading system ranges from 1-9, where 1 is graded as highest, 2 is graded as higher, 3 is graded as high, 4 is graded as high average, 5 is graded as average, 6 is graded as low average, 7 is graded as low, 8 is graded as lower and 9 is graded as lowest.

For the section B of the questionnaire, learner motivation consisted of twenty items adapted from Alivernini and Lucidi (2008), and Utvær and Haugan (2016). The motivation scale came in five (5) categories: Amotivation, External Regulation, Introjected Regulation, Identified Regulation, Intrinsic Regulation. They included items like: I truly don't know what to say; I feel like school is a waste of time; although I formerly had strong motivation to complete my education; I am now unsure whether I should do so; honestly, I don't know what I'm doing here and I couldn't care less about finishing school etc.

Section C of the questionnaire, which was self-regulation was measured using seventeen (17) indicators adapted from Erdogan and Senemoglu (2016). The instrument is sub divided into 4 categories: before study, during study, after study, and motivation. These include questions like: I usually study where I can pay attention; I write my list of things to do each week in my notebook; When I know our teacher will check them, I do my homework etc.

The independent variable, entry behaviour was measured using the results (BECE result) the students brought in whereas academic performance, which is the

dependent variable was measured using the first and second term results of the students after they enrolled on the programme.

### **Validity and Reliability**

The researchers, based their study's approach on rigorous research designs that are comparable to those employed in earlier studies to ensure the accuracy of the findings and the validity of the conclusions generated from the data. The research instrument that was used to gather data in the research was also evaluated, both by the supervisor and by other independent professionals who have extensive understanding on the topic area and the study itself. In addition, Cronbach's Alpha was estimated to evaluate the questionnaire items' internal consistency (Johnson & Christensen, 2019). The purpose of doing this was to satisfy the questionnaire's requirements.

Cronbach's Alpha is a statistical measure that evaluates the internal consistency of a questionnaire by looking at the degree to which individual items are correlated with one another and with the overall test. This method assesses the degree to which each item on the questionnaire links not only to the entire test but also to the other items on the questionnaire in order to identify the internal consistency of the questionnaire (Sürücü & Maslakçi, 2020). The Cronbach alpha coefficient was utilised to determine the reliability of the questionnaire (Johnson & Christensen, 2019; Cohen et al., 2018). The Cronbach alpha value for each of the 49 variables in this study was 0.862, which is higher than the suggested minimum value of 0.70. Thus, the reliability of the study was confirmed. Furthermore, this



demonstration suggests that the measures utilized in this study were reliable and valid enough to allow testing of the hypothesis.

### **Data processing and analysis**

The processing and analysis of obtained data include transforming the data into usable information and reports that aid in the formulation of policies and decisions (Cohen et al., 2018). By applying descriptive and inferential statistics, the study was able to narrow down the data. According to Bergin (2018), the purpose of descriptive statistics is to classify and summarise data based on the characteristics of the respondents. Inferential statistics aids the study to draw inferences about the total population based on sample data. The study estimated both descriptive and inferential statistics using version IBM SPSS version 26.

Descriptive and inferential statistics were employed to examine the data. Also, to present the findings, frequencies, percentages, means, standard deviations, regression analysis, and correlation tables were used. These analytical approaches were chosen because they were suitable for the study's objectives and the variables to be analysed. Validity and reliability tests were conducted using Cronbach alpha. The main reason for checking the validity and reliability of the study's data is to ensure that the data accurately represents the phenomenon being studied and that the findings are consistent and trustworthy. This enhances the credibility and generalizability of the study's results.

The sections in the questionnaire (Appendix A) was assessed as follows. Section A which was on demographics were analysed using frequencies and

percentages. Also, section B and section C together with the BECE and end-of-term grade of the students was analysed using mean, standard deviations, correlation and regression. The analysis was based on the objectives of the study. The main study's variables were evaluated utilising descriptive statistics as well as correlation and regression analysis. The data was discussed in the form of tables and figures, with frequencies, percentages, means, and standard deviations clearly displayed. The specific objectives of the research and the variables utilised in the analysis guided the selection of these analytic techniques. Some of the most fundamental assumptions of statistical techniques are large sample size (>30) and properly distributed data (Creswell, 2014).

### **Ethical Clearance**

Ethical clearance is an essential component of conducting research involving human participants. Ethical clearance's fundamental purpose is to guarantee that research subjects' rights and welfare will be safeguarded and that the study will be done in a fair and honest way (Brown, Spiro, & Quinton, 2020). Respondents' complete and honest involvement was ensured by briefing them about the study's purpose and promising to keep their identities and responses private. The respondent's identity and other identifying information were excluded from the survey to protect their privacy.

### **Chapter Summary**

This chapter covers the research methodologies employed to achieve the study's objectives. The chapter provides an in-depth discussion of the study's methodology, design, area of study, population, sampling approach, data collection

tool, data gathering techniques, data processing, and analyses. Both descriptive and inferential statistical methodologies have been used to assess the data processed using the IBM SPSS v26 software. In conclusion, the assumptions behind the use of statistical methods were discussed.



## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### Introduction

This chapter discussed both the analysis of the study's data and its findings. This analysis was done based on the data gathered through questionnaires, students' entry results and end of term results. The subsequent sections of this chapter cover various topics, such as the socio-demographic features of the participants, descriptive statistics of the components of student entry behaviour, learner motivation, self-regulation, and academic performance. Additionally, the researcher examined the normality tests of the variables and the relationships between student entry behaviour, learner motivation, self-regulation, and academic performance. The study also explored how the entry behaviour of students, learner motivation, and self-regulation affect academic performance in elective ICT. Finally, the researcher presented discussion of the results.

#### Socio-Demographic Characteristics of Respondents

This research section focuses on the analysis of demographic information gathered from the respondents, and presents the results of this analysis. The research requested demographic data, such as gender, age, and programme of study. The results and analyses of these demographic characteristics are presented in Table 1.

**Table 1: Socio-Demographic Characteristics of Respondents**

Variables	Frequency	Percent (%)
Sample Size	100	100.0
<b>Sex</b>		
Male	48	48.0
Female	52	52.0
<b>Age</b>		
Below 18	36	36.0
18-20years	47	47.0
21-23years	14	14.0
Above 23years	3	3.0

Source: Field survey, Weyage (2023)

Table 1 presents the socio-demographic characteristics of the sample population for the elective ICT students and the study used frequency and percentage to analyzed each variable. The sample size was 100 participants, and their demographic information was gathered for analysis.

Under the "Sex" variable, 48 respondents were male, while 52 were female, representing 48.0% and 52.0% of the sample, respectively. For the "Age" variable, the largest group of respondents fell within the 18-20 years age range, with 47 respondents, representing 47.0% of the sample. 36 respondents were below 18 years old, making up 36.0% of the sample. Very few participants, 3.0%, were above 23 years old. Finally, all 100 respondents were enrolled in the Information Communication and Technology programme of study, making up 100% of the sample for this variable.

### Normality (Skewness and Kurtosis) of the main construct

Normality is defined as the distribution of data in a sample or population, and it is an essential assumption in many statistical analyses. A normal distribution is characterized by a symmetrical bell-shaped curve, where the value of the median, mean, and mode are all the same. In research, determining whether data is normally distributed is important because many statistical tests assume normality. One way to assess normality is to examine the skewness and kurtosis of the data. The skewness statistic reflects the degree of asymmetry in the distribution, whereas the kurtosis statistic measures the peakiness or flatness of the distribution.

In this study, skewness and kurtosis were utilised to evaluate the normality of the data. Specifically, the data were considered normally distributed if the skewness and kurtosis values were between  $\pm 2.0$ , as recommended by George and Mallery (2019). If the values fall outside this range, it suggests that the data is not normally distributed and may require further analysis or transformation. Thus, ensuring that data have a normal distribution is essential for undertaking accurate and valid statistical analyses. According to Table 2, the ranges for skewness and kurtosis were between -0.012 and 0.021 and between -0.560 and -0.989, respectively.

**Table 2: Test for Normality (Skewness and Kurtosis)**

Construct	Skewness	Kurtosis
Entry Behaviour	-0.012	-0.560
Learner Motivation	-0.210	-0.989
Self-Regulation	-0.368	-0.496
Academic Performance	0.021	-0.376

Source: Field survey, Weyage (2023)

### **Descriptive Statistics of the Main Construct**

Descriptive statistics refer to statistical methods that are used to summarize and describe information about a sample (George & Mallery, 2018). The research used mean and standard deviation to describe the data. The main variables are entry behaviour, learner motivation, self-regulation, and academic performance. Specifically, mean and standard deviation were utilised to statistically characterize the study's data. Table 3-7 present information on the descriptive statistics of the data.

#### **Entry Behaviour**

Entry behaviour refers to the academic performance of students before entering a programme of study (Francis & Babu, 2019). In this study, BECE grades were used as a measure of entry behaviour to assess the academic background of students before enrolling in the elective ICT programme. BECE is a standardized test taken by final-year students in Ghanaian junior high schools. It is administered by the West African Examinations Council (WAEC). The grade is between 1 and

9, where 1 represents the highest and 9 represents the lowest. The BECE grades were analyzed for five subjects, including mathematics, social studies, integrated science, English, and ICT. The results are addressed in the Table 3.

**Table 3: Entry Behaviour - BECE Results**

Indicator	Mean	Std. Deviation
Mathematics	4.9	0.9
Integrated Science	5.6	1.5
English	6.1	1.6
Social Studies	6.0	1.6
ICT	5.7	1.6

Source: Field survey, Weyage (2023)

Table 3 discusses the descriptive statistics for the academic performance of students in five subjects: Integrated Science, Mathematics, English, Social Studies, and ICT. The mean values for the subjects vary from 4.9 in Mathematics to 6.1 in English, while the standard deviation ranges from 0.9 in Mathematics to 1.6 in English. Overall, the table presents a summary of the performance of students in the five subjects, giving insight into the variability and distribution of scores. For mathematics the respondents had a mean of 4.9 which is classified as an average grade. For the rest of the subject, the respondents had mean ranging from 5.6 – 6.1 which is classified as low average.

### Academic Performance

Academic performance is a measure of how well a student does in school and how proficient they are in school activities (Schwinger et al., 2014). In this study, terminal results were utilised as a measure of academic performance. First



and second term results were used. The grading system is similar to the BECE grading system. It is between 1 and 9, where 1 represents the highest and 9 represents the lowest. The results are addressed in the table 4.

**Table 4: Academic Performance – Terminal Results**

Indicator	Mean	Std. Deviation
AP1 Mathematics	4.5	1.2
AP1 Integrated Science	5.7	1.1
AP1 English	6.3	1.6
AP1 Social Studies	5.3	1.3
AP1 ICT	5.7	1.3
AP2 Mathematics	5.4	1.4
AP2 Integrated Science	5.9	1.1
AP2 English	5.9	1.6
AP2 Social Studies	4.5	1.2
AP2 ICT	5.1	1.3

Source: Field survey, Weyage (2023)

Table 4 presents the descriptive statistics for the academic performance of students in five subjects: Integrated Science, Mathematics, English, Social Studies, and ICT. The mean scores for all the subjects for first term vary from 4.5 to 6.3, while the standard deviation ranges from 1.1 to 1.6. The mean scores for all the subjects for second term vary from 4.5 to 5.9, while the standard deviation ranges from 1.1 to 1.6.

## Main Constructs

The study used mean of means together with standard deviation to assess the four main variables: Entry Behaviour, Learner Motivation, Self-Regulation, and Academic Performance (George & Mallery, 2019). The results are presented in Table 5.

**Table 5: Descriptive Statistics of the main construct**

Indicator	Mean	Std. Deviation
Entry Behaviour	5.7	1.5
Learner Motivation	3.2	1.4
Self-Regulation	3.4	1.3
Academic Performance	5.4	1.3

Source: Field survey (2023)

The table 5 discusses the descriptive statistics of the main constructs, “Entry Behaviour, Academic performance, Self-Regulation, Learner Motivation”. From the table, it is shown that the indicator with the highest mean is “Entry behaviour”. It has a mean of 5.0 and a SD of 1.5. The variable with the second highest mean is “Academic performance”. It has a mean of 5.4 and a SD of 1.3. The variable with the third highest mean is “Self-regulation”. It has a mean of 3.4 and a SD of 1.3. The variable with the lowest mean is “Learner motivation”. It has a mean of 3.2 and a SD of 1.4.

## Relationship among the Main Constructs

This section presents the association between the main constructs that were studied. To determine the relationships among the main constructs, the Pearson correlation coefficient was used with two-tailed test for significance. The

relationship was between these variables: Entry Behaviour (1), Learner Motivation (3), Self-Regulation (4), and Academic Performance (2). The results are shown in Table 6.

**Table 6: Assess the relationships among the main constructs.**

Construct	(1)	(2)	(3)	(4)
(1) Entry Behaviour	1			
(2) Academic Performance	0.118	1		
(3) Learner Motivation	0.009	0.134	1	
(4) Self-Regulations	-0.097	0.270**	0.134	1

\*\* . sig at 0.05 level (2-tailed)

Source: Field survey, Weyage (2023)

From table 6, Entry Behaviour has positive insignificant relationship with Academic Performance with coefficient estimate of 0.118 ( $p < 0.05$ ) suggesting a weak relationship. There is positive insignificant relationship between Learner Motivation and Academic Performance with coefficient estimate of 0.134 ( $p < 0.05$ ) suggesting a weak relationship. Again, Self-Regulations has positive significant relationship with Academic Performance with coefficient estimate of 0.270 ( $p < 0.05$ ) suggesting a weak relationship.

### Assessment of model 1

The section provides analysis on the effects of entry behaviour, learner motivation and self-regulation on academic performance which is linked to the hypotheses and the objectives 1-3. Linear multiple regression was used to evaluate

this study by assessing the effects of entry behaviour, learner motivation and self-regulation on academic performance. Analysis to confirm linearity, normality, multicollinearity and homoscedasticity were not violated.

The study used three tables to explain the regression analysis: model summary, ANOVA and coefficient, the independent variable was represented by Entry Behaviour, Learner Motivation, Self-Regulation and the dependent variable was Academic Performance.

**Table 7: Model Summary 1**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.321a	.103	.075	5.08982

Predictors: (Constant), Entry Behaviour, Learner Motivation, Self-Regulation.

Source: Field survey, Weyage (2023)

The outcomes are shown in table 7, which also includes the standard error of the mean, the adjusted R square, and the R square - determination coefficient. According to Chicco et al (2018), the coefficient of determination reflects a variation by the independent variable. The Pearson coefficient of correlation (R), shows how the dependent variable (Academic Performance) is linked to independent variables Entry Behaviour, Learner Motivation, Self-Regulation. The Adjusted R square score of 0.075 and the R<sup>2</sup> value of 0.103 shows that independent factors account for approximately 10.3% of the variation in academic performance. This value suggests that external factors account for 89.7% of the variation in the dependent variable. As a general rule of thumb, R<sup>2</sup> values of 0.75, 0.50, or 0.25 for

dependent variables might be categorised as significant, moderate, or poor in social research (Hair et al., 2011; Henseler et al, 2009). Thus, entry behaviour, learner motivation, self-regulation has a poor impact on academic performance.

R stands for the Pearson correlation coefficient in this model. An R value of 0.321 indicates a substantial correlation between entry behaviour, learner motivation, self-regulation, and academic performance. When it comes to interpreting correlation coefficients, Cohen (1988) recommends the following guidelines: minor correlation coefficients ( $r = .10-.29$  or  $-.10$  to  $-.29$ ), medium correlation coefficients ( $r = .30-.49$  or  $-.30$  to  $-.4.9$ ), large correlation coefficients ( $r = .50-1.0$  or  $-.50$  to  $-1.0$ ). A moderate positive significant correlation between entry behaviour, learner motivation, self-regulation and academic performance may be drawn from Cohen's (1988) criterion. Entry behaviour, learner motivation, self-regulation, therefore, are urged to continually increase academic performance of students. As seen in Table 10, there is statistical significance to the regression model.

**Table 8: ANOVA<sup>a</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	286.039	3	95.346	3.680	.015b
	Residual	2487.001	96	25.906		
	Total	2773.040	99			

a. Dependent Variable: Academic Performance

b. Independent variables: (Constant), Entry Behaviour, Learner Motivation, Self-Regulation.

Source: Field survey, Weyage (2023)

The analysis of variance (ANOVA) findings shown in Table 8 reveal a statistically significant value of  $p = 0.015$  along with an F-stat figure of 3.680. For social science research, Chicco et al. (2018) assert that a significant level of less than or equal to 0.05 is required. If this condition is met, it means that the independent variable is capable of adequately explaining the variance in the dependent variable. The results of this research show that the value is much lower than .05 ( $p=0.015$ ). As a result, it is possible to conclude that the R and  $R^2$  between entry behaviour, self-regulation, learner motivation, and academic performance are significant, and therefore entry behaviour, learner motivation, self-regulation could have a significant influence on academic performance.

**The effect of entry behaviour, learner motivation, self-regulation on academic performance.**

**Table 9: Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	29.740	4.327		6.872	.000
	Entry Behaviour	.174	.118	.144	1.479	.143

Learner	.029	.029	.096	.987	.326
Motivation					
Self-Regulations	.136	.049	.271	2.766	.007

Dependent Variable: Academic Performance

\*p-value significant at < 0.05

Source: Field survey, Weyage (2023)

The information presented in Table 9 was essential for gaining an understanding of the regression equation and the research hypotheses. There is a positive but insignificant effect of entry behaviour on academic performance ( $\beta = 0.174$ ,  $t = 1.479$ ,  $p = 0.143$ ). Also, academic performance was revealed to be positively but insignificantly influenced by learner motivation ( $\beta = 0.029$ ,  $t = 0.987$ ,  $p = 0.326$ ). Therefore, the study fails to reject the null hypothesis formulated for this relationship. Table 9 demonstrates that there is a positive significant effect of self-regulation on academic performance ( $\beta = 0.136$ ,  $t = 2.766$ ,  $p = 0.007$ ), as shown by the statistical analysis. As a result, the study rejects the null hypothesis proposed for this relationship.

The information needed for the regression equation may be found in the table of coefficients. The column labelled "unstandardized coefficient" and the sub-column B contain the value for the intercept (a) in the regression equation. Look at the numerical value for the first row that is marked "constant" to find this value. The numerical value in the second row, which is designated as entry behaviour (EB), learner motivation (LM), and self-regulation (SR), represents the slope (b) of the regression equation. This row contains the variables that are being analysed.

These results led to the following regression equation, which predicts academic performance depending on entry behaviour, learner motivation, self-regulation.

$$Y(\text{AP}) = 29.740 + 0.174X_1(\text{EB}) + 0.029X_2(\text{LM}) + 0.136X_3(\text{SR})$$

Based on the slope and intercept values in the resulting regression equation, several adjustments can be made: academic performance improves by 129.74 percent when there is no entry behaviour, learner motivation and self-regulation, according to the intercept; however, if there is entry behaviour, self-regulation and learner motivation, academic performance increases in addition by 17.4, 13.6 and 2.9 percent respectively.

### Assessment of model 2

The second model is linked to the fourth hypothesis and objective that determine the influence of entry behaviour on learner motivation of first year ICT students in senior high school. The research used regression to assess the influence of entry behaviour on learner motivation. The subsequent sub-sections present the results. Three tables were used to explain regression analysis: model summary, ANOVA, and coefficient. Entry behaviour served as the independent variable, and learner motivation served as the dependent variable.

**Table 10: Model Summary 2**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.024a	.001	-.010	17.60365

Source: Field survey, Weyage (2023)



Predictors: (Constant), Entry Behaviour.

The Table 10 results include the R correlation coefficient, R square determination coefficient, modified R square, and standard error of the mean. According to Chicco et al (2018), the coefficient of determination reflects a variation by the independent variable. The Pearson coefficient of correlation (R), shows how the dependent variable (Learner Motivation) is linked to independent variable entry behaviour. The Adjusted R square score of -.010 and the R<sup>2</sup> score of 0.001 shows that independent factors account for approximately 0.1% of the variation in learner motivation. This score suggests that other factors account for 99.9% of the variation in the dependent variable. As a general rule of thumb, R<sup>2</sup> values of 0.75, 0.50, or 0.25 for dependent variables might be categorised as significant, moderate, or poor in social research (Hair et al., 2011; Henseler et al, 2009). Thus, entry behaviour has a poor impact on learner motivation.

R stands for the Pearson correlation coefficient in this model. An insignificant association between entry behaviour and learner motivation is shown by R value of 0.024. When it comes to interpreting correlation coefficients, Cohen (1988) recommends the following guidelines: minor correlation coefficients ( $r = .10-.29$  or  $-.10$  to  $-.29$ ), medium correlation coefficients ( $r = .30-.49$  or  $-.30$  to  $-.49$ ), large correlation coefficients ( $r = .50-1.0$  or  $-.50$  to  $-1.0$ ). A poor positive insignificant link between entry behaviour and learner motivation may be drawn from Cohen's (1988) criterion. Entry behaviour, therefore, does not impact learner motivation of students. As seen in Table 10, the regression model is statistically insignificant.

**Table 11: ANOVA<sup>a</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
2	Regression	17.922	1	17.922	.058	.810b
	Residual	30369.068	98	309.888		
	Total	30386.990	99			

a. Dependent Variable: Learner Motivation

b. Independent variable: (Constant), Entry Behaviour.

Source: Field survey, Weyage (2023)

The analysis of variance (ANOVA) findings shown in Table 11 reveals a statistically insignificant value of  $p = 0.810$  along with an F-stat value of 0.058. For social science research, Chicco et al. (2018) assert that a significant level of less than or equal to 0.05 is required. If this condition is met, it means that the independent variable is capable of adequately explaining the variance in the dependent variable. The results of this research show that the value is much higher than 0.05 ( $p=0.810$ ). As a result, it is impossible to conclude that the R and  $R^2$  between entry behaviour and learner motivation are considerable, and therefore entry behaviour does not impact learner motivation.

**The effect of entry behaviour on learner motivation.**

**Table 12: Coefficients<sup>a</sup>**

Model		Unstandardized		Standardized		Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta	t	
2	(Constant)	62.316	9.210		6.766	.000
	Entry Behaviour	.077	.319	.024	.240	.810

Dependent Variable: Learner Motivation

\*p-value significant at < 0.05

Source: Field survey, Weyage (2023)

The information presented in Table 12 was essential for gaining an understanding of the regression equation and conducting an analysis of the research hypotheses. There is a positive but insignificant effect of entry behaviour on learner motivation ( $\beta = 0.077$ ,  $t = 0.240$ ,  $p = 0.810$ ). Therefore, the study fails to reject the null hypothesis formulated for this relationship.

**Assessment of model 3**

The third model is linked to the fifth hypothesis and objective that determine the influence of entry behaviour on self-regulation of first year ICT students in senior high school. The research used regression to assess the influence of entry behaviour on self-regulation. The regression analysis was presented through the utilisation of three tables, namely the model summary, ANOVA, and coefficient.

Entry behaviour was the independent variable while self-regulation was the dependent variable. The subsequent sub-sections present the outputs.

**Table 13: Model Summary 3**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	.105a	.011	.001	10.56380

Source: Field survey, Weyage (2023)

Predictors: (Constant), Entry Behaviour.

Table 13 displays the R correlation coefficient, R square determination coefficient, modified R square, and default value. According to Chicco et al (2018), the coefficient of determination reflects a variation by the independent variable. The Pearson coefficient of correlation (R), shows how the dependent variable (Self-Regulation) is linked to independent variable Entry Behaviour. The Adjusted R square score of .001 and the R<sup>2</sup> score of 0.011 shows that independent factors account for approximately 1.1% of the variation in self-regulation. This score suggests that external factors account for 98.9% of the variation in the dependent variable. As a general rule of thumb, R<sup>2</sup> values of 0.75, 0.50, or 0.25 for dependent variables might be categorised as significant, moderate, or poor in social research (Hair et al., 2011; Henseler et al, 2009). Thus, entry behaviour has an insignificant impact on self-regulation.

R stands for the Pearson correlation coefficient in this model. An insignificant association between entry behaviour and self-regulation is shown by

R value of 0.105. When it comes to interpreting correlation coefficients, Cohen (1988) recommends the following guidelines: minor correlation coefficients ( $r = .10-.29$  or  $-.10$  to  $-.29$ ), medium correlation coefficients ( $r = .30-.49$  or  $-.30$  to  $-.49$ ), large correlation coefficients ( $r = .50-1.0$  or  $-.50$  to  $-1.0$ ). A poor positive insignificant link between entry behaviour and self-regulation may be drawn from Cohen's (1988) criterion. Entry behaviour, therefore, does not impact self-regulation of students. Table 13 shows that, the regression model is statistically insignificant.

**Table 14: ANOVA<sup>a</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
3	Regression	122.763	1	122.763	1.100	.297b
	Residual	10936.197	98	111.594		
	Total	11058.960	99			

a. Dependent Variable: Self-Regulation

b. Independent variable: (Constant), Entry Behaviour.

Source: Field survey, Weyage (2023)

The analysis of variance (ANOVA) findings shown in Table 14 reveal a statistically insignificant value of  $p = .297$  along with an F-stat value of 1.100. According to Chicco et al (2018), For social science research, a significant level of less than or equal to .05 is required. If this condition is met, it means that the independent variable is capable of adequately explaining the variance in the dependent variable. The results of this research show that the figure is much higher

than .05 ( $p=0.297$ ). As a result, it is impossible to conclude that the R and  $R^2$  between entry behaviour and self-regulation are considerable, and therefore entry behaviour does not have significant effect on self-regulation.

**The effect of entry behaviour on self-regulation.**

**Table 15: Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	63.210	5.527		11.437	.000
	Entry Behaviour	-0.201	0.192	-0.105	-1.049	.297

Dependent Variable: Self-Regulation

\*p-value significant at  $< 0.05$

Source: Field survey, Weyage (2023)

Table 15 provided crucial information for understanding the regression equation and the research hypothesis. There is a negative and insignificant effect of entry behaviour on self-regulation ( $\beta = -0.201$ ,  $t = -1.049$ ,  $p = 0.297$ ). Therefore, the study fails to reject the null hypothesis formulated for this relationship.

**Summary of Hypothesis**

A summary of the conclusions from the tested hypotheses is shown in table 16.

**Table 16: Results of regression and hypothesis testing**

Hypothesis	Relationship	Unstandardized Coefficients (B)	t-stat	Sig.	Results
H1 <sub>0</sub>	Entry Behaviour -> Academic Performance	0.174	1.479	0.143	Fail to reject
H2 <sub>0</sub>	Learner Motivation -> Academic Performance	0.029	0.987	0.326	Fail to reject
H3 <sub>0</sub>	Self-Regulations -> Academic Performance	0.136*	2.766	0.007	Reject
H4 <sub>0</sub>	Entry Behaviour -> Learner Motivation	0.077	0.240	0.810	Fail to reject
H5 <sub>0</sub>	Entry Behaviour -> Self-Regulations	-0.201	-1.049	0.297	Fail to reject
<b>Model summary</b>	<b>1 -&gt; <math>F(100) = 3.680</math>; <math>R^2 = 0.103</math>    2 -&gt; <math>F(100) = 0.058</math>; <math>R^2 = 0.001</math>    3 -&gt; <math>F(100) = 1.100</math>; <math>R^2 = 0.011</math></b>				
Notes	* significant at < 0.05				

Source: Field survey, Weyage (2023)

## Discussion of Findings

This section reports the study's results and how they relate to other similar research. The study had five (5) hypotheses and the research hypothesized insignificant effects among the various relationships. Self-regulation was found to be positive and significant whereas entry behaviour, learner motivation, learner motivation on entry behaviour and self-regulation on entry behaviour had insignificant effect. Discussions are conducted based on the findings of each hypothesis within the framework of the pertinent study.

The objective one (1) of the current study assessed the effect of entry behaviour on the academic performance of first year ICT students in senior high schools, and it was reported that entry behaviour had a positive but insignificant effect on the academic performance of first year ICT students of Kibi Technical Institute. This implies that while entry behaviour may have some influence on academic performance, it may not be the sole determining factor. This finding is not consistent with earlier research by Roşeanu and Drugaş (2011), who looked at the impact of entrance requirements on university students' academic performance. According to their research, high school grade point average (GPA) was a reliable indicator of academic performance across a range of topics. To be clear, Roşeanu and Drugaş (2011) looked at psychology students in a university context, whereas the current study concentrated on first-year ICT students of Kibi Technical Institute.

Another relevant study conducted by Aciro et al. (2021) explored the association between high school scores and subsequent academic performance in



college. Their comprehensive review of existing literature revealed mixed associations between entry grade levels and academic performance among university freshmen. The variations in findings across different studies highlight the complex nature of the association between entry behaviour and academic performance, which may be influenced by various contextual factors. Considering the present study's findings of a positive but insignificant effect of entry behaviour on academic performance among first-year ICT students, it is important to consider other factors that could potentially influence academic outcomes. Further research is warranted to delve deeper into the specific factors influencing academic performance in the context of ICT education, allowing for more targeted interventions and support strategies to enhance student outcomes.

The objective 2 of the current study assessed the influence of learner motivation on academic performance of first year ICT students, and it was reported that learner motivation had a positive but insignificant effect on the academic performance of first year ICT students. Therefore, the study fails to reject the null hypothesis formulated for this relationship. This result does not align with previous research conducted by Manganelli et al. (2019) and Alamer and Alrabai (2022). According to Manganelli et al. (2019) students' level of prior achievement played a significant role in the relationship between motivation and academic performance. While Alamer and Alrabai (2022) found that learner motivation is associated with successful language acquisition.

The third objective of the current study evaluated the effect of self-regulation on first-year ICT students' academic performance. The study's

conclusions showed that self-regulation had a statistically significant and positive effect on first-year ICT students' academic achievement. This result is in line with studies by Li et al. (2018), Kaur et al. (2018), Sahranavard et al. (2018), El-Adl and Alkharusi (2020), Lim et al. (2020), and Li et al. (2018). Sahranavard et al. (2018) discovered a strong correlation between self-regulation and academic success. The researchers concluded that teaching children to self-regulate would improve their academic achievement. Therefore, in order to enhance students' academic performance and their capacity for self-regulation, that foundation should be used as a starting point.

Additionally, Kickert et al. (2019) showed that intrinsic motivation was linked to academic achievement. Harding et al. (2019) found a positive association between self-regulated learning and academic performance across different grade levels in Australia. The study's findings highlight how crucial self-regulation is influencing first-year ICT students' academic performance. To enhance students' academic success, educational institutions and policymakers can implement targeted interventions that focus on promoting and improving self-regulatory skills. These interventions may involve supporting students in developing effective study habits, time management techniques, and effective learning strategies.

Also, objective 4 of the present investigation evaluated the impact of entry behaviour on the motivation of first-year ICT students. The findings indicated that although entry behaviour had a positive influence, it was not statistically significant in enhancing the motivation of first-year ICT students. This finding is inconsistent with these studies: Schober, Boer and Schwarte (2018); Suárez et al. (2019); and

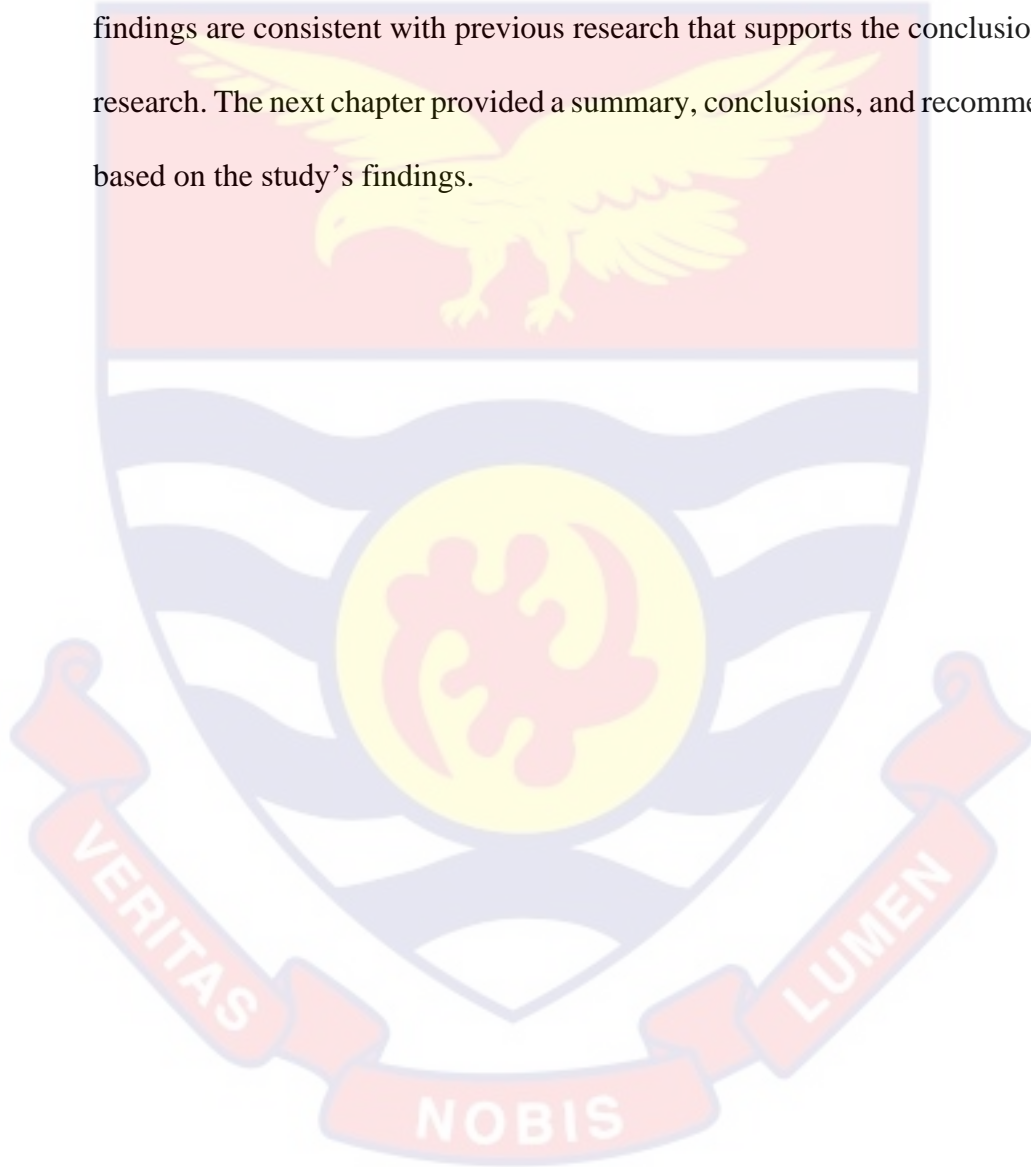
Manganelli et al. (2019). This underscores the importance of promoting student engagement, curiosity, and intrinsic motivation within the educational setting. To foster a sense of ownership and intrinsic motivation among first-year ICT students, it is recommended that educational institutions and policymakers adopt student-centered teaching approaches, incorporate real-world relevance into the curriculum, and encourage autonomy and self-directed learning.

Finally, the fifth objective of the current study aimed to investigate the influence of entry behaviour on the self-regulation of first-year ICT students. The results revealed that entry behaviour had an insignificant and negative influence on the self-regulation of first-year ICT students. This finding is inconsistent with these research articles: Song et al. (2016) and Ashaeryanto et al. (2017) who found otherwise. The findings imply that students' BECE results may not affect their self-regulation skills. Regardless of admission behaviours, first-year ICT students should be taught self-regulation skills. Academic success depends on self-regulation—setting objectives, monitoring progress, and using effective study strategies. Educational institutions can empower learners to take hold of their learning and improve academic achievement by supporting, guiding, and resourcing self-regulation abilities.

### **Chapter Conclusion**

This chapter discussed the results of the data analysis of this research. Mean, standard deviation, correlation, and regression analyses were utilised to analyse the data. The findings indicate that entry behaviour and learner motivation had an insignificant effect on the academic performance of first-year ICT students.

However, self-regulation emerged as a significant predictor of academic performance in the first model. Additionally, the second model revealed a positive but insignificant effect of entry behaviour on learner motivation. The final model showed that entry behaviour had an insignificant effect on self-regulation. These findings are consistent with previous research that supports the conclusions of this research. The next chapter provided a summary, conclusions, and recommendations based on the study's findings.



## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### Introduction

This chapter provided an overview of the study, conclusion and the study's findings. It also offered recommendations for educational institutions and policymakers based on these findings. Additionally, recommendations for future research were discussed in this chapter.

#### Summary

The purpose of the study was to evaluate the effect of entry behaviour on academic performance of first year ICT students of the Kibi Technical Institute. The study also examines learner motivation and self-regulation as predicting factors that affect students' performance in elective ICT. The specific objectives of the study are to:

1. Assess the effect of entry behaviour on the academic performance of first year ICT students in senior high schools.
2. Evaluate the influence of learner motivation on academic performance of first year ICT students in senior high schools.
3. Assess the impact of self-regulation on academic performance of first year ICT students in senior high schools.
4. Determine the influence of entry behaviour on learner motivation of first year ICT students in senior high schools.

5. Analyze the effect of entry behaviour on self-regulation of first year ICT students in senior high schools.

The study was grounded in two theoretical frameworks: theory of motivation and self-regulation. It adopted a positivist paradigm as its primary research philosophy. Employing a quantitative approach, the study utilized an explanatory design. Both primary and secondary data were collected, with the primary data obtained through a close-ended structured questionnaire and secondary data were the Basic Education Certificate Examination (BECE) and end-of-term results.

Purposive sampling technique was employed to choose a sample of one hundred (100) respondents, specifically first-year ICT students at the Kibi Technical Institute in Ghana. The gathered data were analyzed using IBM SPSS Statistics Version 26 (SPSS v26), employing descriptive tools such as means, standard deviations, correlation, and regression. The findings were presented in tables within Chapter four of the study.

### **Key Findings**

There were five (5) key findings, which are as follows:

1. There was a positive but insignificant influence of entry behaviour on academic performance of first year ICT students at the Kibi Technical Institute of Ghana.

2. Learner motivation had a positive insignificant influence on academic performance of first year ICT students at the Kibi Technical Institute of Ghana.
3. Self-regulation had a positive significant influence on academic performance of first year ICT students at the Kibi Technical Institute of Ghana.
4. There was a positive but insignificant influence of entry behaviour on learner motivation of first year ICT students at the Kibi Technical Institute of Ghana.
5. There was a negative and insignificant effect of entry behaviour on self-regulation of first year ICT students at the Kibi Technical Institute of Ghana.

### **Conclusions**

The study looked into how first-year ICT students at Ghana's Kibi Technical Institute performed academically in terms of entry behaviour, learner motivation, and self-regulation. In order to improve the academic performance of first-year ICT students at the Kibi Technical Institute of Ghana, the study's findings have significant implications for educational institutions and policymakers in the field, urging them to reconsider admissions standards and give greater priority to the development of self-regulation skills.

First and foremost, the study found an insignificant influence that entry behaviour has on academic performance of first year ICT students at the Kibi Technical Institute of Ghana. The study's findings indicate that entry behaviour, as measured by the BECE result, does not have a significant effect on the academic

performance of first-year ICT students at the Kibi Technical Institute of Ghana. This implies that the students' performance in the BECE examination, which is often used as an admission criterion, does not reliably predict their subsequent academic performance in the ICT programme. This finding has several implications for educational institutions and policymakers. Firstly, they suggest that relying solely on BECE results as a criterion for admission may not be an accurate indicator of students' potential success in the ICT programme. Institutions should consider adopting a more comprehensive approach to admission, taking into account other factors such as motivation, self-regulation, and individual aptitude for ICT.

Secondly, the study found that learner motivation had an insignificant influence on academic performance of first year ICT students at the Kibi Technical Institute of Ghana. The study's findings have important implications for educational institutions and policymakers regarding learner motivation and its influence on the academic performance of first-year ICT students at the Kibi Technical Institute of Ghana. Despite the fact that learner motivation was proven to have an insignificant impact on academic achievement, it is important to look into the precise causes of this lack of influence.

Based on the questionnaire items related to learner motivation, it appears that students expressed feelings of uncertainty, lack of interest, and doubts about the relevance and value of their education. This suggests a need for interventions and strategies to address these issues and enhance learner motivation among first-year ICT students. Educational institutions should consider implementing initiatives that focus on fostering intrinsic motivation and a sense of personal



relevance in the learning process. Providing learners with chances to explore interesting topics, engage in meaningful projects, and connect their education to real-world applications can help reignite their intrinsic motivation and drive for academic achievement.

While learner motivation was seen to have an insignificant effect on academic performance, the study's findings underscore the need for targeted interventions to enhance motivation among first-year ICT students. By addressing students' uncertainties, fostering intrinsic motivation, and promoting internalized forms of regulation, educational institutions and policymakers can create a supportive and motivating learning environment that positively impacts academic performance at the Kibi Technical Institute of Ghana.

The study's findings also hold important implications for educational institutions and policymakers regarding the function of self-regulation in the academic performance of first-year ICT students at the Kibi Technical Institute of Ghana. The significant and favourable effect of self-regulation on academic performance highlights the importance of fostering and enhancing self-regulatory skills among students. Based on the questionnaire items associated to self-regulation, it is clear that students who engage in effective self-regulatory behaviours tend to perform better academically. These behaviours include studying in a focused environment, creating study schedules, seeking help when needed, actively seeking understanding, reviewing completed work, and setting rewards for achieving academic goals. According to these findings, educational institutions and policymakers should place a high priority on the enhancement of self-

regulation skills and give students the resources and assistance they need to build productive study habits and strategies.

Educational institutions can use interventions like study skills workshops, time management training, and advice on effective learning practices to help first-year ICT students improve their self-regulation. These programmes can enable students to make the most of their education, establish specific objectives, and track their development. Students' self-regulatory abilities can also be strengthened by creating a safe and welcoming learning environment that encourages self-reflection and self-monitoring. Additionally, the study's findings emphasize the importance of addressing students' motivation as an important issue in self-regulation. Policymakers and educational institutions should promote a motivational climate that emphasizes the value of education, boosts students' self-efficacy, and mitigates exam-related anxiety, as learners with perceived relevance, confidence, and a positive attitude tend to exhibit improved self-regulatory behaviours.

The study's findings regarding the insignificant influence of entry behaviour on learner motivation among first-year ICT students at the Kibi Technical Institute of Ghana have important implications for educational institutions and policymakers. These findings suggest that entry behaviour, which is the students' BECE results upon entering an academic programme, may not significantly impact their subsequent motivation levels. This highlights the importance of creating a motivational climate within the academic environment that promotes engagement, interest, and intrinsic motivation among students. By implementing initiatives such as student-centred teaching approaches, incorporating real-world relevance into the

curriculum, and providing opportunities for autonomy and self-directed learning, educational institutions can foster a sense of ownership and intrinsic motivation among first-year ICT students.

The study's findings regarding the insignificant effect of entry behaviour on self-regulation among first-year ICT students at the Kibi Technical Institute of Ghana have important implications for educational institutions and policymakers. These findings suggest that students' initial entry behaviour, which is the students' BECE results, may not significantly impact their subsequent self-regulation skills. However, educational institutions should focus on promoting and developing self-regulation skills among first-year ICT students, regardless of their initial entry behaviour. Self-regulation, which involves managing one's own learning process, setting goals, monitoring progress, and employing effective study strategies, plays a critical role in academic success. By providing students with the necessary support, resources, and guidance to develop self-regulation skills, educational institutions can empower students to take advantage of their studies and enhance their academic performance.

In conclusion, the study's findings highlight the significant effect of self-regulation on the academic performance of first-year ICT students. By promoting and enhancing self-regulatory skills through targeted interventions, educational institutions and policymakers can support students in developing effective study habits, time management, and learning strategies. Additionally, addressing students' motivation and creating a positive learning environment can further

strengthen self-regulation and ultimately contribute to improved academic performance at the Kibi Technical Institute of Ghana.

### **Recommendations**

Based on the findings and conclusions of the study, these recommendations are made to educational institutions and policymakers to enhance the academic performance and self-regulation skills of first-year ICT students at the Kibi Technical Institute of Ghana.

1. Educational institutions should incorporate self-regulation training programmes into the curriculum for first-year ICT students. These programmes can provide students with the necessary knowledge, strategies, and techniques to effectively manage their learning process. Training sessions can focus on goal setting, time management, study strategies, and self-monitoring, empowering students to take control of their academic progress.
2. Educational institutions should create a supportive learning environment that encourages and fosters self-regulation. This can be achieved by providing resources such as study groups, academic counselling, and mentoring programmes. Additionally, instructors can adopt instructional practices that promote metacognitive skills, critical thinking, and self-reflection. Creating a culture of collaboration, open communication, and constructive feedback can also contribute to the development of self-regulation skills among students.

3. While the study found an insignificant influence of learner motivation on academic performance, it is essential to recognize the importance of intrinsic motivation in fostering self-regulation. Educational institutions should strive to create a learning environment that cultivates students' intrinsic motivation by emphasizing the relevance and practicality of the ICT curriculum, providing opportunities for student autonomy, and recognizing and rewarding individual achievements. By strengthening motivational factors, students are more likely to engage in self-regulated learning behaviours.
4. Educational institutions should implement mechanisms for continuous monitoring and support of students' self-regulation skills throughout their first year. This can be achieved through regular progress assessments, individual feedback sessions, and check-ins with academic advisors. Such monitoring and support systems can identify students who may require additional assistance or intervention and provide them with tailored support to enhance their self-regulation skills.

By implementing these recommendations, educational institutions and policymakers can create an environment that promotes the development of self-regulation skills among first-year ICT students. Enhancing self-regulation not only contributes to improved academic performance but also equips students with lifelong learning skills that are essential for their future success in the field of ICT.

### **Suggestions for Further Research**

Based on the methodology and findings of the study, these suggestions for further research are proposed to expand the knowledge in this area. These suggestions aim to address the limitations of the current study and explore new avenues for understanding the relationship between entry behaviour, self-regulation, and academic performance of first-year ICT students at the Kibi Technical Institute of Ghana. Conducting a longitudinal study can provide valuable insights into the development and stability of self-regulation skills over time. By tracking first-year ICT students throughout their academic journey, researchers can examine how entry behaviour and self-regulation evolve and interact with academic performance in subsequent years. This longitudinal approach will offer a more comprehensive understanding of the long-term effects and potential changes in these variables.

Finally, further study could incorporate qualitative research methods, such as interviews or focus groups, which could offer a deeper exploration of students' perspectives and experiences regarding entry behaviour and self-regulation. This qualitative approach can provide rich and nuanced insights into the underlying factors, motivations, and barriers that influence self-regulation among first-year ICT students. Additionally, qualitative research can uncover context-specific factors that may influence the association among entry behaviour, self-regulation, and academic performance.

## REFERENCES

- Abutabenh, S., & Jaradat, R. (2018). Clarification of research design, research methods, and research methodology: A guide for public administration researchers and practitioners. *Teaching Public Administration*, 36(3), 237-258.
- Aciro, R., Onen, D., Malinga, G. M., Ezati, B. A., & Openjuru, G. L. (2021). Entry grades and the academic performance of university students: a review of literature. *Education Quarterly Reviews*, 4(1), 1-20.
- Al Shehry, A., & Youssif, S. M. A. (2017). Factors affecting academic performance of undergraduate students at Najran Preparatory Year for Girls-Najran University 2015-2016. *International Journal of Asian social science*, 7(1), 1-18.
- Alamer, A., & Alrabai, F. (2022). The causal relationship between learner motivation and language achievement: New dynamic perspective. *Applied Linguistics*.
- Alivernini, F., & Lucidi, F. (2008). The Academic Motivation Scale (AMS): Factorial structure, invariance and validity in the Italian context. *Testing, Psychometrics, Methodology in Applied Psychology*, 15(4), 211-220.
- Al-Kumaim, N. H., Alhazmi, A. K., Mohammed, F., Gazem, N. A., Shabbir, M. S., & Fazea, Y. (2021). Exploring the impact of the COVID-19 pandemic on university students' learning life: An integrated conceptual motivational

model for sustainable and healthy online learning. *Sustainability*, 13(5), 2546.

Anderson, L. W., & Bourke, S. F. (2013). *Assessing affective characteristics in the schools*. Routledge.

Anwer, K., & Saleem, Q. (2018). Determining the relationship between motivation towards learning and academic performance among medical students. *Annals of Abbasi Shaheed Hospital And Karachi Medical & Dental College*, 23(4), 191-198.

Ashaeryanto, A., Kristina, T. N., & Hadianto, T. (2017). The Relationships of The types of Entry Selection of Students with their Learning Motivation, Learning Strategies, and Learning Achievement. *Journal Pendidikan Kedokteran Indonesia: The Indonesian Journal of Medical Education*, 6(1), 1-10.

Baraza, O. T., & Simatwa, E. M. (2018). Influence of teacher stress on students' academic performance in public secondary schools in kenya: a case study of Kakamega north sub-county.

Behfar, K., & Okhuysen, G. A. (2018). Perspective—Discovery within validation logic: Deliberately surfacing, complementing, and substituting abductive reasoning in hypothetico-deductive inquiry. *Organization Science*, 29(2), 323-340.

Bergin, T. (2018). *An introduction to data analysis: Quantitative, qualitative and mixed methods*. Sage.



- Berndt, A. E. (2020). Sampling methods. *Journal of Human Lactation*, 36(2), 224-226.
- Binder, T., Sandmann, A., Sures, B., Friege, G., Theyssen, H., & Schmiemann, P. (2019). Assessing prior knowledge types as predictors of academic achievement in the introductory phase of biology and physics study programmes using logistic regression. *International Journal of STEM Education*, 6(1), 1-14.
- Borgobello, A., Pierella, M. P., & Pozzo, M. I. (2019). Using questionnaires in research on universities: analysis of experiences from a situated perspective. *REIRE Revista d'Innovació i Recerca en Educació*, 12(2), 1-16.
- Boynazarov, I. (2021). Investigating Factors Causing EFL Instructors' Demotivation and Finding Possible Solutions. *International Journal of Development and Public Policy*, 1(7), 45-47.
- Brown, C., Spiro, J., & Quinton, S. (2020). The role of research ethics committees: Friend or foe in educational research? An exploratory study. *British Educational Research Journal*, 46(4), 747-769.
- Budiman, R. (2016). Developing learning media based on augmented reality (AR) to improve learning motivation. *Journal of Education, Teaching and Learning*, 1(2), 89-94.

- Çaliskan, M. (2014). Effect of Cognitive Entry Behaviors and Affective Entry Characteristics on Learning Level. *Educational Sciences: Theory and Practice*, 14(5), 1816-1821.
- Chicco, D., Warrens, M. J., & Jurman, G. (2021). The coefficient of determination R-squared is more informative than SMAPE, MAE, MAPE, MSE and RMSE in regression analysis evaluation. *PeerJ Computer Science*, 7, e623.
- Cho, M. H., & Cho, Y. (2017). Self-regulation in three types of online interaction: A scale development. *Distance Education*, 38(1), 70-83.
- Cohen, J. (1988). Set correlation and contingency tables. *Applied psychological measurement*, 12(4), 425-434.
- Cohen, L., Manion, L., and Morrison, K., 2018. *Research methods in education* (8th ed.). Routledge.
- Creswell, J. W. (2014). *A concise introduction to mixed methods research*. SAGE publications.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Dalati, S., & Marx Gómez, J. (2018). Surveys and questionnaires. In *Modernizing the Academic Teaching and Research Environment* (pp. 175-186). Springer, Cham.

Darling-Hammond, L., & Cook-Harvey, C. M. (2018). *Educating the Whole Child: Improving School Climate to Support Student Success*. Learning Policy Institute.

Deeks, J. J., Higgins, J. P., Altman, D. G., & Cochrane Statistical Methods Group. (2019). Analysing data and undertaking meta-analyses. In *Cochrane handbook for systematic reviews of interventions* (pp. 241-284). Wiley Online Library.

Denhardt, K. G., & Aristigueta, M. P. (2008). Performance management systems: Providing accountability and challenging collaboration. In *Performance Information in the Public Sector* (pp. 106-122). Palgrave Macmillan, London.

Dźwigoł, H., & Dźwigoł-Barosz, M. (2018). Scientific research methodology in management sciences. *Financial and credit activity problems of theory and practice*, 2(25), 424-437.

El-Adl, A., & Alkharusi, H. (2020). Relationships between self-regulated learning strategies, learning motivation and mathematics achievement. *Cypriot Journal of Educational Sciences*, 15(1), 104-111.

Erdogan, T., & Senemoglu, N. (2016). Development and validation of a scale on self-regulation in learning (SSRL). *SpringerPlus*, 5(1), 1-13.

Francis, B. K., & Babu, S. S. (2019). Predicting academic performance of students using a hybrid data mining approach. *Journal of medical systems*, 43, 1-15.

George, D., & Mallery, P. (2018). Descriptive statistics. In *IBM SPSS Statistics 25 Step by Step* (pp. 126-134). Routledge.

George, D., & Mallery, P. (2019). *IBM SPSS statistics 26 step by step: A simple guide and reference*. Routledge.

Gopalan, V., Zulkifli, A. N., & Bakar, J. A. A. (2016, August). A study of students' motivation using the augmented reality science textbook. In *AIP Conference Proceedings* (Vol. 1761, No. 1, p. 020040). AIP Publishing LLC.

Greene, J. A., Cartiff, B. M., & Duke, R. F. (2018). A meta-analytic review of the relationship between epistemic cognition and academic achievement. *Journal of Educational Psychology, 110*(8), 1084.

Gustiani, S. (2020). Students' motivation in Online Learning During Covid-19 Pandemic Era: A Case Study. *Holistics, 12*(2).

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice, 19*(2), 139-152.

Harding, S. M., English, N., Nibali, N., Griffin, P., Graham, L., Alom, B., & Zhang, Z. (2019). Self-regulated learning as a predictor of mathematics and reading performance: A picture of students in Grades 5 to 8. *Australian journal of education, 63*(1), 74-97.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*. Emerald Group Publishing Limited.

Hetherington, E., McDonald, S., Racine, N., & Tough, S. (2020). Longitudinal predictors of self-regulation at school entry: Findings from the all our families cohort. *Children*, 7(10), 186.

Huang, S. Y., Kuo, Y. H., & Chen, H. C. (2020). Applying digital escape rooms infused with science teaching in elementary school: Learning performance, learning motivation, and problem-solving ability. *Thinking Skills and Creativity*, 37, 100681.

Inzlicht, M., Werner, K. M., Briskin, J. L., & Roberts, B. W. (2021). Integrating models of self-regulation. *Annual review of psychology*, 72, 319-345.

Irvine, S., Williams, B., Smallridge, A., Solomonides, I., Gong, Y. H., & Andrew, S. (2021). The self-regulated learner, entry characteristics and academic performance of undergraduate nursing students transitioning to University. *Nurse Education Today*, 105, 105041.

Johnson, D. B., Bordeaux, J., Kim, J. Y., Vaupel, C., Rimm, D. L., Ho, T. H., ... & Dakappagari, N. (2018). Quantitative Spatial Profiling of PD-1/PD-L1 Interaction and HLA-DR/IDO-1 Predicts Improved Outcomes of Anti-PD-1 Therapies in Metastatic Melanoma. *Clinical Cancer Research*, 24(21), 5250-5260.

- Johnson, R. B., & Christensen, L. (2019). *Educational research: Quantitative, qualitative, and mixed approaches*. Sage publications.
- Kaur, P., Saini, S., & Vig, D. (2018). Metacognition, self-regulation and learning environment as determinant of academic achievement. *Indian Journal of Health & Wellbeing*, 9(5).
- Khan, T., Johnston, K., & Ophoff, J. (2019). The impact of an augmented reality application on learning motivation of students. *Advances in Human-Computer Interaction*, 2019.
- Kickert, R., Meeuwisse, M., M. Stegers-Jager, K., V. Koppenol-Gonzalez, G., R. Arends, L., & Prinzie, P. (2019). Assessment policies and academic performance within a single course: The role of motivation and self-regulation. *Assessment & Evaluation in Higher Education*, 44(8), 1177-1190.
- Kokkinos, C. M., & Voulgaridou, I. (2018). Motivational beliefs as mediators in the association between perceived scholastic competence, self-esteem and learning strategies among Greek secondary school students. *Educational Psychology*, 38(6), 753-771.
- Koomson, A. K., Brown, P., Anyagre, P., Ahiatrogah, P., & Dawson-Brew, F. (2017). *Educational psychology*. Cape Coast: College of Distance Education, University of Cape Coast.

Kumar, S., Agarwal, M., & Agarwal, N. (2021). Defining and measuring academic performance of HEI students-a critical review. *Turkish Journal of Computer and Mathematics Education*, 12(6), 3091-3105.

Kwaah, C. Y., & Palojoki, P. (2018). Entry characteristics, academic achievement and teaching practices: A comparative study of two categories of newly qualified teachers in basic schools in Ghana. *Cogent Education*, 5(1), 1561144.

Lakens, D. (2022). Sample size justification. *Collabra: Psychology*, 8(1), 1-32.

Lee, D., Watson, S. L., & Watson, W. R. (2019). Systematic literature review on self-regulated learning in massive open online courses. *Australasian Journal of Educational Technology*, 35(1).

Li, J., Ye, H., Tang, Y., Zhou, Z., & Hu, X. (2018). What are the effects of self-regulation phases and strategies for Chinese students? A meta-analysis of two decades research of the association between self-regulation and academic performance. *Frontiers in Psychology*, 9(2434), 1-13.

Lim, C., Ab Jalil, H., Ma'rof, A., & Saad, W. (2020). Peer learning, self-regulated learning and academic achievement in blended learning courses: A structural equation modelling approach. *International Journal of Emerging Technologies in Learning (IJET)*, 15(3), 110-125.

Magulod Jr, G. C. (2019). Learning styles, study habits and academic performance of Filipino University students in applied science courses: Implications for instruction. *Journal of Technology and Science Education*, 9(2), 184-198.

Majeed, I. (2019). Understanding positivism in social research: A research paradigm of inductive logic of inquiry. *International Journal of Research in Social Sciences*, 9(11), 118-125.

Manganelli, S., Cavicchiolo, E., Mallia, L., Biasi, V., Lucidi, F., & Alivernini, F. (2019). The interplay between self-determined motivation, self-regulated cognitive strategies, and prior achievement in predicting academic performance. *Educational Psychology*, 39(4), 470-488.

Matcha, W., Gašević, D., & Pardo, A. (2019). A systematic review of empirical studies on learning analytics dashboards: A self-regulated learning perspective. *IEEE Transactions on Learning Technologies*, 13(2), 226-245.

Melesse, S., & Molla, S. (2018). The contribution of school culture to students' academic achievement: The case of secondary and preparatory schools of Assosa zone, Benshangul Gumuz regional state, Ethiopia. *Research in Pedagogy*, 8(2), 190-203.

Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of economic development, environment and people*, 7(1), 23-48.

Montalvo, F., & Torres, M. (2004). Self-regulated learning: Current and future directions. *Electronic Journal of Research in Educational Psychology*, 2(1), 1-34.

Muhammad, A. S., Bakar, N. A., Mijinyawa, S. I., & Halabi, K. A. (2015). Impact of motivation on students' academic performance: A case study of



University Sultan Zainal Abidin students. *The American Journal of Innovative Research and Applied Sciences*, 1(6), 221-226.

Muller, C. (2018). Parent involvement and academic achievement: An analysis of family resources available to the child. In *Parents, their children, and schools* (pp. 77-114). Routledge.

Njoroge, E., Mulwa, D. M., & Kiweu, J. M. (2023). Students' entry behaviour and learning environment as determinants of students' academic achievement: Case of Public Secondary Schools in Machakos County, Kenya. *European Journal of Education Studies*, 10(1), 425-437.

Omeihe, K. O. (2021, July 13). *Non-Probability Sampling*. British Academy of Management.

Pace, D. S. (2021). Probability and non-probability sampling-an entry point for undergraduate researchers. *International Journal of Quantitative and Qualitative Research Methods*, 9(2), 1-15.

Pandey, P., & Pandey, M. M. (2021). *Research methodology tools and techniques*. Bridge Center.

Park, Y. S., Konge, L., & Artino, A. R. (2020). The positivism paradigm of research. *Academic Medicine*, 95(5), 690-694.

Peng, P., & Kievit, R. A. (2020). The development of academic achievement and cognitive abilities: A bidirectional perspective. *Child Development Perspectives*, 14(1), 15-20.

Popovici, A. A. (2022). Relation of Carl Menger's philosophy of economics to Auguste Comte's positivism. *Journal of Philosophical Economics*, 15(1), 158-195.

Puspitarini, Y. D., & Hanif, M. (2019). Using Learning Media to Increase Learning Motivation in Elementary School. *Anatolian Journal of Education*, 4(2), 53-60.

Rahawarin, Y., Hakim, R., Sari, W. W., Ramdani, N. S., Kasmar, I. F., Wulandari, S., ... & Arifin, Z. (2020). Seven Motivations of Students Selecting Department of Islamic Teaching Education in Public University. *Asian Social Science and Humanities Research Journal (ASHREJ)*, 2(1), 45-55.

Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences*, 6(2), 1-5.

Reparaz, C., Aznárez-Sanado, M., & Mendoza, G. (2020). Self-regulation of learning and MOOC retention. *Computers in Human Behavior*, 111(1), 106423.

Robson, K., Plangger, K., Kietzmann, J. H., McCarthy, I., & Pitt, L. (2015). Is it all a game? Understanding the principles of gamification. *Business horizons*, 58(4), 411-420.

Rodríguez, S., Núñez, J. C., Valle, A., Freire, C., Ferradás, M. D. M., & Rodríguez-Llorente, C. (2019). Relationship between students' prior academic achievement and homework behavioral engagement: The

mediating/moderating role of learning motivation. *Frontiers in psychology*, 10(1047), 1-10.

Rosalba, A., David, O., Geoffrey M, M., Betty A, E., & George L, O. (2021). Entry Grades and the Academic Performance of University Students. *Education Quarterly Reviews* 4(1), 141-150.

Roşeanu, G., & Drugaş, M. (2011). The Admission Criteria to the University as Predictors for Academic Performance: A Pilot Study. *Journal of Psychological & Educational Research*, 19(2), 7-19.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, 25(1), 54-67.

Sahranavard, S., Miri, M. R., & Salehiniya, H. (2018). The relationship between self-regulation and educational performance in students. *Journal of education and health promotion*, 7(1), 1-5.

Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: appropriate use and interpretation. *Anesthesia & analgesia*, 126(5), 1763-1768.

Schuck, K., Otten, R., Kleinjan, M., Bricker, J. B., & Engels, R. C. (2014). Self-efficacy and acceptance of cravings to smoke underlie the effectiveness of quitline counseling for smoking cessation. *Drug and Alcohol Dependence*, 142(1), 269-276.

Schwinger, M., Wirthwein, L., Lemmer, G., & Steinmayr, R. (2014). Academic self-handicapping and achievement: A meta-analysis. *Journal of educational psychology, 106*(3), 1-18.

Shah, S. S., Shah, A. A., & Khaskhelly, N. (2018). Service quality, customer satisfaction and customer loyalty: some evidences from Pakistani banking sector. *Grassroots, 51*(2), 1-7.

Sharma, V. N., Chakraborty, M., & Roy, P. (2022). Explanatory Research Analysis Between Work Loyalty and Employee Engagement in The Select Hotels & Restaurants of The North East. *Journal of Positive School Psychology, 6*(7), 699-707.

Song, H. S., Kalet, A. L., & Plass, J. L. (2016). Interplay of prior knowledge, self-regulation and motivation in complex multimedia learning environments. *Journal of Computer Assisted Learning, 32*(1), 31-50.

Stockemer, D., Stockemer, G., & Glaeser. (2019). *Quantitative methods for the social sciences*. Springer International Publishing.

Story, D. A., & Tait, A. R. (2019). Survey research. *Anesthesiology, 130*(2), 192-202.

Stratton, S. J. (2021). Population research: convenience sampling strategies. *Prehospital and disaster Medicine, 36*(4), 373-374.

Suárez, N., Regueiro, B., Estévez, I., del Mar Ferradás, M., Guisande, M. A., & Rodríguez, S. (2019). Individual precursors of student homework

behavioral engagement: The role of intrinsic motivation, perceived homework utility and homework attitude. *Frontiers in Psychology*, 10(941), 1-10.

Sukor, R., Mohd Ayub, A. F., Norhasnida, Z., & Nor Khaizura, A. R. (2017). Influence of students' motivation on academic performance among non-food science students taking food science course. *International Journal of Academic Research in Progressive Education and Development*, 6(4), 104-112.

Sürücü, L., & Maslakçı, A. (2020). Validity and reliability in quantitative research. *Business & Management Studies: An International Journal*, 8(3), 2694-2726.

Thierry, K. L., Bryant, H. L., Nobles, S. S., & Norris, K. S. (2016). Two-year impact of a mindfulness-based program on preschoolers' self-regulation and academic performance. *Early Education and Development*, 27(6), 805-821.

Trigueros, R., Aguilar-Parra, J. M., Cangas, A. J., Bermejo, R., Ferrandiz, C., & López-Liria, R. (2019). Influence of emotional intelligence, motivation and resilience on academic performance and the adoption of healthy lifestyle habits among adolescents. *International journal of environmental research and public health*, 16(16), 2810.

Utvær, B. K. S., & Haugan, G. (2016). The academic motivation scale: dimensionality, reliability, and construct validity among vocational

students. *Nordic Journal of Vocational Education and Training*, 6(2), 17-45.

Wang, W., Wu, Q., Yang, J., Dong, K., Chen, X., Bai, X., ... & Yu, H. (2020). Global, regional, and national estimates of target population sizes for covid-19 vaccination: descriptive study. *BMJ*, 371(1), 1-12.

Weiten, W. (2006). A Very Critical Look at the Self-Help Movement [Review of the book *Sham: How the self-Help movement made America helpless*, by S. Salerno]. *PsycCRITIQUES*, 51(2). <https://doi.org/10.1037/05215712>

Werner, K. M., & Milyavskaya, M. (2019). Motivation and self-regulation: The role of want-to motivation in the processes underlying self-regulation and self-control. *Social and Personality Psychology Compass*, 13(1), 1-32.

Wildemuth, B. M. (Ed.). (2016). *Applications of social research methods to questions in information and library science*. Abc-Clio.

Williams, K., & Williams, C. (2011). Five key ingredients for improving motivation. *Research in Higher Education Journal* 12(1),1-12. <http://aabri.com/manuscripts/11834.pdf>.

Wong, J., Baars, M., Davis, D., Van Der Zee, T., Houben, G. J., & Paas, F. (2019). Supporting self-regulated learning in online learning environments and MOOCs: A systematic review. *International Journal of Human-Computer Interaction*, 35(4-5), 356-373.

Yin, R. (2014). *Case Study Research: Design and Methods*. (5<sup>th</sup> Edition). Thousand Oaks, CA: Sage Publications.

Zainuddin, Z. (2018). Students' learning performance and perceived motivation in gamified flipped-class instruction. *Computers & education*, 126(1), 75-88.

Zarouk, M., Olivera, E., Peres, P., & Khaldi, M. (2020). The impact of flipped project-based learning on self-regulation in higher education. *International Journal of Emerging Technologies in Learning (iJET)*, 15(17), 127-147.

Zheng, B., Ward, A., & Stanulis, R. (2020). Self-regulated learning in a competency-based and flipped learning environment: learning strategies across achievement levels and years. *Medical Education Online*, 25(1), 1-7.

Zimmerman, B. J. (2023). Dimensions of academic self-regulation: A conceptual framework for education. In *Self-regulation of learning and performance* (pp. 3-21). Routledge.

Zimmerman, B. J., & Tsikalas, K. E. (2018). Can computer-based learning environments (CBLEs) be used as self-regulatory tools to enhance learning? In *Educational Psychologist* (pp. 267-271). Routledge.

## APPENDIX

### A. Questionnaire



**FIRST YEAR STUDENTS PRE-ENTRY BEHAVIOUR AND ACADEMIC  
PERFORMANCE, THE MEDIATING ROLES OF LEARNER  
MOTIVATION AND SELF-REGULATION: EVIDENCE FROM KIBI  
TECHNICAL HIGH SCHOOL**

Dear Sir/ Madam,

#### **SURVEY COVERING LETTER**

I am Augustine Weyage, a final year Masters Student of University of Cape Coast. I am currently conducting study on **“the associations among entry behaviour, learner motivation, self-regulation and academic performance”**.

This research is a requirement for the award of Master of Education (Information Technology)

I would be extremely grateful if you will participate in this study by taking few minutes off your time to answer the attached questionnaire. I would like to provide assurance that all information submitted will be held in strict confidence and utilised exclusively for academic purposes..

God richly bless you for accepting to fill in this questionnaire. For any further clarification please do contact me on 024 457 1319. Thank you.

Yours sincerely,

Augustine Weyage.



## General Information

The questionnaire is structured into three (main) **Sections: A, B and C**. **Section A** is on socio-demographic data of respondents, **Section B** looks at learner motivation, and the last **Section C** looks at self-regulation.

### SECTION A

#### Socio-demographic Characteristics

Please respond to the statement by a tick (✓) where appropriate

1. Age    a. Below 18     b. 18 – 20     c. 21 – 23     d. Above 23

2. Sex    a. Male     b. Female

3. Programme of Study

Information Communication and Technology	<input type="checkbox"/>
General Electrical Engineering Technology	<input type="checkbox"/>
Fashion and Design Technology	<input type="checkbox"/>
Building Construction Technology	<input type="checkbox"/>

**SECTION B**

**Learner Motivation**

1 - least agreement and 5 - strong agreement.

	<b>Statement</b>	1	2	3	4	5
	<b>Amotivation</b>					
1.	I truly don't know what to say; I feel like school is a waste of time.					
2.	Although I formerly had strong motivation to complete my education, I am now unsure whether I should do so.					
3.	Honestly, I don't know what I'm doing here and I couldn't care less about finishing school.					
4.	Honestly, I have no idea what I am learning in class.					
	<b>External Regulation</b>					
5.	Because I need at least a credential from a technical school to get a high-paying job in the future.					
6.	Motivated by the hope of landing a higher-paying position down the road.					
7.	I want to live "the good life" someday.					

8.	in order to earn a decent compensation in the future.					
	<b>Introjected Regulation</b>					
9.	Just to show myself that I can do it, I'm going to finish technical high school.					
10	Since achieving academic success boosts my self-esteem.					
11	Just to prove to myself that I'm capable of thinking critically and abstractly.					
12	For the simple reason that I want to prove to myself that I am capable of doing well academically.					
	<b>Identified Regulation</b>					
13	For the simple reason that it will aid me in making a more informed decision about my professional future.					
14	For the simple reason that it will open doors for me in the employment sector that I'm interested in.					

15	Since I believe that finishing technical school would better prepare me for the field, I want to work in.					
16	Because I feel that my technical school education will enhance my job skills.					
	<b>Intrinsic Regulation</b>					
17	Because expanding my knowledge brings me joy and contentment.					
18	As a result of the excitement, I get upon coming across something I've never seen before.					
19	Because I like learning more about interesting topics and expanding my horizons.					
20	Because I get to pursue my curiosity in a wide variety of areas while studying.					

**SECTION C**

**Self-Regulation**

1 - least agreement and 5 - strong agreement.

	<b>Statement</b>	1	2	3	4	5
	<b>Before study</b>					
1.	I usually study where I can pay attention.					

2.	I write my list of things to do each week in my notebook.						
3.	When I know our teacher will check them, I do my homework.						
	<b>During study</b>						
4.	I find the main ideas in the text and show how they are related.						
5.	I read the materials I find after class.						
6.	When I don't understand, I ask a friend or an adult for help.						
7.	I try to figure out how to do my homework in the easiest way.						
8.	Sometimes, when I'm reading a book or going over my notes, I stop and ask myself, "Do I get the point here?"						
9.	I teach someone else what I've learned.						
	<b>After study</b>						
10.	Usually, I go back over homework I've already done.						
11.	I'll give myself a reward if I do well on an exam or assignment.						

12.	I feel bad when I fail, so I work at doing well the next time.					
	<b>Motivation</b>					
13.	I think that what we learn in class will help us in the future.					
14.	I'm sure I'll do well in the classes.					
15.	When I have exams, I get so nervous that I forget everything.					
16.	I fail because I have a lot of homework and tests.					
17.	Right now, getting a good grade is the most satisfying thing.					

THANK YOU

