

*Full Length Research Paper*

# Level of knowledge in personal finance by university freshmen business students

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**The objective of the study was to determine how well recent senior high school graduates understand basic consumer financial concepts and to ascertain those financial topics for which a significant proportion of students admit to not having knowledge. The sample for this research consisted of first-year degree students with a business major at the University of Cape Coast. There were 343 out of 613 business-major first-year students enrolled in the school of business that were tested on 20 multiple-choice questions dealing with basic knowledge of financial issues, which should be understood in order to function in everyday life. Of these, 190 were male and 152 were female. The highest test score was 75% and was achieved by 1 student only and the lowest was 5% and was achieved by 7 students. The average score was 35.87% for all students and the median score was 35%. Unlike most previous studies, students were offered the opportunity to respond “don’t know” to each question. On 15 of the 20 questions, more students selected the incorrect answers than those selecting “don’t know” answer.**

**Key words:** Knowledge, personal finance, freshmen business students, Ghana.

## INTRODUCTION

Ghana is one of the countries' making giant strides in areas of economic and political stability within the African continent. Unfortunately, she is one of the countries whereby financial literacy level is still at the bottom end. In the face of this reality, the Ministry of finance and economic planning have been annually running financial literacy programmes dubbed “Financial Literacy Week”. According to Ghanaian Times report, Mr. Seth Tekpeh, Deputy Minister of finance and economic planning, who performed the year 2010 launch, said it was only through long-term savings that enough funds can be generated for economic growth. He added that while the financial sector keeps expanding, surveys reveal several gaps in knowledge of financial issues, institutions and products among Ghanaians. According to him, it was worrying to note that financial awareness among the youth was very low, saying “this does not augur well for a developing nation such as Ghana.”

The rareness of research relating specifically to how students in developing economy contexts acquire and implement money management skills is rather startling to the extent that financial literacy is a basic knowledge that people need in order to survive in a modern society and

is also becoming a key fulcrum of economic development (Kim, 2003). Chen and Volpe (1998) found that students with less financial knowledge had more negative opinions about finances and made more incorrect financial decisions. They pointed out that having a low level of financial knowledge limits student's ability to make informed decisions.

Previous literature reveals the need for financial literacy among students to curb any future financial problems that may arise due to lack of knowledge on individual financial management. There is the need to improve financial literacy of individuals, especially students at university level so they can have positive cash management attitudes before they enter the job market. This positive attitude will help them to practice proper personal financial management as working adults (Dahlia et al., 2009). Interestingly, other studies have also shown that poor financial decisions can hurt productivity in the workplace (Garman et al., 1996; Joo and Grable, 2000). The starting point for studying this subject, in the opinion of the author, should be where students voluntarily admit their lack of knowledge in financial matters. Manton et al. (2006) also indicated that it was important not to force

respondents to select an answer if they felt that they did not know the correct answer as most research on this subject sought to do. In the light of this knowledge, this study seeks to replicate a study done in the United States of America (Texas) by Manton et al. (2006). However, the points of departure are quite enormous. Their study was conducted in an environment where students are exposed to financial matters from their high school education. According to Manton et al. (2006), in 1988, the Texas State Legislature passed a bill mandating that all public high schools implement the Texas essential knowledge and skills for economics with emphasis on the free enterprise system and its benefits. Section 118.2 calls for students understanding in the economics section of market economic systems, supply, demand, and consumer economics including risks and rewards, and the impact of investing in the stock and bond markets (Texas Administrative Code, 1998, A2 and 3). In Ghana, senior high school students are not exposed to basic financial issues before they graduate. The emphasis in the senior high school curriculum is on preparing them to gain admission to tertiary institutions. The senior high school curriculum does not focus on how to effectively use income in dealing with financial matters such as bank accounts, investments, mutual funds, loans, social security, insurance and taxes. Unfortunately, this is the case even with students that are offering business majors or economics. Secondly, while their sample covered students from different academic disciplines, the sample for this study only looks at students with business backgrounds. The reason is obvious. The admission of ignorance by those who are expected to know will be more pungent than those that can have an alibi. Finally, the instrument was modified to include test items that the Ghanaian financial environment is familiar with.

### Research objectives

The purpose of this study is to determine how well recent high school graduates understand basic consumer financial concepts and to ascertain those financial topics for which a significant proportion of students admit to not having knowledge.

### Limitations and delimitations

Even though, the researcher sought to understand the level of knowledge in personal finance by university freshmen students in Ghana, the research was restricted to the students of University of Cape Coast only. It is recommended that future research in this area should attempt to cover several universities in order to improve the generalization of the results. Also, efforts should be made to email research instruments to respondents to limit the stress attached to answering questions under

exams conditions.

## LITERATURE REVIEW

Financial literacy has become crucial for savings mobilization and wealth creation both at the individual and national level. As Campbell notes, the need for financial literacy has been enhanced by the increased complexity and proliferation of financial products. Chen and Volpe (2002) used a large sample (924 usable responses) from multiple colleges and universities in the United States. They found that participants' financial literacy is geared to education and experience factors. Business majors are likely to know more about personal finance than non-business majors. Participants with more years of college experience are more likely to know more about personal finance. Based on this finding, it will be interesting to ascertain what students with business majors' admit to not knowing about personal finance. Therefore, the study model is based on the system theory where inputs in the form previous educational training and experience on issues of finance, investments and risks are expected to be transformed by one or more continual processes into outputs of achieved goals and met demands (students test scores).

Unfortunately, financial education and knowledge acquisition become more challenging as most people grow in age (Mandell, 2008). Mandell's findings also showed that few employers are motivated to provide effective and disinterested financial education at the workplace. Consequently, there is the need for personal finance to become part of the basic education of all students. Beyond this reason, students who acquire financial literacy while in school are more likely to continue with such positive attitudes even when they finally become working adults.

Volpe et al. (2006) surveyed corporate benefit administrators who identified basic personal finance as a critical area in which employee knowledge is deficient and recommended educational programs that focus on improving knowledge of basic personal finance. Many students do not know how to manage their income. Once they have abundance of money, they simply spend it on necessary expenses and some which are not necessary. This spending pattern clearly shows the lacking of financial literacy among students which need to be changed. There is a need to start the training from high schools and comprehensively in colleges and universities (Davidson, 2006). Mandell (1997) reports an average correct score of 57% in the areas of income, money management, savings and investment, and spending. His conclusion is that students are leaving schools without the ability to make critical decisions affecting their lives.

Financial literacy has been positively related to self-beneficial financial behavior in some studies. For example, Hilgert et al. (2003) formed a "financial practices

**Table 1.** The Age Distribution for Students.

Age	Number	Percentage
≤ 18	50	14.7
19-24	276	81.4
25-35	11	3.2
36-45	2	0.6
Total	339	100.0

index” based upon self-benefiting behavior in cash-flow management, credit management, saving and investment practices. When they compared the results of this index with scores on a financial literacy quiz, they found a positive relation between financial literacy scores and financial practices index scores. Their results suggest that financial knowledge is related to self-beneficial financial practices. In developing economies where poverty is on the surge, it is far more imperative for students to gain knowledge on personal finance as early as possible in order to cope with future challenges of meager salaries and unstructured government retirement policies.

## RESEARCH METHODOLOGY

The population involved in this research was first-year degree students with a business major at the University of Cape Coast. The goal for this research was to recruit all bachelor of commerce and bachelor of management studies students of the school of business, University of Cape Coast. 20 multiple choice questions dealing with basic knowledge of financial issues, which should be understood in order to function in everyday life, were prepared. These questions were adapted and modified from the survey of Manton et al. (2006). Unfamiliar concepts (questions on credits cards and IRAs) were substituted to suit the financial products prevalent in Ghana. Each question had three responses and a fourth response which provided the student the opportunity to respond "don't know ". Of major interest in this study was how many students would select the “don't know” response to each question. Most previous studies measuring the financial knowledge of high school students or college graduates have not attempted to determine what students admit to not knowing. This approach permitted the students the opportunity to admit not knowing an answer. “Do not know” responses were counted as incorrect answers for test scoring purposes. Each question was valued at 5 points resulting in a total of 100 possible points for all 20 questions.

The instructors of first year courses entitled were requested to administer the test during any class period within the first semester. The rationale was that topics on personal finance were only treated during the second semester (Introduction to Business II) at the school of business. The students were informed that the questionnaire dealt with their knowledge of financial issues. They were also told that the survey was anonymous and will not in any way affect their grades. The data from the questionnaires were entered into the statistical package for social sciences, version 16 for Windows, to summarize and analyze the data, to perform queries and to develop findings.

## Findings and analysis

There were 343 out of 613 (about 56% response rate)

business-major first-year students enrolled in the school of business that responded to the questionnaire. Of these, 190 were male and 152 were female. The age distribution of the respondents may be seen in Table 1. 81% were between the ages of 19-24. About 15% were either 18 or below.

## Student test performance

The highest test score was 75% achieved by only one student and only four students scored 70%. The lowest score of 5% was achieved by 7 students. The average score was 35.87% for all students and the median score was 35%. As expected, the students performed poorly on the test as a whole. Table 2, presents a frequency distribution for the student test scores.

## Student performance on questions

Table 3, presents each of the 20 questions and the number and percentage of students who answered the questions correctly and incorrectly (including “do not know” responses). There were only 6 questions which over 50% of the students answered correctly - 1, 2, 5, 6, 9 and 12. Thus, the majority of students knew that the main reason for personal financial planning is to achieve financial goals; that education is the primary factor to determine income level; that in Ghana, a gift from an uncle is tax-free; that the advantage of treasury bills over bank deposits is that bills yield higher interest income; that certificate of deposit (CD) is issued by the bank and the benefits of a private pension plan.

The questions answered least correctly were - 4, 8, 11, 14, 15, 17, 19 and 20 with more than 87% of the students answering the question incorrectly or with a “do not know” response. They did not know how annual interest is reinvested and compounded, which instrument to invest in over a period of 18 years, where the stock of a new company would be purchased, the required social security contribution that an employer pays on behalf an employee, the professional designation for advisors focusing on personal financial advice, the cheapest form of life insurance, the major difference between the old and current law governing social security contribution and the meaning of a blue chip stock. These are very fundamental financial issues. The poor performance on the part of the students is in line with the assertion held

**Table 2.** Student test scores.

<b>Total score</b>	<b>Number</b>	<b>Percentage</b>	<b>Cumulative percentage</b>
5	7	2.0	2.0
10	6	1.7	3.8
15	8	2.3	6.1
20	20	5.8	12.0
25	35	10.2	22.2
30	60	17.5	39.7
35	60	17.5	57.1
40	42	12.2	69.4
45	48	14.0	83.4
50	27	7.9	91.3
55	15	4.4	95.6
60	9	2.6	98.3
65	4	1.2	99.4
70	1	0.3	99.7
75	1	0.3	100

More than 83.4% of the students scored below 50%, thus, failing the test based on a passing score of 50%. Slightly over 8.7% achieved scores above 50% and 7.9% scored exactly 50%.

**Table 3.** Students responses.

<b>Question</b>	<b>Correct response</b>		<b>Incorrect and Do not Know response</b>	
	<b>No.</b>	<b>Percent</b>	<b>No.</b>	<b>Percent</b>
Financial planning	175	50.1	171	49.8
Income level	273	79.6	70	20.4
Financial statement	160	46.6	183	53.3
Compound interest	62	18.0	281	82.0
Tax deductions	194	56.6	149	43.5
Money market deposits	248	72.3	95	27.7
Debt rate	151	44.0	192	56.0
Long-term investments	52	15.2	291	84.8
Investments options in bank	191	55.7	152	44.4
Disability insurance	134	39.1	209	60.9
Initial public offering	27	7.9	316	92.1
Pension plans	245	71.4	98	28.6
Mutual Fund	89	25.9	254	74.0
Retirement savings	28	8.2	315	91.8
Certified financial planner	59	17.2	284	82.8
Social security funds	162	47.2	181	52.7
Term life insurance	16	4.7	327	95.3
Define bond	91	26.5	252	73.4
Social security laws	59	17.2	284	82.8
Blue chip stock	45	13.1	298	86.9

by researchers like Mandell (1997) and Manton et al. (2006) that high school graduates are poorly versed on financial matters. This study, however, goes a step further to ascertain what recent high school graduates admit to not knowing in the area of personal finance.

### **Do not know responses**

The students were afforded the opportunity to answer "do not know" if they wished on all 20 questions. "Do not know" was the fourth response or option available to

**Table 4.** Students responding incorrect and “Do not know”.

Question	Incorrect		Do not know	
	No.	Percent	No.	Percent
Financial planning	161	46.9	10	2.9
Income level	37	10.8	33	9.6
Financial statement	165	48.1	18	5.2
Compound interest	217	63.3	64	18.7
Tax deductions	87	25.4	62	18.1
Money market deposits	57	16.6	38	11.1
Debt rate	65	19.0	127	37.0
Long term investments	234	68.2	57	16.6
Investment options in bank	65	19.0	87	25.4
Disability insurance	126	36.7	83	24.2
Initial public offering	274	79.9	42	12.2
Pension plans	37	10.8	61	17.8
Mutual fund	80	23.3	174	50.7
Retirement savings	232	67.6	83	24.2
Certified financial planner	206	60.1	78	22.7
Social security funds	125	36.4	56	16.3
Term life insurance	256	74.6	71	20.7
Define bond	150	43.7	102	29.7
Social security laws	150	43.7	134	39.1
Blue chip stock	86	25.1	212	61.8

each question. This was to eliminate the need to guess if a student did not think that he or she knew the correct response to a question. The researcher felt it was important to offer the students the opportunity to indicate that they did not know, rather than forcing them to guess.

It is interesting to compare the numbers and percentages of students who indicated that they did not know the answers to the questions to those who answered the questions incorrectly. These results are presented in Table 4, which separates the incorrect responses from the “don’t know” responses. For example, in question 20, 298 (86.9%) of the test takers answered with an incorrect or “don’t know” response (Table 3), but the majority of the test takers or respondents, 212 (61.8%), indicated that they did not know the answer to the question (Table 4).

On 15 of the 20 questions - 1, 2, 3, 4, 5, 6, 8, 10, 11, 14, 15, 16, 17, 18 and 19 - there were more students who selected an incorrect response than those responding “do not know” to the questions. On the other hand, only five of the questions (7, 9, 12, 13, and 20) recorded more students responding “do not know” than giving incorrect responses. The results of this study demonstrate that the students do not possess adequate level of financial knowledge to function in society. In addition, it also demonstrates that the students, for the most part, did not recognize their lack of personal finance acumen. This attitude is quite different from the findings of Manton et al. (2006) when they studied high school graduates in Texas.

Table 5 places the percentage of “don’t know” responses to a question from the highest percentage to the lowest. The “do not know” responses for the test takers ranges from a low percentage of 2.9 for question 1, “the purpose of financial planning,” to a high percentage of 61.8 on question 20, admitting not knowing “the meaning of a blue chip stock”.

On two of these 20 questions – 13 and 20, over 50% admitted not knowing the answer. Question 20, which asked for the meaning of a blue chip stock, had 61.8% “do not know response.” Slightly more than 50% of the students indicated that they did not know the major purpose of buying mutual funds as opposed to individual stocks in their response to question 13. On 3 more questions – 7, 18 and 19 – between almost 30 and 39% admitted not knowing the answer to the question. Question 19 that dealt with the major difference between the old and current law governing social security contribution. Question 7 was looking for the circumstances under which borrowing will be beneficial. Question 18 dealt with the definition of a bond. On five additional questions - 9, 10, 14, 15 and 17 between 20 and 25% admitted not knowing the answer.

**Gender responses**

Table 6 categorizes the percentage of “do not know” and incorrect responses by gender. It is interesting to note that of the 20 questions a higher percentage of females

**Table 5.** Do not know response by rank (high to low).

Rank	Question	Question #	Do not know	
			No.	Percent
1	Blue Chip Stock	20	212	61.8
2	Mutual Fund	13	174	50.7
3	Social Security Laws	19	134	39.1
4	Debt Rate	7	127	37.0
5	Define Bond	18	102	29.7
6	Investment Options in Bank	9	87	25.4
7	Disability Insurance	10	83	24.2
8	Retirement Savings	14	83	24.2
9	Cert. Fin. Planner	15	78	22.7
10	Term Life Insurance	17	71	20.7
11	Compound Interest	4	64	18.7
12	Tax Deductions	5	62	18.1
13	Pension Plans	12	61	17.8
14	Long Term Investment	8	57	16.6
15	Social Security Funds	16	56	16.3
16	Initial Public Offering	11	42	12.2
17	Money Market Deposits	6	38	11.1
18	Income Level	2	33	9.6
19	Financial Statement	3	18	5.2
20	Financial Planning	1	10	2.9

answered "do not know" than the male counterparts on 18 of the items. For the majority of the questions, the percentage differences were minimal. But for 5 questions, the differences were larger. These were: -10, 14, 18, 19, and 20. The differences in these questions were all statistically significant, at least, at a 10% level of significance. About 17% of the male students responded "do not know" to question 10 dealing with disability insurance compared to 32.9% of the females. In question 14, a higher percentage of males felt that they were able to select an answer to the question dealing with the percentage of an employee's salary that an employer is required to pay on behalf of an employee as social security contribution than females, that is, 16.8% "do not know" responses for the males versus 33.6% for the females. Also, a higher percentage of females responded "do not know" to question 18 dealing with the definition of a bond than males (males – 24.7%; females – 35.5%). In question 19, dealing with the difference between the old law and the new law governing social security contribution, 32.1% of the males answered that they did not know the answer as against 47.4% of the females so responded. Over half (54.2%) of the males indicated "don't know" to the meaning of a blue chip stock compared to well over half (71.1%) of the females in question 20.

## SUMMARY AND CONCLUSIONS

A questionnaire containing 20 questions dealing with

financial matters was administered to 343 out of 613 first year students enrolled in the school of business in the year 2010. Of these, 190 were male and 152 were female. Questions on age and gender, as well as those questions to measure students' financial knowledge, were included. Of special interest in the study was to give the student's willingness to admit to not knowing the answer to a question. Thus, each question offered the student the opportunity to respond "do not know."

The findings from the test scores show that senior high school of business graduates have a low level of understanding concerning financial concepts in the area of investment, savings and risk. The highest score on the test was 75% with the average score being 35.87%. 83% of the students failed the exam based on a passing score of 50%. The results agree with previous studies in developed economies where the passing score is mostly perked at 60%. About 95% of students would have failed if the pass mark had been 60%.

In this study, the students could select a "do not know" response. Unlike the findings of Manton et al. (2006), the extent to which students opted for incorrect answers instead of responding "do not know" was higher than expected. On 15 of the 20 questions more students selected incorrect answers than those responding "do not know". Only five of the questions recorded more students responding "do not know" than giving incorrect response. On two of these 20 questions – 13 and 20, over 50% admitted not knowing the answer. Question 20, which

**Table 6.** Incorrect and don't know response percentage by gender.

Question	Male		Female	
	Incorrect	Do not Know	Incorrect	Do not Know
Financial planning	45.8	2.6	48.7	3.3
Income level	10.0	8.9	11.2	10.5
Financial statement	48.9	5.8	46.7	4.6
Compound interest	59.5	18.4	57.8	19.1
Tax deductions	30.5	15.8	19.1	20.4
Money market deposits	19.5	8.4	13.2	14.5
Debt rate	18.4	40.5	19.1	32.9
Long term investment	72.2	13.2	62.5	21.1
Invest. options in banks	18.9	24.2	19.1	27.0
Disability insurance	38.4	17.4	34.2	32.9**
Initial public offering	82.1	10.0	77.0	15.1
Pension plans	10.5	15.3	11.2	21.1
Mutual fund	27.9	46.3	17.8	56.6
Retirement savings	73.2	16.8	60.5	33.6**
Certified financial planner	64.2	18.9	55.3	27.6
Social security funds	37.4	14.2	35.5	19.1
Term life insurance	77.4	18.4	71.1	23.7
Define bond	44.2	24.7	43.4	35.5*
Social security law	47.9	32.1	38.8	47.4**
Blue chip stock	29.5	54.2	19.7	71.1**

\*\*p<.01; \*p<.05.

asked for the meaning of a blue chip stock, had 61.8% "do not know responses." Slightly more than 50% of the students indicated that they did not know the major purpose of buying mutual funds as opposed to individual stocks in their response to question 13.

The results from the test indeed validate the fact that recent high school graduates are less knowledgeable on everyday financial matters. The extent to which students failed to avail themselves to the opportunity of openly admitting not knowing the answer to a question is significant. It implies that even though students may have low level of understanding on financial matters necessary to function in their lives, they do not recognize nor admit it. On this basis, a more aggressive approach is needed to address the problem. It would seem that the starting point to resolve this issue would be at the high school level. Although, these students have read economics, it appears the course is being taught in abstract. The principles in this subject are not being allied with everyday financial lifestyle that these students are confronted with. It is recommended that the relevant authorities in the educational sector in Ghana organize training workshops for teachers to educate them on the need to make the subject more relevant to the daily financial decisions that confronts both the young and the aged. The government of Ghana could also learn from the state of Texas by passing a bill mandating that all public high schools offer economics as a core course for

all students with emphasis on the free enterprise system and its benefits. This bill should call for students understanding in the economics section of market economic systems, demand, supply, and consumer economics including risks and rewards, and the impact of investing in the stock and bond markets.

In spite of the above recommendation, Manton et al. (2006) study has shown that tackling this problem only from the high school level has not proven effective. It is very important that high school graduates be able to interact with the financial industry in dealing with insurance, mortgages, investments and tax issues. Since this subject matter is so important to tertiary graduates during their entire lives, perhaps universities and other tertiary institutions should regard financial knowledge as being a component of their general education program and require a course in personal finance for all of its students. It is significant to mention that, the poor results from the test scores of this study emanated from students with business backgrounds from their high school education.

This implies that universities and polytechnics have a greater responsibility to upgrade the basic financial knowledge for all students irrespective of the extent of their previous knowledge on financial issues. In the future, studies could be undertaken to determine the extent to which university education improves the financial knowledge of their graduates.

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