

UNIVERSITY OF CAPE COAST

FINANCIAL LITERACY AND FINANCIAL BEHAVIOUR OF COLLEGE OF  
EDUCATION STUDENTS IN THE CENTRAL REGION OF GHANA

BY

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## DECLARATION

### Candidate's Declaration

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

Candidate's Signature:..... Date:.....

Name: Bernard Baiden

### 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.

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## ABSTRACT

The study investigated the level of financial literacy and financial behaviour of College of Education students in the Central Region of Ghana. The objectives that supported this study were to assess the financial literacy level of College of Education Students in relation to sex and level of study. The study also examined the relationship between financial literacy and financial behaviour of College of Education Students in the Central Region of Ghana. The study employed descriptive statistics, cross tabulation, chi-square and linear regression in analysing the objectives of the study. The study used questionnaire in the survey and selected actual sample of 450 from a population of 2,395 (Krejcie & Morgan, 1970). The key findings obtained from the study were that there is no significant difference between sex and level of study in relation to financial literacy. The study also found a positive relationship between savings and borrowing and financial behaviour of College of Education students. However, the relationship between insurance and financial behaviour was found to be negative. The study recommends that Colleges of Education in the Central Region of Ghana should specifically design programs on finance to enhance the financial literacy of students.

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**DEDICATION**

To my charming wife and dearest son,  
Mrs Lily Araba Baiden and Evidence Fiifi Eduafo Baiden

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## LIST OF ACRONYMS

AGE	Age
ASIC	Australian Securities and Investment Commission
FB	Financial Behaviour
FL	Financial Literacy
GIZ	German International Commission
OECD	Organisation for Economic Co-operation and Development
SEX	Sex
TIPCEE	Investment Performance for Competitive Export Economy
USAID	United State Agency for International Development



## CHAPTER ONE

### INTRODUCTION

Financial literacy is an essential skill required for everyday life around the world. On daily basis people are called upon to make minor or important financial decisions. This includes making ends meet, budgeting, and paying bills on time, saving, borrowing, insuring and investing. People are able to make decisions about car loan, house down payment, mortgage, insurance, and retirement. The need to revitalize young individuals' activities in the financial sector should be recognized as one of the major challenges of the modern society in the field of higher education (Philippas & Tzora, 2017).

The financial crisis in 2008 has shown that it is vital to invest in people's financial literacy through awareness programmes, initiatives and national campaigns, especially for the young population.

#### **Background to the Study**

Today's complex financial service markets offer consumers a vast array of products and services to meet their financial needs. The degree of choice requires that consumers be equipped with the financial knowledge and skills to evaluate the options and identify those that best suit their needs and circumstances. According to Beal and Delpachitra (2003), having financial literacy skills enables individuals make informed decisions about their money and minimizes the chances of financial mismanagement.

Rosacker, Ragothaman and Gillispie (2009) stated that obtaining sufficient education and understanding of the basic financial knowledge and skills will be beneficial to the students to make them productive and successful members of society. Furthermore, Beverly and Burkhalter (2005) as cited by Martin and Oliva (2001) argued that measurement of the financial literacy of young people was especially important when viewed from the perspective that efforts to increase the financial knowledge and skills acquired early in life create a foundation for future financial behavior and well-being.

Financial literacy has been recognized as a key skill for individuals who are embedded in an increasingly complex financial products and services (Potric, Vieira & Kirch, 2015). Financial literacy is also recognized as a very useful tool to see how individuals cope with financial problems. Financial literacy is a basic concept in understanding finance and its use in daily life. This includes the way income and expenditure are managed and the ability to use the common methods of exchanging and managing money. Further, financial literacy incorporates an understanding of everyday situations that need to be understood such as insurance, credit and an appreciation of savings and borrowings. The understanding of financial terms and concepts includes an understanding of key financial concepts central to investing and managing funds to increase wealth and security (Program for International Student Association [PISA], 2012; Organisation for Economic Co-operation and Development [OECD], 2013)

Individuals require an awareness of features available for borrowing and investing. This awareness includes the understanding of prospectus and annual

statements, compound interest calculations and delaying the use of funds for consumption. Individuals further need to be aware that high return investments are also likely to involve high risks, the realization that market values fall as well as rise, and the principles of diversification. This need introduces a new complex set of skills in relation to products and how they work, the advantages and disadvantages. The other component of financial literacy is the skill to utilize knowledge and understanding to make beneficial financial decisions (Wagland & Taylor, 2009).

There is ample empirical evidence that financial illiteracy is widespread, on global basis, 35% of men are financially literate as compared to 30% of women. The situation is further aggravated by two recent trends. First, in many developed countries, responsibility for an adequate retirement provision is shifted from governments and employers toward individuals (Braunstein & Welch, 2002) forcing them to cope more autonomously with financial decisions (Oehler & Kohlert, 2009). Secondly, financial products and services are becoming more numerous and feature-rich, which renders making an informed choice challenging in general, but particularly so for financially illiterate individuals (Oehler & Kohlert, 2009).

More complex decision situations may, in turn, make individuals feel less knowledgeable, and varying levels of perceived financial literacy have been shown to be predictive of financial behavior (Allgood & Walstad, 2016).

The Organisation for Economic Co-Operation and Development (OECD, 2013) conceptualized financial literacy as a combination of awareness,

knowledge, skill, attitude, and behavior required to make financial decisions and ultimately achieve individual financial well-being. Also, financial literacy is defined as the “people’s ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt and pension” (Lusardi & MictHELL, 2014). Financial literacy is more than a measure of knowledge, it also reflects competency in actively managing one’s own money from the point of accumulation to the point of consumption (Remund, 2010).

Chen and Volpe (1998) mentioned that the content of financial literacy should be divided into four areas, namely, general financial management knowledge, savings and loans, insurance, and investment. Savings and investment as well as insurance and money management are key ingredients that promote economic growth. In every economy, accumulated saving is the main source of capital stock which plays a crucial role in creating investment, production, and employment which eventually enhance economic growth (Mireku, 2015).

The awareness of the importance of financial education is gaining momentum among policy makers across the world. Again, helping young people and college students to understand their financial issues is quite important, as younger generations are likely to face ever increasingly complex financial products and services. They are also more likely to bear more financial risks in adulthood than their parents, especially in saving and borrowing, investing in financial assets, planning for retirement and covering their healthcare needs (OECD, 2011).

The need for financial literacy has become increasingly significant with the deregulation of financial markets and the easier access to credit, the ready issue of credit cards and the rapid growth in marketing financial products and services. Recognizing the importance of financial literacy, a growing number of countries have developed and implemented national strategies for financial education in order to improve the financial literacy of their populations in general, often with a particular focus on younger generations (Grifoni & Messy, 2012).

Understanding financial literacy among young people is essential for developing effective financial education programmes (Cameron, Calderwood, Cox, Lim & Yamaoka, 2014). It is therefore crucial to research and find ways to improve the financial literacy of people, especially, students who are seen as the future generation of every country. While there are initiatives in many countries to promote financial education (OECD, 2005; Oehler & Werner, 2008) it is surprising that no dedicated financial education programmes exist in Ghana. If the youth in Ghana have similar difficulties in acquiring financial literacy as those that have been documented in other countries, this lack of financial education becomes a serious concern.

Studying in a College of Education is a crucial time in a student's life. This is the transition period for the students to start to seek their first jobs. College of Education results whether excelling or failing, will lead them to achieve some degree of financial autonomy. For those who excel in the tertiary institutions, they need to cope with their own financial responsibilities such as paying fees, making financial budget and managing their own allowances. Both situations are big

challenges for them. How well they cope with these challenges depend, in part, on the financial knowledge and behaviors they acquire prior to arriving at this stage (Shim, Xiao, Barber & Lyons, 2009).

Financial literacy is expected to affect financial behaviour because knowledge always influences behaviour. That is, low literacy or lack of information affects the ability to save and invest; ignorance about basic financial concepts can be linked to a lack of financial planning by Lusardi (2008). Below are a related study to this objective:

Sayinzoga, Bulteand Leusink (2016) conducted a study on financial literacy and financial behaviour: experimental evidence from rural Rwanda. Afield experiment was undertaken in rural Rwanda to measure the impact of a one-week financial training on financial literacy and financial behaviour. The target population was smallholder farmers. The training increased financial literacy of participants and changed their savings, borrowing and repayment behaviour. The result showed a positive effect on the start-up of income-generating activities. Using a two-stage regression further find that financial literacy enhances behavioural changes. The study supports the claim that microfinance programs should include training modules to enhance their developmental impact.

Jorgensen (2007) found that parents significantly influence their children's knowledge, attitudes, and financial behaviour and Mandell (2008) found that the financial literacy of individuals is uniformly related to their parents' education levels. For these reasons, parental education would play a significant. In the same

context, the literature suggests that parents play a major role by influencing their children's consumer behaviour. They fail to make correct decisions because they have not received a sound personal finance education (Hira & Mugenda, 2000).

However, the level of study is not significantly correlated with financial literacy. Young individuals, in particular, are not only likely to deal with growing complexity in financial products, services and markets, but they are more likely to have more financial risks in adulthood than their parents. Young adults will have to make earlier financial decisions (such as student loans, credit cards and pension accounts) and it has proven to be difficult for financially unsophisticated individuals to master them (OECD, 2012; Lusardi, Mitchell, & Curto, 2010; Lusardi, & Mitchell, 2014; Brown, Kapteyn, & Mitchell, 2016). Moreover, this was confirmed when Oppong-Boaky and Kansanba (2013) and Fotaki (2014) students at a Tertiary level should improve their financial literacy level before they enter the job market in order to have a positive financial attitude.

It seems that most of the studies support that level of education determines financial literacy. According to Amadeu (2009), a potential explanation for these results lies on the reverse causality: individuals with high (low) financial literacy level are more (less) concerned about greater financial literacy levels are found in individuals with higher education levels and greater access to financial information.

In the Central Region of Ghana, reconnaissance visit to the Colleges of Education revealed that no formalized course on financial literacy is introduced in the various colleges. This raises the suspicion on the level of financial literacy and

financial behaviour among the students within these colleges. Moreover, the students in the Colleges of Education have just migrated from the Senior High Schools where courses of financial literacy are absent. It thus serves the research community a great deal to assess the level of financial literacy of College of Education Students in the Central region of Ghana and how their financial behaviour is influenced.

Therefore, conducting a research in financial literacy among students of college of education will go a long way to inform policy. It will help policy makers to know the aspects of financial literacy issues to include in the syllabus of the institutions.

### **Statement of the Problem**

The importance of promoting financial literacy among College students cannot be understated. College students and young adults have shown to lack even the most basic understanding of topics such as interest rates, inflation and risk diversification (Mandell, 2008; Lusardi & Mitchell, 2008). Many studies have shown that levels of financial literacy are low, especially among College students and young population (Danes & Hira, 1987; Volpe, Chen & Pavlicko, 1996; Chen & Volpe 1998; Beal & Delpachitra, 2003; Sarigul 2014; Cameron, Calderwood, Cox, Lim & Yamaoka, 2014; Fatoki, 2014; Thapa & Nepal, 2015). As a result, young citizens are unable to understand key financial terms and concepts preventing them from making wise financial decisions. Research undertaken by the Ministry of Finance and Economy Planning over the past years

suggested that Ghanaians do not have adequate financial knowledge and skills and are therefore not able to make good judgments about their financial decisions on the management of their finances as well as understanding details of financial services and products (Atakora, 2013).

College of Education students are trainee teachers who will be teaching pupils in the classroom by imparting knowledge to them and therefore, it is necessary for College of Education students to be equipped with the financial knowledge and skills for them to transfer these knowledge acquired at their early stages in life before their adult working life. This will have significant impact as they transfer these financial knowledge and skills to their pupils they teach them in the classroom. The argument is that teachers can impact the financial literacy of their students not only cognitively but also by demonstrating good financial behaviours (Bandura, 1989). Globally, few studies (Garman, 1979; Lofgren & Suzuki, 1979; Way & Holden, 2009) have been conducted, largely in developed countries, to unearth the preparedness of teachers to teach financial literacy.

Inculcating financial literacy in College students is very necessary as students tend to develop their habit during that stage and thus would enable them to develop good money management behaviours as working adults (Dahlia, Rabitah & Zuraidah, 2009). College of Education students in Ghana are given allowances every month till they finish their education in order to manage their stay in school and serve as a form of motivation as many students use these allowances as guarantee to access loans to pay their fees till they complete school.

Therefore, there is the need to improve the financial literacy of individuals, especially students at College of Education, so they can have positive cash management attitudes before they enter the job market. Ensuring that society's young people become financially capable is now widely key pillar in helping governments build economic stability in the future (Adeoti, 2010).

Although, prior studies have not realized the financial literacy knowledge gap existing among the Ghanaian Colleges of Education students clearly, much efforts need to be put into examining the information gap since the College of Education students are also confronted both directly and indirectly with financial issues in their daily activities. Most of the previous academic research into financial literacy rates were carried out in developed countries such as in the US, the UK, Australia (Chen & Volpe, 1998; Chen & Volpe, 2002; Rosacker, Ragothaman & Gillispie, 2009; Marriott, 2007; Beal & Delpachitra, 2003) but some were conducted in developing countries (Al-Tamimi & Kalli, 2009; Bönke & Filipiak, 2012). Unfortunately, academic empirical evidence on financial literacy among College of Education students for the case of the African countries seems to be non-existent, especially in the case of Ghana. This study wish to fill the gap by contributing to literature on the level of financial literacy among College of Education students in the Central Region.

The Central Region was ranked the fourth poorest region in the country in the 2015 Ghana Living Standard Survey, conducted by the Ghana Statistical Service. Also, Central Region is where education started in Ghana, therefore, it will be of keen interest to focus attention on the region which pioneered education

in Ghana. Despite its significance, many studies around the world indicate financial literacy as poverty reduction tool and strategy (Bank of Uganda 2013; Faboyede, Ben- Caleb, Oyewo, & Faboyede, 2015, World Bank, 2015). Hence, this study aimed at determining the level of financial literacy of College of Education students in the Central Region of Ghana.

### **Purpose of the Study**

The purpose of this study was to investigate financial literacy among College of Education students in the Central Region of Ghana.

### **Research Objectives**

To achieve this, the research is conducted around the following specific objectives:

1. To assess the financial literacy level of Colleges of Education students
2. Examine sex in relation to financial literacy of College of Education students.
3. Examine level of study differences in relation to financial literacy of College of Education students.
4. To examine the influence of College of Education students' level of financial literacy on their financial behavior

### **Research Questions**

Based on the above research problem and objectives, the following questions have been developed for the study:

1. What is the level of financial literacy of College of Education students?
2. How does financial literacy of College of Education students differ in relation to sex?
3. Does the level of study in relation to financial literacy of College of Education students differ?
4. How does the level of financial literacy of College of Education students influence their financial behaviour?

### **Significance of the Study**

This study exposes the students in the Colleges of Education to the need for financial literacy concepts like money management, budgeting, insurance, savings, inflation rates and interest rates and its impact on making financial decision. Past studies showed that students with high level of financial literacy were more able to reduce their debts. This study therefore aimed to inform, enlighten and create understanding of the need of personal finance so as to prevent College of Education students from being engaged in deceitful transactions (Comptroller of the Currency, 2011).

This study would also inform the Ministry of Education and other stakeholders in educational sector on the need for financial literacy level among College of Education students in Ghana. Findings of this study would enable the

government and other stakeholders to formulate and implement policies that would improve financial literacy level of these students. The findings would also guide the government to tailor educational programs that meet the unique needs of students in terms of finance.

### **Delimitations**

This study however focused on Colleges of Education in the Central Region and as a result gave the true reflection of personal financial literacy of College of Education students in the region. Some constraints encountered during the study included the inadequate time period for the study.

### **Limitations**

This study was centered on Colleges of Education in the Central Region which was a handful to give the true reflection of financial literacy level of College of Education students in the region. In addition, only first and second year students were sampled for the survey due to the fact that the third year students had completed school before the questionnaire was administered. However, the needed information required for the survey was collected irrespective of the above mentioned limitation.

### **Organisation of the study**

The study is organized into five chapters. Chapter one dealt with the Introduction which gave a brief background into financial literacy among College

of Education students. Also, the statement of the problem, purpose of the study, research objectives and question, significance of the study, delimitations, limitations and organisation of the study were all covered.

Chapter two focuses on detailed review of literature on financial literacy. Chapter three presents the research methods. Thus, the theoretical and empirical reviews as well as the conceptual framework of the study. Chapter four presents the results and discussions. Chapter five contains the summary, conclusions and recommendations.

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## CHAPTER TWO

### LITERATURE REVIEW

#### **Introduction**

This chapter of the study reviews literature relevant to financial literacy. The chapter begins with meaning and overview of financial literacy by discussing the concepts of financial literacy and financial behaviour. The chapter also discussed the family resource management theory which is embedded in the systems theory as a theoretical review. The Chapter ends with an empirical review and conceptual framework.

#### **Meaning and overview of financial literacy**

Financial literacy has gained recognition of various stakeholders including a financial institution, government agencies, and consumers such as College of Education students, international bodies such as Organization for Economic Co-operation and Development (OECD), World Bank and other organizations. In this regard, various definitions exist in literature in relation to the meaning of financial literacy.

Basically, the term financial literacy refers to the ability of an individual to make informed judgments and decisions regarding the use and management of money (Australian Securities and Investment Commission (ASIC), 2003; Noctor, Stoney & Stradling 1992; Godsted & McCormick, 2007). It can be extended as “enabling people to make informed and confident decisions regarding all aspects of their budgeting, spending and savings and their use of financial products and

services, from everyday banking through to borrowing, investing and planning for the future” (Morgan, 2003).

According to Worthington (2006), financial literacy can be defined broadly or narrowly. A broad definition of financial literacy adopts an understanding of economics and how economic conditions and circumstances affect household decisions. A narrow definition of financial literacy focuses on basic money management tools such as budgeting, saving, investing and insurance (Gallery, Newton & Palm, 2011).

Lusardi and Mitchell (2014) noted that though being literate financially is vital for ones’ welfare, the ability to understand the basic tenets concerning money management becomes an issue among students since the curricula of most educational institutions especially at Tertiary level do not stress on the real aspects of personal finance management. Remund (2010) asserts that the understanding of fundamental financial concepts is imperative if students are to have the confidence and courage to manage their personal finances as well as make meaningful financial decisions for their welfare in the future. Even though there have been varied views on financial literacy from different individuals and institutions, they are all directed at how individuals can manage the various financial resources available to them for their own well-being and progress.

Kefela (2011) argues that financial literacy is crucial at many levels. It is an essential element in enabling people to manage their financial affairs and can make an important contribution to the soundness and efficiency of the financial system, and to the performance of the economy.

In 2006, the Financial Service Authority divided financial literacy into four types: budget, expenditure, products, and information. Widdowson and Hailwood (2007) indicate that financial literacy includes basic computation ability, understanding the yields and risks of financial decisions, familiarity with basic financial management concepts, knowing the channels for consultation and assistance, and the ability to understand the content of suggestions. In sum, financial literacy includes the following three areas: general financial management knowledge, the ability to search for and understand financial management information, and the decision-making and responsibility in financial management.

### **Financial Behaviour**

According to White (1999), financial behaviour is defined as the process of how individuals understand and act on financial knowledge so as to make a sound investment. It explains how human beings are able to apply financial ideas, concepts and knowledge in their actions or inactions. Financial behaviour in this study is the process where College of Education students act on their financial knowledge to make a good investment.

### **Theoretical Framework**

The theoretical paradigm mostly used by researchers when studying financial decisions and how resources are managed is systems theory (Goldsmith, 2005). Systems theory looks at input, throughput, output and feedback in a flowchart model. Financial management is a concept grounded in human ecology

and utility theories which are quite related to family resource management theory, which is embedded in the systems theory (Bubolz & Sontag, 1993). This study adapts the family resource management theory to understand and appreciate the financial literacy level of students and how their financial knowledge shapes their financial decisions, opinions and practices. Also, Theory of Reasoned Action; Liberal Feminist Theory and the Social Learning Theory postulated by Bandura (1977) is used to complement the family resource management theory.

### **Theory of Reasoned Action**

Ajzen and Fishbein (1980) explain financial education to investigate approaches to predict behaviours and outcomes. For them, people who make systematic use of information available to them are usually quite rational. Along these lines, individuals consider the ramifications of their activities before they choose to connect with or not take part in a given behaviour. They established this theory to anticipate and comprehend behaviour and attitudes.

The theory additionally gives a structure to study attitudes toward behaviour. It posits that, the most critical determinant of a person's conduct is behaviour intent. The person's aim to play out a behaviour is a blend of attitude toward playing out the behaviour. The person's attitude toward the behaviour

According to the theory, if an individual sees that the result from playing out behaviour is positive, she/he will have an uplifting attitude forward playing out that behaviour. The inverse can likewise be expressed if the behaviour is believed to be negative. Attitude and subjective norms are measured on scales (for

instance the Likert Scale) utilizing expressions or terms, for example, like/unlike, good/bad, and agree/disagree. The idea to play out a conduct relies on the result of the measures of attitude and subjective norm. A positive item demonstrates behavioural intent (Glanz, Lewis, Rimer, & Viswanath, 2008).

### **Liberal Feminist Theory**

The liberal feminist theory ascribes how sex-based differences contrast to the varieties in opportunity concurred with men and women in society. Thus differences in the accomplishments of men and women are credited to the inability of women to understand their maximum capacity since they are denied equal access to opportunities in resources. This, in turn, has upset women from gaining the aptitudes and abilities important to contend on equivalent premise with men. From the liberal feminist theory, once equal access to resources is guaranteed, sex differences in financial literacy apparently vanish (Carter et al., 1997). This is because women are not given the same platform. In spite of this, if equal access to resources is ensured, the sex difference in finance in terms of education and others would be eliminated.

### **Family Resource Management Model**

According to Goldsmith (2005), family resource management theory was advanced by Deacon and Firebaugh (1981) as a management process with an orientation where management is “the process of using resources to achieve goals”. The four steps in the family resource management model explain how people make financial decisions and develop financial behaviour. The steps are

inputs, throughputs, outputs, and feedback loop as depicted in Figure 1 below. These steps are explained in line with how they fit the model designed for this study.

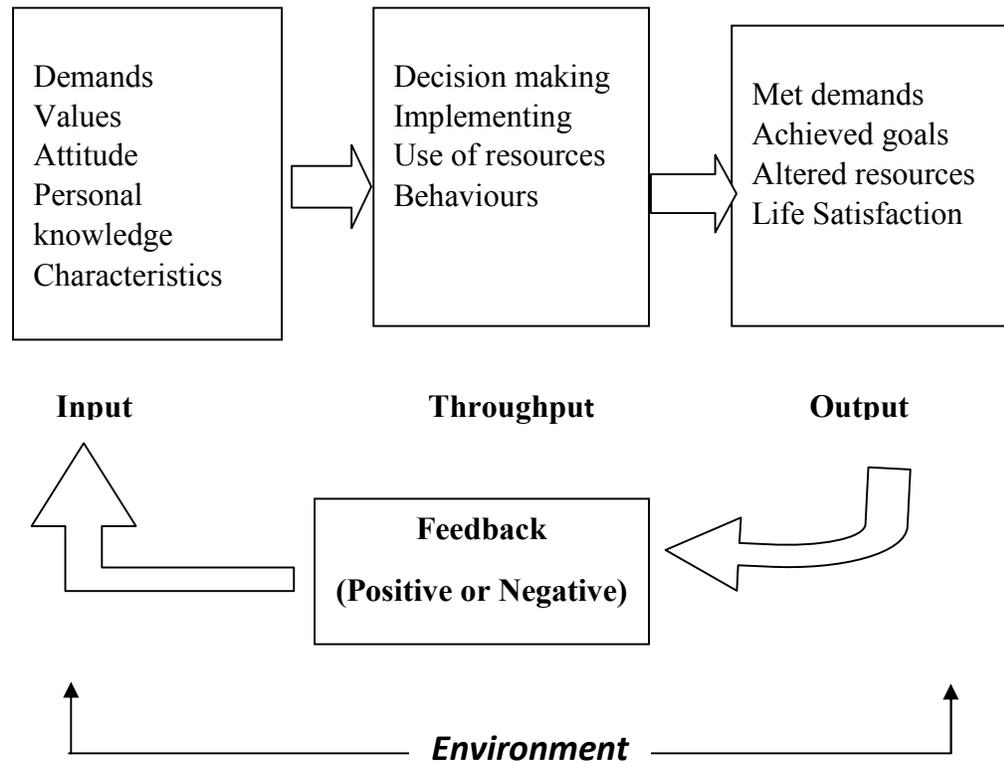


Figure 1: Family Resource Management Model

Source: Jorgensen (2007)

### Inputs

Inputs are the first phase of the family resource management model which depicts the resources the individual has at any given time (Goldsmith, 2005; Hayhoe, Leach, Allen & Edwards, 2005). These inputs include demand, value, attitude and knowledge. For people to have a sound decision about financial

issues, make the right decision among financial alternatives and also have sound personal finance practices, the basic resource needed is financial knowledge. Thus financial literacy is critically examined as the input for this study.

### **Throughputs**

The second phase of the model is where decisions are made based on the individual's available resources. Throughputs include planning, implementing, decision making, communicating, and use of resources (Goldsmith, 2005). In this study, the throughput phase reflects students' financial opinions, decision making and personal financial management practices because it epitomizes the use of resources (financial knowledge) from the inputs phase.

### **Outputs**

Output, which is the third phase of the model, looks at whether the preferred goal was achieved. It is the recognized outcome that emanates based on the decisions made by the individual (Jorgensen, 2007). According to Rice and Tucker (1986) "the final output is the satisfaction or dissatisfaction with the quality of life produced by the solutions generated in response to demands and resource inputs". Longitudinal data are required to measure outputs (Jorgensen, 2007). Since this study is cross-sectional rather than longitudinal, the outputs phase is excluded.

## **Feedback**

Feedback is the fourth stage of the model. Rice and Tucker (1986) posit that feedback is incessantly used in all phases of the resource management system. Feedback ensues once there is an imbalance in the individual's life (Hayhoe, Leach, Allen & Edwards, 2005 & Goldsmith, 2005). This can be as a result of having goals not achieved. Feedback relays to input by means of increased knowledge. The fresh resources offered to allow the process to occur again as the individual make use of the new resources to make decisions with the expectations of a better output that will bring equilibrium and the model designed for this study. This phase is excluded from this study since it requires longitudinal data to measure it (Jorgensen, 2007).

## **Empirical Review**

This section provides information on the prior studies related to the study. This is done based on the themes of the objectives.

## **Financial literacy level of College of Education students**

Low financial literacy does not only affect an individual but the nation as a whole, thus, this subsection reviewed related study to have a fair idea of the level of financial literacy to expect. Below are some prior studies that were reviewed:

Volpe, Chen, and Pavlicko (1996) surveys 454 College students using questionnaires. They find that College students have inadequate knowledge of

personal investment. Their survey data came from the Jumpstart 1997 survey of a College student. The survey contained 31 multiple choice questions covering four personal finance topics and also included questions covering individual demographic and family characteristics. They also find that female students, non-business majors, non-financial accounting majors are less knowledgeable in investment.

Also, Lusardi, Mitchell and Curto (2010) studied American youth using the data from the NLSY97 survey (1997 National Longitudinal Survey of Youth). Data were obtained from 7,417 participants of age 23-28. The financial literacy questions included in wave 11 of the NLSY97 were the ones designed for the 2004 Health and Retirement Study (HRS) by Lusardi & Mitchell (2006). The findings revealed that the “interest rate” question (or “compound interest” question (Lusardi & Mitchell, 2006) was answered correctly by 79% of the participants, 54% answered the “inflation” question correctly and only 47% answered the “risk diversification” question (Lusardi, Mitchell, & Curto, 2010). Overall results show that financial literacy is low among young adults, while it is strongly related to sociodemographic characteristics and family financial sophistication. Moreover, the bivariate test revealed that Chinese students, from private Colleges, freshmen who did not share financial matters with their parents showed lower levels of financial literacy. The variables sex were insignificant with the levels of financial literacy.

In 2014 the Standard and Poor’s rating services global financial literacy survey (Klapper, Lusardi & Oudheusden, 2015) was conducted on the adult

population. In details, more than 150,000 adult participants were randomly selected in more than 140 economies. The levels of financial literacy were measured using questions assessing basic financial knowledge on interest rates, interest compounding, inflation, and risk diversification. The financial literacy questions were a refreshed version (similar) to the ones designed for the 2004 Health and Retirement Study (HRS) by Lusardi & Mitchell (2006). Overall the results revealed that worldwide, only one in three adults are financially literate. In particular, male, with higher income, and higher education are more likely have higher financial knowledge. Additionally, adults with bank accounts and credit cards have the higher financial knowledge, irrespective to their income.

Moreso, Sabri, MacDonald, Hira and Masud (2010) studied the levels of financial literacy of 2,519 college students in Malaysia. The measurement instrument consisted of 25 items of financial knowledge. The researchers for their analysis used a bivariate t-test, analysis of variance (ANOVA) and multiple regression analysis. The results overall showed that less than half of the questions were answered correctly.

In addition, the survey was focused on measuring relevant aspects of financial knowledge, behaviour, attitudes and inclusion. The financial literacy levels were indicated by combining scores on knowledge, attitudes and behaviour. Overall, the findings showed low levels of financial literacy. The average score for all participating countries was 62.85% (or 13.2 out of possible 21), compared with an average of 65.24% (or 13.7/21). The most recent international comparison study was conducted online by Allianz (2017).

An international comparison of financial literacy by using the same measurement tool shows what factors explain the differences in financial literacy. Jappelli (2010) relied on the data of the IMD World Competitiveness Yearbook (WCY) of about 4,000 business leaders and 55 countries from 1995 to 2008. The study examined the cross-country differences in economic literacy. Overall, results showed low levels of literacy and that economic literacy is correlated with education and associated with higher income and wealth.

Generally, previous studies are concluding on low literacy, which is very problematic and nations have to rise in financially educating their citizens.

### **Sex in relation to financial literacy among College of Education students**

Over the years studies have proven that difference in sex has a serious effect on the level of financial literacy. This study is geared toward the college of Education students who have the same level of education in order to analyse that if male and female are placed on the same level would the difference in literacy still occur.

Regarding sex, Lusardi and Mitchell (2011) found that women are significantly less likely to answer the questions correctly and more prone to say they do not know the answer. This fact is remarkably similar in financially different countries (Lusardi & Wallace, 2013). On the other hand, women also assess their own financial literacy level more conservatively. According to Lusardi and Mitchell (2011), this finding is the same both for developed countries and the developing countries.

Studies conducted by Chen and Volpe (1998) extend the evidence that women have greater difficulty in performing financial calculations and lower knowledge level, which ultimately hinder the ability to make responsible financial decisions. The differences found in sex may be a result of the socialization of individuals. A study by Edwards, Allen and Hayhoe (2007) concluded that parents maintain different expectations for sons and daughters, as they have higher expectations concerning work and savings for their sons, thus they are more likely to talk about money with their sons. Lusardi and Mitchell (2007) that showed financial literacy is highly correlated with exposure to economics in schools.

According to Chen and Volpe (2002) with sample 1800 students using survey questionnaires. The result showed that sex differences in financial literacy to be statistically significant after controlling for other factors such as participants' majors, class rank, work experience and age. Males are more financially literate than female. Chen, & Volpe, 1998) surveyed 924 students using questionnaires.

Also, results showed men scored higher than women and that difference varies among countries, age and education groups. Lastly, the study compares the results from the interest rate question with the results obtained from previous studies and the values are very close. Therefore, Allianz (2017) study confirms that little has changed over the last 10 years and a financial crisis later, regardless of the attention devoted to financial topics.

The results from the prior studies indicated that men have more financial knowledge than women. This was explained by Calamato (2010), who observed

that parents educate daughters to be financially dependent since they receive more financial support from their parents than sons at a university age. So, it seems that the significant difference between men and women is explained by the fact that men tend to see money as power and they believe that having money will make them more socially desirable, while women seem to have a rather passive approach to money. However, Adam (2017) seems to have a different justification, when he attributed it to sample dissimilarity.

### **Level of study and financial literacy of College of Education students**

Can the level of education influence financial literacy? Intuitively, this should be true because a person who has been to school has known at least business mathematics (simple interest and compound interest).

Amadeu (2009) points out that more contact, during undergraduate or specialized courses, with subjects related to finance and economics positively influences on the daily financial practices. Students from the courses of Economics, Management, and Accounting have higher financial knowledge level. Corroborating such evidence, Lusardi and Mitchell (2011) find that individuals with low educational level are less likely to answer the questions correctly and also more likely to say they do not know the answer.

However, Chen and Volpe (1998), when assessing students' knowledge of personal finance, found that students, regardless of their educational degree, had an inadequate knowledge level, particularly with regard. In the same context, the literature suggests that parents play a major role by influencing their children's

consumer behaviour. Studies have confirmed that most individuals learn more about money management with their parents (Pinto, Parente, & Mansfield, 2005; Clarke, Heaton, Israelsen, & Eggett, 2005).

In turn, Jorgensen (2007) found that parents significantly influence their children's knowledge, attitudes, and financial behaviour and Mandell (2008) found that the financial literacy of individuals is uniformly related to their parents' education levels. For these reasons, parental education would play a significant. In the same context, the literature suggests that parents play a major role by influencing their children's consumer behaviour. They fail to make correct decisions because they have not received a sound personal finance education (Hira & Mugenda, 2000).

However, the level of study is not significantly correlated with financial literacy. Young individuals, in particular, are not only likely to deal with growing complexity in financial products, services and markets, but they are more likely to have more financial risks in adulthood than their parents. Young adults will have to make earlier financial decisions (such as student loans, credit cards and pension accounts) and it has proven to be difficult for financially unsophisticated individuals to master them (OECD, 2012; Lusardi, Mitchell, & Curto, 2010; Lusardi, & Mitchel, 2014; Brown, Kapteyn, & Mitchell, 2016). Moreover, this was confirmed when Oppong-Boaky and Kansanba (2013) and Fotaki (2014) students at a Tertiary level should improve their financial literacy level before they enter the job market in order to have a positive financial attitude.

It seems that most of the studies support that level of education determines financial literacy. According to Amadeu (2009), a potential explanation for these results lies on the reverse causality: individuals with high (low) financial literacy level are more (less) concerned about greater financial literacy levels are found in individuals with higher education levels and greater access to financial information.

### **Financial Literacy and Financial behaviour**

Financial literacy is expected to affect financial behaviour because knowledge always influences behaviour. That is, low literacy or lack of information affects the ability to save and invest; ignorance about basic financial concepts can be linked to a lack of financial planning by Lusardi (2008). Below are a related study to this objective:

Sayinzoga, Bulteand Leusink (2016) conducted a study on financial literacy and financial behaviour: experimental evidence from rural Rwanda. Afield experiment was undertaken in rural Rwanda to measure the impact of a one-week financial training on financial literacy and financial behaviour. The target population was smallholder farmers. The training increased financial literacy of participants and changed their savings, borrowing and repayment behaviour. The result showed a positive effect on the start-up of income-generating activities. Using a two-stage regression further find that financial literacy enhances behavioural changes. The study supports the claim that

microfinance programs should include training modules to enhance their developmental impact.

Again, Sarigül (2014) conducted a survey of financial literacy among University Students. The objective of the study was to determine the level of financial literacy among university students, and the relationship between financial literacy and student characteristics. In this study, a survey instrument which includes 29 items that measure constructs such as saving and spending, banking, risk and insurance, investing, and general financial knowledge levels of the participants were administered to 1,127 students from three universities. The results were analyzed based on sex, the field of study, type of residence, class rank, work status, parents' education, and the school of the student. The relationship between financial literacy and demographic characteristics of the students were examined by employing the analysis of variance and logistic regression analyses. Significant relationships were found between financial literacy and student characteristics.

In addition, Mandell and Klein (2009) conducted a study on the impact of financial literacy on subsequent financial behaviour. It examined the differential impact of financial literacy on 79 high school students of a personal financial management course completed 1 to 4 years earlier. It again used a matched sample design based on a school system's records to identify students who had and had not taken a course in personal financial management. The findings indicated that those who took the course were no more financially literate than those who had not. However, those who took the course did not evaluate

themselves to be more savings-oriented and did not appear to have better financial behaviour than those who had not taken the course. The study raises serious questions about the long term effects of high school financial literacy courses.

Opoku-Asare and Siaw (2015), assessed the level of financial literacy of Senior High School students in the Kumasi Metropolis. It surveyed 320 students to analyse their level of financial literacy through the administration of questionnaires. Results from the study proved that students need to improve their personal finance knowledge. The results show that the students answered about 48.7% of the questions correctly. The results also revealed that many of the students are seen to be familiar with issues relating to simple interest, compounding and loan guarantee. In contrast, the students are less knowledgeable and inexperienced with issues concerning personal financial planning, budgeting and overdraft.

Perryand Morris (2005), examined the relationship between consumer financial knowledge, income, and locus of control on financial behaviour. Ethnicity was incorporated as a moderator of the influence of the variables on financial behaviour. Results concluded that consumers' ability to save, budget, and control spending depends on financial knowledge.

Finally, students with higher financial knowledge also have higher financial attitude and behaviour scores. Cude, Lawrence, Lyons, Metzger, Le Jeune, Marks, and Machtmes (2006) surveyed 8,266 college students. They found that parents play a key role in their children's financial socialization. They also found that some college students are not managing their finances well.

Based on the previous studies reviewed financial literacy mostly affect financial behaviour.

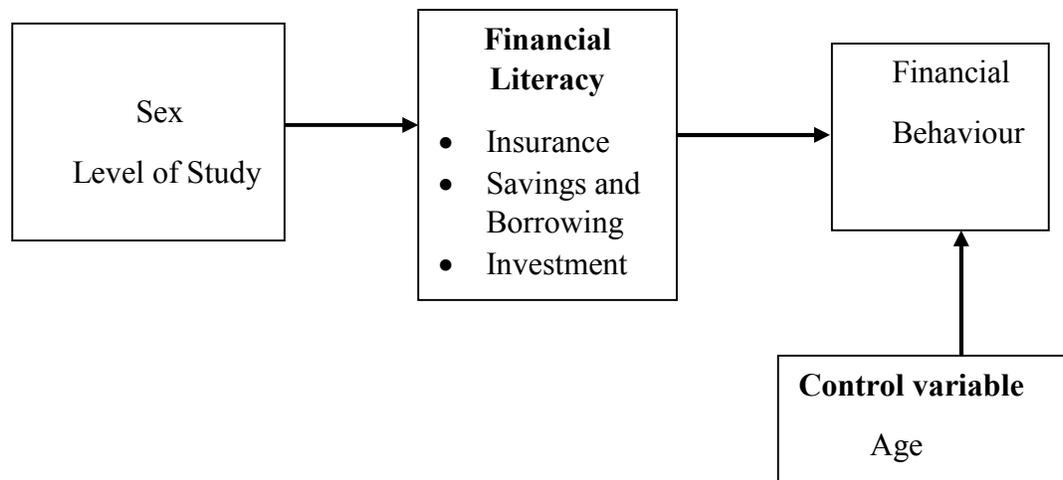
### **Conceptual Framework**

The ultimate dream for every person from an economic perspective is to obtain “financial freedom” at the earliest possible stage of life especially from College of Education level which propel them into adult life. The degree of financial freedom is significantly different from one person to another and is predominantly associated with their age, educational level, sex and race. To attain the aforementioned, it is essential that a certain degree of financial literacy is obtained by every individual, irrespective of age, race, sex and family income.

Financial literacy is a combination of awareness, knowledge, skill, attitude, and behaviour necessary to make a sound financial decision and ultimately achieve individual financing wellbeing (Organization of Economic Co-operation and Development, 2011). President Advisory Council on financial literacy consists of the ability to use knowledge and skill to manage financial resources effectively for a lifetime (Paillella, 2016). Financial literacy is the ability to collect important information, and also differentiating between diverse financial option, discussing financial issues, planning and proficiently answer that affect financial decision making (Paillella, 2016).

Sex, age, education level, marital status, family income, financial decision-making process, budgeting and expenditure are factors that influence factor in financial literacy (Agarwalla, Barua, Jacob & Varma, 2015).

Also, Focus of Hutson (2010) work is in financial education that influences financial literacy. Agarwalla, Barua, Jacob & Varma (2015) uses the OECD to compare financial literacy among country: i.e. financial knowledge, financial behaviour, and financial attitude. Defining and measuring financial literacy is essential to understand educational impact as well as barriers to effective financial choice (Huston 2010). Basic knowledge, money management, savings & investments, risk management, and perception and opinion (Kiliyanni & Sivaraman, 2016).



*Figure 2: Conceptual framework*

Source: Author's construct, Baiden (2019)

Figure 2 depicts the independent variable which is sex and level at the college and dependent variable financial literacy. From this perspective, the reasoning is that financial literacy of students of College of Education Students differ with respect to sex and level of study. Figure 2 also depicts the independent variable which is financial literacy awareness and dependent variable which is

personal financial behaviour. Figure 2 explains that financial literacy of students could influence the financial behaviour they exhibit. The conceptual framework further postulates the measures of financial literacy being insurance, savings and borrowing and investment.

### **Chapter Summary**

From the literature reviews done it has been found out that realization there is low financial literacy among young adult globally. Students are not well knowledgeable in financial issues and that this would tend to impact negatively on their adult working life through poor judgment, wrong decision making and poor financial management practices. It can be concluded from the literature that the determinant of financial literacy is significant predictors of financial behaviour and financial wellbeing.

## CHAPTER THREE

### RESEARCH METHODS

#### **Introduction**

This chapter presents a detailed and systematic process that the researcher adopted to achieve the objectives of the study. The main issues discussed in this chapter are the research design, study area, population, the sample size and sampling procedure, data collection instruments, data collection procedures and data processing and analysis.

#### **Research Paradigm**

This study mainly adopts a positivist paradigm since it seeks to objectively investigate the level of financial literacy and behaviour of College of Education students using procedures and approaches that can be replicated. It seeks to test the research question by quantitative data through a survey instrument. The choice of method is ultimately driven by the questions that the researcher is trying to answer.

#### **Research Approach**

Quantitative methods are adopted for the study because the variables used in the study are measured quantitatively and also the study makes use of mathematical methods and analysis. Also, quantitative research is generally assumed to yield representative, reliable and unbiased information that can be generalized. The research instrument is designed in a way that enables the

researcher to collect data that could be quantified to help the researcher answer the research questions and to meet the objectives of the study.

### **Research Design**

The study employs an explanatory research design. The explanatory study is normally used when the researcher wants to establish a causal relationship between variables (Saunders, Lewis & Thornhill, 2012). Survey strategy is employed to help the researcher to have an efficient and effective way to gather the needed information from the population of the study. Survey research design is usually used for exploratory and explanatory research as it establishes reasons for relationships between variables. Survey research design employs a questionnaire in collecting the data and also allows which is used to analyze the data quantitatively using descriptive and inferential statistics.

There is no created avenue for the researcher to influence his or her own opinions or values and, therefore, the independence of the researcher and the research results from such opinions is assured. The processes that the research goes through are usually deductive and can, therefore, be easily used to establish a cause and effect relationship between the variable used. This relationship can then be used to predict future occurrences under study.

### **Study Institutions**

The study institutions for the research work were Komenda College of Education which is located in Komenda, Our Lady Apostle (OLA) College of Education which also located in Cape Coast and Assin Foso College of Education in the Assin Foso. The three Colleges of Education are government assisted institutions. The core mandates of these institutions are to equip the students with the skills of teaching the various subjects at the basic level institutions. College of Education students are trainee teachers who will be teaching pupils in the classroom by imparting knowledge to them and therefore, it is necessary for College of Education students to be equipped with the financial knowledge and skills for them to transfer these knowledge acquired at their early stages in life before their adult working life. This will have significant impact as they transfer these financial knowledge and skills to their pupils they teach them in the classroom. The argument is that teachers can impact the financial literacy of their students not only cognitively but also by demonstrating good financial behaviours (Bandura, 1989).

### **Population**

The population of this study is all the College of Education students in the Central Region. The total number of students in the three College of Education in the Central Region is 3,593. But only level one and two were available as at the time of administering the questionnaires, thus, the population reduced to 2395.

Table 1 shows the breakdown of the total number of students from the three Colleges of Education in the Central region of Ghana.

Table 1: Population of Colleges

Level	Male	Female	Total
Komenda College of Education:			
100	305	115	420
200	240	170	410
Total	545	285	830
Fosu College of Education:			
100	269	131	400
200	235	162	397
Total	504	293	797
Ola College of Education:			
100	-	372	372
200	-	396	396
Total		768	768

Source: Field Survey, Baiden (2019)

### Sample size and Sample Procedure

The sample size is an important component of any research. It is very difficult and challenging to use the entire population for any scientific research.

This is due to the fact that researchers would find it difficult and challenging in getting access to the entire target population due to time constraints and the cost involved in the research. It is therefore prudent for the researchers to use sample size for research especially in the case where the population size is too large to be used. However, the general population size could be used when the study population is small and also not very scattered. Sample size is defined as a subgroup or part of a larger population (Saunders, Lewis, & Thornhill, 2012). The confidence in data analysis in research and the extent to which one can generalize would, therefore, depend on the suitability of the sample size and the way it is chosen. For the purpose of this study, the population of the study is all College of Education in the Central Region. According to the sample size table developed by Krejcie and Morgan (1970), a total minimum sample of 331 students was to be selected from the Colleges. However, the study used more sample size of 450. This is because using more samples in the study will improve the validity of the findings.

Sampling techniques, on the other hand, refer to mechanisms employed in research to lessen the data required for the study by considering some of the relevant data from the entire population. Sampling techniques come in two forms. These are probability sampling and non-probability sampling. Probability sampling techniques when employed in research allow each unit of the population to be selected randomly and the chance of being selected is known. These techniques allow researchers to answer research questions and to achieve research objectives by making a statistical inference from the features of the population

studied. Non-probability sampling techniques, on the other hand, do not select the units randomly and the chance of each unit being selected is unknown. The inference drawn from the population is therefore not based on statistical grounds

Stratified random sampling technique is however adopted for this study. Stratified random sampling is the adaptation of random sampling in which the researcher to solicit views from all categories of students. In all, 42 questions were provided on the questionnaire and same was given to each College.

### **Source of Data**

The study is based on primary data that is collected from the field. The primary source is used in collecting the data since the information obtained is very near to its originality and relatively free from modification, judgment and biases of external influence. For the purpose of this study, a field research is conducted to collect data from students in all the three College of Education in the Central Region. The researcher obtained data from primary sources from the population using a structured questionnaire.

### **Data Collection Instruments**

The study employs questionnaires as the main instrument to collect the data. The researcher opts for questionnaires to collect the data in order to obtain the standard form of answers or responses that will give way to easy and accurate analyses. It was divided into sections. The first section requires the respondents to give their background characteristics (age, sex, level of education among others). The subsequent section requires respondents to give responses that answered

questions relating to the objectives. The survey participants were asked to answer forty questions in all.

Questionnaire for this study is made up closed-ended types of questions. In the case of closed-ended questions, answers are provided for respondents to choose from and thus make it easy to handle and analyze. Open-ended questions are not provided with answers so as to enable respondents to provide their own answers since it is difficult sometimes to know exactly how the respondents will react to certain questions. Likert scale interval rating scale with options ranging from strongly agree (7), moderately agree (6), agree (5), Neutral (4), disagree (3), moderately disagree (2) and strongly disagree (1) were used as the response patterns on the construct items. The questionnaire is however self-administered and delivered by hand to the various students examined. The questionnaires were self-administered by the researcher with the assistance of tutors who availed themselves to assist in the process. It took the researcher a month to complete the data collection from all the three Colleges of Education.

### **Validation and Pre-test of Instrument**

A pre-test was conducted on the research instrument to ensure its reliability. This was also done to refine the questionnaire so that respondents would not find a problem answering the questions. Pallant and Tennant (2007) asserted that a pre-test is required in advance of the main survey because it ensures that instructions, questions and scale items are clear and that potential respondents will be able to understand the questions and respond correctly, and it also helps the researcher to identify and eliminate any question that may offend

potential respondents. According to Fraenkel and Wallen (2000), an instrument is valid if it measures what it is intended to measure and accurately achieves the purpose for which it was designed. They again stated that validity should involve the appropriateness, meaningfulness, and usefulness of inferences made by the researcher on the basis of the data collected. The questionnaire was first given to my supervisors to be cross-checked for consistency, relevancy, clarity, ambiguity and suggestions to ascertain the validity and reliability of the instrument based on the research objectives. Some refinements were made where necessary after the supervisors' comments and constructive criticisms.

The pre-test was done in February 2018 among College of Education students in the Central Region. The pre-test revealed some weakness in the instrument. Some of the questions were not answered because they were not clear to respondents. These weaknesses compelled the researcher to review the instrument and it was retested. A scrutiny of the responses showed that respondents understood most of the questions and had no challenges completing the questions. After correcting a few spelling mistakes, it was found to be suitable since all the questions were answered satisfactorily.

The establishment of reliability was accomplished by measuring the internal consistency of the instrument using a reliability coefficient obtained by means of Cronbach's alpha. The value of Cronbach's alpha ( $\alpha$ ) ranges from 0 to 1 and the closer the value of  $\alpha$  to 1 the better the reliability. Studies have shown that a reliability coefficient of .70 or more is considered reliable (Fraenkel & Wallen, 2000). However, for the purposes of this study, the cut off value adopted was 0.5

as suggested by Nunnally (as cited in Blankson & Cheng, 2005). This, therefore, suggest that all the constructs in the study have good internal consistency reliability.

### **Preliminary survey**

Preliminary visits were made to Our Lady of Apostle (OLA) College of Education, Fosu College of Education and Komenda College of Education in the Central Region of Ghana with the aim of finding out from each College the specific day that will be appropriate to collect the data, and also to establish rapport with them prior to the field survey.

### **Data Analysis**

After data collection, the raw data must be analyzed through a systematic process of selecting, categorizing, comparing, synthesizing and interpreting data to provide explanation and make meaning. The researcher's questions are sensitive and thus establishing viable results would demand varied and effective analytical tools.

### **Regression Analysis**

A least square multiple regression analysis is conducted to show the actual effects of financial literacy on the financial behaviour of college education student. This involves both the focus (financial literacy and financial behaviour) and control variables (Age and sex). The regression equation is specified below:

$$FB = f(FL, AGE, SEX) \quad (1)$$

Where  $FB$  is the financial behaviour variable which was measured by a construct after performing Principal Component Analysis.  $FL$  is financial literacy,  $AGE$  is the age and  $GEN$  is sex. From equation (1), based on the Family Resource Management Model, the financial behaviour and other explanatory variables can be expressed as an econometric model as;

$$FB_t = \alpha + \beta_1 FLINS_t + \beta_2 FLINV_t + \beta_3 FLSB_t + \beta_4 AGE_t + \beta_5 SEX_t + \varepsilon_t$$

(2)

The assumption about the model;

Where  $\varepsilon_t \sim iid(0, \sigma_\varepsilon^2)$  and

$FB_t$  = Financial Behaviour in terms of time at time t

$FLINS_t$  = Insurance at time t

$FLSB_t$  = Savings and borrowing at time t

$FLINV_t$  = Investment at time t

$AGE_t$  = Age at time t

$SEX_t$  = Sex at time t

$\alpha$  = Constant (the intercept, or point where the line cuts the Y axis when  $X=0$ )

$\beta$  = Regression coefficient (the slope, or the change in Y for any corresponding change in one unit of X)

$\varepsilon_t$  = Error term at time t

t = time

### **Measurement of variables**

The study used principal component analysis to compute a construct for financial behaviour and the three components of financial literacy which were investment, savings and borrowing, and insurance. The principal component analysis for each of the constructs formed is provided in appendix A of this report.

### **Dependent Variable**

#### **Financial behaviour**

Financial behaviour has been extensively studied (Kaiser, & Menkhoff, 2017; Stolper & Walter, 2017; Sayinzoga, Bulte, & Lensink, 2016) financial behaviour is explained as the how individuals comprehend and act on financial knowledge so as to make sound investment decisions. It then explains how human beings are able to apply financial ideas, concepts and knowledge in their actions or inactions (Opoku-Asare & Siaw 2015; White 1999). Financial behaviours include discerning before making a purchase, paying bills on time, budgeting, saving and borrowing to make ends meet.

### **Independent variables**

#### **Financial literacy**

Financial literacy is explained as the extent to which a person understands basic financial concepts and the ability to manage personal finances through appropriate, short-term decision-making, long-range financial planning, while mindful of life events and changing economic conditions (Remund, 2010). Extant literature has shown that financial literacy has a positive effect on financial

behaviour (Stolper & Walter, 2017; Sayinzoga, Bulte, & Lensink, 2016). Thus, for a person to behave financially well, that person must be a financial literate. This study, therefore, expects a positive effect of financial literacy on financial behaviour.

### **Control variables**

#### **Age**

Age is the amount of time during which a person has lived. It normally quantified in years. In this study data was collected on Age categorized into below 17, 17 to 20, 21 to 25 and above 25. Charles and Kasilingam (2013) established in his study that age plays a crucial role in the behavioural biases and success of investment decisions. Anioła-Mikołajczak (2017) found that credit was normally taken by a household of young people. This implies that the older a person the lower his indebtedness. Thus, this study suspects that age of a person influences his or her financial behaviour.

#### **Sex**

Sex simply means being a male or a female. Base on literature is mostly believed that the state of a person sex influences his or her financial behaviour (Fisher, 2010). Deb and Chavali, (2009) revealed that there exists a significant difference between male and female investors with regard to making financial decisions. Fisher (2010) also established that females are more risk averse than men. On the contrary, Qiao (2012) found that there was no significant difference in financial behaviours between male and female college students. Therefore, this

study suspects that the difference in sex has an effect on the level of financial literacy.

### **Independent variables**

#### **Sex**

Sex means being a male or female. Base on literature it mostly believed that the state of a person sex influences his or her financial knowledge. That is, the difference in sex has a serious effect on the level of financial literacy. Lusardi and Mitchell (2011) found that women are significantly less likely to answer the questions correctly and more prone to say they do not know the answer. Chen and Volpe (2002) are sex differences in financial literacy to be statistically significant. Also, Allianz (2017), results showed men scored higher than women and that difference varies among countries, age and education groups. However, Adam (2017) had a contrary result. Thus, this study is geared toward the college of Education students who have the same level of education in order to analyse that if male and female are placed in the same level would the difference in literacy still occur. The study expects a positive relationship between sex and financial literacy.

#### **Level of Education**

This study hypothesised that significant difference in the level of financial literacy based on the level of education. In other words, the higher your education, the higher your financial knowledge level. Amadeu (2009) points out that more contact, during undergraduate or specialized courses, with subjects related to finance and economics positively influences the daily financial practices. He

further explained that students from the courses of Economics, Management, and Accounting had higher financial knowledge level. Corroborating such evidence, Lusardi and Mitchell (2011) found that individuals with low educational level are less likely to answer the questions correctly and also more likely to say they do not know the answer. Therefore, the study expect a positive relationship between the level of education and financial literacy

### **Multicollinearity test**

The study tested for status of multicollinearity in the independent variables using the Variance Inflation Factor (VIF). As a precursor, if the VIF is less than 5, it is a good indication that there is no multicollinearity among the regressors in the model. From the multicollinearity table in Appendix A of this report, it can be observed that all the independent variables have a VIF of less than 5. The study thus concluded that there is no multicollinearity in the regressors of the regression model.

### **Ethical Consideration**

The researcher makes sure that research is conducted to high ethical standard, there are guidelines put in place for research to be conducted responsibly, and that is what all is about. Ethical issues will mostly crop up when planning the research, seeking access to institutions and students whom collecting, analyzing, and reporting the data. This means that the researcher must

make sure that the way the research is designed in both research methods is sound and ethically justifiable to all who are involved.

The researcher sought the consent and voluntary participation of the students. They were assured of the confidentiality of the information they had provided. The researcher took reasonable in maintaining the confidentiality of data provided by the students and their anonymity. Ample time will be given to respondents who will participate in this survey to respond to the questions. This is to avoid errors and inaccuracies. The purpose is to make the respondents feel more comfortable and confident to provide all the valuable information required.

### **Chapter Summary**

This quantitative study employed stratified random sampling technique to sample three College of Education students in the Central Region. Adopting a quantitative approach, the study employed a questionnaire to solicit primary data after which data from the field were entered into SPSS software for processing.

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### Introduction

This chapter begins with an analysis of the background information of the respondents and then follows with the analysis of responses to address the research questions. Descriptive statistics such as frequencies, percentages, means and standard deviations were employed. Inferential statistics such as linear regression was further employed.

#### Background Information of Respondents

In order to put the study into perspective, background information is studied to serve as the basis for differentiation with regards to the financial literacy and behaviour of College of Education students in the Central Region of Ghana. The background information of the respondents includes sex, age bracket, marital status, monthly income levels and educational level of respondents. The background information of the respondents is captured in Table 2.

It can be observed from Table 2 that the majority 241 (53.6%) of the respondents are females while the remaining 209 (46.4%) respondents are males. This appears to suggest that there are more female students than male students at the College of Education in the Central Region. Sex gaps in financial literacy has been identified by empirical studies to have a relation with the level of financial knowledge.

Majority 343 (72.6%) of the respondent's age fall within the age bracket 21-24 years. This was followed by 60 (13.3%) of the respondents whose age fell within the age brackets 25 years and above. About 41(9.1%) of the respondent's age fell within the age bracket 17-20 years and lastly, those in the age bracket below 17 years had a percentage of 1.3% (6). Table 2 further captures the distribution of respondents' marital status. From the table majority, 272(68%) of the respondents are married. Approximately 433 (96.2%) of the respondents indicated that they are single. About 15 respondents representing 3.3 percent were married. Two of the respondents were divorced representing 0.4% (2). With respect to monthly income distribution of respondents, the data shows that majority 388 (86.8%) of the respondents affirmed that their monthly income distribution falls within the income bracket below GH¢ 400. This was followed by 6.7 percent (30) of the respondents who indicated that their monthly income falls within the income bracket GH¢ 400 - GH¢ 699. Sixteen percent (16) of the respondents stated that their monthly income falls within the income brackets GH¢ 700 – GH¢1000. Those whose income was above GH¢ 1000 were in the minority with a percentage of 2.9% (13). The distribution of respondents' educational level is further captured in Table 2. From the distribution majority, 236 (52.4%) are in level 200 whiles the remaining 214 (47.6%) of the respondents are in level 100.

**Table 2 - Background Information of Respondents**

Background Information	Frequency	Percent (%)
<b><i>Sex</i></b>		
Male	209	46.4
Female	241	53.6
Total	450	100.0
<b><i>Age Bracket (years)</i></b>		
Below 17 years	6	1.3
17 - 20 years	41	9.1
21 - 24 years	343	76.2
25 and Above	60	13.3
Total	450	100.0
<b><i>Marital Status</i></b>		
Single	433	96.2
Married	15	3.3
Divorced	2	.4
Total	450	100
<b><i>Monthly Income</i></b>		
Below GH¢ 400	388	86.8
GH¢ 400 – GH¢ 699	30	6.7
GH¢ 700 – GH¢ 1000	16	3.6
Above GH¢ 1000	13	2.9
Total	447	100

***Level of Respondents***

100	214	47.6
200	236	52.4
Total	450	100

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Source: Field Survey, Baiden (2019).

**Financial literacy level of College of Education students**

The first objective of this study is to assess the financial literacy level among the college of education students in the Central Region of Ghana. Financial literacy level is assessed using the three variables, knowledge of investment, knowledge of savings and borrowing and knowledge on insurance. Questions were asked under these variables to know respondents level of knowledge on financial literacy. Responses were coded into two, wrong and correct. A correct answer revealed that respondents had knowledge about the variables in question and a wrong showed they did not have a knowledge about the variables. Table 3 shows the results of responses from respondents concerning investment.

From Table 3, it can be seen that 62.0% (269) of the respondents had knowledge about the time value of money during investment, respondents that had no knowledge were 38.0% (165). In issues of interest rate, the majority of the respondents representing 70.0% (306) had knowledge but the remaining 30.0% (131) had no knowledge concerning the issue. Nevertheless, the majority of the respondents had no knowledge pertaining to the future value of money with a

percentage of 53.9% (233) and securities with a percentage of 76.3% (316). Those that had knowledge in the future value of money and securities were 46.1% (199) and 23.7% (98) respectively.

About Fifty-seven percent (246) of the respondents had knowledge about the Ghana Stock Exchange (GSE) while the remaining 42.4% (181) have no knowledge about the GSE. In issues relating to short-term investment, the majority of the respondents (53.2% n = 227) had knowledge on short-term investment whilst the remaining 46.8% (200) had no knowledge about short-term investment. Also, the majority of the respondents had no knowledge in the issues of mutual fund and risk. These had percentages of 69.2% (287) and 67.7% (277) respectively. The remaining 30.8% (128) and 32.3% (132) had knowledge about mutual funds and risks.

This implies that on issues relating to investment, students had partial knowledge. This is because, out of the eight indicators used to measure investment, respondents had knowledge on four of those indicators. Hence College of education student have partial knowledge of investment.

**Table 3: Investment factors**

<b>Investment factors</b>		<b>Frequency</b>	<b>Percent</b>
Time value of money	Wrong	165	38.0
	Correct	269	62.0
Knowledge in interest rate	Wrong	131	30.0
	Correct	306	70.0
Knowledge of the future value of	Wrong	233	53.9

money	Correct	199	46.1
	Wrong	316	76.3
Knowledge in securities	Correct	98	23.7
	Wrong	181	42.4
Knowledge about GSE	Correct	246	57.6
	Wrong	200	46.8
Knowledge about short-term investment	Correct	227	53.2
	Wrong	287	69.2
Knowledge of mutual fund	Correct	128	30.8
	Wrong	277	67.7
Knowledge about risk	Correct	132	32.3

Source: Field Survey, Baiden (2019).

Table 4 shows the knowledge of students of the College of education on savings and borrowing. Using the same premises as the one in the interpretation for investment. Majority of the students (63.4%) had knowledge about saving whilst the remaining 36.6% had no knowledge about savings. In issues relating to creditworthiness and loan co-signing, 55.5% and 87.9% respectively had no knowledge on them whereas 44.5% and 12.1% respectively had knowledge of creditworthiness and loan co-signing. About loan guaranteeing an interest rate on savings, 79.9% and 58.6% had knowledge about those two indicators and 20.1% and 41.4% had no knowledge about them. Though they had knowledge when it comes to interest rate, they had no knowledge about financial institutions and their interest rates. This had a percentage of 80.2% (333), the remaining

19.8% had knowledge about the issue. Nevertheless, they had knowledge about overdraft with a percentage of 71.7%. Those that did not have knowledge about overdraft were 28.3%. Also, more than half (51.8%) of the students of the College of Education did not know the most important factor considered before a loan is given, but 48.2% knew what it was.

This implies that College of Education students have partial knowledge of issues pertaining to savings and borrowing just as the partial knowledge they had in issues of investment. This is because, out of the eight indicators used for savings and borrowing, students had knowledge in four and did not have in the other four.

**Table 4: Saving and borrowing**

<b>Saving and borrowing factors</b>		<b>Frequency</b>	<b>Percent</b>
Knowledge on saving	Wrong	157	36.6
	Correct	272	63.4
Knowledge on creditworthiness	Wrong	236	55.5
	Correct	189	44.5
Knowledge about loan co-signing	Wrong	372	87.9
	Correct	51	12.1
Knowledge in guaranteeing loan	Wrong	86	20.1
	Correct	341	79.9
Knowledge about interest rate	Wrong	175	41.4
	Correct	248	58.6
Knowledge about financial	Wrong	333	80.2

institutions and their interest rate	Correct	82	19.8
	Wrong	118	28.3
Knowledge about overdraft	Correct	299	71.7
	Wrong	213	51.8
Knowledge about factors considered for loan	Correct	198	48.2

Source: Field Survey, Baiden (2019).

Table 5 shows the results of the third variable used in measuring financial literacy. It shows the knowledge students of the college of education had on insurance. Two coding was used for interpretation- wrong and correct. The wrong with the interpretation of respondents not having the knowledge and correct meaning respondents have knowledge about the issue under discussion. Based on this premises, results from Table 5 shows that majority of the students had no knowledge of insurance. From the Table 5, knowledge on the purpose of insurance was not known by the majority (77.2%), the meaning of insurance was not known to the college of education students (66.8%), and knowledge about vehicle insurance was also not known (66.0%). This is not a surprise as the majority of the respondents (85.7%) had no knowledge about the types of insurance. Also, students had no knowledge about indicators such health insurance and third party insurance. These had percentages of 79.7% and 70.7% respectively. Nevertheless, the respondents had knowledge of life assurance with a percentage of 56.4%.

Thus from Tables 3, 4 and 5, it can be concluded that students of the College of Education have a low level of knowledge in financial literacy. This is

due to the partial knowledge they have in investment, saving and borrowing and had no knowledge in insurance. This result is supported by literature, for instance, Lusardi, Mitchell and Curto (2010) concluded that financial literacy is low among young adults. Also, Sabri, MacDonald, Hira and Masud (2010) established in their study that less than half of the questions were answered correctly, implying a low level of financial literacy of the respondent. Low level of financial literacy was confirmed by Allianz (2017) after doing an international comparison. Thus, the result of this is in line with the literature.

**Table 5: Insurance factors**

Insurance factors		Frequency	Percent
Knowledge on purpose of insurance	Wrong	319	77.2
	Correct	94	22.8
Knowledge on the meaning of insurance	Wrong	270	66.8
	Correct	134	33.2
Knowledge about vehicle insurance	Wrong	272	66.0
	Correct	140	34.0
Knowledge on types of insurance	Wrong	349	85.7
	Correct	58	14.3
Knowledge about health insurance	Wrong	330	79.7
	Correct	84	20.3
Knowledge on life assurance	Wrong	179	43.6
	Correct	232	56.4
Knowledge on third party	Wrong	290	70.7

insurance	Correct	120	29.3
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Source: Field Survey, Baiden (2019)

### **Sex and financial literacy of College of Education students**

This objective examined the differences in sex and financial literacy in the first part and the differences between the level of study and financial literacy in the second part. Three variables were used to measure financial literacy, investment, savings and borrowing and insurance. Crosstabs and chi-square were used to examine this difference and all the assumptions for running this test were met. Under this test, hypothesis are used and this is based on the expected count (expected C), which assumes that if indicators frequencies are the same as the expected count;

**H<sub>0</sub>:** There is no significant difference in the level of financial literacy between males and females,

**H<sub>1</sub>:** There is a significant difference in the level of financial literacy between males and females.

The crosstabs which are Table 6 provide useful descriptive statistics for the two groups that were compared. From the crosstab result, the level of financial literacy using the first variable measuring it (investment), can be described with respect to the frequencies of males and females. The level of knowledge on time value of money of males is 120 as compared to their female counterparts with 149. Also, males with knowledge in interest rate had 149 whilst females with this knowledge had 157. Males that had knowledge of the future value of money were

101 and females that had knowledge were 98. Knowledge on securities- males (48) and females (50), knowledge about GSE – males (129) and females (117), knowledge on short-term investment – males (98) and females (129), knowledge on mutual funds – males (50) and females (78) and the level of knowledge of risk – males (62) and (70).

Furthermore, one can see that the frequencies for males and females' level of knowledge on investment look somewhat different for indicators such as knowledge on time value of money, knowledge on interest rate, knowledge about GSE, and knowledge about short-term investment while that of knowledge on future value of money, knowledge in securities, knowledge about mutual funds and knowledge about risk look somewhat similar. This might be due to chance, so a chi-square will be used to test these to determine whether this difference is statistically significant or not before the null hypothesis is rejected or not.

**Table 6: Investment\*Sex crosstab**

Investment factors		Sex		Total
		Male	Female	
Time value of money	Wrong	83	82	165
	Expected C	77.2	87.8	165
	Correct	120	149	269
	Expected C	125.8	143.2	269
Knowledge on interest rate	Wrong	54	77	131
	Expected C	60.9	70.1	131
	Correct	149	157	306

	Expected C	142.9	163.9	306
	Wrong	100	133	233
Knowledge on the future	Expected C	108.4	124.6	233
value of money	Correct	101	98	199
	Expected C	92.6	106.4	199
	Wrong	147	169	316
Knowledge in securities	Expected C	148.8	167.2	316
	Correct	48	50	98
	Expected C	46.2	51.8	98
	Wrong	70	111	181
Knowledge about GSE	Expected C	84.4	96.6	181
	Correct	129	117	246
	Expected C	114.6	131.4	246
	Wrong	100	100	200
Knowledge about short-	Expected C	92.7	107.3	200
term investment	Correct	98	129	227
	Expected C	105.3	121.7	227
	Wrong	143	144	287
Knowledge about mutual	Expected C	133.5	153.5	287
fund	Correct	50	78	128
	Expected C	59.5	68.5	128
	Wrong	131	146	277
Knowledge about risk	Expected C	130.7	146.3	277

Correct	62	70	132
Expected C	62.3	69.7	132

Source: Field Survey, Baiden (2019)

Table 7 – Chi-square Test provides with information to know whether the differences in the level of knowledge in investment between male and female is statistically significant. From Table 7, it can be seen that knowledge on time value of money had a chi-square value of  $\chi^2 = 1.332$  with  $p = 0.249$ . The  $p$  – value is greater than the assumed  $p$  – value of 0.05. Hence, there is no difference in the level of knowledge on the time value of money based on the sex of the respondents. Also, indicators such as knowledge on the interest rate, knowledge on the future value of money, knowledge in securities, knowledge about short-term investment and knowledge about risk had  $p$  – values greater than 0.05. Thus, with these indicators, the null hypothesis, “There is no significant difference in the level of financial literacy between males and females” is not rejected. Nevertheless, indicators such as knowledge about GSE and Knowledge about mutual funds had  $p < 0.05$  with  $\chi^2 = 7.940$  and  $\chi^2 = 4.122$  respectively. This is less than the assumed significant value. Hence, the null hypothesis is rejected and the research hypothesis, “There is a significant difference in the level of financial literacy between males and females” is maintained.

The result obtained in this study is in line with Lusardi and Mitchell (2011), who stated that women are significantly less likely to answer the questions correctly and more prone to say they do not know the answer in both developed and developing countries. This was explained by Calamato (2010),

who observed that parents educate daughters to be financially dependent since they receive more financial support from their parents than sons at a university age. So, it seems that the significant difference between men and women is explained by the fact that men tend to see money as power and they believe that having money will make them more socially desirable, while women seem to have a rather passive approach to money. However, Adam (2017) seems to have a different justification, when he attributed it to sample dissimilarity.

**Table 7: Chi-Square Tests**

Time value of money	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.332 <sup>a</sup>	1	.249
N of Valid Cases	434		
<hr/>			
Knowledge in interest rate			
Pearson Chi-Square	2.059 <sup>a</sup>	1	.151
N of Valid Cases	437		
<hr/>			
Knowledge on future value of money			
Pearson Chi-Square	2.648 <sup>a</sup>	1	.104
N of Valid Cases	432		
<hr/>			
Knowledge in securities			
Pearson Chi-Square	.182 <sup>a</sup>	1	.670
N of Valid Cases	414		
<hr/>			
Knowledge about GSE			
Pearson Chi-Square	7.940 <sup>a</sup>	1	.005

N of Valid Cases	427		
<hr/>			
Knowledge about short term investment			
Pearson Chi-Square	1.993 <sup>a</sup>	1	.158
N of Valid Cases	427		
<hr/>			
Knowledge about mutual fund			
Pearson Chi-Square	4.122 <sup>a</sup>	1	.042
N of Valid Cases	415		
<hr/>			
Knowledge about risk			
Pearson Chi-Square	.004 <sup>a</sup>	1	.951
N of Valid Cases	409		
<hr/>			
Source: Field Survey, Baiden (2019)			

Table 8 provides useful descriptive statistics for the two groups which were compared. From the crosstab result, the level of financial literacy using the second variable measuring financial literacy (savings and borrowing), can be described with respect to the frequencies of males and females. The level of knowledge on saving of males from is 120 as compared to their female counterparts with 150. Also, males with knowledge on creditworthiness had 83 whilst females with this knowledge had 106. Males that had knowledge about loan co-signing were 23 and females that had knowledge were 28. Knowledge in loan guaranteeing - males (158) and females (183), knowledge about interest rate – males (128) and females (120), knowledge about financial institutions and their interest rate – males (40) and females (42), knowledge about overdraft– males

(139) and females (160) and the level of knowledge about factors considered for loan– males (90) and (108).

Furthermore, one can see that the frequencies for males and females' level of knowledge on savings and borrowing look somewhat different for indicators such as Knowledge on saving, Knowledge on creditworthiness, Knowledge in guaranteeing loan, Knowledge about overdraft and Knowledge about factors considered for loan while that of Knowledge about loan co-signing, Knowledge about interest rate and Knowledge about financial institutions and their interest rate look somewhat similar. This might be due to chance, so a chi-square will be used to test these to determine whether this difference is statistically significant or not before the null hypothesis is rejected or not.

**Table 8: Crosstabs (SaB)**

Savings and borrowing factors		Sex		Total
		Male	Female	
		Wrong	78	
Knowledge on saving	Expected C	73.2	83.8	157
	Correct	122	150	272
	Expected C	126.8	145.2	272
	Wrong	117	119	236
Knowledge on creditworthiness	Expected C	111.1	124.9	236
	Correct	83	106	189
	Expected C	88.9	100.1	189

	Wrong	177	195	372
Knowledge about loan co-signing	Expected C	175.9	196.1	372
	Correct	23	28	51
	Expected C	24.1	26.9	51
	Wrong	44	42	86
Knowledge in guaranteeing loan	Expected C	40.7	45.3	86
	Correct	158	183	341
	Expected C	161.3	179.7	341
	Wrong	74	101	175
Knowledge about interest rate	Expected C	83.6	91.4	175
	Correct	128	120	248
	Expected C	118.4	129.6	248
	Wrong	158	175	333
Knowledge about financial institutions and their interest rate	Expected C	156.5	176.5	333
	Correct	40	42	82
	Expected C	38.5	43.5	82
		Wrong	58	60
Knowledge about overdraft	Expected C	55.7	62.3	118
	Correct	139	160	299
	Expected C	141.3	157.7	299
		Wrong	104	109
Knowledge about factors considered for loan	Expected C	100.5	112.5	213
	Correct	90	108	198

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Expected C	93.5	104.5	198
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Source: Field Survey, Baiden (2019)

Table 9 – Chi-square Test provides with information to know whether the differences in the level of knowledge about savings and borrowing between male and female is statistically significant. From Table 9, it can be seen that all indicators used to measure savings and borrowing had  $\rho$  – values greater than 0.05. These indicators are; knowledge on saving with a  $\rho = 0.334$ , Knowledge on creditworthiness with  $\rho = 0.245$ , Knowledge about loan co-signing with  $\rho = 0.739$ , Knowledge in guaranteeing loan with a significant value of 0.423, Knowledge about interest rate with the sig. value of 0.059, Knowledge about financial institutions and their interest rate with a  $\rho = 0.717$ , Knowledge about overdraft with  $\rho = 0.624$  and Knowledge about factors considered for a loan with  $\rho = 0.494$ . This  $\rho$  – values are greater than the assumed  $\rho$  – value of 0.05. Thus in these indicators, the null hypothesis, “There is no significant difference in the level of financial literacy between males and females” is not rejected. Hence, there is no difference in the level of knowledge on savings and borrowings. This result is the same when the difference between male and female of financial literacy composite was tested using the independent sample t-test as it is indicated in Table 9.

**Table 9: Independent Sample Test**

		Levene Test		Test of Equality of Means		
		F	Sig.	t	df	sig.
FL	Equal variance assumed	0.137	0.711	-0.429	315	0.668
	Equal variance not assumed			-0.431	314	0.667

Source: Field Survey, Baiden (2019)

From Table 9, the assumption of equal variance assumed is not rejected since the Levene's test has a sig value of more than 5%. Since the assumption of equality of variance is not rejected, we conclude and report on the basis of the sign value of the test of equality of means. The sig value of 0.668 is more than 5% and this suggests that there is no difference in the level of financial literacy between males and females.

**Table 10: Chi-Square Test (SaB)**

Knowledge on saving	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.933 <sup>a</sup>	1	.334
N of Valid Cases	429		
Knowledge on credit worthiness			
Pearson Chi-Square	1.350 <sup>a</sup>	1	.245
N of Valid Cases	425		
Knowledge about loan co-signing			
Pearson Chi-Square	.111 <sup>a</sup>	1	.739
N of Valid Cases	423		
Knowledge in guaranteeing loan			

Pearson Chi-Square	.642 <sup>a</sup>	1	.423
N of Valid Cases	427		
<hr/>			
Knowledge about interest rate			
Pearson Chi-Square	3.578 <sup>a</sup>	1	.059
N of Valid Cases	423		
<hr/>			
Knowledge about financial institutions and their interest rate			
Pearson Chi-Square	.132 <sup>a</sup>	1	.717
N of Valid Cases	415		
<hr/>			
Knowledge about overdraft			
Pearson Chi-Square	.241 <sup>a</sup>	1	.624
N of Valid Cases	417		
<hr/>			
Knowledge about factors considered for loan			
Pearson Chi-Square	.468 <sup>a</sup>	1	.494
N of Valid Cases	411		

Source: Field Survey, Baiden (2019)

Table 11 provides useful descriptive statistics for the two groups which were compared. From the crosstab result, the level of financial literacy using the third variable measuring financial literacy (insurance), can be described with respect to the frequencies of males and females. The level of knowledge on purpose of insurance of males from is 35 as compared to their female counterparts with 59. Also, males with knowledge on the meaning of insurance had 65 whilst

females with this knowledge had 69. Males that had knowledge about vehicle insurance were 71 and females that had knowledge were 69. Knowledge on types of insurance - males (26) and females (32), knowledge about health insurance – males (37) and females (47), knowledge on life assurance – males (106) and females (126)) and the level of knowledge on third party insurance– males (62) and (58).

Furthermore, one can see that the frequencies for males and females' level of knowledge on insurance look somewhat different for indicators such as knowledge on purpose of insurance and knowledge on life assurance while that of knowledge on the meaning of insurance, knowledge about vehicle insurance, Knowledge on types of insurance, knowledge about health insurance and knowledge on third party insurance look somewhat similar. This might be due to chance, so a chi-square will be used to test these to determine whether this difference is statistically significant or not before the null hypothesis is rejected or not.

**Table 11: Crosstabs (INS)**

Insurance factors		Sex		Total
		Male	Female	
Knowledge on purpose of insurance	Wrong	160	159	319
	Expected C	150.6	168.4	319.0
	Correct	35	59	94
	Expected C	44.4	49.6	94.0
Knowledge on the	Wrong	126	144	270

meaning of insurance	Expected C	127.6	142.4	270.0
	Correct	65	69	134
	Expected C	63.4	70.6	134.0
	Wrong	123	149	272
Knowledge about vehicle insurance	Expected C	128.1	143.9	272.0
	Correct	71	69	140
	Expected C	65.9	74.1	140.0
	Wrong	166	183	349
Knowledge on types of insurance	Expected C	164.6	184.4	349.0
	Correct	26	32	58
	Expected C	27.4	30.6	58.0
	Wrong	158	172	330
Knowledge about health insurance	Expected C	155.4	174.6	330.0
	Correct	37	47	84
	Expected C	39.6	44.4	84.0
	Wrong	85	94	179
Knowledge on life assurance	Expected C	83.2	95.8	179.0
	Correct	106	126	232
	Expected C	107.8	124.2	232.0
	Wrong	129	161	290
Knowledge on third party insurance	Expected C	135.1	154.9	290.0
	Correct	62	58	120
	Expected C	55.9	64.1	120.0

Source: Field Survey, Baiden (2019)

Table 12 provides the Chi-square Test information to know whether the differences in the level of knowledge about insurance between male and female is statistically significant. From Table 11, it can be seen that all but one of the indicators used to measure insurance had  $\rho$  – values greater than 0.05. These indicators were; knowledge on the meaning of insurance with a  $\rho = 0.727$ , Knowledge about vehicle insurance with  $\rho = 0.290$ , Knowledge on types of insurance with  $\rho = 0.699$ , Knowledge about health insurance with a significant value of 0.530, Knowledge on life assurance with the sig. value of 0.717 and Knowledge on third party insurance with a  $\rho = 0.185$ . This  $\rho$  – values were greater than the assumed  $\rho$  – value of 0.05. Thus, in these indicators, the null hypothesis, “There is no significant difference in the level of financial literacy between males and females” is not rejected. But one of the indicators, respondents knowledge on purpose of insurance, had a significant of  $\rho = 0.027$  with  $\chi^2 = 4.865$ , revealing that there is a significant difference in knowledge of respondents on the purpose of insurance based on the sex of the respondents.

Therefore, based on Table 6, 7, 8, 9, 10, 11 and 12, it can be inferred that there is no difference in the level of financial knowledge based on sex. This contradicts most findings (Chen & Volpe, 1998; Lusardi & Mitchell, 2011; Allen & Hayhoe, 2007). However, the no difference in the level of the financial knowledge base on sex was supported by Adam (2017).

**Table 12: Chi-Square(INS)**

Knowledge on purpose of insurance	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.865 <sup>a</sup>	1	.027
N of Valid Cases	413		
<hr/>			
Knowledge on the meaning of insurance			
Pearson Chi-Square	.122 <sup>a</sup>	1	.727
N of Valid Cases	404		
<hr/>			
Knowledge about vehicle insurance			
Pearson Chi-Square	1.120 <sup>a</sup>	1	.290
N of Valid Cases	412		
<hr/>			
Knowledge on types of insurance			
Pearson Chi-Square	.149 <sup>a</sup>	1	.699
N of Valid Cases	407		
<hr/>			
Knowledge about health insurance			
Pearson Chi-Square	.394 <sup>a</sup>	1	.530
N of Valid Cases	414		
<hr/>			
Knowledge on life assurance			
Pearson Chi-Square	.131 <sup>a</sup>	1	.717
N of Valid Cases	411		
<hr/>			
Knowledge on third party insurance			
Pearson Chi-Square	1.760 <sup>a</sup>	1	.185
N of Valid Cases	410		

Source: Field Survey, Baiden (2019)

### Level of Study and Financial Literacy

The second part of the objective examines the differences in the level of education and financial literacy. Three variables were used to measure financial literacy, investment, savings and borrowing and insurance. Crosstabs and chi-square were used to examine this difference and all the assumptions for running this test were met. Under this test, hypothesis are used and this is based on the expected count (expected C), which assumes that if indicators frequencies are the same as the expected count;

**H<sub>0</sub>:** There is no significant difference in the level of financial literacy based on the level of education,

**H<sub>1</sub>:** There is a significant difference in the level of financial literacy based on the level of education.

After the test, two outputs were derived, the crosstabs and chi-square test. The crosstabs which are Table 13 provides useful descriptive statistics for the two groups that were compared. From the crosstab result, the level of financial literacy using the first variable measuring it (investment), can be described with respect to the frequencies of level 100 and 200. The level of knowledge on time value of money of level 100s is 140 as compared to their level 200 counterparts with 129. Also, level 100s with knowledge in interest rate had 153 whilst level 200s with this knowledge were 153. Level 100s that had knowledge on the future value of money were 109 and level 200s that had knowledge were 109. Knowledge on securities- level 100s (48) and level 200s (50), knowledge about GSE – level 100s

(116) and level 200s (130), knowledge on short-term investment – level 100s (117) and level 200s (110), knowledge on mutual funds – level 100s (55) and level 200s (73) and the level of knowledge of risk – level 100s (58) and (74) for level 200s.

Furthermore, one can see that the frequencies for level 100s and level 200s' level of knowledge on investment look somewhat different for indicators such as knowledge on time value of money, knowledge about GSE, knowledge about mutual funds and knowledge about risk while that of knowledge on interest rate, knowledge on future value of money, knowledge in securities and knowledge about short-term investment look somewhat similar. This might be due to chance, so a chi-square will be used to test these to determine whether this difference is statistically significant or not before the null hypothesis is rejected or not.

**Table 13: Crosstabs, Level\*investment**

Investment factors		Level of education		Total
		100	200	
Time value of money	Wrong	71	94	165
	Expected C	80.2	84.8	165.0
	Correct	140	129	269
	Expected C	130.8	138.2	269.0
Knowledge on interest rate	Wrong	58	73	131
	Expected C	63.3	67.7	131.0
	Correct	153	153	306

	Expected C	147.7	158.3	306.0
	Wrong	120	113	233
Knowledge on future value of money	Expected C	113.3	119.7	233.0
	Correct	90	109	199
	Expected C	96.7	102.3	199.0
	Wrong	153	163	316
Knowledge in securities	Expected C	153.4	162.6	316.0
	Correct	48	50	98
	Expected C	47.6	50.4	98.0
	Wrong	94	87	181
Knowledge about GSE	Expected C	89.0	92.0	181.0
	Correct	116	130	246
	Expected C	121.0	125.0	246.0
	Wrong	91	109	200
Knowledge about short term investment	Expected C	97.4	102.6	200.0
	Correct	117	110	227
	Expected C	110.6	116.4	227.0
	Wrong	150	137	287
Knowledge about mutual fund	Expected C	141.8	145.2	287.0
	Correct	55	73	128
	Expected C	63.2	64.8	128.0
	Wrong	141	136	277
Knowledge about risk	Expected C	134.8	142.2	277.0

Correct	58	74	132
Expected C	64.2	67.8	132.0

Source: Field Survey, Baiden (2019)

Table 14 – Chi-square Test provides with information to know whether the differences in the level of knowledge in investment between level 100s and 200s is statistically significant. From Table 13, it can be seen that all indicators of investment were not significant. Knowledge on time value of money had a chi-square value of  $\chi^2 = 3.327$  with  $p = 0.068$ , knowledge on interest rate ( $\chi^2 = 1.204$ ,  $p = 0.203$ ), knowledge on future value of money ( $\chi^2 = 1.692$ ,  $p = 0.193$ ), knowledge in securities ( $\chi^2 = 0.009$ ,  $p = 0.923$ ), knowledge about GSE ( $\chi^2 = 0.953$ ,  $p = 0.329$ ), knowledge about short-term investment ( $\chi^2 = 1.554$ ,  $p = 0.213$ ), Knowledge about mutual funds ( $\chi^2 = 3.060$ ,  $p = 0.080$ ) and Knowledge about risk ( $\chi^2 = 1.735$ ,  $p = 0.188$ ). All these  $p$  – values are greater than the assumed  $p$  – value of 0.05. Hence, the null hypothesis, “There is no significant difference in the level of financial literacy between level 100s and 200s” is not rejected.

**Table 14: Chi-Square (INVL)**

Time value of money	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.327 <sup>a</sup>	1	.068
N of Valid Cases	434		
<hr/>			
Knowledge in interest rate			
Pearson Chi-Square	1.204 <sup>a</sup>	1	.273

N of Valid Cases	437		
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Knowledge on future value of money			
Pearson Chi-Square	1.692 <sup>a</sup>	1	.193
N of Valid Cases	432		
<hr/>			
Knowledge in securities			
Pearson Chi-Square	.009 <sup>a</sup>	1	.923
N of Valid Cases	414		
<hr/>			
Knowledge about GSE			
Pearson Chi-Square	.953 <sup>a</sup>	1	.329
N of Valid Cases	427		
<hr/>			
Knowledge about short term investment			
Pearson Chi-Square	1.554 <sup>a</sup>	1	.213
N of Valid Cases	427		
<hr/>			
Knowledge about mutual fund			
Pearson Chi-Square	3.060 <sup>a</sup>	1	.080
N of Valid Cases	415		
<hr/>			
Knowledge about risk			
Pearson Chi-Square	1.735 <sup>a</sup>	1	.188
N of Valid Cases	409		

Source: Field Survey, Baiden (2019)















































































