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MEDIATING ROLE OF STUDENTS' ASPIRATION IN THE RELATIONSHIP BETWEEN THE STAKES OF UNIVERSITY EXAMINATION AND STUDENTS' LEARNING APPROACHES IN THE UNIVERSITY OF CAPE COAST

ENOCH EWOENAM TSEY

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MEDIATING ROLE OF STUDENTS' ASPIRATION IN THE RELATIONSHIP BETWEEN THE STAKES OF UNIVERSITY EXAMINATION AND STUDENTS' LEARNING APPROACHES IN THE UNIVERSITY OF CAPE COAST

BY

ENOCH EWOENAM TSEY

Thesis submitted to the Department of Education and Psychology of the Faculty of Educational Foundations, College of Education Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Philosophy Degree in Educational Measurement and Evaluation

SEPTEMBER 2021

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DECLARATION

Candidate's Declaration

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

Candidate's Signature: …….. Date: …….

Name:……..

Supervisors' Declaration

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

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

Name:……..

Co-Supervisor's Signature: …… Date: ……..……

Name:……...

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ABSTRACT

The study examined the mediating role of students' aspiration in the relationship between the stakes of university examination and students' learning approaches in the University of Cape Coast. The study was carried out using the descriptive cross-sectional survey design. The target population was undergraduate students. Through a multi-stage sampling technique, questionnaires were administered to 758 regular undergraduate students, however 680 of the administered questionnaires were returned. The data collected were analysed using multivariate, t-test, and one-way ANOVA/Welch analyses. A simple mediation analysis was also conducted with Hayes' PROCESS, using bootstrap samples. It was found that the stakes attached to university examination was a significant positive predictor of deep learning approach, surface learning approach, and strategic learning approach. It was further revealed that students' aspiration mediated the relationship between the stakes of university examination and (a) deep learning approach, as well as (b) strategic learning approach, but not surface learning approach. The study also discovered that, the stakes attached to university examinations were higher for first year students compared to second, third and fourth-year students. It was concluded that students' aspiration plays a major role in the adoption of the various learning approaches. Parents, academic advisors, as well as lecturers of the University of Cape Coast are therefore encouraged to roll out intervention programmes such as student mentoring, that will assist students develop high aspirations regarding their educational and occupational goals.

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DEDICATION

To my family

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CHAPTER ONE

INTRODUCTION

Globally, there is the quest for promoting quality education, and this has been specifically enshrined in the Sustainable Development Goal (SDG) 4, which seeks to ensure inclusive and equitable education, and also promote lifelong learning opportunities for all learners (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2017). Lifelong learning as projected by the SDG 4, is the ability of learners to practically apply the requisite skills and knowledge acquired in schools in solving problems and challenges in the world of work. In line with the aforementioned goal, Segers, Dochy, and Cascallar (2003) also explained that, generally, the aim of quality education is to empower individuals to reason and function effectively in human society. This suggests that, since quality education is pivotal to the development of every nation, individuals who receive such education are expected to be critical thinkers who would eventually assist in solving problems in the societies they find themselves.

It is however important to state that, the ability of students to develop the required skills that would enable them become "critical thinkers" and "problem solvers" in human society, is dependent on how they learn in their respective educational institutions. That is to say, students who adopt a lifelong learning approach in their studies regardless of the intensity of their aspirations or the consequences of the examination results, are more likely of developing

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the requisite skills required in the world of work, compared to students who adopt a surface learning approach which is often propelled by acquiring excellent grades in registered courses/subjects. Such students (Surface learners) are less likely of producing relevant and effective learning outcomes (UNESCO, 2017). From the forgoing, since the central goal of education seeks to promote lifelong opportunity for all individuals, this study examined the mediating of students' aspiration in the relationship between the stakes of university examination and students' learning approach in the University of Cape Coast.

Background to the Study

In their quest to climb the academic ladder of education, students all over the globe are often faced with the challenge of passing one test or the other (Ringeisen, Buchwald, & Hodapp, 2010). There has been a considerable increase in the number of standardised examinations that students are expected to write in recent years (Cizek & Burg, 2006; Putwain, 2008; Segool, Carlson, Goforth, Von-Der-Embse & Barterian, 2013). The outcomes of these examinations are often using in making critical decisions about schools, instructors, as well as students. Abysmal performance on these standardised examinations is likely to have some consequential effect on students, educators, and the educational institutions at large (Von-Der-Embse & Hasson, 2012; Paul, 2013; Gherasim & Butnaru, 2012).

University semester examination plays a central role in the lives of university students (Payea & Baum, 2005). The results of these examinations are cumulatively used in certifying students which play a crucial role in recruitment purposes, scholarship opportunities and further studies (Sackett,

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Borneman, & Connelly, 2008). Owing to the consequences of university examinations, a study conducted by Dzakadzie (2018) on the prevalence and predictors of academic dishonesty among undergraduate university students in Ghana indicated that, some candidates purposively devised well-cut seating pattern that promoted copying just to make up the grades in order to survive in the university. The results of Dzakadzie's study clearly showed that university students engage in one or more examination malpractices due the high-stakes nature of university examinations (Dzakadzie, 2018)

The term "High-stakes testing" was first mentioned in the 1980s to describe testing programmes that had serious repercussions on educators as well as students (Alexandra, Greenwood, & Linn, 1999). Alexandra et al., stressed that, tests are said to be high-stakes if their outcomes are often employed in making essential decisions regarding students' graduation, students' academic promotion, and students' certification. In describing high-stakes tests or assessment, Cizek (2001) explained that, in order for students to successfully complete school, or even obtain a scholarship package, there is the need for such students to pass a high-stakes examination. Resnick (2004) also stressed that, students have the responsibility of performing excellently on high-stakes examinations if they desire to enter a tertiary institution to offer a particular study programme.

In classifying tests that are high-stakes in nature, Resnick (2004) explained that, the outcomes of such tests have important repercussions to individuals who took the test. Thus, individuals who perform poorly on a test of such nature, suffer a disadvantage of re-writing the test, until they successfully pass. Such individuals may also suffer the difficulty of finding employment, in

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some cases, they may even be denied the licence of practising a particular profession. Similarly, individuals who exhibit exceptional performance in high-stakes tests are likely to benefit from some opportunities such as, acquiring a license to practise a given profession, gaining admission into an educational institution, as well as obtaining a scholarship opportunity (Cizek, 2001).

In their view, Sackett, Borneman, and Connelly (2008) asserted that, high-stakes tests are cognitively loaded tests of knowledge, skill, and ability often used to make decisions regarding higher education admissions, jobs, licensure, or certification. In the same vein, Lemann (1999) underscored that the scores a person attains in a high-stakes test often has a direct influence on the opportunities and options that may be available to the individual in his/her life.

UNESCO (2013) reported that high-stakes examination puts a lot of consequences on learners in terms of transition, graduation, entrance to higher education, entrance to better schools, and entrance to better jobs. These exams do not only offer high-stakes to students, but can extend to teachers, schools, and families, as the test results can impact funding and recognition. Additionally, UNESCO (2013) identified three main purposes of most high-stakes examinations as falling under the following categories: selection, certification and accountability. That is to say, high-stakes examinations are used in controlling access to different levels of schooling, they are used for obtaining further knowledge and reporting on what students have achieved, they are equally used for evaluating the effectiveness of institutions and schools.

It is important to emphasise that students at all levels of education are expected to pass one examination or the other in order to progress to the next

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level of education. As part of the educational reforms for developing countries on the continent of Africa, the use of high-stakes examinations is held in high-esteem at the basic level of education. Thus, students at the basic level are expected to pass their final examinations in order for them to progress with their educational ambitions. For instance, the Junior Certificate Examination is a national examination conducted for final year basic school students in South Africa (Lubisi & Murphy, 2002). As a matter of importance, Lubisi and Murphy stressed that, basic school students in South Africa are required to pass this examination in order for them to progress with their academic career.

Jansen (2008) also asserted that, in terms of students' future career, the outcomes of such examinations have substantial and far-reaching consequence for students as far as opportunities after school are concerned. Similarly, after attending school for a period of nine years, children in Nigeria are required to write and pass the national Junior Secondary Certificate Examination (Gbagolo, 2011). Passing this examination is very crucial because, it is a determinant of whether or not a child could continue with his/her education, as far as the next level of education is concerned.

The case of Ghana is not different from that of other countries as far as the issue of high-stakes testing is concerned. Students in Ghana are required to write and pass a number of high-stakes tests in their quest to climb the educational ladder at various educational levels. For instance, while students at the basic level are expected to pass their "Basic Education Certificate Examination (BECE)", students in second cycle schools are required pass the "West African Senior Certificate Examination (WASSCE)." Both the two aforementioned examinations are high-stakes tests, in that, the outcomes of such

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examinations are used in making important decisions regarding students' academic progression (Anamuah-Mensah Committee report, 2002, p.28, Anane, 2010).

High-stakes testing at the tertiary level is less common so far, although the focus on accountability as a policy for educational reform has increased significantly over the last two decades (Alexander, 2000; Conner & Rabovsky, 2011). Inferring from the classical definitions and perspectives of the various authors regarding high-stakes testing, university semester examinations can be classified as high stakes tests, in that, the results of these examinations have at least some academic or other meaningful consequence on students (Kober, Zabala, Chudowsky, Chudowsky, Gayler, & McMurrer, 2006). Due to the importance attached to university examinations, students are likely to adopt a particular learning approach in order to perform well on these examinations.

Employers and other industry players in Ghana have lamented over the non-performance of graduates on the job (Alagidede, Baah-Boateng & Nketiah-Amponsah, 2013). Some have even attributed the non-performance of graduates to the high rate of graduate unemployment in Ghana; hence most employers are reluctant in engaging the services of fresh graduates (Ravinder, 2010; Kurtic & Donlagic, 2012). A number of authors have also discovered a high level of incompatibility regarding the training Ghanaian tertiary institutions offer to their student as well as the demands/requirements of the job market (Dabalen, Nielsen, & Rosholm, 2001; Boateng & Ofori-Sarpong, 2002).

If the claims of the employers are true, then it means that university students are learning in a particular way that does not make them perform well. Additionally, university students reported in a study conducted by Quansah and

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Asamoah (2019) that, assessment did not examine practical skills in their respective institutions, this according to the students did not motivate them to apply what was taught in the classroom. In the students' view, university education did not help them enough to prepare for the world of work, this was because they had to memorise whatever was taught in classroom in order for them to pass their examinations.

A number of studies have also been done on the effect of high-stakes testing on learning. For example, Kelleghan, Madaus, and Raczek (1996) found that students with performance goals are surface learners, such students use rote-learning methods compared to students with learning goals. Kelleghan et al. clarified that learning goals are goals in which people try to improve their skill, understand or master something new, whereas performance goals are goals in which people try to achieve favourable judgments of their ability or prevent unfavourable judgments of their ability.

A study on the influence of high-stakes testing on teaching approaches and students' learning was conducted by Smyth and Banks (2012). The findings of the authors showed that students clearly favoured active learning approach. However, for some students, particularly high-aspiring students, these views changed as they approached the terminal high-stakes examination, with many showing a strong preference for a more narrowly focused approach to examination preparation.

According Duff (2004), students are likely to adopt either deep, shallow or strategic learning approaches in their studies, based on their degree of preference. Duff asserted that, students who have a preference for deep learning approach often try to make meaning out of what they learn. Such students

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intrinsically engage themselves in the learning activity, they try as much as possible to relate what they are currently studying to what they previous were taught, instead of passively receiving information from their instructors, such students critically examine the information they receive as far as what they are learning is concerned. In contrast, students who have preference for shallow learning approach often memorise what they learn. Thus, such students have a challenge adopting a comprehending approach in their studies. As a result, they are unable to relate they study to what they were previous taught. Aside, the aforementioned two learning approaches, Duff (2004) described another group of students who have preference for strategic learning approach. Unlike deep and shallow approach to learning, such students strive to coordinate their study schedules; they plan their time in order to learn what is needed to attain the highest grade possible. Based on the fact that students have different preferences for learning approaches, it is of essence to examine the learning approaches university students adopt in their studies, amidst the stakes attached to the results of university examinations.

It is interesting to note, however, that students' level of aspiration could determine the intensity of high-stakes examinations. This is to say, high aspiration could have a high tendency of influencing how students learn which could in turn influence how students hold the intensity of university examinations (Smyth & Banks, 2012). Even though, university examinations are by nature high-stakes, the aspiration level of a student will determine the extent of intensity of the examinations. Thus, a student who for example has a high aspiration to secure a competitive employment opportunity after school, apply for a masters' degree programme or qualify for some scholarship

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opportunities to study in highly ranked schools in the world will at all cost try to obtain good grades in university exams; the stakes for such an individual could be high. The vice versa could also be true for a student who has low aspirations. A student who for instance has been assured by "a well-to-do father" to take over as the chief executive officer of a wealthy company after his/her first degree could have university examinations functioning as a low-stakes examination for him/her. That is to say, such a student will not be bordered so much regarding the scores he/she obtains on the examinations. This could probably be one of the reasons that accounted for the findings in Dzakadzie's (2015) study, where some candidates purposively devised well-cut seating pattern that promoted copying just to make up the grades in order to survive in the university.

According to Quaglia and Cobb (1996) aspiration encompasses "students' ability to identify and set goals for the future, while being inspired in the present to work toward those goals" (p. 130). A critical review of the literature presents that, students are more likely to have educational aspiration as well as occupational aspirations (Quaglia & Cobb, 1996). Quaglia and Cobb highlighted that while educational aspirations are geared towards achieving educational goals, occupational aspirations are geared towards the achievement of career goals. Having educational aspirations can have a positive impact on students (Dubow, Arnett, Smith, & Ippolito, 2001; Wyman, Cowen, Work, & Kerley, 1993). Similarly, high occupational aspirations have been found to predict later career attainment (Schoon & Parsons, 2002). This study therefore seeks to examine the mediating role of students' aspiration in the relationship between the stakes of university examination and students' learning approaches.

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Statement of the Problem

Universities worldwide engage in assessing students' learning for the purpose of certifying such students (Sackett, Borneman, & Connelly, 2008). The high-stakes nature of university examinations puts a lot of pressure on students to perform on these examinations (Barksdale-Ladd & Thomas, 2000; Paris & Urdan, 2000; Popham, 2003; Hoffman, Assaf, & Paris, 2005). Besides, evaluating the quality of teaching and learning in schools, the results/outcome of high-stake examinations are also used in making decisions regarding the future career of most students (Smyth, Banks, & Calvert, 2011). Jacob (2005) argues that examinations with consequences or stakes attached, such as the inability to continue or graduate, will provide an incentive to put effort into educational performance to avoid bad grades and to be separated from peers. While the peer effect argument may not be that strong at the university level, the avoidance effect argument has great implications as university grades determine subsequent labour market outcomes (Altonji, Blom, & Meghir, 2012). Although the stakes affect all those involved in the education process, Reddell (2010) emphasised that the greatest impact of high-stakes testing is on students.

The academic policy of the University of Cape Coast (UCC) which spells out the rules as far as academic activities are concerned, clearly stipulates in Section 9.1.1 that "a level 100 student who loses a total of 13 credits or more registered courses for the academic year (either in the first, second or in both semesters) shall be withdrawn (dismissed) outright for poor academic performance" (Academic Programmes, Policies & Regulations for Undergraduate Studies, 2018, p. 23). Additionally, progressing as a continuing

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student in UCC, the academic policy emphasises that students are supposed to attain a minimum cumulative grade point average (C.G.P.A.) of 1.0. This makes the stakes high for university examinations; this is because, students who fail to meet such a requirement will face the consequences thereof. Personal observations also suggests that students in the University of Cape Coast are often seen trooping to libraries and other centres to learn in order to prepare for a pending quiz or examination. Could this behaviour be triggered by students' knowledge regarding the implication of quizzes and examinations in the university? Again, although the stakes of university examination affect all students, evidence regarding students who have graduated over the years seems to suggest that, a higher percentage of male students compared to female students often graduate with either a first-class honour or a second-class honour (Upper Division). Could it also be that gender plays a role regarding the stakes of university examinations?

Empirically, much is known about high-stakes testing among teachers in more developed countries like the United Kingdom and the United States (eg. Darling-Hammond, 2004; Marchant, 2004; Symth, 2008). These investigations have found that, teachers possess an increased desire of assisting their students in obtaining excellent results in a high-stakes environment; this was attributed to the fact that, teachers are more likely of losing their profession in case their students perform abysmally in high-stakes examinations. It has also been discovered that, the nature of high-stakes examinations predisposes teachers to adopting test preparation strategies in teaching their students, this in turn leads to narrowing the curriculum (McNeil, 2000; Madaus & Clarke, 2001). On their part, Barksdale-Ladd and Thomas (2000) discovered that, the nature of high-

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stakes tests often propels teachers in adopting bad teaching methods in the classroom. Barksdale-Ladd and Thomas explained that, some teachers often adopt "teaching to the test," in their quest to assist students perform excellently on high-stakes examinations.

It is worthy to note that, studies on high-stakes in Ghana focused on teachers in Basic and Senior High schools (Anane, 2010; Amoako, 2019; Anim, 2020). The study of Anane (2010) for instance found out that the overemphasis on the WAEC examination (SSSCE) and its uses is gradually shaping the content from broad curriculum to examination-focused teaching (narrowed curriculum). Amoako's study also discovered that BECE as a high-stakes test, drives curriculum implementation in Ghana, thus, BECE as a high-stakes test places the national curriculum and teaching practices at stake. Based on previous studies, little is equally known about high-stakes testing in Ghanaian universities even though similar studies have been done in the Western world (e.g., Brox, & Dorsam, 2018; McClenny, 2018; Sackett, Borneman, & Connelly, 2008).

A critical examination of the literature appears to suggest that most of the studies investigated in the area of high-stakes testing focused much attention on a one variable study (e.g., Amoako 2019 examined the perceived effect of BECE, as a high-stakes test on curriculum implementation in Ghana). This implies that the previous studies did not measure the actual degree of the stakes. Also, high-stakes as a variable in a way confounds with test anxiety, and that makes it difficult in accepting the findings of previous studies (Segool, Carlson, Goforth, Von-Der-Embse & Barterian, 2013). Most of the previous studies done on high-stakes testing in Ghana were also conducted among teachers in Basic

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and Senior High Schools (Anane, 2010; Amoako, 2019; Anim, 2020). Since test anxiety highly confounds with high-stakes test, the current study measured test anxiety as a separate variable; this assisted the researcher to hold test anxiety constant in order to tell the real degree of the effects of the stakes on students. Again, since students are at the centre regarding the consequences of high-stake tests (Reddell, 2010), this study examined the effect of high-stakes on students' learning approaches.

Reflecting further on the literature, several questions come to mind: Do the high-stakes nature of university examinations affect students' learning approach? Do the high-stakes nature of university examinations affect students' aspiration? Do students' aspiration in any way affect their learning approach? Do students' aspiration explain the relationship between high-stakes examination and students' learning approaches? Do the intensity of the effects of the stakes on students differ in terms of gender? Do the intensity of the effect of the stakes differ for students regarding their academic level? These are perplexing questions with no readily available answers. This study therefore, found answers to the aforementioned questions.

Purpose of the Study

The study sought to examine the mediating role of students' aspiration in the relationship between the stakes of university examination and students' learning approach in the UCC, while controlling for test anxiety. Specifically, the study sought to examine:

1. the effect of the stakes on students' learning approaches,
2. the effect of the stakes on students' aspirations,
3. the influence of students' aspiration on students' learning approaches,

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4. the role of students' aspiration in the relationship between the stakes and students' learning approaches,
5. whether gender difference exist in the stakes among UCC students,
6. whether differences exist in the stakes on the basis of academic level.

Research Hypotheses

The study tested the following hypotheses;

1. H_0: The stakes of university examinations will not significantly predict students' learning approaches.

   H_1: The stakes of university examinations will significantly predict students' learning approaches.
2. H_0: The stakes of university examinations will not significantly predict students' aspiration.

   H_1: The stakes of university examinations will significantly predict students' aspiration.
3. H_0: Students' aspiration will not significantly predict students' learning approaches.

   H_1: Students' aspiration will significantly predict students' learning approaches.
4. H_0: Students' aspiration will not mediate the relationship between the stakes of university and students' learning approaches.

   H_1: Students' aspiration will mediate the relationship between the stakes of university examination and students' learning approaches.
5. H_0: There is no statistically significant gender difference in the stakes of university examination.

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H_1: There is a statistically significant gender difference in the stakes of university examination.

6. H_0: There is no statistically significant difference in the stakes of university examination on the basis of academic level.

   H_1: There is no statistically significant difference in the stakes of university examination on the basis of academic level.

Significance of the Study

Every research work is intended to add to or improve understanding of existing knowledge. This research work is no exception. The finding of this study is intended to fill in knowledge gap on high-stakes testing. For instance, greater proportion of the studies conducted on high-stakes testing used teachers as the respondents (e.g., Marchant, 2004; Smyth, 2008; Anane, 2010; Amoako, 2019). This study, thus, seeks to provide an understanding of how students learning approach could be influenced by high-stakes test in the University of Cape Coast since high-stakes tests have been found to significantly affect learning approaches (Kelleghan, Madaus, & Raczek, 1996; Smyth & Banks, 2012).

The findings of the study would be beneficial to both lecturers as well as the management of the University of Cape Coast. Obtaining information on students' learning approach would enlighten lecturers on the areas of their practices in assessment which need to be improved or changed. For instance, if the findings of the study indicates that students adopt a surface learning approach to university examinations, the findings of the study would inform lecturers to adopt a different approach of crafting test items which would require students to implement a deep and more lasting learning approach when

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answering such questions. Such an approach would end up making learning relatively permanent in the lives of students. Based on the findings of this study, academic advisors would be able to counsel students regarding the benefits of adopting long lasting learning approaches amidst the stakes attached to university examinations. This study would also contribute to knowledge by adding to existing literature in the area of high-stake testing in Ghana.

Delimitations

Regarding the content of the study, the study focused on high-stakes testing, students' learning approach, students' aspiration as well as test anxiety. This study focused on only regular undergraduate students in the University of Cape Coast within the Cape Coast Metropolis. The study was delimited to level 100 - 400 students. The study was also delimited to only four colleges within the University of Cape Coast. These colleges include: College of Agriculture and Natural Sciences (CANS), College of Humanities and Legal Studies (CHLS), College of Education Studies (CES) and College of Health and Allied Sciences (CoHAS). For the purpose of measuring the real impact of high-stakes on students' learning approach, test anxiety was treated as a covariate. That was deemed necessary because test anxiety as a variable confounds with high-stakes tests.

Limitations

A study of this nature revealed some challenges which might affect the validity of the responses. The self-report nature of the questionnaire predisposes the results to some biases as the validity and reliability of the results obtained are dependent on the accuracy of the responses provided by the respondents. Thus, respondents who provide false information cannot be easily traced and

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removed from the analysis. However, respondents were assured of confidentiality and informed consent was taken to ensure that respondents provided accurate and objective data. Again, since data was gathered within the 2019/2020 academic year, the results of this study may not be representative enough overtime.

Operational Definitions

High-stakes test: This refers to tests which have academic or other meaning consequences to the test taker (student). The results of these tests are used in making important decisions about students' certification, promotion, graduation, entry into some occupational portfolios, among others.

Stakes/Stakes of university examinations: This refers to the importance individual students attach to their academic work; such as meeting academic requirement for quizzes, assignments, examinations, and other academic demands. This was specifically conceptualised in terms of: pressure on students and pressure from parents.

Learning approach: This refers to students' approaches to learning, problem solving, and processing information. This was conceptualised in terms of: deep learning approach, surface learning approach, and strategic leaning approach.

Students' Aspiration: This encompasses students' ability to identify and set goals for the future, while being inspired in the present to work toward those goals. This was conceptualised in terms of: educational aspirations and occupational/career aspirations.

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Test anxiety: This comprises psychological, physiological, and behavioural reactions that occur in association with concern about the negative outcomes resulting from failure or poor performance in evaluative testing situations. The study conceptualised test anxiety in terms of test anxiety-trait, test anxiety-worry and test anxiety-emotionality.

Organisation of the Study

This chapter was structured into five main sections. The introductory section took into consideration the study background, problem statement, study objectives, hypotheses, study significance, delimitations, limitations, and major definitions that were utilised in the study. Information on specific and related literature in the field of high-stakes testing were presented in Chapter Two. Conceptual issues, theories that underlined the conduct of the current investigation, and empirical reviews were also included in the literature. The research methodologies that were used in conduct of the study were presented in Chapter Three. The fourth section of this report highlighted how the collected data were processed and how the findings were interpreted; discussions of the results were also done accordingly. The last chapter presented on the summary, conclusions and recommendations. Directions for further studies were also highlighted.

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CHAPTER TWO

LITERATURE REVIEW

The current investigation aims at examining the mediating role of students' aspiration in the relationship between the stakes of university examination and students' learning approaches in the University of Cape Coast. Relevant and related literature regarding the issue under investigation are presented in this section. The literature comprises conceptual issues, theoretical review, conceptual framework as well as the empirical review. The literature was accessed using databases such as: Google Scholar, ERIC, Hinari, Sage Journals, Google, and Psycinfo. Similarly, key words and phrases such as "high-stakes testing," "students' learning approaches," "test anxiety," and "students' aspiration" were used. The chapter was organised under the following sub-headings:

1. Theoretical Framework
    a. Classical True-Score Theory (Spearman, 1904)
    b. Achievement Motivation Theory (Atkinson, Lowell, Clark, & McClelland, 1958)
2. Conceptual review
    a. The Concept of High-stakes tests
    b. Reforms in the Use of High-stakes Testing
    c. Students Learning approaches
    d. The concept of students' aspiration

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e. Test Anxiety

3. Empirical review
    a. High-stakes test and students' learning approaches
    b. High-stakes tests, students' aspirations and students' learning approaches
    c. Demographic characteristics (gender, and academic level) and high-stakes test
4. Conceptual Framework
5. Summary of literature review

Theoretical Framework

This section of the literature reviewed two theories that guided the conduct of the study. The two theories considered for the conduct of the study were classical true score theory and achievement motivation theory. The following paragraphs explain these theories and how they are related to this study.

Classical True-score Theory-Reliability

History has it that Classical True-score Theory (CTT) evolved from the early works of Edward Lee Thorndike in 1904 in his first textbook on test theory. Since, that time, the curriculum of graduate students in the field of education and psychology continuously focused on the study of test theory. Crocker and Algina (2008) asserted that, this theory has built a formidable basis for the development of most personality, aptitude, and achievement tests used in the 21st century. Between 1904 and 1913, Spearman argued mathematically and logically that test scores are imperfect measures of attributes of humans, and as such, the correlation between the imperfect test scores and the true values

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is low (Spearman, 1904). Spearman (1907, 1913) repeatedly explained the terms imperfect measures and true values. These provided the basis for the classical true score model.

According to the theory, an observed test score (X) is the sum of two components: a stable true score (T) and a random error score (E). This is presented mathematically as: $X = T + E$. The observed test score is the score that is seen on the test paper. The stable true score is the expected value of the observed score over repeated measures. The error score is the difference between the individual's observed test score and his/her true score. For example, if on an IQ test, Daniel's true score is 108 but his observed score is 112, then X is 112, T is 108, and E is +4. If Daniel is tested again and his observed score is 100, then X becomes 100, T is still 108, and E is – 8. For any given examinee and test, T is assumed to be a fixed value, although E and X vary for that examinee on different testing occasions.

In explaining the CTT in connection with the concept of reliability, Amedahe and Asamoah-Gyimah (2015) theoretically defined reliability as the ratio of the true score variance to the observed score variance. This is mathematically represented as: $\rho^2_{X1X2} = \delta^2_T / \delta^2_X$. This implies that reliability tells the extent to which the variance of the observed score is due the variance of the true score. Thus, a perfectly reliable test has equal true score and observed score variances; such a test also has a reliability of +1. Based on this, it can be deduced that as the error score of a test reduces, the reliability of the test increases. In furtherance, a reliable test is "the extent to which the scores of the test are repeatable, dependable, and consistent; thus, the extent to which the test scores are free from measurement errors" (AERA, APA, & National Council on

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Measurements in Education, 1985). This suggests that, reliability is inversely related with errors of measurement. It is also important to add that, CTT has an utmost concern of coping effectively with the random error component of the observed score. The observed score of a measure is more likely of reflecting the true score when the measure contains less random error scores (Novick, 1966).

Linking Classical True-score Theory to this Study

The observed score (X) of an individual on a test is made up two elements, True score (T) and Error score (E). In the context of this study, the observed score can be linked to the examination and quiz scores of students. For instance, a student who obtains a score of "78%" in Research Methods course has an observed score of "78%". It is vital to state that this observed score (i.e., 78%) consists of a true score and an error score.

The true score, here, depicts what actually the student can do whereas the error score consists of the factors which create inconsistencies between the grade a student obtains and the actual abilities of the student. Thus, if a student cheats in a Research Methods examination and as a result obtains a score of "85%" but does not have mastery over the course content, the true score becomes inconsistent with the observed score (85%). This means that the cheating which goes on during examinations has led to errors in the score of the students, and therefore, resulting in lower reliability of the observed scores.

This study, in using the theory of CTT, focuses on how assessments in education contributes to errors in the observed scores of students. In the education system, it is expected that the observed score of students equals their true score which implies that their observed scores are error free. Although this

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is something too difficult to achieve, it is possible to reduce the errors so that these errors would have insignificant effect on the observed scores.

This theory is significant in its effort to give a comprehensive understanding of how scores and grades of students can be contaminated by several factors. This study also explains how assessment practices of teachers are likely to significantly contribute to the errors in scores. Thus, it can be said that, when teachers construct tests which have characteristics such as unclear definitions, poor sentence structure, ambiguous items, inadequate time limits, difficult test, mismatch between learning objectives and test items, test with few items, improper arrangement of items, and identifiable patterns of answers among others (Amedahe & Asamoah-Gyimah, 2015a); they introduce error scores to students' scores and thus by their actions reduce the reliability of the test scores.

The presence of some of these factors, such as unclear definitions, poor sentence structure, and ambiguous items interfere with students' ability to identify clearly what is being measured. This in turn create difficulty for the students and tend to lower their scores. When these errors are introduced to students' scores, their scores cannot be relied on for any useful decision making. The theory further helps to discuss why university students might have good academic achievement in schools but become handicapped when there is the opportunity for them to apply what has been learnt in schools.

Achievement Motivation Theory

The need for achievement, which is also referred to as achievement motivation is the longing to achieve a set goal; the desire to attain a standard of excellence and to disburse effort in order to excel (Santrock, 2003).

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Achievement motivation theory which is one of the three components of McClelland's motivational theory, was first seen in the work of McClelland, a social psychologist, in the 1940s. While describing the motives of human beings in a book chapter, McClelland identified a number of motives that are related to human beings. Among these motives include: affiliation motive, power motive, achievement motive as well as sexual motive. McClelland however based his emphasis on only three main driving motivators in his subsequent study (McClelland, 1961). These motivators include: the need for power, the need for achievement and the need for association. McClelland stressed that, the three aforementioned driving motivators are developed based on an individual's life experiences as well as the society one finds himself/herself.

McClelland therefore posits that, human beings are driven in different degrees by their need for power, need for accomplishment and need for association, and that, these needs are gained or learned during the lifetime of a person (Lussier & Achua, 2007; Daft, 2008).

The need for achievement (n Achievement) was equally described by Atkinson, Lowell, Clark and McClelland (1958) as "success in competition with a certain level of excellence. Thus, some individuals have the aim of emerging victors in a competitive situation, without compromising on excellent results" (p. 181). Atkinson et al. (1958) further explained that desiring to emerge a champion does not always require an individual to be in a competition with another person. However, what is of great importance is how well an individual executes a particular job regardless of how someone else does it.

The need for achievement has also been explained as the unconscious effort an individual exerts in achieving a set goal (Lussier & Achua, 2007). In

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his view, Daft (2008) also asserted that the need for achievement is also evident in the "desire to master difficult tasks, as well as accomplish a high standard of excellence" (p. 233). Individuals who demonstrate the need for success often strive to achieve realistic but challenging goals. Rathus (2010) also stressed that, people are said to have high achievement motivation when they have the desire to embrace and solve difficult tasks, outperform others and also strive hard to be successful.

According to the achievement motivation theory, individuals are often encouraged to succeed by seeking for achievement in all their endeavours. As a result, such individuals often persevere even in the face of difficult situations. This theory argues that, the motivation of an individual to accomplish a particular goal life is often regulated by different internal factors such as determination, personal drive, willingness, and punctuality alongside external factors such as expectations, and environmental pressure set by the society, organisations and family members.

Motivation for achievement is a crucial determinant of an individual's effort, aspiration, and persistence; especially in situations where the individual has the fore knowledge that, his performance is being measured against a set standard. Regarding the theory of achievement motivation, Santrock (2003) expressed his thoughts on two groups of individuals. Santrock posits that, while some individuals are highly motivated to succeed at a particular goal, others do not really care about the issue of success. Those who have the drive to succeed in an endeavour put in a lot of effort and strive to excel in the achievement of their ambition. Those who are however not bothered about the issue of success

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are unable to work hard to realise a particular; such individuals give up upon facing slightest challenge in life.

Nevid (2009) pointed out that, people who possess high achievement motivation often set achievable but challenging goals for themselves. They are also moderate rather than high or low risk-takers, and persist for a suitable length of time in solving difficult problems. In case they fail in one endeavour, they simply examine their actions to discover where they went wrong, in order to make the necessary amends. The situation is however different for people who possess low achievement motivation. Such people set for themselves goals that are either extremely unrealistic for an individual to achieve or goals that are so average to achieve (Nevid, 2009).

In sharing a similar view with Nevid (2009), Weiten (2010) explained that people who possess high achievement motivation exhibit the following characteristics: they work tirelessly until a set goal is achieved, they are forward thinkers, they are able to delay today's gratification for tomorrow's reward. Achievement motivated individuals are also capable of handling negative feedbacks effectively compared to individuals who are not achievement motivated (Fodor & Carver, 2000), and they enjoy being participants of competitive entrepreneurial occupation (Stewart & Roth, 2007).

Linking Achievement Motivation Theory to this Study

In relation to this study, it can be said that learners who have high aspirations are more likely to persist at challenging tasks regarding their academic work with the goal of emerging successful at the end. That is to say, since the extent of intensity of high-stakes examinations could be higher for students with high aspirations compared to students with low aspirations, high

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aspiring students are more likely than low aspiring students to work harder and tirelessly in their quest to perform very well on high-stakes examinations; it is also essential to add that, such students are likely to adopt a particular learning style that will aid them to achieve their desired goal.

In the same vein, high aspiring students unlike low aspiring students, are more likely to have high achievement motivation in that, such students have the desire to succeed in competitions, and to excel in activities important to them because they have a stronger hope for success than a fear of failure. Such students tend to earn higher grades than their counterparts with equal abilities but lower level of achievement motivation. Additionally, high aspiration unlike low aspiring students, are more likely to possess personal drives that motivate and propel them to attain high levels of success in their various academic pursuits; these personal drives could be absent in some students with low level of aspiration.

Conceptual Review

This section provides definitional issues to some concepts or variables used in the study.

High-stakes Tests

In the field of educational science, the term "high-stakes testing" is a many-sided and complicated concept. Goertz and Duffy (2003) asserted that many intellectuals admit that high-stakes are not easily recognisable attributes of the test itself, but rather, the implications of the planned and unforeseen ramifications of the test scores. According to the Standards (AERA, APA, & NCME, 2014), which regulates the activities of Educational Measurement and Psychological Testing, "stakes in testing refers to the consequences/importance

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of test results in decision making for individuals, institutions or groups" (p. 188).

Guthrie (2002) also explained that "tests are considered high-stakes when the outcomes of the tests are used in making critical judgements concerning educational institutions, learners, as well as instructors" (p. 370). High-stakes tests therefore encompasses series of tests that are often used to evaluate students, teachers and schools (Heubert & Hauser, 1999). Heubert and Hauser explained that, as a means of improving educational criteria, holding learners and instructors answerable to specific targets/goals, and boosting public trust in schools, makes the usage of such tests widely popular.

In sharing a similar perspective with Guthrie (2002), Jones, Jones, and Hargrove (2003) explained that tests that have high-stakes are those that have a critical impact on programmes, instructions, as well as the success of students. In his view, Gunzenhauser (2003) expounded that, high-stakes testing is the use of standardised assessment procedures as a benchmark for assessing school quality, advancing students to the next academic level, graduating students as well as providing bonuses for teachers. Likewise, Giordano (2005) asserted that, the outcomes of high-stake examinations are often used in drawing evaluative conclusions, and judgements that are life-changing in nature. The concept of high-stakes testing was also explained as the amount of "pressure" or "threat" associated with performance on a particular test (Carnoy & Loeb, 2002).

DeCesare (2002) and Goertz and Duffy (2003) asserted that in order to determine the state of an examination to be low-or high-stakes, it is imperative to know the critical consequences of the test results. A low-stakes examination, according to Goertz and Duffy (2003), is an examination that does not have any

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serious repercussion on the test taker, as far as the results of the examination is concerned. A high-stakes test, on the other hand, comes with some form of academic ramification to the test taker, as far as the results of the test is concerned (Kober, Zabala, Chudowsky, Chudowsky, Gayler, & McMurrer, 2006). Kober et al., underscored that, high-stakes tests are tests that expect learners to reach a certain score as the lowest grade entry point so as to be able to successfully complete a college. The authors also emphasised that, a distinct and unequivocal outcome exist as a result of their test performance. An illustration of high-stakes examination is Special Aptitude Tests or ACT examinations for learners who desire to attend college in their career pursuit. Such tests have serious implications for learners who take part in writing them; such students desire to attend college, and their ability to perform on the aforementioned examinations matter.

In their view, Nichols and Valenzuela (2013) gave a clear definition of high-stakes tests, stating that they are normally standardised tests with a consequence glued to low achievement. For instance, schools can be denied funding, and students can be denied an opportunity to further their education. Nichols and Valenzuela emphasised that the outcome of low performance also affects stakeholders such as, teachers, administrators, school district and learners.

Additionally, high-stakes tests have been identified by Johnson, Johnson, Farenga, and Ness (2008) as those assessment that have effects for students' achievement (e.g., graduation or grade promotion), teacher responsibility, school funding, and school credibility. Likewise, the negative effects of testing on students and instructors were discussed by (Marchant,

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2004), as well as the influence on the image of institutions publicly. Howe, Eisenhart, and Betebenner (2001) also discussed the influence of test results on administrators, learners, instructors, institutions, school districts, as well as other stakeholders responsible for the education of children in terms of punishments or incentives.

Aside the various definitions of high-stakes testing given by various authors, it can be summarised that, the outcome of high-stakes tests have vital consequences on the test taker. That is to say, the results of high-stakes tests are often used in making important decisions about learners, teachers, as well as schools. In general, this implies that, Sanctions (such as bad public image, penalties, budget cutbacks), praises (such as a good image in public, prizes, public celebrations), progress (such as grade upgrade or graduation for learners), and rewards (such as rise in pay or bonuses and extra incentives for instructors and administrators) are all based on high stakes test scores.

It is also imperative to emphasis that both public and private educational institutions often make variety of decisions that impact learners, from basic school and continuing through post-secondary and higher education levels. Thus, learners' inclusion in programmes designed for the gifted and talented, qualifications for special education programmes, progress from one academic stage to another, high school completion and diploma awards, as well as enrollment determinants and scholarship honours, are all examples of high-stakes judgements affecting learners in their various educational endeavours.

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Reforms in the Use of High-stakes Testing

For the past years, the issue of High-stakes testing has been a common subject in the field of education. The disparity between students who perform excellently in school and those who perform abysmally has been widely discussed. According to Oszakiewski and Spelman (2011), there has been an increase in the demand for excellent and higher students' performance in the area of literacy by parents, stakeholders and the public at large. In order to determine whether or not students have performed excellently in recent years regarding the issue of literacy, there was the need to assess students using high-stakes examinations. The current focus of using assessment to make critical decisions regarding teachers' and students' performance, and to assess schools, as well as school systems, can be dated back to the approval of the Elementary and Secondary Education Act (ESEA) in 1965.

In order for the government to pay more attention to standards of American schools, and also respond adequately to the requests of students from under privileged households, there was the need to approve the aforementioned Act. In order to ensure that students acquired basic numeracy and literacy skills, the minimum proficiency examination in English Language and mathematic was introduced. The introduction of this examination had the objective of ensuring that, students developed basic reading and mathematics skills before graduating from their respective schools. Thus, students who failed in the aforementioned subjects were denied certification (Sharon & Berliner, 2007).

As time went by, the minimum proficiency examination was strongly criticised by many lawmakers and some populace of the United States on the basis that, the examination was too simple to pass since most students focused

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on mastering content materials in order to obtain the minimum score required for certification. Some group of the populace also expressed their views about the fact that, students' performance in the United State was not improving, in that, the gap of accomplishment that exist between disadvantaged students and white middle students continued to increase, favouring white middle class student. An increase in discontentment on the part of the populace led to the introduction of the standard-based achievement language, which eventually replaced the minimum proficiency examination.

As a matter of fact, concerns raised by some citizens regarding the educational system of America rose in the years following the ESEA. This was sparked, in part, by international data indicating that, school in other sister nations performed better than schools in the United States.

Concerns raised by the populace and some stake holders of the United States led to the publication of "A Nation at Risk," in 1983. This study discovered that, the educational system of America was likely to suffer some declines in principles. In order to avert these happenings, there was the need to increase the standards for students' learning outcomes as far as the State's educational system was concerned. This publication gave rise to the formation of some unique policies that had the aim of significantly refurbishing the educational system of America, as far as students' educational success was concerned.

Publication of this document also brought on board a number of lawyer makers who threw their support behind the populace regarding America's "failing" educational system. This has produced a magnificent result, in that, over the past two decades, a variety of programmes and policies have been

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lunched by some major stakeholders, proposing solutions to address America's educational challenges, one of the proposed solutions was a call for more consequential testing.

Following these proposed solutions, America experienced an increased use of high-stakes tests in the 1980s. Entering into the 1990s, experimental-researchers discovered a strong evidence that, performance-based assessment which was often adopted by some States in America, had an impact on the way instructors teach as well as the way students learn (David, 2011). As the years went by, the American Educational Act was endorsed by President Clinton. This Act was a ground-breaking attempt to encourage national educational change, a change that sought to promote flexibility, evaluations, and effective evaluation in educational institutions (Superfine, 2005). The aforementioned build-ups increased the popularity of high-stakes tests, which was also accompanied by a variety of changes introduced in the 2000s.

The use of high-stakes tests in making decisions further increased, upon the introduction of the 2001 "No Child Left Behind Act (NCLB). Interestingly, educational institutions were only offered financial support on the basis that, the scores obtained by their students met the requirement and expectations of the Act. David (2011) upon conducting a study on the effectiveness of the NCLB ACT, discovered that, instructors were more likely of narrowing the curriculum by adopting "teaching to the test" strategies in order to ensure that, their students performed excellently in examinations that were high-stakes in nature. The author further discovered that, this behaviour was often practiced among teachers who teach in low-performing schools, where teachers experience

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intense repercussions for students' non-performance on high-stakes examinations.

According to David (2011), high-stakes assessments have the tendency of affecting both the curriculum as well as the teaching methods teachers adopt in teaching their students. In his view, David (2011) also argued that, teachers' longing desire for their students to attain excellent scores in high-stakes examinations, often leads to intensified pressure on the part of teachers, administrators and students. In the same vein, Dessoff (2011) explained that, the introduction of the NCLB Act which often requires students to show annual satisfactory progress, has also exaggerated the rate at which students cheat on examinations. In their concluding statement, Sharon and Berliner (2007) asserted that, the educational system of America experienced a great transformation in 2006 compared to what it was during the period of "A Nation at Risk."

Students' Learning Approaches

Learning approach is defined as the approach an individual adopts when learning something new (Kolb, Rubin, & McIntyre, 2003). It is a special way of learning which includes noticeable procedures for decision making and problem solving (McLeod, 2010). Kolb et al. (2003) suggest that one of the many factors which brings specialty among learners is how they process new information. Dunn and Griggs, (2000) describe learning approaches as internally based characteristics of individuals for the intake or understanding of new information. It is important to emphasise that, all learners have distinct qualities which relates to their learning developments. Psychological and biological

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differences often reveal the uniqueness of an individual's learning ability (Fine, 2003).

According to Duff (2004), educational researchers over the years have approached an understanding of learning from a phenomenological perspective. That is to say, qualitative methods have been employed to assess students' experience of learning and the ways in which such students make sense of tasks prescribed by their course of study. Duff (2004) explained that, methods of learning have moved away from an assumption of stable personality characteristics; greater emphasis is placed on the choices an individual makes in selecting a particular approach to a learning task.

From his perspective, Duff (2004) described learning approach as "the combined features of psychological, affective and cognitive factors that define how learners respond to the instructional environment" (Duff, 2004, p. 56). Duff's model (Revised Approaches to Study Inventory) measure learners on three methods to learning: strategic, deep, and strategic learning approaches. It is also important to emphasise that, learners have diverse preferences for these approaches.

Students who adopt deep learning approach often look for the meaning in the content they study; such students try to relate what they learn to other ideas with a critical method. Thus, learners who adopt an in-depth learning approach aim to understand what they learn and are essentially concerned in deriving satisfaction from whatever they study (Marton & Saljo, 1976). According to Duff (2004), higher learning outcomes are often associated with in-depth methods of learning, however, learners who adopt such method often

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see the link between the components of their understanding, and how it can be applied in an abstract context.

According to Lubin (2003), deep approach of learning motivates students towards active inquiry to understand the materials or subject, to interact vigorously with the contents, to relate the concepts with previous knowledge and real-life experience. Deep learning enables students to acquire desired knowledge, skills and personal attributes; this empowers them to optimise their potential, promote in-depth reasoning, understanding and higher-level thinking, and fosters self-directed and lifelong learning (Malhi, 2013).

Deep learning approach involves to the use of appropriate cognitive activities in completing a learning task meaningfully and effectively. Students who use this approach in their studies, often try as much as possible to critically examine, analyse and synthesise the main ideas inherent in an author's argument. They do this in order to have a holistic understanding regarding the content of a particular document. By so doing, such students are able to apply the understanding they have acquired in real life situations which are outside the classroom setting (Biggs, 2003; Entwistle & Ramsden, 1983; Ramsden, 2003). Prosser and Trigwell (1999) also mentioned that possessing an intrinsic interest in a particular subject/course is a prerequisite for students to adopt in-depth learning approach. That is to say, students who lack intrinsic motivation for a subject, are less likely of doping a deep learning approach in their studies. Prosser and Trigwell added that, flexible assessment systems as well as good instructional delivery on the part of instructors promotes deep learning approach in higher education.

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Conversely surface or shallow learning approach is the intension of students to complete a particular learning task with the least/minimum effort. That is, instead of adopting a holistic approach to understand the content of an entire document, such students selectively pay attention to some elements within the learning task; as a result, such learners are unable to apply what they learnt in different situations. Additionally, students who adopt this approach to learning see learning as a compulsion and lack the intrinsic interest needed for a learning activity. Shallow learning approach is evident when students depend solely on memorisation to pass a test rather than making an effort to comprehend a learning content (Biggs, 2003; Entwistle & Ramsden, 1983; Prosser & Trigwell, 1999; Ramsden, 2003). Learners adopting this approach are more likely to easily forget what they learn compared to those who spend quality time to fully understand what they learn.

In sharing a similar view with the aforementioned authors regarding surface learning approach, Lubin (2003) explained that, learners who adopt surface approach tend to skip the necessary procedure in order to acquire the qualification instead of mastering the subject or content of a particular course/subject. Rather than using high level cognitive ability to understand the content of a given learning task, shallower learners often use a low-level cognitive ability in their studies. Such students do this by skimming the surface of a learning document when in-depth analysis of the learning document is required (Biggs, 2003).

Biggs (2003) emphasised that, students adopt surface approaches in higher education due to a number of factors. Among some these factors include: bulky learning task, when learners have little time to complete a particular

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learning task, when students are denied the opportunity to decide on their own learning strategies. Biggs further asserted that, learners are also probable to adopt shallow learning approach when instructors do not provide flexible assessment procedures where students are awarded marks for expressing themselves.

This suggests that, instructors who are bent on awarding marks to expressions that are only found in a given learning document, and are not willing and ready to accept equally correct expressions brought to the table by the student are likely to deny students the opportunity of adopting long lasting learning approaches. Such students will be more comfortable adopting a memorisation learning approach in order to be awarded grades rather than expressing themselves to be penalised. This equally suggests that instructors/teachers have a responsibility of motivating/inspiring students to adopt long lasting leaning approaches in their studies.

More so, learners are likely to adopt a third and final approach, known as strategic learning approach in their studies. This approach is also known as achieving learning approach (Biggs & Tang, 2007). This approach to learning is characterised by achieving the highest grade possible in any learning task (Burton, Taylor, Dowling, & Lawrence, 2009). Students who adopt this approach are often concerned about organising their study routines with the aim of obtaining a good assessment result (McCune & Entwistle, 2000). In order to meet this criterion, such students uphold a good time management principle, they also spend quality time learning what is required in order to achieve good assessment scores (Duff, 2004).

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The Concept of Aspiration

According to Kaur (2012), the burning desire to accomplish something spectacular in life is often described as an individual's aspiration. From Dhanya and Rekha (2011) view point, the variation between the goals an individual desire to accomplish and the goals the individual actually accomplishes describes the individual's level of aspiration. That is to say, aspirations are basically the objectives an individual seeks to attain; which in turn creates a 'desire' or 'will' in the individual. The formation of a strong desire and ambition motivates individuals to strive hard to achieve the goal they have set for themselves; such motivation is keenly required if one has to succeed in life (Atienza, 2006; Dhanya & Rekha, 2011).

Mau (1995) also asserted that aspirations with respect to specific occupations are subject to change as the individual matures and gains additional information about alternative roles and his/her own ability. That is to say, there is the tendency of an individual changing his/her aspiration formed within the early stages of life. This change could be triggered by some environmental experiences that the individual had gathered while growing as a child. This implies that, aspiration as a construct is not static, it is tantamount to change based on environmental experiences.

In sharing a similar view with to Kaur (2012), Ali (2018) also explained that students' aspiration can be understood as a student's will to identify and set goals for the future, while breathing in the present to work toward those prospective goals. From a different perspective, Sirin, Diemer, Jackson, Gonsalves, and Howell (2004) were of the view that aspirations have two distinct aspects. First of all, they are future oriented; thus, they can only be

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satisfied at some future time. This distinguishes them from immediate gratifications. Secondly, aspirations are motivators. That is to say, they are goals individuals are willing to invest time, effort or money in order to attain. This equally distinguishes them from idle daydreams and wishes.

Furthermore, Strand and Winston (2008) opined that, aspirations have a variety of theoretical perspectives with respect to their development and their influence on adolescents' perspectives. According to Strand and Winston, there are two broad groups of factors that may influence an individuals' aspirations. These dimensions of factors include the social dimensions as well as the personal dimensions. While the social dimension factors focus on family background and resources of the individual in question, the personal dimension factors focus on the characteristics of the individual. For instance, according to social dimension of aspiration, the level of education achieved by one's parents has been shown to be an essential indicator of an individual's aspiration (Strand & Winston, 2008).

Furthermore, Strand and Winston (2008) mentioned that, two main factors are capable of influencing an individual's aspiration. These dimensions of factors include the personal dimensions as well as the societal dimensions. While the personal dimension factors focus on individual characteristics, the societal dimension factors focus on the family orientation of the individual in question. For instance, as far as the societal dimension factor is concerned, the educational level a parent attains has the capability of influencing an individual's educational aspiration (Strand & Winston, 2008).

Sirin et al. (2004) equally asserted that students' aspirations can be expressed in terms of the educational and occupational dreams they seek to

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achieve in the future. Expounding on the education component of aspiration, Abiola (2014) stressed that, the educational component of aspiration encompasses the academic goals that individuals seek to attain in the course of their life. For instance, individuals who have high educational aspirations are often desirous of acquiring the highest level of education which will assist them develop the intellectual capacity needed for developing their own selves, that of their nation and the world at large (Furlong & Cartmel, 1995). In as much as educational aspiration focuses on an individuals' goals with respect to climbing the educational ladder, occupational aspirations often emphasise the career ambition of an individual (Arbona, 2000).

Test Anxiety

The way and manner students perceive evaluative situation varies widely. These perceptions, in one way or the other, affect students' performance on various examinations. While some students are motivated to perform well in a particular examination, others do not care. Assessment and evaluative situations are likely to lead to increased emotional tension (test anxiety) on the part of students who are motivated to perform very well in a particular examination (Nitko, 2001).

Zeidner (1998) posits that test anxiety is the behavioural, physiological, and psychological outcomes of negative perceptions ensuing from anticipation of poor academic performance or failure in testing or examinations. In the view of Lowe et al. (2008), test anxiety is viewed through the lenses of the bio-psychosocial model. The model views test anxiety as evolving from three main perspectives: physiology, cognition, and behaviour. In their view, Liebert and Morris (1967) outlined two components of test anxiety: emotionality and worry

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components. The authors explained that emotionality is the bodily and autonomic arousal that accompanies test anxiety. Worry on the other hand was explained as the cognitive aspect of anxiety: thoughts about the negative consequences of failure and how one's performance will be compared with others.

Alyaprak (2006) suggests that the emotional reactions to assessment triggers worry, which in turn results in poor performance. Worry may also be interpreted as cognitive interference (Sarason, 1984). That is, highly text-anxious students worry about performing poorly on examinations. As a result, this keeps them from focusing their attention on the task at hand. Thus, the more cognitive interference a student experiences, the higher the probability of a student performing poorly on a particular examination.

Empirical Review

This aspect of the literature reviewed empirical studies on the respective objectives of the study. Issues concerning high-stakes testing and students' learning approaches, high-stakes tests, students' aspirations and students' learning approaches as well as demographics characteristics (gender and academic level) and high-stakes testing were reviewed.

High-stakes testing and Students' Learning Approaches

McClenny (2018) conducted a study in the Southeast United States Public University. The study sought to gather information from undergraduate nursing students regarding their experiences upon writing a number of high-stakes examinations. The study which was qualitative in nature, utilised a convenient sampling procedure to engage 18 student nurses who were preparing

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to graduate from their nursing progammes. These respondents were made up of 17 women and one man, between the age bracket of 21 and 41 years.

It was discovered that, undergraduate nursing students described high-stakes examinations as stressors; in that, they experienced more stress in preparing and writing such examinations. The students further reported that, the expectations that characterised high-stakes examinations were very high; in that, a students' progression to another academic level or a students' chances of graduating from the nursing programme were dependent on the outcome of the examination. The findings of the study also brought to the fore that, the high-stakes nature of the nursing examinations affected students' ability to apply learning concepts in different situations. That is to say, students were unable to apply what they have learnt in different contexts rather than the classroom. The outcome of this study suggests that, the nursing students adopted a shallow learning approach in their studies, hence their inability to transfer to real life, what they were taught in the classroom.

In another study, Adegokei (2017) investigated the impact of the stakes attached to Senior High School examinations on teaching and learning of Physics in Nigeria. The study which was descriptive in nature, sampled 862 respondents. Five hundred and thirteen of these respondents were males while 349 were females. The study considered high-stakes test as those examination that determine candidates' entry into tertiary institutions in Nigeria. Thirty teachers who teach Physics at the Senior High School were randomly sampled from Oyo state in Nigeria. From each school, teachers who teach final year students in each school were sampled. Additionally, final year students who registered Physics as an elective course were also engaged in the study.

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Two forms of questionnaires which had reliability coefficients of 0.79 and 0.83 were used for the data collection. While one form of the questionnaire was administered to students, the other form was administered to teachers who taught the Physics course. Descriptive statistics such as frequencies and percentages were used to analyse the data that were gathered from the respondents.

The study discovered that physics students did their best to comprehend the concepts they studied in their Physics course, they mastered certain important Physics principles, the students also memorised certain procedures and formulae in their physics course. This suggest that the students adopted both deep and shallow approaches in their quest to understand the concepts of Physics and also perform very well in their final examinations. On the part of the teachers, majority of the instructors reported that they often used the lecture method to facilitate the completion of the WAEC syllabus within the regulated time. The Physics instructors further indicated that they were always under pressure to teach to the test.

In their study, Berliner and Amrein (2002a) conducted a study using the testing programmes of 18 States in America. The intent of the study was to investigate whether the high-stakes nature of the testing programmes affected the way students learn. Students who were sampled for the study were made to write four distinct standardised tests. The content of these examinations covered the respective learning domains taught in the 18 States. The data gathered was analysed using archival time series. This was done to tell the impact of each of the State's high-stakes testing programme on students' learning.

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The results of the analyses indicated that, the high-stakes testing programme implemented in the various States did not support students' learning; in that, evidence from the 18 States revealed that, students were unable to display evidence of what they learnt as far as the high-stakes tests were concerned. That is to say, although most students obtained high scores on the various examinations, majority of the students were unable to express their understanding regarding the concepts they learnt in the various programmes.

Based on the results of the study, the authors concluded that the validity of the State's testing programme was questionable if students did not adopt a comprehensible approach to learning. The findings of Berliner and Amrein's study implies that, there was no clear indication of students' learning with the use of high-stakes examinations. This suggests that students adopted a shallow approach of learning due to the consequences of the high-stakes examination; hence their inability to display evidence of what they have learnt.

In another study, Aysel (2012) explored the impact of high-stakes examination on the teaching and learning of mathematics. The study was conducted using Senior High School students in Turkey and Ireland. Three main objectives guided the conduct of the survey: comparing students' attitudes and study methods on high-stakes examinations, classification of examination questions, as well as exploring teachers' perception regarding the nature of high-stakes examination in their respective countries.

The study which was adopted a mixed method approach, made use of questionnaires and interview guides to gather data from both students and teachers accordingly. Thirteen Irish schools as well as 10 Turkish schools were considered for the conduct of the study. While questionnaires were administered

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to 666 Irish students and 661 Turkish students, 25 Irish instructors and 21 Turkish instructors who teach mathematics were granted interviews. The quantitative data gathered from the students was analysed using regression analysis whereas the qualitative data gathered from the teachers was analysed using thematic analysis.

It was discovered that the confidence level of Irish students in writing high-stakes mathematics examinations was significantly lower compared to their Turkish counterparts. Similarly, students from Ireland were more anxious as they prepared to write the examinations compared to students from Turkey. The students from both countries further reported that, they often memorised mathematic procedures and formulas, they often solved mathematics past questions, and they also did their possible best to comprehend ideas in the mathematic subject any time they learn. On the part of the teachers, Irish teachers reported that they felt more pressure to teach to the test compared to their colleague Turkish teachers.

Regarding the classification of examination questions, the findings of the study revealed that majority of the mathematic questions crafted by both examiners in Turkey and Ireland were methodological in nature. It was also discovered that, the Irish examination had a lower percentage of cognitively demanding questions compared to the Turkish examinations. This implies that students were expected to exhibit adequate understanding of mathematics concepts, in order to perform very well on the Turkish examination. The findings of this study suggest that although Irish and Turkish instructors adopted different methods of teaching, their students on the other hand combined both

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shallow and deep learning approaches in their preparation to write high-stakes examinations.

Furthermore, Gundogdu, Kiziltas, and Cimen (2010) conducted a similar study in Turkey using elementary schools. The study sought to gather data from students and teachers regarding their perceptions on SBS examination; an examination written by students at the end of their elementary education in Turkey. The scores students obtain on the SBS examination are used to determine students' progression into high schools. A total number of teachers and students from Erzurum elementary schools numbering 172 and 1143 participated in the study respectively. Questionnaires were administered to both students and teachers. Eight other teachers who teach by persistent repetition (grind teachers) were also granted interview based on the purpose of the study. The quantitative data collected was analysed using frequencies and percentages whiles the qualitative data was analysed thematically.

The study found that, 84% of students attended schools that persistently taught students by repetitions. The study further found no significant difference between students' and instructors' perception regarding the SBS examination system; for instance, both students and teachers reported that the SBS examination exerted a lot of pressure on them year by year. The study further found that, the nature and consequences attached to the SBS examination propelled students to study in a more planned and orderly manner. Thus, students adopted strategic learning approach in their studies as a result of the consequences of the SBS examination. Furthermore, all teachers however, expressed a negative impression regarding the methods they adopted in teaching

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students, believing that the examination system left them with no option than to teach by persistent repetition.

High-stakes Tests, Students' Aspirations and Students' Learning Approaches

This section presents a review of studies on the relationship among high-stakes test, students' aspirations, and students' learning approaches. The following paragraphs present details of the studies reviewed.

In a study, Smyth and Banks (2012) gathered information on the experiences of students regarding high-stakes examinations in the Republic of Ireland. The intent of the study was to find out whether the stakes of Senior High School examinations influenced the aspirations of students, as well as the learning approach they adopt in their studies. The study engaged secondary school students by adopting a mixed method longitudinal approach. Twelve different schools were used as a case study in Ireland. In order to be admitted into these schools, students were required to pass a high-stakes examination. Passing this examination grants students the opportunity to be integrated into the school system.

Students who had the opportunity to pass the high-stakes examinations were offered the opportunity to share their experiences regarding the influence of the examination on their aspirations as well as the learning approaches they adopted. In order to gather data for the conduct of the study, 100 students were granted a group interview, and questionnaires were also administered to 1,645 students respectively. It was discovered that, the nature of the high-stakes examination exerted a lot of academic pressure and stress on students. The study further revealed that, most students adopted active learning approaches while

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preparing for the high-stakes examination. The study however discovered that, high-aspiring students adopted shallow learning approach as they prepared for their terminal high-stakes examinations.

Regarding the findings of the forgoing study (Smyth & Banks, 2012), although students were exposed to active learning approaches such as group work, collaborative and hands-on activities, some high-aspiring students adopted shallow approach to learning as they prepared for their terminal high-stakes examinations. This suggests that students' aspiration had the propensity of influencing the learning approach students adopt in their quest to perform very well on high-stakes examination. This implies that high-aspiring students are more likely than low-aspiring students of adopting narrowly focused approach to examination preparation; especially for examinations that have consequences attached to the results.

In their study, Simzar, Martinez, Rutherford, Domina, and Conley (2015) examined whether an association existed between the aspiration of students and their performance on low-stakes, and high-stakes examinations. The study sampled students from four schools within an urban district. The data gathered from the respondents were analysed using simple linear regression analysis.

The study found a strong association between students' aspiration and low-stakes proficiency examination; there was however a weak association between students' aspiration and high-stakes proficiency examination. The findings of Simzar et al. (2015) suggests that an individual's level of aspiration does not have a strong association with high-stakes examinations. That is to say,

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students who have high aspirations are less likely of performing excellently on high-stakes examinations.

Rodrigueza and Arellano (2016) also conducted a study using Senior High School students in California. The study sought to investigate the impact that (California High School Exit Examination [CAHSEE]), a high-stakes examination has on the educational aspiration of students. The study gathered data from respondents by making use of a database that contains information on six senior high schools in the district. Two thousand, nine hundred and ninety-one (2,991) final year students of the 2014 batch were sampled from the six schools using questionnaires. A survey was then completed by the respondents, specifying their educational goals and aspirations. Each students' performance on the California High School Exit Examination was also collated using the district-level database. Students' performance on two subjects; English and Mathematic were gathered accordingly. The data gathered was analysed using multiple regression analysis. The study discovered that high-stakes test influenced the academic and aspirational journey of students in California. Thus, the stakes attached to the California High School Exit Examination positively influenced students' aspiration to enroll in the university.

In another study, Ali (2018) conducted a study using students from different Senior High schools within the Moradabad district. The main goal of the study was to find out whether a relationship exist between students' academic achievement and their educational aspirations. Four hundred and fifty students, comprising 240 males and 210 females were randomly sampled for the study. While the total scores attained by students in their respective schools were used as a measure of their academic achievement, the Educational

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Aspirational Scale developed by Sharma and Gupta (2011) was used to obtain data on students' educational aspirations.

A simple linear regression analysis was performed using the data that were gathered. The study found that, students' educational aspiration had a contributory and positive effect on students' academic achievement. It was further discovered that, students from the urban sector differed significantly in their academic achievement compared to their counterparts who were from the rural sector. The results of the study also indicated that gender plays an insignificant role in the educational attainment of students.

In a similar study, Hooda and Devi (2018) explored the role of educational aspiration in enhancing senior high school students' achievement in Mathematics. The study which was descriptive in nature, utilised a multi-stage procedure to sample 400 students for the conduct of the study. Both the predictor variable (students' educational aspirations) and the criterion variable (students' achievement in mathematics) were measured using the Educational Aspiration scale developed by Kumar (2012) and Students' Achievement in Mathematic scale developed by Singh and Jaidka (2015) respectively. The reliability of both instruments was determined using test-retest method. Reliability co-efficients of .96 and .78 were obtained for the educational aspiration scale and the mathematics achievement scales respectively. The data collected was analysed using a simple linear regression analysis. The study found a positive significant effect of students' educational aspirations on students' achievement in mathematics. This suggests that students who have high educational aspirations are more likely of performing excellently on high-stakes examinations.

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In another study, Rayner and Papakonstantinou (2018) conducted a study using first year undergraduate biology students of Monash University in Melbourne, Australia. The study was interested in finding out whether students' grade aspiration had any impact on their actual performance in Biology. A population of 1,062 first year undergraduate Biology students were considered for the conduct of this study. A sample of 801 students comprising 287 males and 514 females were engaged in the study. Volunteer-response questions were designed to determine students' final grade aspirations as well as their confidence of achieving this aspiration. The findings of the study revealed that the grade aspiration of undergraduate students did not predict their performance Biology. That is to say, no relationship was found between students' grade aspiration and their actual performance in the biology subject.

The previous paragraphs reviewed empirical studies on the relationship that exist among high-stakes tests, students' aspirations, and students' learning approaches. Issues regarding students' aspirations and the learning approaches such students adopt in high-stakes examinations emerged from the findings of Smyth and Banks (2012). The authors discovered in their study that, high-aspiring students adopted a shallow learning approach in their quest to perform excellently on high-stakes examinations.

Another issue that emerged from the literature was the relationship that existed between students' aspiration and their academic achievement. For instance, it was apparent in the forging studies (Hooda & Devi 2008; Ali, 2018) that aspiration had a contributory and positive effect on the students' academic achievement. This finding however contradicted the findings of a number of authors (Simzar, Martinez, Rutherford, Domina, & Conley 2015; Rayner &

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Papakonstantinou 2018). In their studies. Simzar et al. (2015) discovered that students' level of aspiration does not have a strong association with high-stakes examinations. Similarly, Rayner and Papakonstantinou (2018) found that, the aspiration of undergraduate students was not a predictor of their success in academic work.

Demographic Characteristics and High-stakes Testing

Lupinski, and Jenkins (2014) conducted a study using students in the State of Georgia. The study was interested in finding out whether differences exist in male and female students' performance regarding high-stakes examinations. Students' performance in a standardised examinations written in 2013 and 2014 were used to determine if gender has an impact on test scores. Students were expected to write and pass five different courses as far as the examinations were concerned. These courses include: Mathematics, Social Studies, English Language, and Science. Both the scores of male and female students in the aforementioned courses were collated and analysed to uncover whether gender had an influence on students' performance.

The study discovered that male students obtained higher scores in Science and Mathematics compared to their female counterparts. In the same vein, female students attained higher scores in English Language relative to their male counterparts. In furtherance, a comparison of students' performance in both years (i.e., 2013 and 2014) indicated that, a higher percentage of female students obtained the required cut off points for the high-stakes examinations. This suggests that, more females performed excellently in the high-stakes examinations for both years compared to their male colleagues.

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Azmat, Calsamiglia, and Iriberri (2015) also conducted a study using students who attended top-notch senior high schools in Spain. The investigation sought to discover whether differences exist in male and female students' performance in high-stakes examinations. The students who served as the sample for the study, were made to write a number of examinations. These examinations had varying degrees of stakes, ranging from high, low and medium. While the medium and low stakes examinations were written by students at the end of a particular semester, the high-stakes examinations were written by students at the end of an academic year. The study discovered that, female students performed better in both the low-stakes and high-stakes examinations compared to their male counterparts. It was also discovered that, although female students outperformed their male counterparts in both the low-stakes and high-stakes examinations, the difference in performance was larger for the low-stakes examination compared to the high-stakes examination.

Contrary to the discoveries of the aforementioned studies regarding the relationship between gender and high-stakes testing, Zawistowska (2017) conducted a study using senior high school students' performance on an exit examination in Poland. The investigation was interested in finding out whether female and male students performed differently on a Matura Mathematics examination. This examination is often written by senior high school students after completing a three-year duration of education. The basic level examination has been a compulsory subject for all students who desire to start a tertiary education. This examination is necessary to start education on most engineering programmes.

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The population for this study comprised students of secondary school who took the "New Matura" in 2015. The examination covered students of post-gymnasium schools (schools focused on preparing students to enter the university). The study discovered that, male students obtained higher scores on the exit examination compared to their female colleagues. This suggests that, the male students who sat for the examination, performed better than their female counterpart on Matura examination in Mathematics.

In another study, Brailovsky, Grand-Maison, Miller, and Rainsberry (1997) conducted a study by sampling students who sat for the 1993, 1994 and 1995 Quebec licensing examinations. The intent of the study was to find out whether male students outperformed their female colleagues on a Quebec licensing examination. The authors discovered that, female students performed more excellently, year after year, on the Quebec licensing examinations relative to their male counterparts. This suggests that, gender played a key role as far students' performance on the Quebec licensing examinations was concerned.

In their study, Attali, Neeman, and Schlosser (2018) conducted a study to uncover whether male and female students performed differently on high-stakes and low-stakes examinations. The sampled students were made to write a high-stakes Graduate Record Examination (GRE). More so, students who participated in the study were also made to complete a voluntary low-stakes examination that was found in a section of the GRE. The examiners took the opportunity to compare the performance of the individual students on the high-stakes and low-stakes examinations. In this study, the examinees were aware of the fact that, the "high-stakes" examination had an important implication or consequence for success in life. It was discovered that, male students

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outperformed their female counterparts in the GRE high-stake examination. The performance of the male students however dwindled in the GRE low-stakes situations. This finding provides enough evidence to support the fact that male and female students performed differently on high-stakes as well as low-stakes examinations. The performance of male students in the two different examinations could suggest that, the examination scores for both the "high-stakes test" and the "low-stakes test" have different consequences or implications. Thus, unlike the consequences of the low-stakes tests, students who do not pass high-stakes tests cannot progress to the next level of their academic ladder.

In another study, Anim (2020) examined the perceived washback repercussions of high-stakes examination on the teaching and learning of students. The study which was descriptive in nature, utilised purposive and disproportionate stratified sampling techniques to sample 218 business teachers and 380 business students. Both teachers and students who served as the respondents for the study, were made to respond to a number of items on a questionnaire regarding high-stakes examinations. The data collected were analysed using frequencies and percentages, means and standard deviations as well as MANOVA. The study discovered that both students and teachers had negative perception about the WASSCE examination. The study further found out that test preparation activities dominated teachers' classroom practices. Regarding the washback effect of high-stakes examinations on students' academic level, the findings of the study discovered a non-significant difference on the combined criterion variables (washback effect) among students in terms of the academic level of students (SHS 1, SHS 2, SHS 3), F (6, 628) = .974, p

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> .729; partial eta squared = Wilks' Lamba Trace V = .974. That is to say, the study discovered a non-significant difference of washback effects of WASSCE among SHS 1, SHS 2 and SHS 3 students. This implies that the effect of WASSCE as a high-stakes test was not different for students in the various academic levels (SHS 1, SHS 2, and SHS 3). The study concluded that WASSCE as a high-stake test influences teaching and learning intended and unintended at the Senior High School.

Conceptual Framework

Based on the empirical review, this study proposes relationships among the stakes of university examination, students' learning approaches, and students' aspiration. Figure 1 presents the relationships.

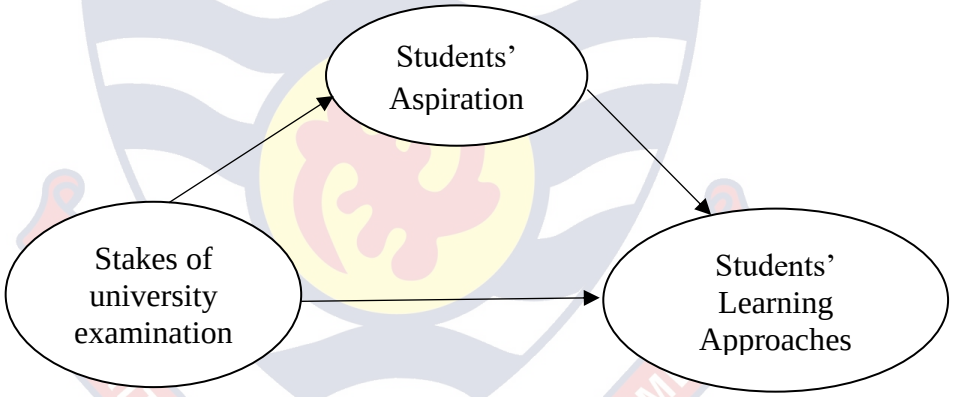

Figure 1- Relationships among stakes of university examination, students' learning approaches, and students' aspiration.

As shown in Figure 1, the study proposed a direct relationship between the stakes of university examination and students' learning approaches. That is, students are likely to adopt a particular type of learning approach due to the stakes attached to university examinations. Again, it is proposed that, the stakes of university examination has a direct influence on students' level of aspiration. Similarly, students' aspiration may have a direct influence on the learning approach they adopt in their studies. Thus, students are likely to adopt a

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particular type of learning approach based on their level of aspirations. Lastly, figure 1 proposed that, students' aspiration would mediate the relationship between the stakes of university examination and students' learning approaches.

Chapter Summary

The literature highlighted the influence of high-stakes test on students' learning approaches. The literature was captured under four (4) categories. These categories include the conceptual review, theoretical review, conceptual framework, as well as the empirical review. Issues such as the concept of high-stakes testing, reforms in the use of high-stakes testing, students' learning approaches, the concept of aspirations as well as the concept of test anxiety were captured under the conceptual review. Similarly, the theoretical review expatiated on two theories that guided the conduct of the study; the classical true-score theory and the achievement motivation theory. Regarding the conceptual framework, a pictorial representation of the variables that underlined the study as well as the relationship that existed among them was presented. Finally, empirical studies were reviewed based on the objectives of the study.

Empirical studies on the relationship between high-stakes testing and students learning approaches were discussed. Majority of the studies reviewed shows that students adopted both shallow and deep learning approaches in their quest to perform very well on high-stakes examination. It was evident in literature that students who relied so much on memorisation in order to perform in high-stakes examinations were unable to transfer or apply in real life what they learnt in the classroom. In exception of few studies that were conducted among students of higher education, most of the studies were conducted among Senior High School students, especially in countries where the educational

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systems seem to differ from that of Ghana. It appears however, that there is no known study on the mediating role of students' aspiration in the relationship between high-stakes test and students' learning approaches. The present study examines the mediating role of students' aspiration in the relationship between high-stakes test and students' learning approaches. Basically, the study examined whether students with high aspiration would adopt either a deep, shallow or strategic learning approach in the face of university high-stakes examinations. The next chapter presents the research method employed in carrying out the study.

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CHAPTER THREE

RESEARCH METHODS

The current investigation aimed at examining the mediating role of students' aspiration in the relationship between the stakes of university examination and students' learning approaches in the University of Cape Coast (UCC). The chapter, specifically, presents a step-by-step procedure in gathering valid and reliable information as well as how the data is analysed with the aim of achieving the overall objective of the study. The chapter is organised into the following sections: research design, study area, population, sampling procedure, data collection instrument, data collection procedures, data processing and analysis, and chapter summary.

Research Design

Research design is the overall plan of a researcher to obtain responses to research questions or to test hypotheses of a particular study (Amedahe & Asamoah-Gyimah, 2015). The research design provides a framework on which the entire research activity is executed. The research design basically entails the chronological procedures that the researcher employs in the conduct of an empirical inquiry for the generation of information that can be subsequently analysed and interpreted. There are different types of research design, however, the choice of a particular design is mainly dependent on the identified set of problems to be addressed, research questions and/or hypotheses involved, and the study group among, others. In line with this study's aim of ascertaining the

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possible mediating effect of students' aspiration in the interactionism between the stakes of university examination and students' approaches of learning in UCC, I deemed it justifiable to employ the descriptive design of research in carrying out this investigation.

The study, therefore, adopted the descriptive survey design, specifically, the cross-sectional design. This is a type of design where researchers are particularly attentive to describing the characteristics and behaviours of a large population about a particular topic or issue at a particular point in time (Fraenkel, Wallen, & Hyun, 2012). In survey designs, investigators administer a survey instrument to a sample or to the entire population of people to measure the attitudes, behaviours, or characteristics of the population. In this procedure, survey researchers collect quantitative data using questionnaires, and analyse the data to describe trends about responses to questions and to test research questions or hypotheses.

This present investigation studied the mediating role of students' aspiration in the interaction between high-stakes tests and students' learning approach in UCC, and thus fits perfectly in Cohen, Manion and Morrison's (2007) explanation that, descriptive design simply describes the prevailing characteristics of the variables studied at a given period of time. In the employment of the survey, data were solicited regarding the role that aspiration plays in the relationship between high-stakes tests and the learning approaches that students pursuing undergraduate studies adopt in UCC. In this light, a couple of questions were posed and subsequently analysed in statistical terms to mitigate the identified problems for which the study was conducted. The chief study intent was to be adequately informed about students' views on the

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relationship among high-stakes testing, students' aspiration and students' learning approaches; by selecting some and surveying them, and relating the findings to the universal set of students (Leedy & Ormrod, 2010). This is because the entirety undergraduate student population was very large and as a result, could not be studied accurately due to difficult accessibility to all participants within the duration of the research and also limited resources in reaching out to all the participants (Neuman, 2007).

The use of descriptive survey design in conducting this research was in the right direction since it aimed at gathering information from regular undergraduate students and describe them as it were, without any form of manipulation. Furthermore, descriptive design allows easy observation of participants in their natural setting without necessarily altering the setting. Essentially, descriptive studies may serve as a basis for additional future studies since the findings can also be applied in different setups, coupled with the feasibility of testing the variables of interest in other contexts. Put differently, the finding of a descriptive study may show the necessity to conduct further studies on the variables of interest at other places and with different populations. They provide a meaningful picture of events and seek to explain high-stakes testing consequences on students' learning approach at one point in time.

In spite of the strengths of descriptive design, I really acknowledge the challenges associated with its use. They are susceptible to the investigator's bias since respondents are restricted to particular responses, neglecting the experiences of respondents (Amedahe & Asamoah-Gyimah, 2015). For example, errors due to the use of questionnaires might distort a research finding. Descriptive studies do not determine cause and effect relationships. Despite

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descriptive survey's wide scope of coverage, the data that are produced are likely to be deficient as a result of respondents' inability to understand the responses or statements. Moreover, the characteristic of having a large population may prevent the investigator from cross-checking for correctly answered statements or items. Counterbalancing the pros and cons associated with the use of descriptive survey design, I realised that the pros outweighed the cons. I, therefore, adopted it in this current study.

Study Area

UCC is one of Ghana's foremost publicly owned universities which is sited in the cosmopolitan city of Cape Coast, Central Region. As a result of Ghana's heightened search to acquire trained and competent workforce in the educational sector, UCC was established in 1962. It was established to prepare graduate instructors for second-cycle schools like teacher training colleges and technical schools, a goal that the two known public universities were ill-equipped to carry out. Since then, the institution has expanded its responsibilities to include the grooming of people with interest in agriculture, medical practitioners and other health-care professionals, as well as administrators and planners in the educational sector. Pursuant to the university's mission, UCC modernised its bachelor programmes from Bachelor of Arts with Diploma in Education, Bachelor of Science with Diploma in Education, and Bachelor of Education to B.A /B. Sc with non-education content and a Bachelor of Education, which is a professional qualification in Education.

UCC offers a wide range of undergraduate and graduate courses spanning from Bachelor of Arts (BA), Bachelor of Commerce (B.Com.), Bachelor of Education (B.Ed.), Bachelor of Science (B.Sc.), Bachelor of Laws

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(Literally Legum Baccalaureus, LLB), Master of Arts (M.A.), Master of Business Administration (M.B.A), Master of Commerce (M.Com.), Master of Education (M.Ed.), Master of Science (M.Sc.), Master of Philosophy(MPhil), Bachelor of Medicine/Surgery (M.B.Ch.B.), Doctor of Optometry (O.D.), and Doctorate of Philosophy (Ph.D.).

Presently, UCC is organised under six independent colleges which include: College of Agriculture and Natural Sciences (CANS), College of Distance Education (CoDE), College of Humanities and Legal Studies (CHLS), College of Education Studies (CES), College of Health and Allied Sciences (CoHAS) and School of Graduate Studies and Research. From an initial enrolment of 155 in 1963, UCC now has a total population of 76,368 (Student Records & Management Information Sector, UCC, 2019). It comprises 20,607 regular undergraduate students, 1445 sandwich undergraduate students, 1014 regular post graduate students, 2773 sandwich postgraduate students, 48,989 distance undergraduate students and 1540 post graduate distance students.

Population

This study covered all undergraduate regular students in UCC, with a total number of 20,607 comprising 8,725 females and 11,882 males for 2019/2020 academic year (Student Records & Management Information Sector, UCC, 2019). These students were however, under only four colleges. These colleges were CANS, CHLS, CES, and CoHAS. This study was limited to Level 100-400 students which were 20,607 in total. Table 1 provides details of the population.

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Table 1 - *Population of Students*

COLLEGE	LEVEL OF STUDY										
	100		200		300		400		TOTAL		
	M	F	M	F	M	F	M	F	M	F	ALL
CHLS	1311	1266	1029	825	1082	877	968	736	4390	3704	8094
CES	851	974	670	624	667	522	613	451	2801	2571	5372
CANS	910	321	843	288	695	235	564	174	3012	1018	4030
CoHAS	445	411	419	367	425	378	390	276	1679	1432	3111
Sub-total	3517	2972	2961	2104	2869	2012	2535	1637	11882	8725	**20607**

Source: Field survey (2020)

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Sampling Procedures

The sample size for this study was chosen based on the assertions of Krejcie and Morgan (1970) as well as Glenn (1992). According to Krejcie and Morgan's table for determining sample size, a population of 20,607 takes a minimum sample of 379. Glenn (1992), however, asserted that it is necessary for adjustment to be made in sample sizes in cases where comparative analysis of subgroups is conducted. Since one of the objectives of this study focused on comparing subgroups in the sample, the sample of 379 obtained from Krejcie and Morgan was doubled. The final sample was therefore 758.

To get the individual participants, I employed a multi-stage technique of sampling to select the 758 students. First, a quota sampling technique was proportionately utilised in determining the number of respondents to be sampled out of the element in the population. The elements in the population include three main sub-groups. These sub-groups include: College, level of study, and gender of respondents (e.g., 31 level 100 male students in the College of Education). The quota sampling technique which is the non-probability equivalent of stratified sampling technique was deemed appropriate because it was technically impossible for the researcher to get the list of all students in the population (sampling frame). To roll-in the participants, I conveniently sampled students who were willing and ready to participate in the study. Table 2 provides details of the sampled students.

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Table 2- *Proportions of Students Sampled within Colleges, Gender and Level of Study*

COLLEGE	LEVEL OF STUDY										
	100		200		300		400		TOTAL		
	M	F	M	F	M	F	M	F	M	F	ALL
CHLS	48	47	38	30	40	32	36	27	162	136	298
CES	31	36	25	23	25	19	22	17	103	95	198
CANS	33	12	31	11	25	09	21	06	110	38	148
CoHAS	16	15	15	14	15	14	15	10	61	53	114
Sub-total	128	110	109	78	105	74	94	60	436	322	**758**

Source: Field survey (2020)

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Data Collection Instruments

Questionnaires were used in gathering information for this research (See Appendix C). I designed and validated some of the questionnaire's scales while others were adapted as standardised scales from other authors (Spielberger, 1980; Duff, 1997). The decision to use questionnaire is justifiable since it is affordable and can be distributed on a large scale over a short period of time (Creswell, 2012; Newman, 2007).

In the utilisation of a questionnaire, the presence of the principal investigator is not strictly necessary since research assistants could administer the questionnaire on his/her behalf (Leedy & Ormrod, 2010). In this study, I recruited and oriented four colleagues to help in the administration of the questionnaire. The self-report nature of questionnaire increases the risks of respondents giving false information which could in turn affect the validity of the findings (Leedy & Ormrod, 2010). However, I made several efforts to assure respondents that the data will be kept confidential and anonymous after seeking for their consent and that they were at liberty to drop out of the study any time they wish. Respondents were also asked to provide responses as frankly as possible (Neuman, 2007).

The questionnaire comprised five parts labelled from 'A' to 'E'. Section 'A' comprised items soliciting for respondents' background data. The demographic variables included gender, level of study, college, and programme of study. Additionally, Section 'B' contained 23 items soliciting data regarding stakes of university examination. These items were constructed based on relevant literature

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(Johnson, Johnson, Farenga, & Ness, 2008; Astone & McLanahans, 1991) and were validated accordingly. Section 'C' was made up of 30 items adapted from Duff (1997), and this solicited information on students' learning approaches. Section 'D' was made up of 17 items constructed and validated by the researcher (me), and this measured students' aspiration. These items were constructed based on relevant literature (Ali, 2018; Rojewsksi, 2005, Nauta, Epperson, & Kahn, 1998, Quaglia & Cobb, 1996). Lastly, Section 'E' was made up of 20 items adapted from Spielberger (1980), which solicited information on test anxiety.

Stakes of University Examination

I personally designed and validated the stakes of university examination scale. The scale was developed based on available literature as well as my personal experience. According to Johnson, Johnson, Farenga and Ness, (2008) the nature of high-stakes tests puts a lot of pressure on students, in their quest to perform excellently on these tests. That is to say, since high-stakes tests have repercussions on students' success notably grade promotion or graduation, there is often so much pressure on students to obtain good scores in high-stakes tests. Additionally, parents often influence their children's performance on high-stakes tests through pressure and involvement (Astone & McLanahans, 1991). Thus, guardians having elevated levels of aspirations for their wards in performing excellently on high-stakes tests, often monitor the school progress of their wards; such parents also communicate regularly with their children regarding the importance of performing well high-stakes examinations (Astone & McLanahans, 1991). Based on the broad

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indicators in the literature, the stakes of university examination scale was constructed in two dimensions; pressure on students and pressure from parents/sponsors/guardians.

Fourteen (14) items were crafted to solicited information on the first dimension of the scale (pressure on students). Similarly, 9-items were crafted to solicit information on the second dimension of the scale (pressure from parents). All in all, 23-items were used to measure the construct, "stakes of university examination."

In fact, all items listed on the scale were close-ended questions which means that statements were specified in advance for respondents to provide answers to them. McInerney (2001) believes that when questions are specified in advance, the researcher is likely to gain only limited, and perhaps, distorted information. To reduce this effect, items are constructed from a wide range of behaviours which demonstrates students' perspective of high-stakes test. This, according to Allen and Yen (2002), helps to ensure high validity of the findings. The scale also had positive questions of which responses were followed a 4-point Likert scale type of measurement: 1 = Strongly disagree, 2 = Disagree, 3 = Agree and 4 = Strongly Agree.

Learning Approaches

Approaches to students' inventory (ASI) was developed by Entwistle, Hanley, and Hounsell in 1979. Since its development in the United Kingdom, the inventory has undergone a number of extensive revisions to reflect the changes that

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have erupted higher education over the past 20 years. The extensive revision in the ASI led to the creation of the Revised Approaches to Studying Inventory (RASI) in 1992. The RASI is a 60-item questionnaire that assesses five dimensions: Deep Approach, Surface Approach, Strategic Approach, Apathetic Approach and Academic Aptitude. An abridged version of this inventory appeared in 1994 with 38 items, this time measuring five dimensions labelled: Deep Approach, Surface Approach, Strategic Approach, Lack of Direction and Academic Self-confidence.

The psychometric attributes of RASI have been confirmed by many authors since the extensive revision of the ASI was achieved. For instance, Tait and Entwistle (1996) conducted an investigation and sampled 640 UK bachelor students. A study that used the 1992 version of the RASI and reported scores of high internal consistency reliability (alpha coefficients ranging from .73 to .83 for the five dimensions) and high construct validity, indicated by a factor analysis. In a similar study, Sadler-Smith (1996) sampled 245 UK business students. Sadler-Smith used a 38- item version of RASI and reported values of generally satisfactory internal consistency reliability (α = .70 – .82 for four scales and an unacceptably low value of .29 for one scale, lack of direction), and high construct validity, which was revealed by conducting an exploratory factor analysis.

As an attempt to produce a short version of RASI, Duff (1997) found some evidence for the construct validity of the scores produced by three defining learning strategies scales of the RASI. These tripartite defining strategies were deep, shallow and strategic approaches. These tripartite defining strategies were also confirmed

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by Sadler-Smith and Tsang (1998) in one previous exploratory factor analysis. In view of this, Duff (1997) developed an abridged version of the RASI. The abridged RASI eliminated items that comprised the lack of direction, academic self-confidence and metacognitive awareness subscales.

The short-form scale of RASI which was adapted for this study, was developed to measure students' learning strategies in higher education. Students' learning strategies ware measured on three dimensions: deep, shallow and strategic. The inventory was made up of 30 items, with 10 items under each of the three dimensions. These items followed a 4-point Likert-scale type of measurement: 1 = Strongly disagree, 2 = Disagree, 3 = Agree and 4 = Strongly Agree. A widely known factor analysis modelling technique such as principal-axis factoring was used to establish psychometric properties of the instrument. Additionally, Cronbach alpha coefficient was used in establishing the internal consistency reliability of the various dimensions.

The reliability estimate was found to range from .80 -.82. Specifically, the reliability estimates obtained for the various aspects of the scales include: deep learning approach = - 0.80, surface learning approach = - 0.80, and strategic learning approach = - 0.82. All in all, the responses given to the 30-item version of RASI provided an acceptable internal consistency reliability on the three defining approaches to learning as measured by Cronbach's alpha coefficients. Through a statistical means, Duff found the 30-item version of RASI to be reliable and valid in obtaining information on students' learning approaches. Thus, the 30-item

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version of RASI was comparable to the original version of the AS1 (Entwistle & Ramsden, 1983; Ramsden & Entwistle, 1981) in terms of psychometric properties. The 30-item version of RASI however present has a strength of taking comparably shorter period to finish, it also avoids respondents' fatigue and ensures respondents' co-operation (Entwistle & Tait, 1995; Wolf, 1988).

It is also important to emphasise that, in order for the adapted scale to contextually squeeze in the current enquiry, some items on the scale were reworded to enhance easy understanding on the part of the respondents. For example, a statement like "I usually set out to understand for myself the meaning of what we have to learn" was reworded to "I usually make time to understand for myself what we have to learn." These rewording were essential because the sample that was used for the current study differed from the sample that was used in constructing the instrument. While that original instrument was structured using undergraduate students from United Kingdom University, this study was conducted using students from UCC, Ghana.

Students' Aspirations

I personally designed and validated the students' aspiration scale. All items on the scale were constructed based on relevant literature. According to Quaglia and Cobb (1996) aspiration encompasses students' capability in the identification and setting of long- term goals, and at the same time, working towards the achievement of those goals. The authors also mentioned that aspirations are basically categorised under either educational aspirations or occupational

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aspirations. While educational aspirations reflect the educational goals students set for themselves, occupational aspirations reflect the career/occupational goals students set for themselves (Ali, 2018, Nauta, Epperson, & Kahn, 1998; Quaglia & Cobb, 1996). Based on the broad indicators in the literature, the students' aspiration scale was constructed in two dimensions: educational aspiration and occupational aspirations.

The students' aspiration scale had both positive and negative items of which responses adhered to a 4-point Likert-type scale of measurement. In scoring the items on the scale, negative items were scored on a point scale, ranging from 1-4. That is, strongly agree was valued 1-point, agree for 2-points, disagree is 3-points, and strongly disagree for 4-points. For positive items, strongly agree was 4-points, agree 3-points, disagree 2-points and strongly disagree 1-point. Apart from item number 9, all the other items on the scale were positive items. Seventeen items (17) were used to measure the construct, "students' aspiration." Ten out of the 17-items were crafted to solicited information on the first dimension of the scale (educational aspiration) whiles the remaining 7-items solicited information on the second dimension of the scale (occupational aspiration). In order to ensure high content validity, items were constructed from a wide range of behaviours which demonstrate students' aspiration (Allen & Yen, 2002).

Test Anxiety

The Test Anxiety Inventory (TAI) scale was developed by Spielberger in 1980. TAI is a self-report scale comprising 20 items. In measuring differences

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among individuals regarding test anxiety as a situation-specific personality, the scale was designed. In the view of Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi, and McCann (2005), TAI is the number one instrument for measuring high school and collegiate students' test anxiety. The major goal that necessitated the invention of TAI were to design a comparatively succinct, real, self-report scale and to employ factor analytic procedures for developing sub-dimensions for quantifying apprehension and emotions as the major parts of test anxiety.

While developing the scale, items sourced from related anxiety test measures were adapted and revised. Items related to intelligence tests or that described conditions or attributes not directly related to the anxiety experienced during examinations (e.g., study habits, attitudes about tests) were deleted, and new items with content validity as measures of test worry and emotionality were constructed.

TAI was particularly invented to quantify the test anxiety of high school and collegiate students. It is made up of three subscales: Test Anxiety-Trait (TAI-T), Test Anxiety-Worry (TAI-W), and Test Anxiety Emotionality (TAI-E). In responding to TAI, respondents indicate on a 4-point Likert type scale: 1 = Almost Never, 2 = Sometimes, 3 = Often and 4 = Almost-Always, the frequency at which they experience a definite manifestation of test anxiety. An overall score for the scale is based on all the 20 responses. Eight items of TAI measure the TAI-E, eight items measure TAI-W, and the remaining four measured TAI-T. The reliability

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estimate of the TAI scale was examined using Cronbach's alpha reliability method. The reliability coefficients obtained for various scales were as follows: .96 for TAI-T, .91 for TAI-W and .91 for TAI-E. The reliability coefficient ranged from .91 - .96, an indication of good internal consistency.

It is worth mentioning that the scale has been used by a number of studies due its high psychometric properties. For instance, Shermis and Lombard (1998) studied the effect of test anxiety on students' academic outcome. TAI was administered to 72 bachelor collegiate students to gather information on their level of anxiety. The respondents for the study comprised 52 females and 20 males within the age bracket of 18-50 years. In another study, Hong (1999) adapted TAI in examining the perceived effect of test anxiety on the academic output of bachelor students. Two hundred and eight (208) bachelor students participated in the study. Data was gathered from these students prior to and after their summative assessment. Eight items of TAI were used: four items for Worry and four for Emotionality Subscales. The internal consistencies preceding the examination for Worry and Emotionality Subscales were .80 and .91, respectively. Similarly, internal consistencies after the examination were .88 and .93, respectively.

Additionally, in his quest to measure test anxiety, Ali (2012) administered TAI questionnaire to 1,845 second cycle school science students This instrument was initially interpreted into Urdu language and then it was standardized. The two-factor structure which comprised worry and emotionality subscales showed acceptable construct validity and reliability. Considering the aforementioned

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evidences and high psychometric properties of Spielberger's TAI, the scale was adapted for the conduct of this present investigation. In order for the adapted scale to fit into the context of this enquiry, some items on the scale were rephrased to enhance easy understanding on the part of the respondents. For instance, a statement like "I feel very jittery when taking important test" and "I feel very panicky when I take important test" were rephrased to "I feel very nervous when taking an important test" and "I feel very frightened when I take an important test" respectively. These rewording were necessary because the sample for the study differed from the sample used in the developing the main instrument. While the original TAI was structured using high school and college students, this study used university students.

Pilot testing

The questionnaire was once again pilot-tested with 115 regular bachelor students in the University of Education, Winneba (UEW). This was done to enhance the validity and reliability of items on the questionnaire before a final data collection. Additionally, the adopted scales were also pilot tested to determine whether the items on the questionnaire portray the intended meanings by the original researchers in Ghanaian context.

Results and feedback on the pilot test were used to refine the instrument before the final data collection. The instrument was finally validated. The validation was done using the Smart Partial Least Squares (SmartPLS), which was introduced by Ringle, Wende, and Will (2005). This type of SEM is very efficacious in

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performing a confirmatory factor analysis. In the confirmatory factor analysis, the theoretically predetermined factor structure is confirmed by the current data. In other words, in the confirmatory factor analysis, factors to be loaded on an observed variable are predetermined. Thus, for the purpose of this study, the various scales of the instrument were confirmed with the collected data by means of confirmatory factor analysis

In terms of the factor analysis, the factor loadings, construct validity, and reliability were determined. Items, which had low factor loadings (thus, below .30) were discarded before the final data collection (Pallant, 2010). In addition, convergent validity was assessed using AVE of .50 or more (Fornell & Larcker, 1981). The discriminant validity was assessed using the Heterotrait-monotrait (HTMT) ratio of correlation proposed by Henseler, Ringle and Sarstedt (2015).

Henseler et al. found that HTMT is able to achieve higher specificity and sensitivity rates (97% to 99%) compared to the cross-loadings criterion (0.00%) and Fornell-Lacker (20.82%). HTMT values close to 1 indicates a lack of discriminant validity. Using the HTMT as a criterion involves comparing it to a predefined threshold. If the value of the HTMT is higher than this threshold, one can conclude that there is a lack of discriminant validity. Kline (2011) suggested a threshold of 0.85 In addition, Gold, Malhotra, and Segars (2001) argued with it and proposed a value of 0.90.

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Results of the pilot testing

This section comprises the results of the pilot test. A total of 115 sample was used for the pilot testing. The various sub-sections of the questionnaire (Stakes of University Examination, Students' Aspiration, Students' Learning Approaches and Test Anxiety) were validated before the final data collection. I conducted a Confirmatory Factor Analysis (CFA) using SmartPLS software version 3.0. This was done to determine the factor loadings, the construct validity, the reliability of the scales. The subsequent paragraphs present the results of the validation according to the various scales used in the conduct of the study.

Stakes of University Examination Scale

This aspect outlines the results on the validation of the "Stakes of University Examination Scale". The details of the confirmatory factor analysis are presented in Tables 3, 4, 5 and Figure 1.

As shown in Table 3, the factor loadings of items B2, B4, and B5 were below .30, as a result, these items were discarded since their factor loadings were below the recommended loading (Pallant, 2010).

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Table 3- *Factor loadings of the Dimensions of the High-stakes Scale*

Dimensions	Items	Factor Loadings
Pressure on students	B1	.319
	B2	.288 *
	B3	.616
	B4	.221 *
	B5	.282 *
	B6	.529
	B7	.314
	B8	.632
	B9	.69
	B10	.542
	B11	.672
	B12	.548
	B13	.399
	B14	.771
Pressure from parents	B15	.345
	B16	.721
	B17	.778
	B18	.423
	B19	.666
	B20	.586
	B21	.488
	B22	.752
	B23	.761

B1 – B23 = questionnaire items (see Appendix C); *items discarded

Discriminant Validity

The discriminant validity of the instrument was assessed using the Heterotrait-monotrait (HTMT) ratio of correlation proposed by Henseler, et al.

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(2015). Kline (2011) suggested a threshold of 0.85. In addition, Gold et al. (2001) proposed that, HTMT values that are less than 0.90 are recommended as good indicators of discriminant validity. The results of the discriminant validity is presented in Table 4.

Table 4 - *Discriminant Validity (High-stakes Scale)*

Dimensions	Pressure on Students	Pressure from Parents
Pressure on Students	-	-
Pressure from Parents	.714	-

The results in Table 4 revealed that, the correlation between the two dimensions of the scale: "pressure on students" and "pressure from parents" was .714. According to Gold, et al. (2001), in using HTMT, values that are less than 0.90 are recommended as good indicators of discriminate validity. Comparing this value (.714) to the predefined threshed proposed by Gold, et al. implies that discriminant validity was established. This therefore, implies that all the items on the high-stakes scale have to be grouped under their respective dimensions.

Reliability and Convergent Validity

The reliability (internal consistency) and convergent validity of the scales on the questionnaire were also estimated. An alpha value of .70 or above was considered appropriate for internal consistency (Karagoz, 2016). The coefficients are presented in Table 5.

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Table 5 – *Reliability and Convergent Validity of the Dimensions of the High-stakes Scale*

Dimensions	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Pressure on students	.83	.86	.82	.30
Pressure from parents	.87	.87	.85	.40

From Table 5, the Cronbach's Alpha coefficients for pressure on students and pressure from parents were .83 and .87 and their corresponding composite reliability were .82 and .85 respectively. Generally, these coefficients are good indicators of internal consistency, since they were not below .70. The results in Table 5 further revealed that all the AVEs (Average Variance Extracted) were less than .50. This suggests that convergent validity for the high-stakes scale was not established. Convergent validity was assessed using AVE (Fornell & Larcker, 1981). Figure-2 shows the model for the high-stakes scale with the factor loadings of each of the items.

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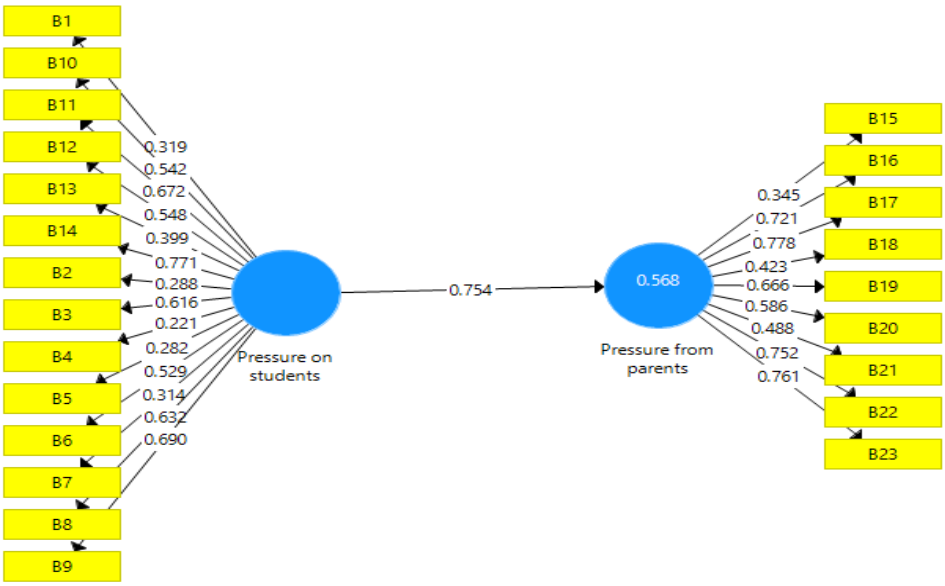

Figure 2- Measurement model for High Stakes

Revised Approaches to Studying Inventory (RASI)

This section presents the results on the validation of revised approaches to studying inventory. The details of the confirmatory factor analysis are presented in Tables 6, 7, 8 and Figure 3.

Table 6 - *Factor Loadings (RASI)*

Constructs	Items	Factor Loadings
Deep Approach	C1	.416
	C2	.314
	C3	.724
	C4	.408
	C5	.759
	C6	.577
	C7	.638

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Table 6 Continued

Constructs	Items	Factor Loadings
Deep Approach	C8	.802
	C9	.304
	C10	.652
Surface Approach	C11	.445
	C12	.251*
	C13	.701
	C14	.483
	C15	.289*
	C16	.537
	C17	.73
	C18	.842
	C19	.54
	C20	.398
Strategic Approach	C21	.516
	C22	.51
	C23	.80
	C24	.591
	C25	.734
	C26	.751
	C27	.623
	C28	.595
	C29	.671
	C30	.437

CI – C30 = questionnaire items (see Appendix C); *items discarded

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As presented in Table 6, all the items had loadings above .30 in exception of items C12 and C15. These two items were discarded since their factor loadings were below the recommended loading (Pallant, 2010). The discriminant validity was assessed using Gold et al. (2001) criterion. The results are shown in Table 7.

Table 7- *Discriminant Validity (RASI)*

Dimensions	Deep	Shallow	Strategic
Deep	-	-	-
Surface	.826	-	-
Strategic	.636	.719	

The results in Table 7 showed that the correlation between the various dimensions of the RASI scale were less than .90 (Gold et al., 2001). Based on this, it was concluded that discriminant validity was established. In all, 28 items were retained for the final data collection. The reliability (internal consistency) estimate for the scales were estimated using Cronbach's alpha coefficients. The coefficients are presented in Table 8

Table 8- *Reliability and Convergent Validity Estimates (RASI)*

Dimensions	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Deep	.83	.86	.83	.34
Surface	.82	.84	.80	.31
Strategic	.87	.88	.87	.40

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From Table 8, the Cronbach's Alpha and the composite reliability coefficients for the various scales of the RASI were above .70. These coefficients are good indicators of the internal consistency of the various scales. The results in Table 8 further revealed that AVEs for the various dimensions of the scale were less than .50 (Fornell & Larcker, 1981). This implies that convergent validity for the learning approach scale was partially established. Figure-3 shows the model for the leaning approach scale with the factor loadings of each item.

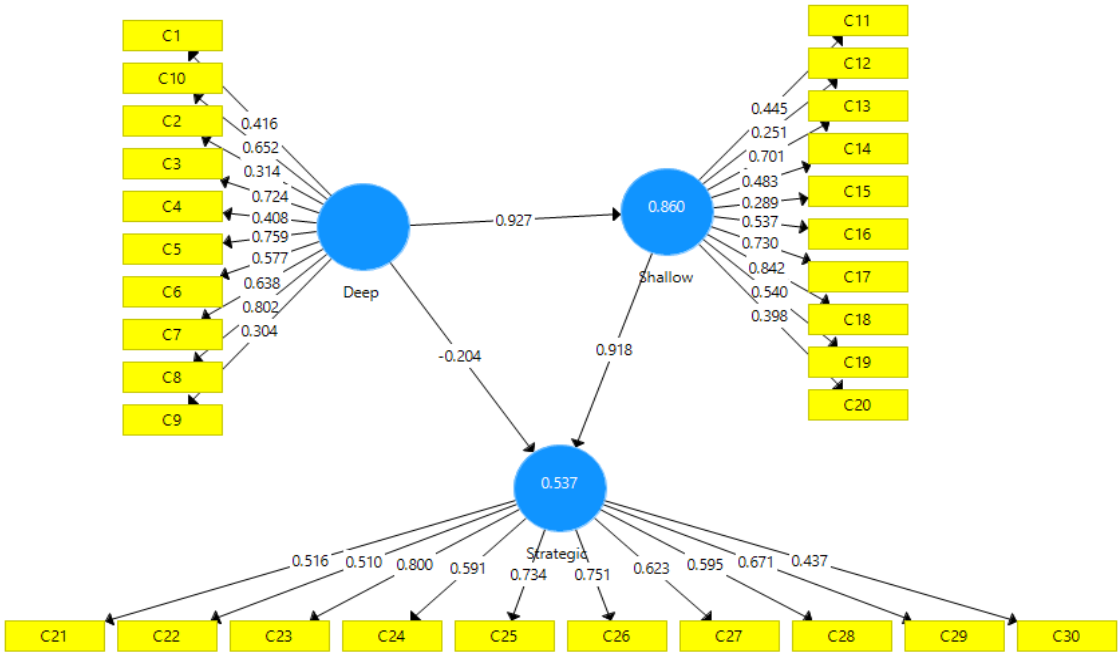

Figure 3 – Measurement model for RASI

Students' Aspirations Scale

This aspect presents the results on the validation of the students' aspiration scale, using the confirmatory factor analysis. Tables 9, 10, and Figure 4 present details of the results.

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Table 9 – *Factor Loadings (Students Aspiration Scale)*

Dimensions	Items	Factor Loadings
Educational Aspirations	D1	.675
	D2	.328
	D3	.384
	D4	.704
	D5	.223*
	D6	.741
	D7	.750
	D8	.696
	D9	-.147*
	D10	.316
Occupational Aspirations	D11	.712
	D12	.734
	D13	.507
	D14	.241*
	D15	.473
	D16	.444
	D17	.551

D1 – D17 = questionnaire items (see Appendix C); *items discarded

The results in Table 9 show that items D5, D9, and D14 had factor loadings that were below .30, these items therefore did not contribute much to the construct, they were therefore deleted. However, all the other items had loading that were above .30. The discriminant validity was also assessed using Gold et al., (2001) criterion.

Results of the discriminate validity revealed that, the correlation between the two dimensions of the students' aspiration (educational aspiration and

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occupational aspiration) scale was .825. Since this value (i.e., .825) is less than .90, it can be concluded that discriminant validity was established, therefore the scale was treated as a multidimensional scale. The reliability (internal consistency) estimates for the scales on the questionnaire were estimated using Cronbach's alpha coefficients. The coefficients are presented in Table 10.

Table 10 – *Reliability and Convergent Validity Estimates (Students' Aspiration)*

Dimensions	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Educational Aspirations	.78	.85	.76	.30
Occupational Aspirations	.74	.77	.73	.30

From Table 10, the Cronbach's Alpha and the composite reliability coefficients for students' aspiration scales were above .70. These coefficients are good indicators of the internal consistency, and show minimal errors. In addition, all the AVEs for the various dimensions of the students' aspiration scale were below .50, hence convergent validity was a problem. This suggests that the students' aspiration scale lacks convergent validity. Figure 4 shows the model for the students' aspiration scale with the factor loadings of each item.

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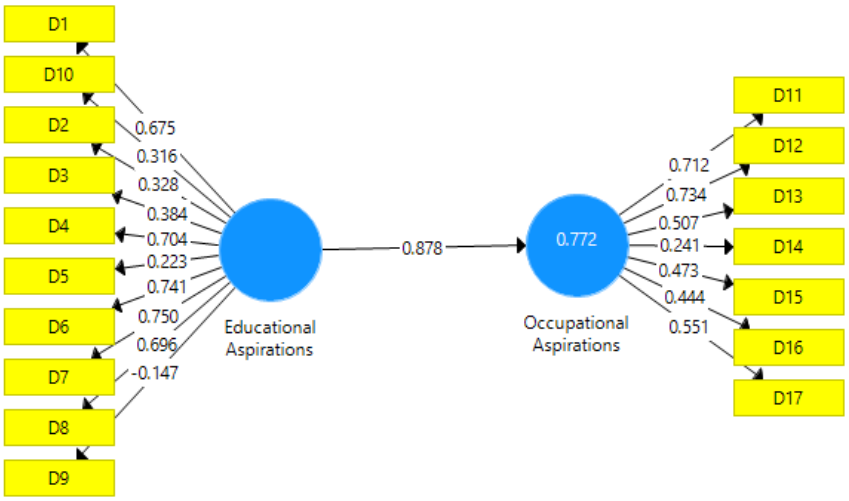

Figure 4- Measurement model for Students' Aspiration Scale

Test Anxiety Inventory

This aspect outlines the results on the validation of the test anxiety inventory. The details of the confirmatory factor analysis are presented in Tables 11, 12, 13 and Figure 5.

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Table 11 – *Factor Loading (Test Anxiety Inventory)*

Constructs	Items	Factor Loadings
Trait	E1	-.025*
	E12	.271*
	E13	.467
	E19	.344
Worry	E3	.418
	E4	.335
	E5	.469
	E6	.459
	E7	.628
	E14	.484
	E17	.647
	E20	.640
Emotionality	E2	.470
	E8	.583
	E9	.431
	E10	.479
	E11	.582
	E15	.788
	E16	.610
	E18	.607

E1 – E20 = questionnaire items (see Appendix C); *items discarded

As shown in Table 11, items E1 and E12 had factor loadings below .30, therefore, these items were discarded. These were the only items discarded since they had factor loadings below the recommended loading of .30 (Pallant, 2010).

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The discriminant validity was assessed using Gold et al. (2001) criterion. The results are shown in Table 12.

Table 12 – *Discriminant Validity (Test Anxiety Inventory)*

Dimensions	Trait	Worry	Emotionality
Trait	-		
Worry	1.206	-	
Emotionality	1.186	.848	-

From the results, the correlation among the various dimensions in exception of worry and emotionality were greater than the recommended threshold of .90 (Gold et al., 2001). Based on this, it can be concluded that discriminant validity was not fully established, the scale should be treated as unidimensional rather than multidimensional. The reliability (internal consistency) estimates for the scales on the test anxiety inventory were estimated using Cronbach's alpha coefficients. The coefficients are presented in Table 13.

Table 13- *Reliability and Convergent Validity Estimates (Test Anxiety)*

	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Trait	.18	.33	.24	.10
Worry	.75	.76	.74	.30
Emotionality	.80	.81	.80	.34

From Table 13, the Cronbach's Alpha coefficients and their corresponding composite reliability for two dimensions of the scale (Worry and Emotionality) were good indicators of internal consistency, since they were above the recommended threshold of .70 (Karagoz, 2016). The reliability coefficients for the

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trait dimension of the instrument were however poor indicators of internal consistency. The results in Table 13 further revealed that all the AVEs were less than the recommended threshold of .50 (Fornell & Larcker, 1981). This suggests that convergent validity for the test anxiety scale was not established. Figure-5 shows the model for the test anxiety inventory with the factor loadings of each of the items.

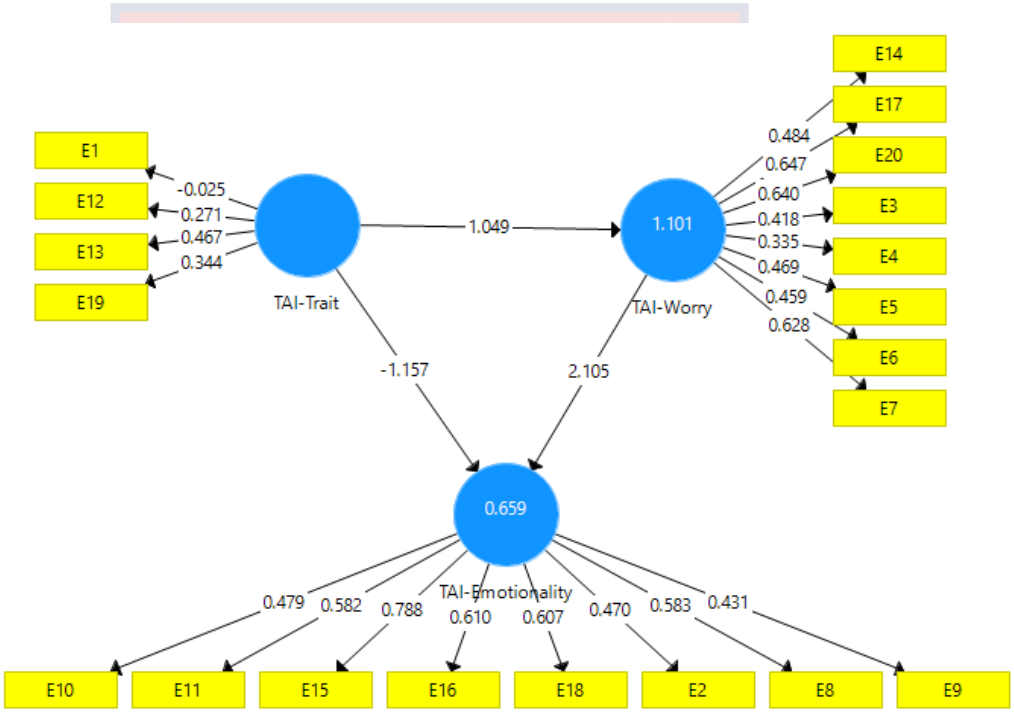

Figure 5 – Measurement model for Test Anxiety Inventory

Data Collection Procedures

An ethical clearance (see Appendix B) was given by the Ethical Review Board of the College of Education, UCC, after the proposal was submitted. An introductory letter (see Appendix A) was taken from the Department of Education and Psychology and copies were sent to the various sampled departments. This was

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necessary to ensure that the lecturers were pre-informed about the data collection. A follow-up was done to arrange for time and date which were convenient for the data to be collected, an opportunity was also taken to explain to the lecturers what the study sought to achieve and the need for the study. The date and time were arranged and data collection commenced. The data was collected in the various lecture theatres. On the specified dates, myself and four other trained research assistants, assisted in the distribution of the questionnaires by hand to the students within the various colleges. The questionnaires were retrieved immediately. This increased the return rate of the questionnaires administered. One week was used to collect data from a college. Since this study covered four Colleges, the total duration for the data collection was four weeks. A 90% return rate was achieved.

Ethical Consideration

The study conformed to the approved research protocols. Confidentiality, anonymity, right to privacy, among other ethical issues were firmly adhered to. First of all, the purpose as well as the need to conduct the study was thoroughly explained to the respondents. Respondents were however informed about the fact that, their participation in the study was voluntary, and thus, they were encouraged to provide accurate and honest information if they were willing to participate. The researcher (I) also explained to the respondents that they had the right to withdraw from the study at any point in time, but this right ended after their instrument was submitted. Respondents were also assured that the study will have no damaging effect on any part of their body. They were also assured of confidentiality. The

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respondents were also informed about the fact that, they were not required to provide names or index numbers on the questionnaire. The questionnaires were collected in a random manner such that responses provided could not be traced to any specific individual; this ensured anonymity. Lastly, the data collected were analysed as a group, and, for that matter, I had no traces of the respondents. Data collected were well-managed and kept secretly to avoid the accessibility of other people.

Data Processing and Analysis

The questionnaires were scrutinised systematically to ensure their completeness. Respondents who did not respond to more than 10% of the items on the questionnaire were eliminated (Martin & Bridgmon, 2012). The questionnaires were then numbered from one to the last number. The data was screened for entry errors and outliers. Inferential analyses (multivariate regression, multivariate multiple regression, simple mediation, simple linear regression, as well as multiple linear regression analyses) were done using a confidence interval of 95% and an alpha level of .05. Regarding the inferential analysis, the researcher checked for the normality assumptions together with other significant assumptions depending on the type of statistical analysis. To further enhance the precision of the results, the bootstrap approach was used for the inferential analyses. This procedure took care of the anomaly of the distribution of scores on the variables.

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Hypotheses 1 and 2

Data on hypotheses 1 and 2 were tested individually using multivariate simple regression analysis with 1000 bootstrap samples with bias corrected accelerated confidence intervals. The multivariate regression analyses for both hypotheses 1 and 2 were deemed appropriate because the dependent variable (students' learning approaches) for the aforementioned hypotheses had three dimensions (deep learning approach, surface learning approach, and strategic learning approach). For the purpose of an excellent interpretation of the results, it was impossible to put these dimensions together, hence the need for the multivariate regression analysis. In furtherance, for a particular result to be significant, the bootstrap upper and lower confidence interval should not contain '0', thus, both the upper and lower confidence intervals should be of the same sign ('+ +' or '- -'). This means the confidence interval does not include 0, which means the regression coefficient cannot be 0.

Hypothesis 3

The multivariate multiple regression analysis with 1000 bootstrap samples was performed to test this hypothesis which sought to examine whether students' aspiration would predict students' learning approaches. The "students' aspiration" variable which served as the predictor variable had two dimensions (educational aspiration and occupational aspiration). This variable was measured on a continuous basis. Similarly, the criterion variable "students' learning approaches" had three dimensions (deep learning approach, surface learning approach, and

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strategic learning approach). This variable was also measure on a continuous basis. This necessitated the use of the multivariate multiple regression in order to cater for the various dimensions of the predictor variable as well as the criterion variable.

Hypothesis 4

Hypothesis 4 was tested using the simple mediation model of PROCESS by Hayes (2018) with 5000 bootstrap samples. The intent of this hypothesis was to examine whether students' aspiration would explain/mediate the relationship between high-stakes and students' learning approaches. This hypothesis was tested using model 4 of PROCESS which deals with simple mediation. In this model, students' aspiration was used as a mediator in the relationship between high-stakes and students' learning approaches. Since, test anxiety confounds with high-stakes test, test anxiety was treated as a covariate in the model. All the variables were continuous-scaled variables.

Hypothesis 5

An independent samples t-test was conducted to test this hypothesis, which sought to examine whether any statistically significant gender difference exist in the stakes of university semester examinations in the UCC. An independent sample t-test considered appropriate because "gender" as a categorical variable, had two levels (male and female) whereas "stakes of university examinations" was on a continuous measure. Before the analysis, assumptions underlying the use of independent sample t-test were checked. Results from the normal Q-Q plot (see

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Appendix D) revealed that the data on the dependent variable (high-stakes test) did not violate the normality assumption.

Hypothesis 6

The Welch test instead of one-way Analysis of Variance (ANOVA) was used to test hypothesis six, which sought to examine whether any statistically significant differences exist in "the stakes of university examination" on the basis of students' academic level. Prior to the analysis, assumptions underlying the use of ANOVA were checked. Results from the normal Q-Q plot revealed that the data did not violate the normality assumption (Appendices D and E). On the contrary, the homogeneity of variance assumption was violated, this warranted the use of the Welch test. The categorical variable (i.e., academic level) had more than two groups (level 100, level 200, level 300, and level 400) while the composite score on "the stakes of university examination was measured on a continuous basis.

Chapter Summary

The descriptive survey design, specifically, the cross-sectional design, with a quantitative approach was employed in the conduct of the study. The population of this study comprised regular undergraduate students (First year to fourth year) of the University of Cape Coast, with a total number of 20, 607. Through a multi-stage sampling technique, questionnaires were administered to 758 regular undergraduate students. Seventy-eight (78) questionnaires were however not filled and returned, this resulted in a 90% response rate. Some of the scales on the questionnaire were designed and validated by the researcher using confirmatory

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factory analysis (CFA) with the help of Smart Partial Least Squares (SmartPLS) software while others were adapted as scales from others authors. Efforts were also made in ensuring validity and reliability of the results throughout the conduct of the study. The data collected were analysed using inferential statistics such as: multivariate simple regression, multivariate multiple regression, Hayes' PROCESS mediation analysis, independent samples t-test, and one-way ANOVA/Welch analyses. The bootstrap approach was used for the inferential analyses.

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CHAPTER FOUR

RESULTS AND DISCUSSION

The study examined the mediating role of students' aspiration in the relationship between the stakes of university examination and students' learning approaches in the University of Cape Coast. This investigation was carried out using descriptive cross-sectional design. Questionnaire was used to gather data from the respondents. Out of the 758 questionnaires administered, 680 of them were completely responded and returned. This led to a response rate of 90%. Hence, all the analysis in this chapter was based on 680 respondents. This chapter presents the results and discussion of the results. In terms of the results, the demographic characteristics of the respondents were presented first, and this was subsequently followed by the results of the hypotheses as well as the discussion of the results.

Demographic Characteristics of Respondents

This section presents results on the respondents based on demographic distribution. The demographic information include gender, level of study, college and programme of study.

Gender Distribution of Respondents

Out of a sample of 680 respondents, 393 of them were males (58%) whereas 287 were females (42%). This suggests that, the responses were dominated by male

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students compared to their female counterparts. This is understandable as the population of the University of Cape Coast undergraduate students is dominated by males.

Distribution of Academic Level of Respondents

The data showed that 224 students were in their first year (32.9%), 184 of them were in their second year (27.1%), 139 of the students were in their third year (20.4%) while 133 of the students were in their fourth year (19.6%). This suggests that most of the respondents were first year students.

College of Affiliation and Programme Distribution of Respondents

This study explored the college of affiliation and programme distribution of respondents. Table 14 presents detailed information on the distribution.

The results in Table 14 indicated that, out of the 680 respondents, 184 of them were affiliated to College of Education Studies (27.0%), 110 were affiliated to College of Health and Allied Sciences (16.2%), 242 were affiliates of College of Humanities and Legal Studies (35.6%), and 144 of the respondents were affiliates of College of Agriculture and Natural Sciences (21.2%).

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Table 14- *College of Affiliation and Programme Distribution (n=680)*

Colleges	Programmes	F	%
Education Studies	B.Ed. Social Studies	32	4.7
	B.Ed. Management	30	4.4
	B.Ed. Accounting	29	4.3
	B.Sc. Psychology	30	4.4
	B.Ed. Science	34	5.0
	B.Ed. Arts	29	4.3
Health & Allied Sciences	Medical Laboratory	66	9.7
	Medicine	30	4.4
	Clinical Nutrition & Dietician	14	2.1
Humanities & Legal Studies	Bachelor of Law (LLB)	27	4.0
	B.A Social Science	62	9.1
	B.Sc. Economics	46	6.8
	B.Com (Finance)	54	7.9
	B.Com (Accounting)	53	7.8
Agric & Natural Sciences	B.Sc. (Fisheries & Aquatic)	33	4.9
	B.Sc. (Engineering Physics)	41	6.0
	B.Sc. (Agro-Processing)	35	5.1
	B.Sc. (Laboratory Technology)	35	5.1

Source: Field survey (2020); F = Frequency

Hypotheses Testing

The study tested six hypotheses. Prior to testing these hypotheses, the normality assumption, which is the fundamental of all parametric assumptions was tested using mean, median, 5% trimmed mean, and the normal Q-Q plot. Details of the results are presented in Table 15.

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Table 15- *Test for Normality*

Parameters	Stakes	Approaches	Aspiration	Test Anxiety
Mean	65.463	87.554	48.125	32.452
Standard deviation	8.113	8.653	5.364	8.787
5% Trimmed mean	65.716	87.470	48.346	31.972
Median	66.000	88.000	49.000	32.000

As presented in Table 15, the mean, median, and 5% trimmed mean of the stakes, students' learning approaches, students' aspiration and test anxiety were approximately equal. This implies that the distribution of scores of the aforementioned variables were normally distributed (Pallant, 2010). Additionally, the normal Q-Q plots for all the variables were also examined (see Appendix D). From Appendix D, the normal Q-Q plots for all the variables showed that the distribution of all the scores were closer to the straight line. To further enhance the precision of the tests, the bootstrap approach was performed for the variables. This procedure worked on the standard error of the distribution of scores on the various variables used in this study, which eventually provided a better estimate.

Hypothesis 1

H_0: The stakes of university examinations will not significantly predict students' learning approaches.

H_1: The stakes of university examinations will significantly predict students' learning approaches.

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This hypothesis sought to determine whether the stakes of university examinations would predict students' learning approaches. The hypothesis was tested using multivariate simple regression analysis with 1000 bootstrap samples with bias corrected accelerated confidence intervals. The bootstrap samples were interpreted in terms of confidence intervals. For a particular result to be significant, the bootstrap upper and lower confidence interval should not contain '0', thus, both the upper and lower confidence intervals should be of the same sign ('+ +' or '- - ').

This means the confidence interval does not include 0, which means the regression coefficient cannot be 0. The predictor variable (stakes of university examination) was measured on a continuous basis. The criterion variables were the sub-dimensions of students' learning approaches (deep learning approach, surface learning approach and strategic learning approach) which were also measured on a scale. Additionally, since test anxiety confounds with high-stakes tests, the study treated test anxiety as a covariate. This was done to tell the real degree of the stakes on students learning approaches. Details of the results are presented in Table 16.

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Table 16- *Influence of High-stakes on Students' Learning Approaches*

Dependent Variable	Parameter	B	Beta	Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Deep Learning	Intercept	21.778		.006	1.129	19.395	23.986
Approach	High-stakes	.182*	.397	< .001	.017	.148	.214
	Test Anxiety	-.030	-.071	< .001	.016	-.064	< .001
Surface Learning	Intercept	7.611		-.006	1.072	5.408	9.543
Approach	High-stakes	.149*	.291	< .001	.017	.115	.183
	Test Anxiety	.140	.305	< .001	.017	.107	.175
Strategic Learning	Intercept	20.665		.045	1.239	18.234	22.955
Approach	High-stakes	.209*	.387	< .001	.019	.172	.248
	Test Anxiety	-.044	-.088	< .001	.022	-.091	-.004

Source: Field survey (2020); *Significant, $p < .05$.

Adjusted R^2 of deep learning = .149, Adjusted R^2 of surface learning = .215, and Adjusted R^2 of strategic learning =.143.

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The results in Table 16 show that high-stakes test explained 14.9%, 21.5% and 14.3% of the variances in deep learning, surface learning and strategic learning respectively. The results further revealed that high-stakes test was a significant predictor of deep learning approach, B = .18, *Boot 95%CI* (.15, .21), surface learning approach, B = .15, *Boot 95%CI* (.12, .18), and strategic learning approach, B = .21, *Boot 95%CI* (.17, .25).

This implies that, the consequences/importance students attach to university examination (high-stakes test) influences how they learn. For instance, the results indicates that, a unit increase in high-stakes test would lead to .21 increase in strategic learning approach. That is to say, students who attach a lot of importance to the results of university examinations are more likely of adopting strategic learning approach in their studies. Students who adopt strategic learning approach often organize their study routines and time in order to achieve the highest grade possible.

Similarly, the results imply that an additional increase in high-stakes test would lead to .18 increase in deep learning approach. Thus, students who attach a lot of importance to the results of university examinations are more likely of adopting deep learning approach in their studies. Students who adopt deep learning approach often try as much as possible to understand the content they study rather than memorising a particular content. Generally, the results of the study revealed that high-stakes test is a significant predictor of each of the three dimensions of learning approaches. Based on the results of the study, the null hypothesis "The

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stakes of university examinations will not significantly predict students' learning approaches" was rejected in favour of the alternate hypothesis.

Hypothesis 2

H_0: The stakes of university examinations will not significantly predict students' aspiration.

H_1: The stakes of university examinations will significantly predict students' aspiration.

The purpose of this hypothesis was to determine whether the stakes of university examinations would predict students' aspiration. The multivariate simple regression analysis with 1000 bootstrap samples was performed to test this hypothesis. The predictor variable was the stakes of university examinations, and this was measured on a continuous basis. The criterion variable was students' aspiration (educational aspiration, and occupational aspiration) which was also measured on a continuous basis. In furtherance, since test anxiety confounds with high-stakes tests, the study treated test anxiety as a covariate. This was done to tell the real degree of the stakes on students' aspirations. Details of the results are presented in Table 17.

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Table 17- *Influence of High-stakes on Students' Aspiration*

Dependent Variable	Parameter	B	Beta	Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Educational Aspiration	Intercept	14.521		.008	1.170	12.259	16.782
	High-stakes	.205*	.450	< .001	.016	.177	.236
	Test Anxiety	-.028	-.067	.001	.018	-.062	.007
Occupational Aspiration	Intercept	12.343		.014	.667	11.107	13.721
	High-stakes	.140*	.468	< .001	.010	.120	.158
	Test Anxiety	-.013	-.047	< .001	.010	-.033	.006

Source: Field survey (2020); *Significant, $p < .05$.

Adjusted R^2 of educational aspirations = .194, and Adjusted R^2 of occupational aspirations = .210.

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The results in Table 17 indicate that high-stakes test respectively explained 19% and 21% of the variances in educational expirations and occupational aspirations. It was further evident from the results that, high-stakes tests significantly predicted educational aspirations B = .21, *Boot 95%CI* (.18, .214) as well as occupational aspiration B = .14, *Boot 95%CI* (.12, .16).

The results imply that, the level of importance students attach to the results of university examinations (high-stakes) influences the intensity of their aspirations, in terms of education and occupation. The results suggests that, an additional increase in high-stakes test would will lead .21 increase in students' educational aspirations. That is to say, students who attach a lot of importance to the results of university examinations are more likely of having high educational aspirations. Students possessing high educational aspirations means that, such students are encouraged to continue their education beyond the undergraduate level, they are encouraged to qualify for some scholarship opportunities to study in top schools in the western world.

In the same vein, the results imply that a unit increase in high-stakes test will would lead to .14 increase in students' occupational aspirations. Thus, students who attach a lot of importance to the results of university examinations are more likely of having high occupational aspirations. Students possessing high occupational aspirations means that, they have goals of securing a competitive, descent and well-paid employment opportunity after school.

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Based on the results of this study, the null hypothesis which states that: "The stakes of university examinations will not significantly predict students' aspiration" was rejected in favour of the alternative hypothesis (The stakes of university examinations will significantly predict students' aspiration).

Hypothesis 3

H_0: Students' aspiration will not significantly predict students' learning approaches.

H_1: Students' aspiration will significantly predict students' learning approaches.

This hypothesis sought to examine whether students' aspiration would predict students' learning approaches. The multivariate multiple regression analysis with 1000 bootstrap samples was performed to test this hypothesis. The predictor variable students' aspirations, which had two dimensions (educational aspirations and occupational aspirations). The predictor variable was measured on a continuous basis. The criterion variable were the sub-dimensions of students' learning approaches (deep learning approach, surface learning approach and strategic learning approach) which were also measured on a scale. Table 18 presents details of the results.

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Table 18- *Influence of Students' Aspirations on Students' Learning Approaches*

Dependent Variable	Parameter	B	Beta	Bias	Std. Error	95% Confidence Interval	
						Lower	Upper
Deep Learning Approach	Intercept	18.947		.076	1.169	16.648	21.318
	Educational Aspiration	.169*	.168	-.002	.041	.085	.248
	Occupational Aspiration	.436*	.285	-.001	.064	.311	.564
Surface Learning Approach	Intercept	14.219		.068	1.366	11.611	16.962
	Educational Aspiration	.166*	.152	.003	.048	.072	.262
	Occupational Aspiration	.152*	.091	-.007	.077	.003	.286
Strategic Learning Approach	Intercept	14.990		.057	1.260	12.764	17.577
	Educational Aspiration	.302*	.255	-.001	.048	.205	.395
	Occupational Aspiration	.465*	.258	-.001	.073	.314	.609

Source: Field survey (2020); *Significant, $p < .05$.

Adjusted R^2 of deep learning = .156, Adjusted R^2 of surface learning = .043, and Adjusted R^2 of strategic learning =.197

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The results in Table 18 show that educational aspiration and occupational aspiration all together explained 15.6% of the variances in deep learning approach. The results further revealed that both educational aspiration, B = .17, *Boot 95%CI* (.09, .25); and occupational aspiration, B = .44, *Boot 95%CI* (.31, .56) were significant positive predictors of deep learning approach. Occupational aspiration was however a higher predictor of deep learning approach compared to educational aspiration, since it had a higher standardized co-efficient (β = .29). The results imply that students who have high occupational aspirations are more likely of adopting deep learning approach in their studies compared to students who have high educational aspirations.

Similarly, the results in Table 18 indicate that educational aspiration and occupational aspiration all together accounted for 4.3% of the variances in surface learning approach. It was also evident in the results that both educational aspiration, B = .17, *Boot 95%CI* (.07, .26); and occupational aspiration, B = .15, *Boot 95%CI* (< .01, .29) were significant positive predictors of surface learning approach. Educational aspiration was however a higher predictor of surface learning approach relative to occupational aspiration, since it had a higher standardized co-efficient (β = .15). The implication of this result is that, students who have high educational aspirations are more likely of adopting surface learning approach in their studies relative to students who have high occupational aspirations. Such students desire to memorise the content of what they study rather than making the effort to understand what they learn.

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In furtherance, from Table 18, educational aspiration and occupational aspiration all together explained 19.7% of the variances in strategic learning. The results also revealed that both educational aspiration, B = .30, *Boot 95%CI* (.21, .40); and occupational aspiration, B = .47, *Boot 95%CI* (.31, .61) were positive significant predictors of strategic learning approach. The results however revealed that occupational aspiration was a higher predictor of strategic learning approach compared to educational aspiration, since it had a higher standardized co-efficient (β = .56). The results suggest that, students who have high occupational aspirations are more likely of adopting strategic learning approach in their studies compared to students who have high educational aspirations.

Generally, the results indicate that, each of the dimensions of aspiration (educational aspiration and occupational aspiration) was a significant positive predictor of each of the dimensions of students' learning approach (deep learning approach, surface learning approach, and strategic learning approach). Occupational aspiration was however a higher predictor of deep learning approach and strategic learning approach compared to educational aspiration. Also, educational aspiration was a higher predictor of surface leaning approach relative to occupational aspiration.

Based on the results of this study, the null hypothesis which stated that "Students' aspiration will not significantly predict students' learning approaches" was rejected in favour of the alternate hypothesis (Students' aspiration will significantly predict students' learning approaches).

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Hypothesis 4

H_0: Students' aspiration will not mediate the relationship between the stakes of university examinations and students' learning approaches.

H_1: Students' aspiration will mediate the relationship between the stakes of university examinations and students' learning approaches.

The intent of this hypothesis was to examine whether students' aspiration would explain/mediate the relationship between the stakes of university examinations and students' learning approaches. Three mediation analysis were performed for each of the dimensions of students' learning approaches in order to test this hypothesis. Specifically, the mediation analysis was performed using Model 4 of Hayes' PROCESS, with 5000 bootstrap samples. The predictor variable was the stakes of university examinations (X), and the criterion variable was students' learning approaches (Y). Both variables were measured on a continuous basis. The criterion variable had three levels: deep learning approach, surface learning approach and strategic learning approach. The mediating variable was students' aspiration (M), this was also measured on a continuous basis. Details of the results are presented in Tables 19-24.

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Table 19- *Regression Coefficients for Deep Learning Approach*

Model	Variable	*B*	*BSE*	CR	*BLLCI*	*BULCI*	Model Summary				
							R^2	*F*	df1	df2	*p*
One	Constant	26.865	1.588	16.918	23.774	29.979	.264	121.180	2.000	677.000	<.001
	High-stakes	.345*	.022	15.682	.303	.387					
	Test Anxiety	-.041	.022	-1.864	-.086	<.001					
Two	Constant	17.112	1.280	13.369	14.598	19.643	.198	55.596	3.000	676.000	<.001
	High-stakes	.122*	.021	5.801	.081	.163					
	Students' Aspiration	.174*	.030	5.8	.114	.233					
	Test Anxiety	-.023	.016	-1.438	-.055	.007					

Criterion: Model 1- Students' Aspiration; Model 2- Deep Learning Approach. *Significant, $p < .05$ level

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From Table 19, the model for high-stakes test, with test anxiety as a covariate, was statistically significant, F (2, 677) = 121.18, p < .001, R^2 = .26. High-stakes was therefore a significant predictor students' aspiration, B = .35, Boot 95%CI (.30, .39). Similarly, model two which contains high-stakes, students' aspiration and test anxiety as a covariate, was statistically significant, F (3, 676) = 55.60, p <.001, R^2 = .20. Thus, in model two, both high-stakes, B = .12, Boot 95%CI (.08, .16); and students' aspiration, B = .17, Boot 95%CI (.11, .23) were significant predictors of deep learning approach. Details of the indirect effect for deep learning approach (mediation analysis) is presented in Table 20.

Table 20- *Indirect Effect, Direct Effect and Total Effect for Deep Learning*

					Confidence Interval	
	Effect	BSE	CR	*p*	Lower Limit	Upper Limit
Total effect of X on Y	.182*	.017	10.706	< .001	.149	.214
Direct effect of X on Y	.122*	.019	6.421	< .001	.085	.159
Indirect effect of X on Y	Effect	*BSE*	*BootLLCI*		*BootULCI*	
Deep Learning	.060*	.011	.040		.082	
Completely standardised indirect effect (c'_{cs})	c'_{cs}	*BSE*	*BootLLCI*		*BootULCI*	
Deep Learning	.131*	.023	.087		.178	

Completely standardised effect (c'_{cs}): Total effect = .397; Direct effect = .266

X- High-stakes; Y- Deep Learning Approach.

*Significant, *p* < .05 level

As shown in Table 20, the direct effect of high-stakes on deep learning approach was statistically significant, B = .12, Boot 95%CI (.09, .16). This implies

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that without the mediator variable (students' aspiration), high-stakes solely predicted deep learning approach (B = .12). This suggests that, a unit increase in high-stakes would lead to .12 increase in deep learning approach. Thus, students who attach a lot of importance to the results of university examinations are more likely of adopting deep learning approach in their studies. Further, when the mediator variable (students' aspiration) was introduced into the relationship, as shown in the indirect effect, the relationship was equally statistically significant, .06, Boot 95%CI (.04, .08). This implies that, students' aspiration mediated/explained the relationship between high-stakes test and deep learning approach.

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Table 21- *Regression Coefficients for Surface Learning Approach*

Model	Variable	*B*	*BSE*	CR	*BLLCI*	*BULCI*	Model Summary				
							R^2	*F*	df1	df2	*p*
One	Constant	26.865	1.576	17.046	23.733	29.981	.264	121.180	2.000	677.000	<.001
	High-stakes	.345*	.022	15.682	.304	.389					
	Test Anxiety	-.041	.022	1.864	-.086	.002					
Two	Constant	6.209	1.305	4.758	3.672	8.729	.221	63.997	3.000	676.000	<.001
	High-stakes	.131*	.021	6.238	.090	.172					
	Students' Aspiration	.052*	.030	1.733	-.007	.109					
	Test Anxiety	.142	.017	8.353	.108	.176					

Criterion: Model 1- Students' aspiration; Model 2- Surface learning approach. *Significant, $p < .05$ level

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As shown in Table 21, the model for high-stakes, with test anxiety as a covariate, was statistically significant, F (2, 677) = 121.18, p < .001, R^2 = .26. This suggests that high-stakes was a significant predictor of students' aspiration, B = .35, Boot 95%CI (.30, .39). Additionally, the model summary of model two, which contains high-stakes, students' aspiration and test anxiety as a covariate, was statistically significant, F (3, 676) = 63.10, p < .001, R^2 = .22. Although the summary of model two was statistically significant, students' aspiration, B = .05, Boot 95%CI (-.01, .11) was not a significant predictor of surface learning approach. High-stakes, B = .13, Boot 95%CI (.09, .17) was however a significant predict of surface learning approach. Table 22 presents details of the indirect effect (mediation analysis) for surface learning approach.

Table 22- *Indirect Effect, Direct Effect and Total Effect for Surface Learning*

					Confidence Interval	
	Effect	BSE	CR	*p*	Lower Limit	Upper Limit
Total effect of X on Y	.149*	.017	8.765	< .001	.115	.183
Direct effect of X on Y	.131*	.020	6.550	< .001	.092	.171
Indirect effect of X on Y	Effect	*BSE*	*BootLLCI*		*BootULCI*	
Surface Learning	.018	.010	-.003		.039	
Completely standardised indirect effect (c'_{cs})	c'_{cs}	*BSE*	*BootLLCI*		*BootULCI*	
Surface Learning	.036	.021	-.005		.078	

Completely standardised effect (c'_{cs}): Total effect = .300; Direct effect = .264

X- High-stakes; Y- Surface Learning Approach.

*Significant, *p* < .05 level.

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From Table 22, the direct effect of high-stakes on surface learning approach was statistically significant, B = .13, Boot 95%CI (.09, .17). The implication of this result is that, without the mediator variable (students' aspiration), high-stakes independently predicted surface learning approach (B = .13). This suggest that a unit increase in high-stakes would lead to .13 increase in surface learning approach. This implies that, students who attach a lot of importance to the results of university examinations, are more likely of adopting surface learning approach in their studies. The introduction of the mediator variable (students' aspiration), as shown in the indirect effect, however rendered the relationship between high-stakes and surface learning approach insignificant, .02, Boot 95%CI (< - .01, .04). This suggests that, students' aspiration did not mediate/explain the relationship between high-stakes and surface learning approach.

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Table 23- *Regression Coefficients for Strategic Learning Approach*

Model	Variable	*B*	*BSE*	CR	*BLLCI*	*BULCI*	Model Summary				
							R^2	*F*	df1	df2	*p*
One	Constant	26.865	1.605	16.738	23.83	30.08	.264	121.180	2.000	677.000	<.001
	High-stakes	.345*	.022	15.682	.301	.387					
	Test Anxiety	-.041	.023	-1.783	-.087	.002					
Two	Constant	13.275	1.367	9.711	10.624	15.996	.229	67.013	3.000	676.000	<.001
	High-stakes	.115*	.023	5.000	.070	.161					
	Students' Aspiration	.275*	.034	8.088	.208	.341					
	Test Anxiety	-.033	.020	1.65	-.071	.007					

Criterion: Model 1- Students' Aspiration; Model 2- Strategic Learning Approach. *Significant, $p < .05$ level

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From Table 23, model one which contains high-stakes, with test anxiety as a covariate, was statistically significant, F (2, 677) = 121.18, p <.001, R^2 = .26. This implies that high-stakes was a significant predictor of students' aspiration, B = .35, Boot 95%CI (.30, .39). In the same vein, model two which contains high-stakes, students' aspiration and test anxiety as a covariate, was statistically significant, F (3, 676) = 67.01, p < .001, R^2 = .23. That is to say, both high-stakes, B = .12, Boot 95%CI (.07, .16) and students' aspiration, B = .28, Boot 95%CI (.21, .34) were significant predictors of strategic learning approach. Details of the indirect effect for strategic learning approach (mediation analysis) is presented in Table 24.

Table 24- *Indirect Effect, Direct Effect and Total Effect for Strategic Learning*

					Confidence Interval	
	Effect	BSE	CR	*p*	Lower Limit	Upper Limit
Total effect of X on Y	.210*	.020	10.5	< .001	.171	.248
Direct effect of X on Y	.115*	.022	5.227	< .001	.072	.157
Indirect effect of X on Y	Effect	*BSE*	*BootLLCI*		*BootULCI*	
Strategic Learning	.095*	.013	.070		.121	
Completely standardised indirect effect (c'_{cs})	c'_{cs}	*BSE*	*BootLLCI*		*BootULCI*	
Strategic Learning	.176*	.024	.130		.225	

Completely standardised effect (c'_{cs}): Total effect = .388; Direct effect = .212

X- High-stakes; Y- Surface Learning Approach.

*Significant, *p* < .05 level

As presented in Table 24, the direct effect of high-stakes on strategic learning approach was statistically significant, B = .12, *Boot95%CI* (.07, .16). This implies that students who attach a lot of importance to university

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examinations (the stakes) are more likely of adopting strategic learning approach in their studies. Similarly, the effect of high-stakes on strategic learning approach was statistically significant, B = .09, *Boot95%CI* (.07, .12) when students' aspiration was mediated in the relationship. This is evident in the indirect effect (see Table 24). The implication of this result is that, students' aspiration mediated/explained the relationship between the stakes of university examination and strategic learning.

Based on this result, the null hypothesis which stated that "Students' aspiration will not mediate the relationship between the stakes of university examination and students' learning approaches" was rejected in favour of the alternate hypothesis which stated that "Students' aspiration will mediate the relationship between the stakes of university examination and students' learning approaches."

Hypothesis 5

H_0: *There is no statistically significant gender difference in the stakes of university examination.*

H_1: *There is a statistically significant gender difference in the stakes of university examination.*

This hypothesis sought to examine whether a statistically significant gender difference exist in the stakes of university examinations. An independent samples t-test was conducted to test this hypothesis. The dependent variable was the composite score for high-stakes test, which was measured on a continuous basis. Before the analysis, assumptions underlying the use of independent samples t-test were checked. Results from the normal Q-Q plot (see Appendix

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B) revealed that the data on the criterion variable (high-stakes test) did not violate the normality assumption. Similarly, the equal variance assumption was also tested to find out whether the variances between the groups are the same. Results from the Levene's test for equality of variances revealed that the equality of variance assumption was not violated (F = 1.041, p =.308). Table 25 further presented the actual analysis testing the difference between the two groups (males and females) with regards to the dependent variable (stakes of university examination); test anxiety was however treated as a covariate.

Table 25- *Gender Differences on the Stakes of University Examinations*

	Gender	N	Mean	SD	t-value	df	p-value
High-stakes	Male	393	65.320	8.2869			
	Female	287	65.659	7.8799	-.536	678	.592
Test Anxiety	Male	393	32.277	8.6945			
	Female	287	32.689	8.9226	- .604	678	.546

Source: Field Survey (2020)

As presented in Table 25, there was no statistically significant gender difference in the stakes of university examinations, t (678) = -.536, p=.592. Thus, male and female students in the university of Cape Coast did not differ in terms of the stakes attached to university examinations. This implies that the stakes attached to university semester examination were the same for both female and male students. In other words, the consequences of the results of university examinations are the same for female students as well as their male counterparts. Thus, comparatively, it can be said that both undergraduate male and female students attach equal importance to the results of university examination. Based on the results, the null hypothesis which stated that "There is no statistically

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significant gender difference in the stakes of university examination" was retained.

Hypothesis 6

H_0: There is no statistically significant difference in the stakes of university examination on the basis of academic level.

H_1: There is no statistically significant difference in the stakes of university examination on the basis of academic level.

This hypothesis was interested in finding out whether significant differences exist in the stakes of university examination on the basis of students' academic level. The categorical variable (i.e., academic level) was made up of four groups (level 100, level 200, level 300, and level 400) while the composite score on "the stakes of university examination" served as the dependent variable, this was measured on a continuous basis. One-way ANOVA was used to test this hypothesis.

Prior to the analysis, assumptions underlying the use of ANOVA were checked. Results from Table 26 and the normal Q-Q plot revealed that the data did not violate the normality assumption (Appendix D). On the contrary, the homogeneity of variance assumption was violated, this warranted the use of the Welch test.

Table 26- *Normality (ANOVA) for Hypothesis Six*

Parameters	Level 100	Level 200	Level 300	Level 400
Mean	68.884	64.973	64.755	61.120
Standard deviation	6.910	7.140	8.424	8.441
5% Trimmed mean	69.297	65.135	65.022	60.989
Median	70.000	65.500	66.000	61.000

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As presented in Table 26, the mean, median, and 5% trimmed mean for Level 100, Level 200, Level 300 and Level 400 were approximately the same. This implies that the distribution of scores of the aforementioned academic levels were normally distributed (Pallant, 2010). Additionally, the normal Q-Q plots for all the academic levels were also examined (see Appendix E). From Appendix E, the normal Q-Q plots for all the academic levels revealed that the distribution of all the scores were closer to the straight line.

Prior to the testing of hypothesis 6, the test for homogeneity of variance assumption was carried out. Results revealed that the assumption has been violated (p =.004). Due to this, the Welch test was used to compare the means across the levels of study instead of the ANOVA. Again, since differences in test anxiety (covariate) with respect to academic level was not significant, F (3, 676) = .768, p = .512, the investigator compared the differences in the stakes on the basis on students' academic level. This implies that difference in the stakes with regards to students' academic level, is not likely to be affected by test anxiety (see Appendix E).

Findings from the Welch test revealed a significant difference, F (3, 336) = 29.538, p < .001, in the stakes of university examination on the basis of academic level. This suggested that, the consequences/importance attached to the results of university examination, differed for students at the respective academic levels (Level 100, Level 200, Level 300 and Level 400). To make the results clearer, descriptive statistics of each academic level is presented in Table 27.

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Table 27- *Descriptive Statistics*

Level of Study	N	Mean	SD
Level 100	224	68.884	6.910
Level 200	184	64.973	7.141
Level 300	139	64.755	8.424
Level 400	133	61.120	8.441
Total	680	65.463	8.113

Source: Field survey (2020); SD- Standard Deviation

As shown in Table 27, the overall mean score was 65.46 with a standard deviation of 8.11. The mean scores and standard deviations of the various groups were as follows: Level 100 students (M = 68.88, SD = 6.91), Level 200 students (M = 64.97, SD = 7.14), Level 300 students (M = 64.76, SD = 8.42), and Level 400 students (M = 61.12, SD = 8.44).

The descriptive statistics in Table 27 only gave the mean and standard deviations. Even though differences exist in the mean scores among the various academic levels, the results failed to tell whether the observed differences are significant or not, and if significant, where the differences lie. In view of that, a post hoc test (multiple comparison analysis) was conducted. The Games-Howell was performed as a follow-up. Games-Howell is used when equal variances are not assumed and when the sample size among the levels are not equal. Since the result of this study did not assume equal variance and the sample sizes were unequal across the various levels, using Games-Howell for the post hoc test was deemed appropriate. The result of the post hoc are presented in Table 28.

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Table 28- *Multiple Comparisons (Games-Howell)*

Academic Level (I)	Academic Level (J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Level 100	Level 200	3.911*	.704	.000	2.094	5.728
	Level 300	4.129*	.854	.000	1.920	6.337
	Level 400	7.764*	.869	.000	5.517	10.011
Level 200	Level 100	-3.911*	.704	.000	-5.728	-2.094
	Level 300	.2174	.888	.995	-2.077	2.512
	Level 400	3.853*	.902	.000	1.521	6.184
Level 300	Level 100	-4.129*	.854	.000	-6.337	-1.920
	Level 200	-.2174	.888	.995	-2.512	2.077
	Level 400	3.635*	1.023	.003	.991	6.279
Level 400	Level 100	-7.764*	.869	.000	-10.011	-5.517
	Level 200	-3.853*	.902	.000	-6.184	-1.521
	Level 300	-3.635*	1.023	.003	-6.279	-.991

*The mean difference is significant at the 0.05 level.

The result from the post hoc (Table 28) showed a statistically significant difference in the mean scores of students in “Level 100” and students in “Level 200” ($p < .001$). Similarly, there was a statistically significant difference in the mean scores of students in Level 100” and students in “Level 300” ($p < .001$). There was also a statistically significant difference in the mean scores of students in “Level 100” and students in “Level 400” ($p < .001$). On the contrary, there was no statistically significant difference in the mean scores of students in Level 200” and students in “Level 300” ($p = .995$). In furtherance, the results in Table 28 revealed a statistically significant difference in the mean scores of students in “Level 200” and students in “Level 400” ($p < .001$). There was also

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a statistically significant difference in the mean scores of students in "Level 300" and students in "Level 400" (p = .003).

The post hoc (multiple comparison test) suggests that, the mean for students in "Level 100" (M = 68.88) was greater than the mean for students in "Level 200" (64.97), "Level 300" (64.76), and "Level 400" (61.120) respectively; and this was significant (p < .001). This implies that the stakes attached to university examinations was higher for students in "Level 100" compared to students in "Level 200," "Level 300" and "Level 400" respectively. In other words, the consequences attached to the results of university examinations was higher for students in level 100 relative to students in level 200, level 300, and level 400. On the contrary, although the mean for students in "Level 200" (64.97) was greater than the mean for students in "Level 300" (64.755), this was not significant (p = .995). This implies that the stakes attached to university examinations was the same for students in level 200 and students in level 300.

Again, the results of the post hoc test suggest that the mean for students in "Level 400" (61.120) was less than the mean for students in "Level 200" (64.97), and this was significant (p < .001), which implies that the stakes attached to university examinations was higher for students in level 200 compared to their counterparts in level 400. Lastly, the results of the multiple comparison test suggests that, the mean for students in "Level 400" (61.120) was less than the mean for students in "Level 300" (64.755), and this was significant (p = .003), which also implies that, the stakes attached to university

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examinations was higher for students in level 300 relative to students in level 400.

All in all, the findings of this study revealed a significant difference in the stakes of university examination on the basis of academic level. Thus, the stakes attached to university examinations was higher for students in "Level 100" compared to students in "Level 200," "Level 300" and "Level 400" respectively. In other words, the consequences attached to the results of university examinations was higher for students in level 100 relative to students in level 200, level 300, and level 400. Also, the findings of this study revealed that, the stakes attached to university examinations was the same for students in level 200 and students in level 300. It was also evident in the findings of the current study that, the stakes attached to university examinations was higher for students in level 200 compared to their counterparts in level 400. Lastly, the findings of this study discovered that, the stakes attached to university examinations was higher for students in level 300 relative to students in level 400. Based on the results of this study, the null hypothesis which stated that "There is no statistically significant difference in the stakes of university examination on the basis of academic level" was rejected in favour of the alternate hypothesis.

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Discussion

This section discusses the results of the study as presented in the previous paragraphs. The discussion was organised under the following topical issues:

1. high-stakes test and students' learning approaches;
2. high-stakes tests, students' aspirations and students learning approaches;
3. Demographic characteristics (gender and academic level) and high-stakes test.

High-stakes Test and Students' Learning Approaches

The study revealed that, the stakes attached to university examination (high-stakes test) was a significant positive predictor of each of the three dimensions of students' learning approaches (deep learning approach, surface learning approach and strategic learning approach). The results led to the rejection of the null hypothesis which stated that "The stakes of university semester examinations will not significantly predict students' learning approaches." The implication of this result is that, the consequences/importance students attach to university examinations (high-stakes test) influence how they learn. That is to say, since the results of university semester examinations are cumulatively used in certifying students, and are also used in making critical decisions regarding students' recruitment for better job offers, scholarship opportunities, as well as opportunities for further studies, students of the University of Cape Coast often combine the three aforementioned learning

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approaches in their studies, in their quest to perform excellently on high-stakes examinations.

The results of this current investigation provide enough evidence to suggest that, students in the University of Cape Coast are tactical in adopting a particular learning approach in their studies. That is to say, they take into consideration a number of factors such as: the nature of their courses, the format of the questions they anticipate to meet in their examinations, as well as their lecturer's style of crafting test items, before settling on adopting either deep, shallow, or strategic learning approach in their studies.

For instance, a lecturer who assesses university students mainly with the use of recall questions is likely to propel students to adopt a rote learning approach in their studies; this in effect does not promote proper and better understanding on the part of the students. On another hand, university students are likely to a adopt a deep learning approach in an instance where a lecturer assesses students in a way that does not require them to memorise concepts but rather, bring on board what they have learnt, by applying them in practical situations. This will in effect results in high quality learning outcomes where students exhibit critical thinking in applying their knowledge in new situations.

This stands to reason that, students' choice of combining the three learning approaches in the studies, amidst the high-stakes nature of university examinations, is to a large extent dependent on the format or styles lecturers adopt in assessing their students. It is however important to emphasis that among the three dimensions of the learning approaches, students adopted more of strategic learning approach in their studies compared to deep and shallow

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learning approach. Students who adopt strategic learning approach in their studies often organise their study routines and time, and learn what is expected in order to achieve the highest grade possible (Duff, 2004).

It has also been established in the Classical True-Score Theory that an observed score (X) could be envisioned as the composite of two hypothetical components: a true score (T) and a random error score (E). This suggests that, the scores obtained by students in university examinations is a component of students' true ability (True score) and some error component emanating from the testing conditions. In relation to this study, it can be said that, in their quest to pass university examinations, students are likely to engage in all forms of examination malpractices due to the stakes/consequences attached to the results of university examinations. The implication of this is that, although students are likely to obtain excellent scores on university examinations by way of engaging in one examination malpractice of the other, the scores obtained by such students on the examination does not reflect their true ability or what they are capable of doing. In order words, such obtained scores cannot be relied on for any useful decision making due to the error component in the scores.

Similarly, the high-stakes nature of university examination could propel students in adopting a learning approach that does not assist in reflecting their true abilities as students. That is to say, students are likely to adopt a rote learning approach in response to a lecturer who assesses students mainly with the use of recall questions. Thus, although such students may not feel comfortable adopting the aforementioned learning approach in their studies, they have little or no option, since the nature of the examination questions

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demands a recall approach to learning. The implication of this is that, such students would be denied the opportunity of reflecting their true abilities in terms of their capabilities.

The findings of this study agree with McClenny (2018) who found that high-stakes test affected the transfer of learning among undergraduate nursing students. In that, students were unable to apply what they have learnt in practical situations outside the classroom environment. This could suggest that such students adopted a shallow learning approach, hence their inability to transfer to real life, what they were taught in the classroom. The findings of this study also corroborate with that of Adegokei (2017) who investigated the effect of high-stakes examination on the teaching and learning of Physics in Secondary Schools Nigeria. The findings of Adegokei (2017) revealed that majority of the students who studied physics tried to understand the basic concepts of Physics, mastered the fundamental principles of Physics, memorised formulae and procedures, as well as practiced old/past examination questions. Adegokei's finding suggests that, students adopted both deep and shallow approaches in their quest to understand the concepts of Physics and also perform very well in their final examinations.

Although the result from this present study confirmed that of McClenny (2018) and Adegokei (2017), both studies possess some methodological differences compared with this current study. While McClenny adopted a qualitative approach in his study, Adegokei's study was conducted among Secondary School students in Nigeria. Additionally, differences exist regarding the level of study and the context in which the aforementioned studies were

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conducted, compared with this study. It is however possible that, these different samples adopted similar learning approaches due to the stakes attached to the respective examinations written by the respondents.

Other studies have equally revealed findings which are in harmony with the present study (Gundogdu, Kiziltas, & Cimen, 2010; Aysel, 2012). Gundogdu et al. (2010), for example, investigated students' perception regarding a high-stakes examination (SBS assessment) used to determine entry into the different types of high schools and found that, the nature and consequences attached to the SBS examination propelled students to study in a more planned and orderly manner. Thus, students adopted strategic learning approach in their studies as a result of the consequences of the SBS examination.

Aysel (2012) on the other hand, examined the impact of high-stakes examination systems in Ireland and Turkey on the teaching and learning of mathematics in post-primary education and found that that although Irish and Turkish instructors adopted different methods of teaching, their students combined both the deep and the shallow learning approaches in their preparation to write high-stakes examinations. Despite the similarities in the findings, the study conducted by Gundogdu et al. (2010) and Aysel (2012) sampled Junior High School students while the current study sampled university students. The results are consistent due to the fact that, students at the respective levels of education understood the consequences attached to the results of their examinations.

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High-stakes Tests, Students' Aspirations and Students' Learning Approaches

This part discusses the results on the relationship among high-stakes test, students' aspiration and students' learning approaches. To commence with, the results revealed that high-stakes test is a significant positive predictor of each of the two dimensions of aspiration (educational aspiration and occupational aspiration). High-stakes test however accounted for more of the variances in occupational aspirations compared to educational aspirations. The implication of this result suggests that, the level of importance students attach to the results of university examinations (high-stakes test) influences the intensity of their aspirations, in terms of education and occupation.

That is to say, the way and manner students think about the stakes attached to university examination increases their level of aspiration. For instance, if a student gets admission into the University of Cape Coast and realises that, the results of the university examination are used for a number of decisions regarding employment opportunities and further education, such a student may consider aspiring higher by setting for himself/herself higher goals. Thus, the stakes attached to results of the university examinations has propelled such a student to have high aspirations. It is also possible that, although university examinations are by nature high-stakes tests, the stakes may be at a minimal level for a student who does not attach any importance to the results of the examination; such a student is likely to have low aspirational level. However, a student who attaches a lot of importance to the results of the examination, is likely to have high aspirations. Based on the results of this study,

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the null hypothesis which stated that "The stakes of university semester exams will not significantly predict students' aspiration" was rejected in favour of the alternate hypothesis.

The findings of this study that high-stakes test predicts students' aspirations is consistent with that of Rodrigueza and Arellano (2016) who investigated the impact of high-stakes test on high school students' college aspirations. The authors discovered that high-stakes test influenced the academic and aspirational journey of students in California. Thus, the stakes attached to the California High School Exit Exam positively influenced students' aspiration to enroll in a 4-year college/university. While the result from this present study confirmed that of Rodrigueza and Arellano (2016), their study was conducted among Secondary School students in California. There is a difference with regards to the level of education and the context in which the two studies were conducted. It is however possible for the two different samples to have similar results due to the importance students attached to the high-stakes examination.

One of the sub-purposes of this study was also to find out whether or not students' aspiration will significantly predict students' learning approaches. The results of the study revealed that each of the dimensions of aspiration (educational aspiration and occupational aspiration) was a significant positive predictor of each of the dimensions of students' learning approach (deep learning approach, surface learning approach, and strategic learning approach). Occupational aspiration was however a higher predictor of deep learning approach and strategic learning approach compared to educational aspiration.

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This implies that students who have high occupational aspirations are more likely of adopting deep and strategic learning approaches in their studies compared to students who have high educational aspirations. Such students try as much as possible to understand the content of what they study rather than memorising a particular content. Students who also adopt strategic learning approach often organise their study routines, manage their time, and learn what is expected in order to achieve the highest grade possible.

Educational aspiration on the other hand was a higher predictor of surface leaning approach relative to occupational aspiration. This implies that students who have high educational aspirations are more likely of adopting surface learning approach in their studies compared to students who have high occupational aspirations. Such students desire to memorise the content of what they study, rather than making the effort to understand what they learn. The finding that undergraduate students who possess educational aspirations adopt shallow/surface learning approach in their studies is a quite worrisome. This is because, since further education is a buildup on what was studied at the undergraduate level, it is essential for students who have high educational aspirations to adopt long lasting learning approaches which will assist them to internalise what they learn and also apply it accordingly. In the case of this result where students adopted a shallow learning approach amidst their education aspiration, suggests that, such students have lesser chances of transferring the knowledge they acquired during their undergraduate studies in postgraduate situations.

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Generally, the results of the study suggest that students' aspiration significantly predicts their learning approach. Based on the results of this study, the null hypothesis which stated that "Students' aspiration will not significantly predict students' learning approaches" was rejected in favour of the alternate hypothesis. The findings of this study corroborate with that of Smyth and Banks (2012) who examined the impact of two sets of high stakes examinations on student experiences regarding their aspirations and the learnings approaches they adopt. Smyth and Banks (2012) discovered that high-aspiring students adopted shallow learning approach as they prepared for their terminal high-stakes examinations.

The results of the authors suggests that students' aspiration had the propensity of influencing the learning approach students adopt in their quest to perform very well on high-stakes examination. This implies that high-aspiring students are more likely than low-aspiring students of adopting narrowly focused approach to examination preparation; especially for examinations that have consequences attached to the results. Even though the results of the current study is similar with the findings of Smyth and Banks (2012), the former study was conducted using a quantitative approach while the latter study was conducted using a mixed method approach.

This study also examined whether students' aspiration will indirectly influence the relationship between high-stakes test and students' learning approaches. It was revealed that, students' aspiration significantly mediated the relationship between high-stakes tests and (a) deep learning approach, as well as (b) strategic learning approach, but not surface learning approach. The

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implication of this result is that, high-stakes test is not enough to predict either deep learning approach or strategic learning approach, there must be a third variable, students' aspiration. Thus, since students' aspiration plays a mediating role in the relationship between high-stakes test and two other learning approaches (deep and strategic learning approaches), students who possess high aspirations, are more likely of adopting long lasting learning approaches in their studies. That is to say, if university students can make good use of the stakes attached to university examination, by having aspirations, such students will be in the position of adopting long lasting learning approaches in their studies.

Again, the fact that students' aspiration did not mediate/explain the relationship between high-stakes test and surface learning approach suggests that, aspiration is not a requirement in the relationship between the two variables (high-stakes test and surface learning approach). Based on the results that students' aspiration mediated/explained the relationship between high-stakes test and two other dimensions of students' learning approach (ie. deep and strategic learning approaches), I rejected the null hypothesis which stated that "Students' aspiration will not mediate the relationship between high-stakes test and students' learning approach" in favour of the working/alternate hypothesis.

The findings that students' aspiration mediate the relationship between the stakes of university examination and students' learning approach is consistent with the achievement motivation theory proposed by Atkinson, Lowell, Clark, and McClelland (1958). According to this theory, individuals are often encouraged to succeed by seeking for achievement in all their endeavours; as a result, such individuals often persevere even in the face of difficult

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situations. This theory argues that, the motivation of an individual to accomplish a particular goal in life is often regulated by different internal factors such as determination, personal drive, willingness, and punctuality alongside external factors such as expectations, and environmental pressure set by the society, organisations and family members. The implication of this is that, students with high aspirations are more likely to succeed in competitions, and excel in activities important to them because they have a stronger hope for success than a fear of failure. By extension, students with high aspirations are also more likely of adopting lifelong learning approaches regardless of the intensity of the stakes attached to university examinations. This stands to reason that, students who have high aspirations are more likely of adopting lifelong approaches in their studies amidst the stakes attached to university examination compared to students who have low aspirations.

The findings of this study that students' aspiration does not play a significant role as far as surface learning approach is concerned, is in disagreement with Smyth and Banks (2012) who found a significant relationship between aspiration and surface learning approach. The differences in these results could be due to the level of education and the context in which both studies were conducted. Thus, while the current study was conducted in Ghana using university students, Smyth and Banks conducted their in Ireland using Senior High School students.

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Demographic Characteristics (gender and academic level) and High-stakes Test.

Demographic characteristics play a significant role as far as the stakes attached to university examination are concerned. This study explored demographic characteristics of respondents such as gender and academic level of respondents, against high-stakes test. Thus, the study sought to find out whether the stakes attached to university examination would differ for students on the basis of gender and academic level of respondents. The study found no significant difference in the stakes of university examination on the basis of gender. This implies that, the stakes attached to university examination were the same for both female and male students. In other words, the consequences of the results of university examinations were the same for female students as well as their male counterparts. Thus, comparatively, it can be said that both undergraduate male and female students attach equal importance to the results of university examination. Based on this result, the null hypothesis which stated that "Gender will not significantly predict the stakes of university semester exams" was retained.

This result makes a lot of meaning, in that, students within the University of Cape Coast, irrespective of their gender, are expected by the University's academic policy to pass all their examinations in order to qualify for the award of a degree (Academic Programmes, Policies and Regulations for Undergraduate Studies, 2018). As a result, it is expected that all students who desire to be certified as degree holders in their respective programme of study, attach the necessary importance/seriousness to their studies. This could perhaps

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explain the reason why the stakes attached to university semester examination did not differ for females as well as male students.

The findings of the current study contradict with a number of studies (Attali, Neeman, & Schlosser, 2018; Zawistowska 2017; Azmat, Calsamiglia, & Iriberri, 2015; Brailovsky, Grand-Maison, Miller, & Rainsberry, 1997). Unlike the current study, the authors of the aforementioned studies found a significant gender difference in students' performance on high-stakes test. For example, in their studies, Attali, et al. (2018) examined how different demographic groups responded to "consequences" by comparing their performance in "high" and "low" stakes situations. The authors found that, male students outperformed their female counterparts in the GRE high-stake situation. The performance of the male students however dwindled in the GRE low-stakes situations. Similarly, Zawistowska (2017) investigated the gender gaps in the results of secondary school exit exams (Matura) in mathematics in Poland and found that male students performed better than their female counterpart on Matura exam in Mathematics. The findings of these studies contradict the findings of the present study due to differences in some aspect of their methodology. Whereas this study surveyed university students', secondary school students were sampled in the studies of Attali, et al. (2018) and Zawistowska (2017).

In furtherance, the current study also examined the differences in the stakes of university examination on the basis of students' academic level. The results of the study revealed a significant difference in the stakes of university examination on the basis of academic level. Thus, the stakes attached to

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university examinations was higher for students in "Level 100" compared to students in "Level 200," "Level 300" and "Level 400" respectively. In other words, the consequences attached to the results of university examinations was higher for students in level 100 relative to students in level 200, level 300, and level 400.

Also, the findings of this study revealed that, the stakes attached to university examinations was the same for students in level 200 and students in level 300. It was also evident in the findings of the current study that, the stakes attached to university examinations was higher for students in level 200 compared to their counterparts in level 400. Lastly, the findings of this study discovered that, the stakes attached to university examinations was higher for students in level 300 relative to students in level 400. The result led to the rejection of the null hypothesis which stated that "There is no statistically significant difference in the stakes of university examination on the basis of academic level."

By implication, this result suggests that, the consequences attached to university examination is higher for level 100 students compared to students in the other academic levels (level 200, level 300 and level 400). This result clearly drives home a point as far as the academic policy of the University of Cape Coast is concerned. The policy stipulates in Section 9.1.1 that, "a level 100 student who loses a total of 13 credits or more registered courses for the academic year (either in the first, second or in both semesters) shall be withdrawn (dismissed) outright for poor academic performance" (Academic Programmes, Policies & Regulations for Undergraduate Studies, 2018, p. 23).

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This could possibly be one of the reasons for which the stakes attached to university examination was higher for students in level 100 compared to students in the other academic levels. The results therefore suggests that, the importance/consequences attached to university semester examination was higher for students in level 100 compared to students in the other academic levels (level 200, level 300 and level 400).

The findings of this study disagree with that of Anim (2020) who examined the perceived washback effect of high-stakes test on teaching and learning, and discovered that, the effect of WASSCE as a high-stakes test was not different for students in the various academic levels (SHS 1, SHS 2, and SHS 3). Thus, Anim discovered that the stakes attached to the WASSCE examination was the same for students in the various academic levels. While the current study sampled university students, Anim's study was conducted using second cycle students. The two different categories of students used in the respective studies could explain the differences in the results. Again, disparities in the context of the two studies also explains the differences in the results.

Chapter Summary

The study examined the mediating role of students' aspiration in the relationship between high-stakes test and students' learning approaches. The study revealed that high-stakes test was a significant positive predictor of each of the three dimensions of learning approach (deep learning approach, surface learning approach and strategic learning approach). The study also revealed that, high-stakes test was a significant positive predictor of each of the two dimensions of students' aspiration (educational aspiration and occupational

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aspiration). It was further revealed that, each of the dimensions of aspiration (educational aspiration and occupational aspiration) was a significant positive predictor of each of the dimensions of students' learning approach (deep learning approach, surface learning approach, and strategic learning approach). Occupational aspiration was however a higher predictor of deep learning approach and strategic learning approach compared to educational aspiration. Also, educational aspiration was a higher predictor of surface leaning approach relative to occupational aspiration.

Additionally, the current study also found that, students' aspiration significantly mediated the relationship between high-stakes tests and (a) deep learning approach, as well as (b) strategic learning approach, but not surface learning approach. Comparatively, both undergraduate male and female students attach equal importance to the results of university semester examinations. Thus, the study found that Female students, compared to male students were not significant predictors of high-stakes test. Finally, the study found that the consequences attached to university semester examination was higher for level 100 students compared to students in the other academic levels (level 200, level 300 and level 400).

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CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a summary of the study, the conclusions drawn from the study, suggestions and recommendations for further studies were also captured in this chapter. The suggestions and recommendations for further studies were based on the findings of the study.

Summary

Overview of the Study

The study examined the mediating role of students' aspiration in the relationship between the stakes of university examination and students' learning approaches in the University of Cape Coast. The study was guided by six purposes which were transformed into six hypotheses. The descriptive survey design, specifically, the cross-sectional design, with a quantitative approach was employed in the conduct of the study. The population of this study comprised regular undergraduate students (Level 100-400) of the University of Cape Coast, with a total number of 20,607. Through a multi-stage sampling technique, questionnaires were administered to 758 regular undergraduate students. Seventy-eight (78) questionnaires were however not filled and returned, this resulted in a 90% response rate. Hence, all the analyses were based on 680 respondents.

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Some of the scales on the questionnaire were designed and validated by the researcher while others were adapted as scales from others authors. The names of the scales include: stakes of university examination scale, revised approach to students' inventory, students' aspiration scale and test anxiety scale. The scales were validated using confirmatory factory analysis (CFA) with the help of Smart Partial Least Squares (SmartPLS) software. All the sub-dimensions of the aforementioned scales had good indicators of internal consistency, $\alpha = .70$ and above. The data collected were analysed using inferential statistics such as: multivariate regression, multivariate multiple regression, Hayes' PROCESS mediation analysis, simple linear regression, and multiple linear regression analysis. The bootstrap approach was used for the inferential analyses.

Key findings

The study revealed the following findings:

1. The stakes attached to university examination (high-stakes test) was a significant positive predictor of each of the three dimensions of learning approach (deep learning approach, surface learning approach and strategic learning approach). High-stakes test accounted for more of the variances in surface learning approach than the other learning approaches.
2. The stakes attached to university examination (high-stakes test) was a significant positive predictor of each of the two dimensions of aspiration (educational aspiration, and occupational aspiration). High-stakes test

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accounted for more of the variances in occupational aspirations than educational aspirations.

3. Generally, each of the dimensions of aspiration (educational aspiration and occupational aspiration) was a significant positive predictor of each of the dimensions of students' learning approach (deep learning approach, surface learning approach, and strategic learning approach). Occupational aspiration was however a higher predictor of deep learning approach, and strategic learning approach compared to educational aspiration. Also, educational aspiration was a higher predictor of surface leaning approach relative to occupational aspiration.
4. Students' aspiration mediated the relationship between high-stakes test and (a) deep learning approach, as well as (b) strategic learning approach, but not surface learning approach.
5. The study found no significant difference in the stakes of university examination on the basis of gender. Thus, the stakes attached to university examination were the same for both female and male students.
6. The study found a significant difference in the stakes of university examination on the basis of academic level. Comparatively, the stakes attached to university examination was lower for students in levels 200, 300 and 400 compared to students in level 100. Thus, the consequences attached to university semester examination was higher for level 100 students compared to students in the other academic levels (level 200, level 300 and level 400). The study however also found that, the stakes

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attached to university examinations was the same for students in level 200 and students in level 300. It was also evident in the findings of the current study that, the stakes attached to university examinations was higher for students in level 200 compared to their counterparts in level 400. Lastly, the findings of this study discovered that, the stakes attached to university examinations was higher for students in level 300 relative to students in level 400.

Based on the findings of this study, a final model is presented in Figure 6.

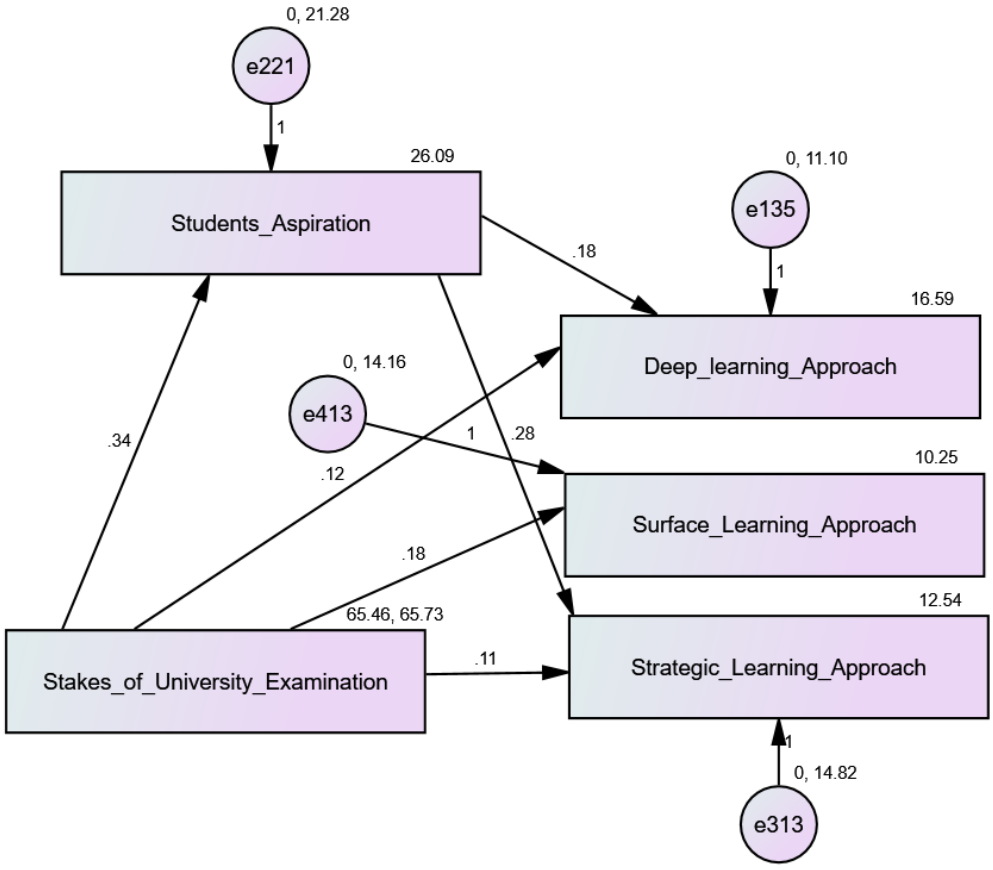

Figure 6- Final Model

The model as proposed in figure 1 was confirmed based by the findings of the study. From the final model (Figure 6), the stakes of university examination was a significant predictor of deep learning approach, surface

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learning approach, and strategic learning approach. More so, the stakes attached to university examinations significantly predicted students' aspiration. Again, evidence from the final model (Figure 6) indicates that, students' aspiration mediated the relationship between the stakes of university examination and (a) deep learning approach, as well as (b) strategic learning approach, but not surface learning approach. By implication, this model can be tested by other researchers using different samples in order to test its usefulness.

Conclusions

Based on the findings of this study, it can be concluded that, the stakes attached to university examination propel students to adopt either deep, surface or strategic learning approaches in their studies. Thus, students in the university of Cape Coast combine these three learning approaches in their studies, in their quest to perform excellently on high-stakes examinations. This provides enough evidence to suggest that, students in the University of Cape Coast are tactical in adopting a particular learning approach in their studies. That is to say, they take into consideration a number of factors before settling on adopting any of the three aforementioned learning approaches in their studies.

It can further be concluded that, although students who had educational aspirations adopted surface learning approach in their studies, students who had occupational aspirations adopted both deep and strategic learning approaches in their studies.

Again, students who have high aspirations in the University of Cape Coast are able to adopt long lasting learning approach in their studies amidst the stakes attached to the results of university examination. Students' aspiration

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therefore plays a major role in the adoption of either deep or strategic learning approaches by students in the University of Cape Coast.

More so, the result of this study provides enough evidence to conclude that, there is a lot of academic pressure on level 100 students to pass university examinations compared to students in the other academic levels (level 200, level 300 and level 400). This academic pressure could be attributed to the fact that, students in level 100 are more vulnerable to dismissal from the university on the basis of poor academic performance compared to their counterparts in the other academic levels. Thus, unlike continuing students who have had a feel of the university atmosphere for at least more than a year, level 100 students are fairly new to the university environment, hence there is the need for them to tread cautiously as far as their progression to the next academic level is concerned. Finally, the study concluded that students irrespective of their gender, attached equal importance to university examinations.

Recommendations

Based on the findings of the study and the conclusion drawn, the following recommendations were made to guide the development of policy and practice:

1. Undergraduate students of the University of Cape Coast who desire to make a significant impact in their various fields of study should continue and intensify the adoption of deep and strategic learning approaches irrespective of the consequences attached to the results of university examinations. Adopting the aforementioned learning approaches will assist students to understand and internalise the content of what they study in their various programme areas. This will eventually offer

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students an upper hand of applying this understanding in situations that are beyond the classroom.

2. Lecturers, academic advisors as well as the management of the university of Cape Coast are encouraged to organise programmes that will sensitise and educate undergraduate students on the importance of adopting long lasting learning approaches (deep and strategic learning approaches) in their quest to perform excellently in university examinations.
3. Lecturers of the University of Cape Coast are by the findings of this study encouraged to craft test items in such a way that will require students to implement or adopt deep and more lasting learning approaches in their studies, since high-stakes test accounted for more of the variances in surface learning approach compared to the other learning approaches.
4. Since occupational aspiration was a higher predictor of deep and strategic learning approaches, undergraduate students of the university of Cape Coast are entreated to continue and also intensify the use of deep and strategic learning approaches in their studies. This will go a long way to enhance their performance in the various occupational goals they aspire to achieve.
5. Students are further encouraged by the findings of this study, to try as much as possible, to avoid adopting surface learning approach in their quest to achieve their educational aspirations. Students who adopt long lasting learning approaches in their studies are in good position of

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performing excellently as they climb the academic ladder compared to students who adopt shallow learning approaches. That is to say, since postgraduate studies is a buildup of what was studied at an undergraduate level, it is essential for students who have high educational aspirations to adopt long lasting learning approaches, this will enable them to internalise what they learn, and also apply it accordingly.

6. Parents, academic advisors, as well as lecturers of the University of Cape Coast are encouraged to roll out intervention programmes (such as students mentoring, as well as exposing students to new opportunities) that will assist students develop high aspirations regarding their educational and occupational goals. Thus, since students' aspiration plays a mediating role in the relationship between high-stakes tests and two other learning approaches (deep and strategic learning approaches), students who possesses high aspirations, are more likely of adopting long lasting learning approaches.

Suggestions for Future Research

The following were suggestions made for future studies:

1. Further study in this regard is recommended to examine the mediating role of high-stakes in the relationship between students' aspiration and their learning approaches.
2. It is recommended that this study be replicated in other universities (both public and private ones) since some variations in internal policies could bring about variations in the results.

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APPENDIX A

INTRODUCTORY LETTER

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF EDUCATIONAL FOUNDATIONS
DEPARTMENT OF EDUCATION AND PSYCHOLOGY

Telephone: 233-3321-32440/4 & 32480/3
Direct: 033 20 91697
Fax: 03321-30184
Telex: 2552, UCC, GH.
Telegram & Cables: University, Cape Coast
Email: edufound@ucc.edu.gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

25th November, 2019

Our Ref:

Your Ref:

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

THESIS WORK
LETTER OF INTRODUCTION
MR. ENOCH EWOENAM TSEY

We introduce to you Mr.Tsey, a student from the University of Cape Coast, Department of Education and Psychology. He is pursuing Master of Philosophy degree in Measurement and Evaluation and he is currently at the thesis stage.

Mr. Tsey is researching on the topic:

"ROLE OF HIGH-STAKES TESTING IN THE RELATIONSHIP BETWEEN ASPIRATION AND STUDENTS' LEARNING APPROACHES AMONG UNDERGRADUATE STUDENTS IN THE UNIVERSITY OF CAPE COAST."

He has opted to collect or gather data at your institution/establishment for his Thesis work. We would be most grateful if you could provide him the opportunity and assistance for the study. Any information provided would be treated strictly as confidential.

We sincerely appreciate your co-operation and assistance in this direction.

Thank you.

Yours faithfully,

Theophilus A. Fiadzomor
Principal Administrative Assistant
For: **HEAD**

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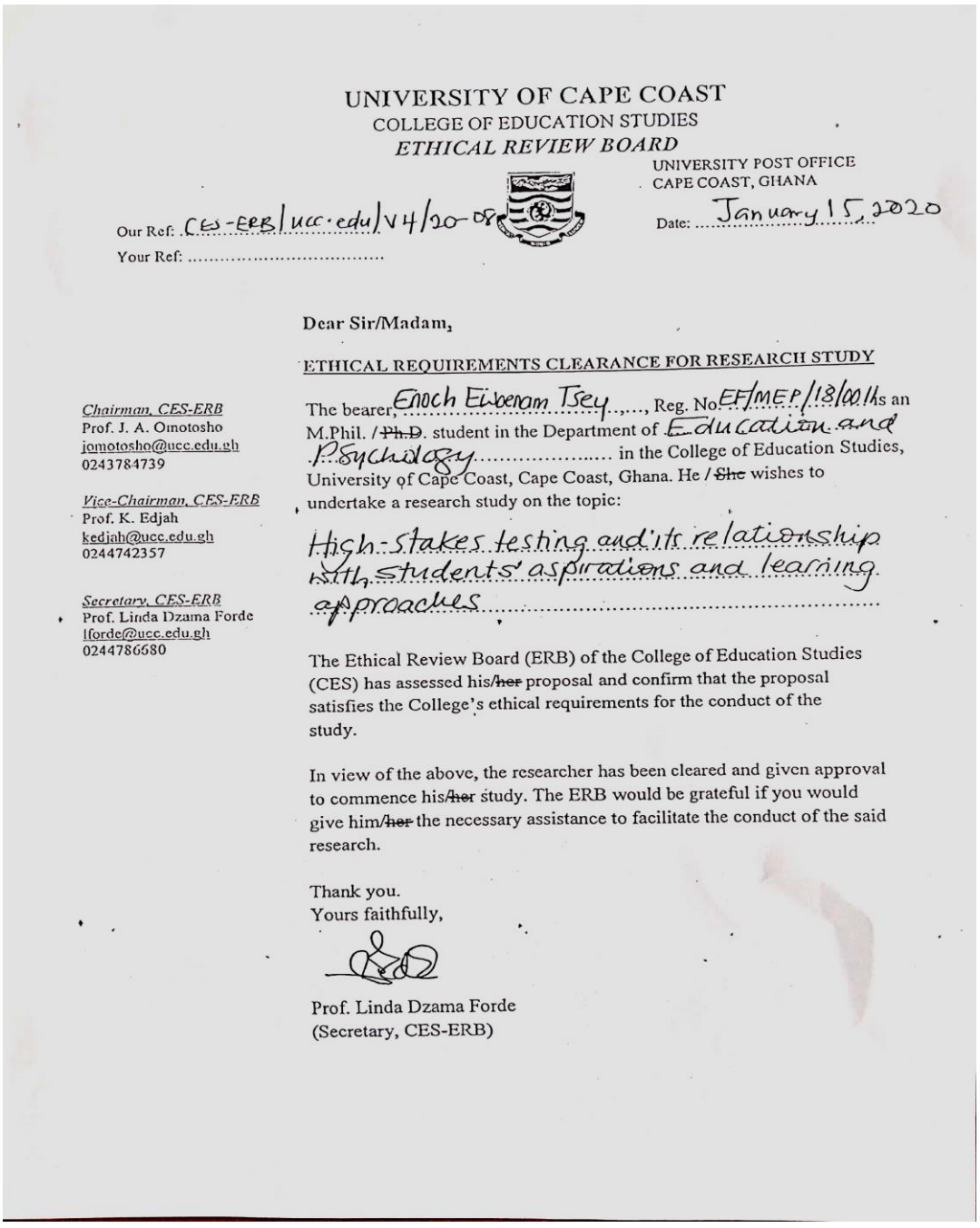
APPENDIX B

ETHICAL CLEARANCE



UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: CES-ERB/ucc.edu/V4/20-08
Your Ref: .....
Date: January 15, 2020

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

The bearer, Enoch Elvoram Tsey, Reg. No EF/MEP/18/0011 is an M.Phil. / ~~Ph.D~~. student in the Department of Education and Psychology in the College of Education Studies, University of Cape Coast, Cape Coast, Ghana. He / ~~She~~ wishes to undertake a research study on the topic:

High-Stakes testing and its relationship with students' aspirations and learning approaches

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

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

Thank you.
Yours faithfully,

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

Chairman, CES-ERB
Prof. J. A. Omotosho
jomotosho@ucc.edu.gh
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Prof. K. Edjah
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APPENDIX C

QUESTIONNAIRE FOR STUDENTS

Questionnaire for Students (Before Pilot Testing)

APPENDIX C

QUESTIONNAIRE FOR STUDENTS

Questionnaire for Students (Before Pilot Testing)

This study sought to examine the mediating role of students' aspiration in the relationship between the stakes of university examination and students' learning approaches in the University of Cape. Your participation is essential to the success of this study. Information provided is solely for academic purposes and would be kept as ***confidential*** as possible. Responses provided would be anonymous during data collection. Participation is voluntary and thus, you have the right to withdraw any time without any given reason(s).

SECTION A – DEMOGRAPHIC INFORMATION

Kindly provide the right response by checking [√] in the blank spaces provided.

1. Gender: a. Male [ ] b. Female [ ]
2. Level of study: a. Level 100 [ ] b. Level 200 [ ]
   c. Level 300 [ ] d. Level 400 [ ]

3. College: a. College of Education studies [ ]
   b. College of Health and Allied Sciences [ ]
   c. College of Humanities and Legal Studies [ ]
   d. College of Agriculture and Natural Sciences [ ]

4. Programme of study:.....

SECTION B – STAKES OF UNIVERSITY EXAMINATION

Please read the following statements carefully and check [√] the option which best applies to you using the following options: SA= Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

S/N	Statements	SA	A	D	SD
	Pressure on Students				
1.	If I have to succeed, then I need good grades in my examinations.				
2.	My university certificate will dictate my future.				

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3.	I have to pass my university examinations at all cost.				
4.	My university certificate will help me make important decisions in life.				
5.	Whether I will make it or not depends on my grades in my university examinations.				
6.	I seriously need good grades in my university examinations.				
7.	If I acquire a good university certificate, I will feel I have made it in life.				
8.	I need to pass all my university exams with good grades to enable me further my education.				
9.	There is the need for me to graduate from the university with a good class to enable me stand any competition in the world of work.				
10.	It is important for me to pass my university exams with good grades to enable me qualify for some scholarship opportunities.				
11.	I need to pass my university exams to avoid the shame of being sacked from the university for poor academic performance.				
12.	I need to pass my university exams to avoid the frustrations of re-sit examinations.				
13.	I need to pass my university exams in order to progress to the next academic level (E.g. From level 100-200, 200-300, 300-400).				
14.	I need to graduate from the university with a good class to bring honour to my sponsors/guardians.				
	Pressure from Parents/Guardians/Sponsors				
15.	My parents/guardians/sponsors are giving me pressure to obtain good grades in all my university examinations.				
16.	My parents/guardians/sponsors want me to graduate with a good class in order to enjoy scholarship packages.				
17.	My parents/guardians/sponsors always emphasise the importance of graduating from the university with a good class.				
18.	My parents/guardians/sponsors have made me understood that, I cannot succeed in life without a good university certificate.				

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19.	My parents/guardians/sponsors will never be happy with me if I fail in any of my university exams.				
20.	Pressure is mounted on me by my parents/guardians/sponsors to learn and acquire good grades in my university courses.				
21.	I need to pass my current semester exams so that my needs for the next semester will be provided.				
22.	My parents/guardians/sponsors want me to pass my university exams at all cost.				
23.	My parents/guardians/sponsors want me to graduate the university with good grades in order to appreciate their support.				

SECTION C – STUDENTS' LEARNING APPROACHES

Please read the following statements carefully and check [√] the option which best applies to you using the following options: SA= Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

S/N	Statements	SA	A	D	SD
	Deep Learning Approach				
1.	I am not prepared just to accept things I am told; I have to think them out for myself.				
2.	Sometimes I find myself thinking about ideas from the course when I'm doing other things.				
3.	I try to relate ideas I come across to other topics or courses whenever possible.				
4.	When I am reading an article or book, I try to work out for myself exactly what is being said.				
5.	I usually set out time to understand for myself the meaning of what we have to learn.				
6.	When I am working on a new topic, I try to see in my own mind how all the ideas fit together				
7.	Ideas in course books or articles often activate a long chain of thoughts about what I am reading.				
8.	Whenever I am reading, I examine the details carefully to see how they fit in with what is being said.				
9.	It is important for me to follow the argument or see the reasoning behind what I read.				

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10.	I look at the evidence carefully and then I try to reach my own conclusion about things I am studying.				
	Surface Learning Approach				
11.	I hardly critically examine what I read whenever I sit to study.				
12.	I often have troubles making sense of the things I have to remember.				
13.	Often I stay awake worrying about the amount of material to read, I think I won't be able to do so.				
14.	Although I can remember the facts and details, I often can't see the overall picture of what I read.				
15.	I always concentrate on what is required for assessment whenever I sit to study.				
16.	I spend quite a lot of my time repeating or rewriting out things I learn to help me remember them.				
17.	Often I find myself reading things without really trying to understand them.				
18.	I often accept information and ideas passively whenever I read my books.				
19.	I think I have to concentrate on memorising a good deal of what I have to learn.				
20.	I often find it difficult to relate ideas to what I have learnt previously whenever I sit to study.				
	Strategic Learning Approach				
21.	One way or another, I manage to get hold of books or whatever I need for studying.				
22.	I make sure I find a quiet environment for studying which makes me learn my books easily.				
23.	I put a lot of effort into making sure that I have the most important details at my fingertips when I read.				
24.	I organise my study time carefully to make the best use of it.				
25.	I know what I want to get out of this course and I am determined to achieve it.				
26.	I work hard when I am studying and I generally try to keep my mind on what I am doing.				
27.	I seek to learn what is expected for a particular course, in order achieve the highest grade possible.				

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28.	I think I am quite systematic and organised in the way I go about studying my notes.				
29.	I generally try to make good use of my time during the day.				
30.	I work gradually throughout the course, rather than leaving everything to the last minute.				

SECTION D – STUDENTS' ASPIRATION

Please read the following statements carefully and check [√] the option which best applies to you using the following options: SA= Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

S/N	Statements	SA	A	D	SD
	Educational Aspirations				
1.	I am highly encouraged to continue my education beyond undergraduate degree.				
2.	Postgraduate studies is a way for me to obtain advantaged skills in order to support my career in the future.				
3.	Further education is a way for me to obtain a prestigious profession in the society.				
4.	Further education is a way for me to raise my family's socioeconomic status.				
5.	Furthering my education will help me develop intellectual capacity needed for the development of myself, my nation and the world at large.				
6.	Progressing in my educational career is very important to me since I desire to be well established in order to help people who are less privileged.				
7.	I have plans of enrolling on some professional programmes to acquire a professional degree after my first degree.				
8.	Higher education is a way for me to get advantaged skills that can help me to earn higher income in future.				
9.	Once I finish my undergraduate education needed for a particular job, I see no need to continue in school.				
10.	As far as I know now, the highest degree I hope to earn is a doctor's degree.				
	Occupational Aspirations				
11.	I hope to be established in a descent career after my university education in order to train others.				

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12.	I look forward to enrolling on professional training programmes after school to further enhance my job prospects.				
13.	I have a desire of becoming a great leader in my field of career.				
14.	I hope to move up through the ranks in any organisation or business I will work in after my first degree.				
15.	I look forward to securing a well-paid and descent job after my first degree.				
16.	I will not be satisfied until I am among the best in my field of work.				
17.	I strongly believe in my career success in the future.				

SECTION E – TEST ANXIETY INVENTORY

Please read the following statements carefully and check [√] the option which best applies to you using the following options: Almost Never, Sometimes, Often, Almost Always

S/N	Statements	Almost never	Some times	Often	Almost always
---	**Test Anxiety-Trait**				
1.	I feel confident and relaxed while taking tests.				
2.	I wish examinations did not bother me so much.				
3.	During important tests, I am so tense that my stomach gets upset.				
4.	After an examination is over, I try to stop worrying about it, I just can't.				
---	**Test Anxiety-Worry**				
5.	Thinking about my grade in a course interferes with my work on tests.				
6.	I freeze up on important exams.				
7.	During exams, I find myself thinking about whether I will ever get through school.				
8.	The harder I work at taking a test, the more confused I get.				
9.	Thoughts of doing poorly interfere with my concentration on tests.				
10.	I seem to defeat myself while working on important test.				

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11.	During tests, I find myself thinking about the consequences of failing.				
12.	During examination, I get so nervous that I forget facts I really know.				
---	**Test Anxiety-Emotionality**				
13.	While taking examinations, I have an uneasy sad feeling.				
14.	I feel very jittery when taking an important test.				
15.	Even when I am well prepared for a test, I feel very nervous about it.				
16.	I start feeling very uneasy just before getting a test paper back.				
17.	During test, I feel much tensed.				
18.	I feel very panicky when I take important test				
19.	I worry a great deal before taking an important examination.				
20.	I feel my heart beating fast during important tests.				

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Final Questionnaire (After Pilot Testing)

Final Questionnaire (After Pilot Testing)

This study sought to examine the mediating role of students' aspiration in the relationship between the stakes of university examination and students' learning approaches in the University of Cape. Your participation is essential to the success of this study. Information provided is solely for academic purposes and would be kept as ***confidential*** as possible. Responses provided would be anonymous during data collection. Participation is voluntary and thus, you have the right to withdraw any time without any given reason(s).

SECTION A – DEMOGRAPHIC INFORMATION

Kindly provide the right response by checking [√] in the blank spaces provided.

4. Gender: a. Male [ ] b. Female [ ]
5. Level of study: a. Level 100 [ ] b. Level 200 [ ]
   c. Level 300 [ ] d. Level 400 [ ]
6. College: a. College of Education studies [ ]
   b. College of Health and Allied Sciences [ ]
   c. College of Humanities and Legal Studies [ ]
   d. College of Agriculture and Natural Sciences [ ]

4. Programme of study:.....

SECTION B – STAKES OF UNIVERSITY EXAMINATION

Please read the following statements carefully and check [√] the option which best applies to you using the following options: SA= Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

S/N	Statements	SD	D	A	SA
	Pressure on Students				
1.	If I have to succeed, then I need good grades in my examinations.				
2.	I have to pass my university examinations at all cost.				
3.	I seriously need good grades in my university examinations.				
4.	If I acquire a good university certificate, I will feel I have made it in life.				

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5.	I need to pass all my university exams with good grades to enable me further my education.				
6.	There is the need for me to graduate from the university with a good class to enable me stand any competition in the world of work.				
7.	It is important for me to pass my university exams with good grades to enable me qualify for some scholarship opportunities.				
8.	I need to pass my university exams to avoid the shame of being sacked from the university for poor academic performance.				
9.	I need to pass my university exams to avoid the frustrations of re-sit examinations.				
10.	I need to pass my university exams in order to progress to the next academic level (E.g. From level 100-200, 200-300, 300-400).				
11.	I need to graduate from the university with a good class to bring honour to my sponsors/guardians.				
	Pressure from Parents/Guardians/Sponsors				
12.	My parents/guardians/sponsors are giving me pressure to obtain good grades in all my university examinations.				
13.	My parents/guardians/sponsors want me to graduate with a good class in order to enjoy scholarship packages.				
14.	My parents/guardians/sponsors always emphasise the importance of graduating from the university with a good class.				
15.	My parents/guardians/sponsors have made me understood that, I cannot succeed in life without a good university certificate.				
16.	My parents/guardians/sponsors will never be happy with me if I fail in any of my university examinations.				
17.	Pressure is mounted on me by my parents/guardians/sponsors to learn and acquire good grades in my university examinations.				

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18.	I need to pass my current semester exams so that my needs for the next semester will be provided.				
19.	My parents/guardians/sponsors want me to pass my university exams at all cost.				
20.	My parents/guardians/sponsors want me to graduate the university with good grades in order to appreciate their support.				

SECTION C – STUDENTS' LEARNING APPROACHES

Please read the following statements carefully and check [√] the option which best applies to you using the following options: SA= Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

S/N	Statements	SA	A	D	SD
	Deep Learning Approach				
1.	I am not prepared just to accept things I am told; I have to think them out for myself.				
2.	Sometimes I find myself thinking about ideas from the course when I'm doing other things.				
3.	I try to relate ideas I come across to other topics or courses whenever possible.				
4.	When I am reading an article or book, I try to work out for myself exactly what is being said.				
5.	I usually make time to understand for myself the meaning of what we have to learn.				
6.	When I am working on a new topic, I try to see in my own mind how all the ideas fit together				
7.	Ideas in course books or articles often activate a long chain of thoughts about what I am reading.				
8.	Whenever I am reading, I examine the details carefully to see how they fit in with what is being said.				
9.	It is important for me to follow the argument or see the reasoning behind what I read.				

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10.	I look at the evidence carefully and then I try to reach my own conclusion about things I am studying.				
	Surface Learning Approach				
11.	I hardly critically examine what I read whenever I sit to study.				
12.	Often I stay awake worrying about the amount of material to read, I think I won't be able to do so.				
13.	Although I can remember the facts and details, I often can't see the overall picture of what I read.				
14.	I spend quite a lot of my time repeating or rewriting out things I learn to help me remember them.				
15.	Often I find myself reading things without really trying to understand them.				
16.	I often accept information and ideas passively whenever I read my books.				
17.	I think I have to concentrate on memorising a good deal of what I have to learn.				
18.	I often find it difficult to relate ideas to what I have learnt previously whenever I sit to study.				
	Strategic Learning Approach				
19.	One way or another, I manage to get hold of books or whatever I need for studying.				
20.	I make sure I find a quiet environment for studying which makes me learn my books easily.				
21.	I put a lot of effort into making sure that I have the most important details at my fingertips when I read.				
22.	I organise my study time carefully to make the best use of it.				
23.	I know what I want to get out of this course and I am determined to achieve it.				

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24.	I work hard when I am studying and I generally try to keep my mind on what I am doing.				
25.	I seek to learn what is expected for a particular course, in order achieve the highest grade possible.				
26.	I think I am quite systematic and organised in the way I go about studying my notes.				
27.	I generally try to make good use of my time during the day.				
28.	I work gradually throughout the course, rather than leaving everything to the last minute.				

SECTION D – STUDENTS' ASPIRATION

Please read the following statements carefully and check [√] the option which best applies to you using the following options: SA= Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

S/N	Statements	SA	A	D	SD
	Educational Aspirations				
1.	I am highly encouraged to continue my education beyond undergraduate degree.				
2.	Postgraduate studies is a way for me to obtain advantaged skills in order to support my career in the future.				
3.	Further education is a way for me to obtain a prestigious profession in the society.				
4.	Further education is a way for me to raise my family's socioeconomic status.				
5.	Progressing in my educational career is very important to me since I desire to be well established in order to help people who are less privileged.				
6.	I have plans of enrolling on some professional programmes to acquire a professional degree after my first degree.				

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7.	Higher education is a way for me to get advantaged skills that can help me to earn higher income in future.				
8.	As far as I know now, the highest degree I hope to earn is a doctor's degree.				
	Occupational Aspirations				
9.	I hope to be established in a descent career after my university education in order to train others.				
10.	I look forward to enrolling on professional training programmes after school to further enhance my job prospects.				
11.	I have a desire of becoming a great leader in my field of career.				
12.	I look forward to securing a well-paid and descent job after my first degree.				
13.	I will not be satisfied until I am among the best in my field of work.				
14.	I strongly believe in my career success in the future.				

SECTION E – TEST ANXIETY INVENTORY

Please read the following statements carefully and check [√] the option which best applies to you using the following options: Almost Never, Sometimes, Often, Almost Always

S/N	**Statements**	**Almost never**	**Some times**	**Often**	**Almost always**
	Test Anxiety-Trait				
1.	During important tests, I am so tense that my stomach gets upset.				
2.	After an examination is over, I try to stop worrying about it, I just can't.				
---	**Test Anxiety-Worry**				

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3.	Thinking about my grade in a course interferes with my work on tests.				
4.	I freeze up on important exams				
5.	During exams, I find myself thinking about whether I will ever get through school.				
6.	The harder I work at taking a test, the more confused I get.				
7.	Thoughts of doing poorly interfere with my concentration on tests.				
8.	I seem to defeat myself while working on important test.				
9.	During tests, I find myself thinking about the consequences of failing.				
10.	During examination, I get so nervous that I forget facts I really know.				
---	**Test Anxiety-Emotionality**				
11.	While taking examinations, I have an uneasy sad feeling.				
12.	I feel very nervous when taking an important test.				
13.	Even when I am well prepared for a test, I feel very nervous about it.				
14.	I start feeling very uneasy just before getting a test paper back.				
15.	During test, I feel much tensed.				
16.	I feel very frightened when I take important test				
17.	I worry a great deal before taking an important examination.				
18.	I feel my heart beating fast during important tests.				

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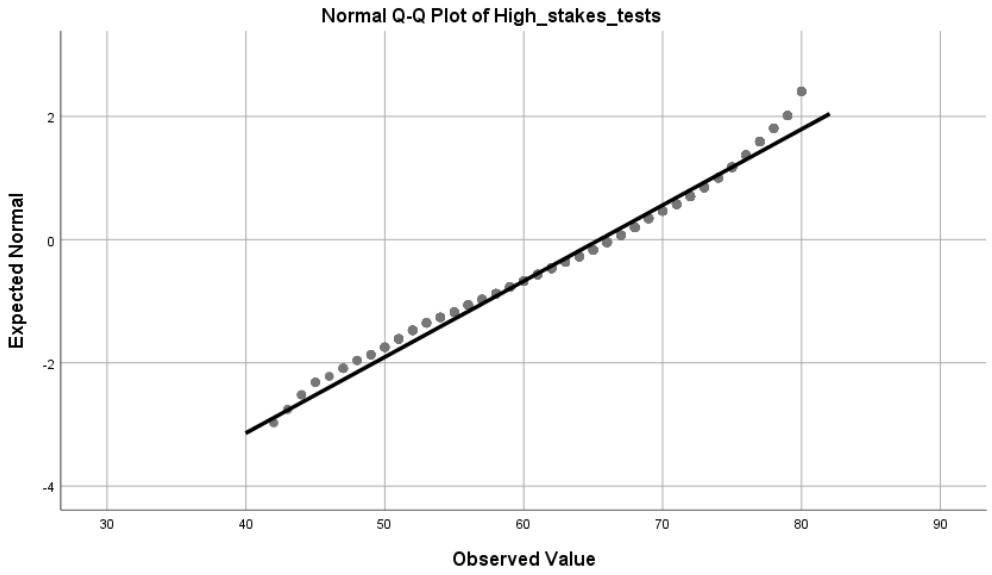
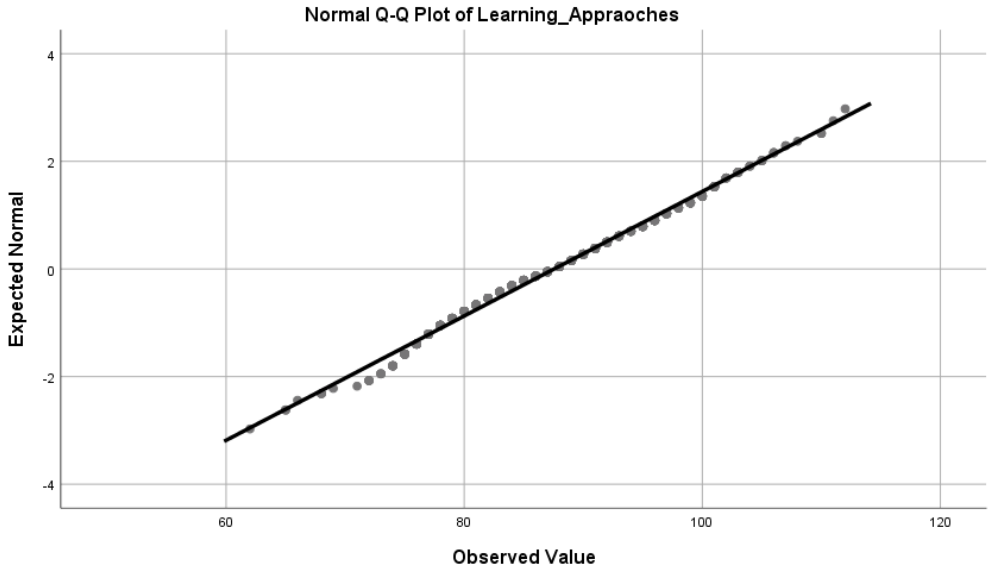
APPENDIX D

NORMALITY TEST





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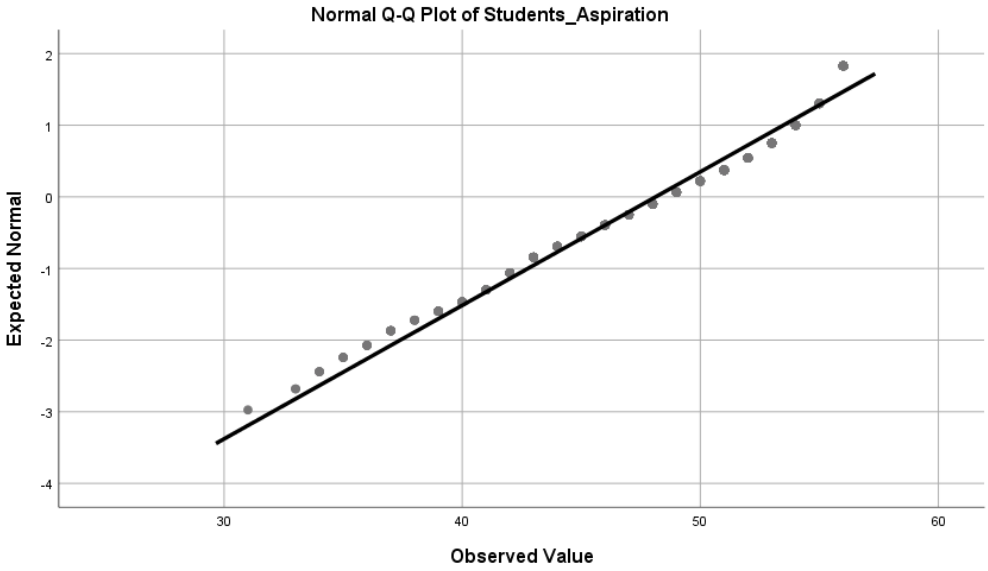

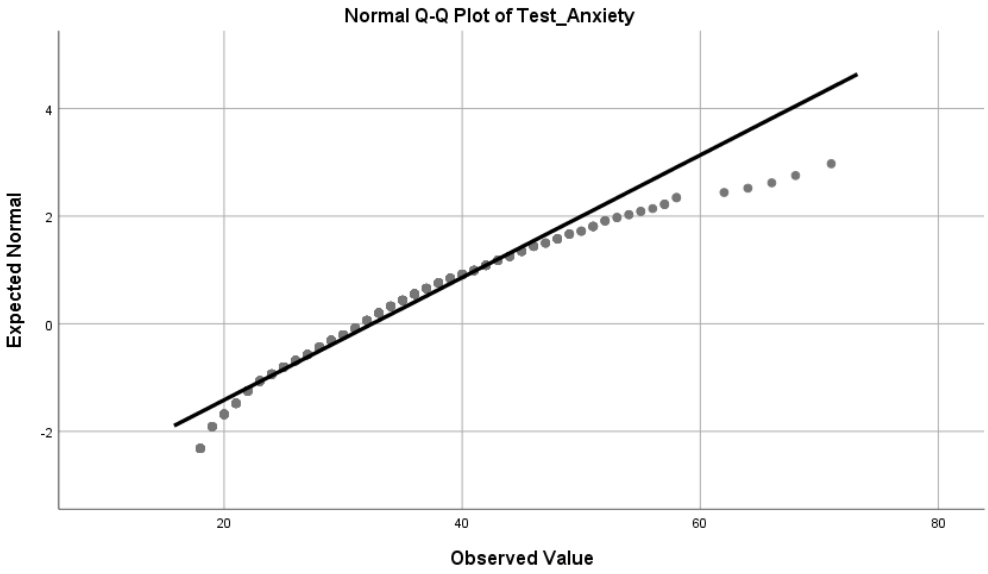

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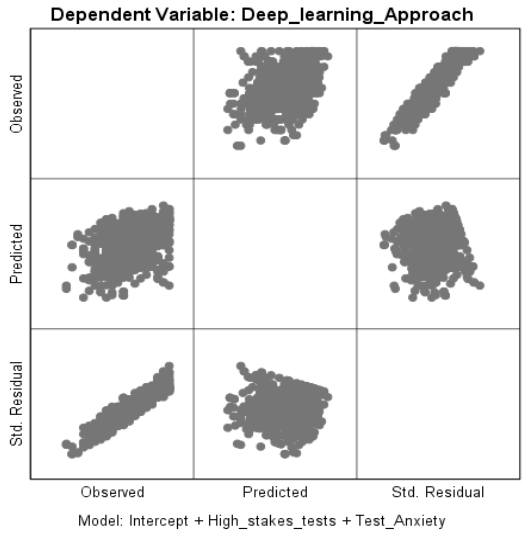
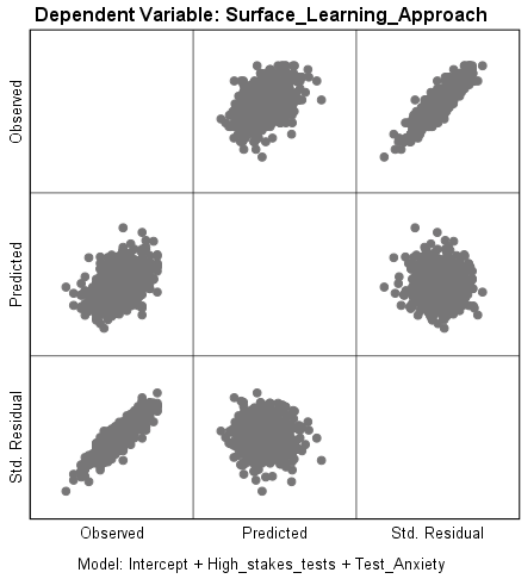
APPENDIX E

OUTPUT FOR HYPOTHESES

HYPOTHESIS ONE





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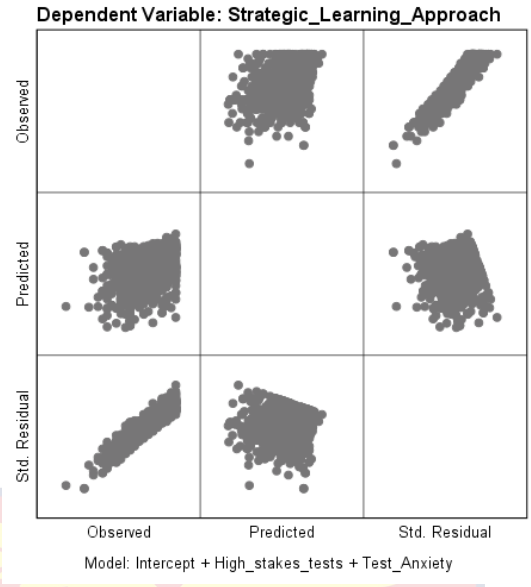

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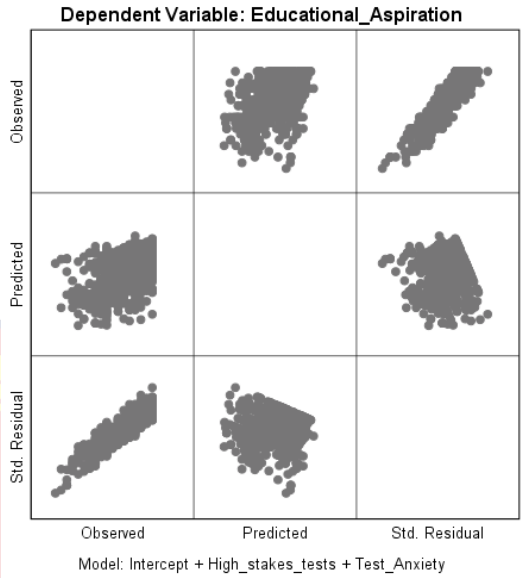
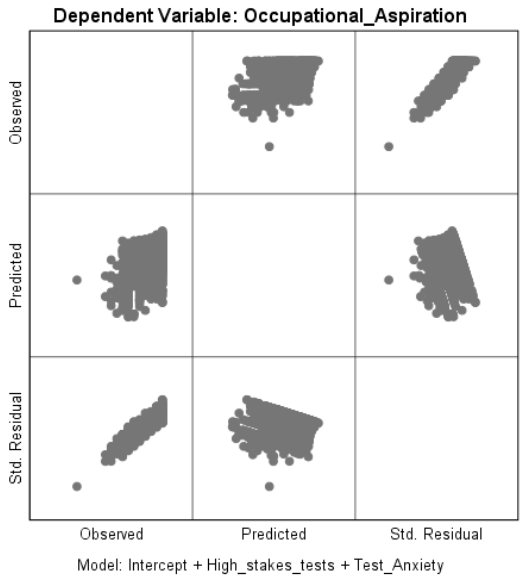
HYPOTHESIS TWO

LINEARITY AND HOMOSCEDASTICITY





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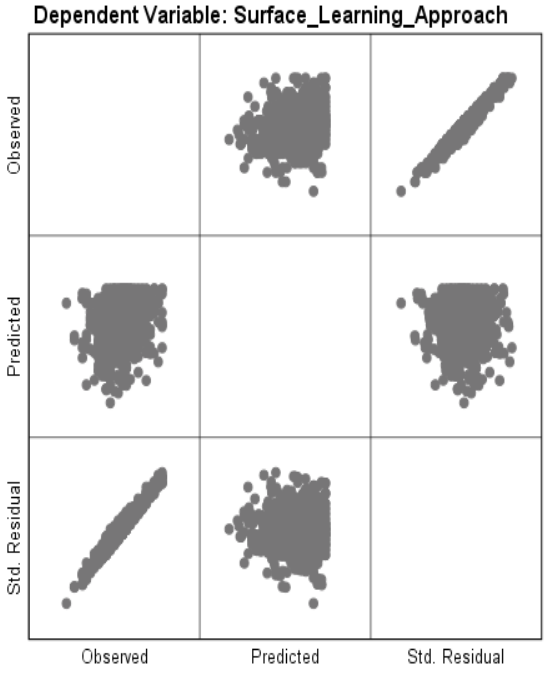
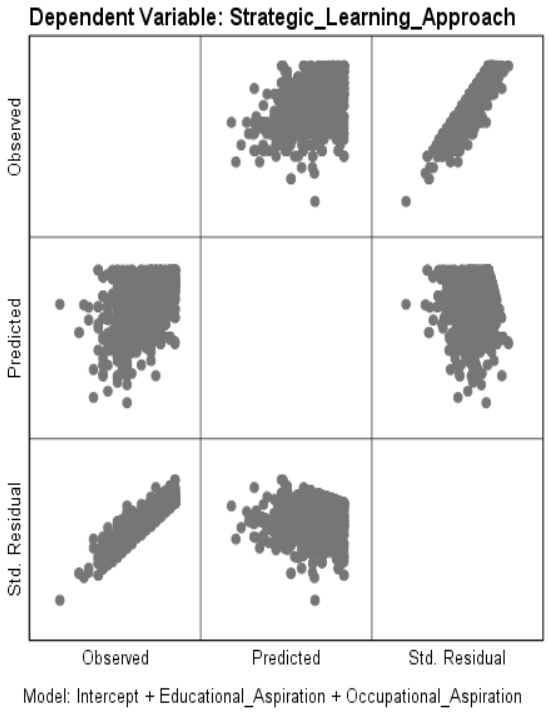
HYPOTHESIS FOUR

LINEARITY AND HOMOSCEDASTICITY





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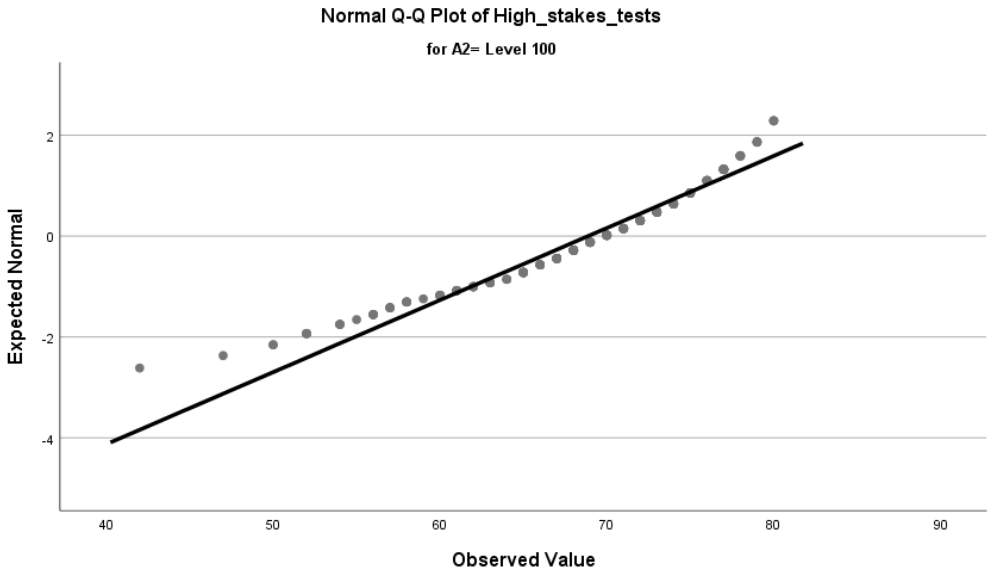
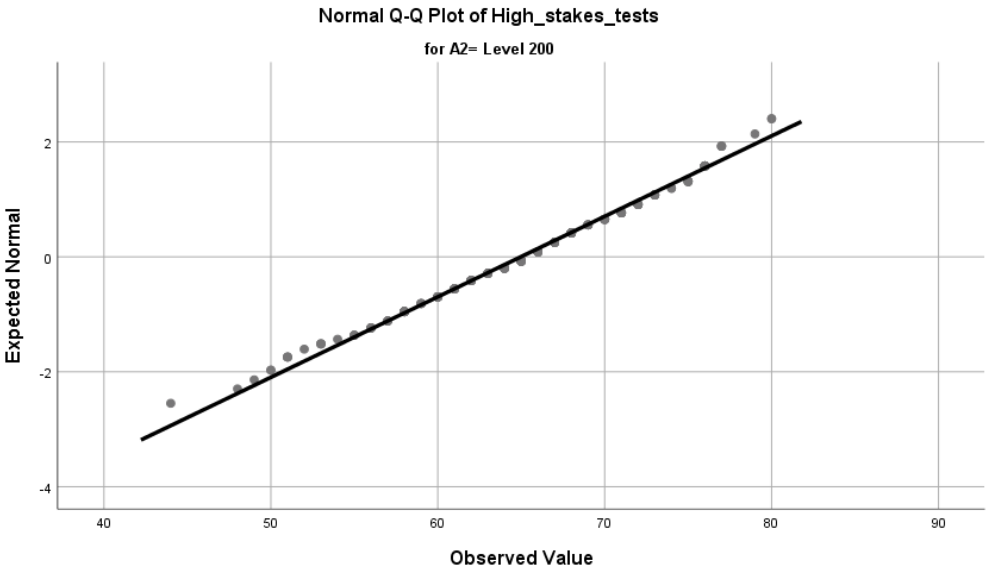
HYPOTHESIS SIX





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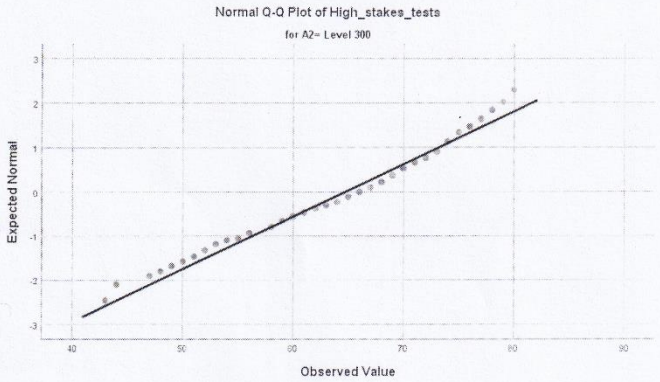

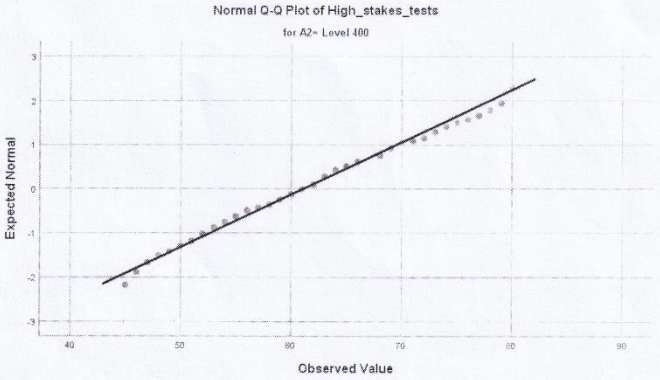

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
High-stakes	Based on Mean	4.471	3	676	.004
	Based on Median	4.177	3	676	.006
	Based on Median and with adjusted df	4.177	3	664.754	.006

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	Based on trimmed mean	4.424	3	676	.004
Test Anxiety	Based on Mean	1.203	3	676	.308
	Based on Median	.890	3	676	.446
	Based on Median and with adjusted df	.890	3	653.896	.446
	Based on trimmed mean	1.030	3	676	.379

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
High-stakes	Between Groups	5243.476	3	1747.825	29.947	.000
	Within Groups	39453.605	676	58.363		
	Total	44697.081	679			
Test Anxiety	Between Groups	178.094	3	59.365	.768	.512
	Within Groups	52252.304	676	77.296		
	Total	52430.399	679			

Robust Tests of Equality of Means

		Statistic	df1	df2	Sig.
High-stakes	Welch	29.538	3	336.235	.000
Test Anxiety	Welch	.743	3	341.744	.527

a. Asymptotically F distributed.

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