



**An investigation of students' financial literacy at Central University
of Technology, Welkom Campus**

by

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Declaration

I declare that the research study titled “An investigation of students’ financial literacy at Central University of Technology, Welkom Campus” is my own work, and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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Date



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Abstract

Worldwide, low financial literacy levels of students are receiving increased attention due to the impact it has on financial decision making during the adult years. In line with this international trend, South African students have demonstrated low levels of financial literacy, which is of great concern if one takes into consideration that they are the future participants of an economy that is nearing recession. Therefore, the aim of this study was to determine students' financial literacy at a public university in South Africa, in order to understand the students' financial needs, which will form the basis for recommendations regarding relevant strategies that can be applied to improve students' financial literacy levels.

A cross-sectional study was conducted of a sample of 300 students studying towards finance-related and non-finance related qualifications. Financial independence, financial needs and financial knowledge were measured by means of a self-administered quantitative questionnaire. The data was analysed by means of descriptive and inferential statistics. Questions were clustered together and four clusters were produced which are: general financial literacy, banking and taxation, financial planning, interest rates and general inflation, and legal aspects of personal financial management. The participants' knowledge about the issues relating to "general financial literacy" were observed to be low in all the questions while they performed poorly on most questions relating to "banking and taxation" and "financial planning, interest rates and general inflation". The participants were observed to perform fair on "legal aspects of personal financial management".



The participants lacked in terms of most of the financial literacy clusters that were measured in the study. They would require training regarding banking and taxation, personal financial planning, interest rates and general inflation, and legal aspects of personal financial management. The study also found that certain aspects of financial literacy were statistically significantly related to students' biographical variables, such as mother tongue, field of study and age. Furthermore, the findings showed that students who were registered for non-finance related qualifications had a higher mean score for financial needs than those studying towards a finance-related qualification. The findings of the study enabled a more in-depth understanding of the financial literacy of undergraduate students, which holds important implications for financial literacy training. The research confirmed that a need for financial literacy training exists, in order to ensure that students experience financial wellbeing during adult years.

Key words: Financial literacy, student financial literacy, financial knowledge, financial needs, financial skills



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CHAPTER 1

OVERVIEW OF STUDY

1.1 INTRODUCTION

Low financial literacy levels are a worldwide concern, because they cause people to make poor financial decisions. South Africans, too, are lacking in terms of financial literacy, which results in many citizens overspending, causing them to become over-indebted (Roberts, Struwig & Gordon, 2014). This is particularly concerning, since households that are over-indebted are not in a position to save or increase their standard of living (Capuano & Ramsay, 2011). As a result of this and many other factors, parents are often not in a position to financially support their children's education (Mbajjorgu, Maake, Kayoka & Masafu, 2012). For this reason, the South African government has introduced a student loan and bursary scheme, called the National Student Financial Aid Scheme (NSFAS), in order to assist students to study at any of the public universities in the country. This loan covers costs such as tuition fees, accommodation costs, food, books, and travel, and the loan must be repaid when students have finished studying (National Student Financial Aid Scheme, 2013). Although the scheme lessens the financial burden on parents, it increases students' debt.

Apart from the debt that students incur through student loans, South African students spend more money per year than the average citizen, with a disposable spend of nearly R3,510 per month (Nkosi, 2013). Students mainly spend money on rent, food, clothing, fuel, extra tuition, and secondary expenditure, including gadgets, entertainment, alcohol, transportation, toiletries, and cosmetics (Nkosi, 2013). This



shows that students are making financial decisions every day which can impact either positively or negatively on their financial well-being in the long term. If students are financially literate, it will assist them to make sound financial decisions (Nkosi, 2013). Furthermore, it will prevent students from incurring excessive debt, and it will help them to manage their finances appropriately once they start working. Therefore, the aim of this study is to determine students' financial literacy at a public university in South Africa, in order to understand their financial needs, which will form the basis for recommendations regarding relevant strategies that can be applied to improve students' financial literacy levels.

1.2 MOTIVATION AND PROBLEM STATEMENT

1.2.1 Motivation

“Financial literacy is so important in every aspect of life, whether you are a consumer or a business owner.” (Commonwealth Bank Foundation, Undated:4)

Ramasawmy, Thapermall, Dowlut and Ramen (2013) note that most countries currently are struggling with economic development. They indicate that healthy economic development can be achieved if current and future leaders (which currently are students) have the necessary financial literacy (Ramasawmy et al., 2013). This assertion shows the importance of ensuring that current students have financial literacy, which increasingly places the emphasis on the role of parents and educators in ensuring that children are financially literate.



Many students leave school without having any knowledge of basic financial principles (Channell, McCormick & Parrot, 2008:2). Ash (2009) asserts that it can be expected that students will lack knowledge of basic financial principles, as their teachers do not feel prepared to teach their students financial literacy, or even to provide them with the necessary support when they meet financial challenges. In order to deal with this challenge, an increasing number of states in the USA are introducing compulsory financial literacy education (Channell et al., 2008:2). This has been done because financial literacy is regarded as a necessity for students in today's competitive financial world (Channell et al., 2008:2).

Apart from the USA, Australia has made much progress regarding financial literacy education. The Commonwealth Bank Foundation (Undated) has realised the importance and necessity of financial literacy to students. Since 2004 it has been working with secondary schools in Australia to improve their financial literacy skills. The financial literacy programmes that the Commonwealth Bank Foundation has implemented in schools have focused on developing students' financial awareness, financial understanding, and financial skills. Despite there being several educational initiatives, Business Net (2006), through its study titled "Capital One Financial", has noted that 49% of students acknowledged the importance of financial knowledge, but that only 14% were actually willing to go for further training and improve their financial literacy levels. This shows that although students acknowledge the importance of financial literacy, they are not prepared to advance their financial literacy skills through additional training programmes.

"Being financially literate isn't something that you are born into or passively acquire as you get older. It is something that you have to actively learn." (CSU Fullerton, 2013:1)



In the South African context, it has been reported that the spending and debt levels of citizens are high, while saving rates are low, which is indicative of low financial literacy levels (Symanowitz, 2006:1). Botha (2013:1), who conducted a study on the financial literacy of South African students, asserts that students, in particular, have low levels of financial literacy, which implies that they cannot manage their personal finances or make sound financial decisions. Symanowitz (2006:1) came to similar conclusions for a sample of Grade 12 learners, with the finding that their financial literacy levels are poor, and lower than those of their peers in developed countries, such as the United States.

Only a limited number of studies have focused on the financial literacy levels of South Africans (Botha, 2013:5), which suggests that there is a need to conduct further studies on this topic for a South African sample. Symanowitz (2006:4) asserts that studies that are available on financial literacy in South Africa are mostly qualitative in nature, which indicates a need to measure financial literacy quantitatively. As far as it could be established, Louw (2009:118) conducted one of the very few quantitative studies in South Africa, focusing on the financial literacy of South African students.

1.2.2 Problem statement

Ramasawmy et al. (2013) have noted that the current open financial markets and access to credit and credit cards makes financial literacy for students important. Having been taught financial literacy skills before they enter the world of work is likely to ensure that students make appropriate decisions when buying a car, opening a credit card, or even buying a home. Taking the current economic situation in South Africa into consideration, financial literacy should be regarded as a necessity.



Increased levels of financial literacy will also help students to cope in the different contexts that they face at university. A unique condition that students find themselves in at the Welkom campus of Central University of Technology (CUT), Free State is the lack of student residences. This places an additional financial burden on students, because they do not have ready access to the library or other learning support. Students are obliged to seek accommodation some distance away from campus, and consequently have to spend the little money that they get from grants, scholarships, or parents. Therefore, students often have to make special arrangements to gain access to the campus or resources, which students who stay on campus often get without incurring any financial expense. This often implies additional monthly expenses for students who do not stay on campus. For this reason, financial literacy seems to be particularly important to these students, as they are all the time making decisions regarding their finances. If students make inappropriate decisions and find themselves in financial difficulty, it may have a negative impact on their entire learning experience, and, in turn, increase the current high dropout rate, which is cause for concern. This suggests that students need to have financial literacy skills in order to have a successful learning experience and to become responsible citizens of South Africa, making sound financial decisions.

1.3 RESEARCH QUESTIONS

1.3.1 Main research question

The main research question of this study is as follows: “What are the financial literacy levels of students studying at CUT, Welkom Campus, and what can be done to assist students at CUT, Welkom Campus to increase their financial literacy?”



1.3.2 Secondary research questions

The study intends to answer the following secondary research questions, based on the main research question:

1. What are the findings of previous financial literacy studies conducted among students?
2. What are the financial literacy needs of CUT, Welkom Campus students?
3. What are the categories of financial literacy that students studying at CUT, Welkom Campus perform particularly well or poorly in?
4. What are the differences between the financial literacy levels of students studying towards a qualification in finance-related fields and those studying towards a qualification in non-finance-related fields at CUT, Welkom Campus?
5. Is there a relationship between demographic variables and the financial literacy levels of students studying at CUT, Welkom Campus?

1.4 RESEARCH OBJECTIVES

1.4.1 Main objective

The main objective of the study is to investigate the financial literacy levels of students studying at CUT, Welkom Campus, and to make recommendations to help students improve their financial literacy.

1.4.2 Secondary objectives

The secondary objectives of the study are:

1. To conduct a literature review on financial literacy, with specific reference to students at tertiary institutions;
2. To identify a measuring instrument to test the financial literacy of students;
3. To determine the financial literacy needs of students at CUT, Welkom Campus;
4. To identify the categories of financial literacy that students studying at CUT, Welkom Campus are performing particularly well or poorly in;
5. To determine the relationship between demographic variables and financial literacy levels of students who are studying at CUT, Welkom Campus;
6. To establish whether differences exist between the financial literacy levels of students studying towards a qualification in finance-related fields and those studying towards a qualification in non-finance-related fields at CUT, Welkom Campus; and
7. To develop guidelines that can be used to improve the financial literacy of students studying at CUT, Welkom Campus, based on the empirical findings of the current study.



1.5 RESEARCH METHODOLOGY

1.5.1 Research approach

The study is conducted in the positivist paradigm, and is quantitative in nature. The information required to answer the research questions was collected by means of an existing structured questionnaire, which was adjusted for the purpose of this study.

1.5.2 Research design

A cross-sectional study was conducted. The purpose of the study was to describe and explain financial literacy levels of students studying at CUT, Welkom Campus. The research approach and design will be discussed in more detail in Chapter 3.

1.5.3 Population

The population of the study is students registered for the 2015 academic year at CUT, Welkom Campus. There are three faculties on the Welkom Campus, from which participants were selected. The units of analysis in the study are individual students. CUT, Welkom Campus had 2,503 registered students for the 2015 academic year (CUT Enrolment Report, 2015), and the final sample consists of 300 students (12% of the population). Questionnaires were given to lecturers of the chosen representative courses, and they were distributed to 450 students during their classes of which 300 were returned.



1.5.4 Sampling and sampling procedure

In section 1.5.3 it was indicated that the sample consists of 300 students. The sampling design which was used is purposive sampling. The total population was divided into subsets, namely students with finance-related qualifications, and students with non-finance-related qualifications. Thereafter, the population was divided into first-year students and senior students. This ensured that the sample was representative of the total population as there were students from different years of study, and this enabled the researcher to answer the research questions.

1.5.5 Data collection

An existing questionnaire measuring financial literacy was used to collect the needed information on financial literacy. The questionnaire was originally developed by Louw (2009), and was adapted to suit this study. A Cronbach's alpha coefficient was computed to confirm the reliability of the questionnaire. Louw (2009) also tested the reliability of the questionnaire, and found that it had a Cronbach's alpha of 0.738, which provides an indication of the reliability of the questionnaire. A pilot study was conducted in order to ensure the validity of the study.

1.5.6 Data analysis

The primary data generated from the questionnaire was analysed by a statistician using the Statistical Package for the Social Sciences (SPSS) version 21. Descriptive statistical techniques that were used were frequencies, measures of central tendency, standard deviations and correlations. Inferential statistical techniques



which were used to answer the research questions were t-tests and multivariate analyses.

1.5.7 Ethical considerations

Permission was obtained from CUT to conduct the study on its Welkom campus. All the participants were given information about the study, and they participated voluntarily. Informed consent was obtained from each participant in the study, and no student received any remuneration for participating in this study. The researcher ensured the confidentiality of the information provided by the participants, and their identities were not revealed. In addition, the researcher ensured that during the data-collection process, no questions were asked that would require any personal identification information, and he also did not seek disclosure of any sensitive personal information.

Students were requested to provide the researcher with an email address if they were interested in receiving the results of the study. A summary of the results was sent to these students via email. The guidelines developed to improve the financial literacy of students studying at CUT, Welkom Campus will be presented to the Welkom Campus Management Committee, as well as any other interested parties.

1.6 LIMITATIONS OF THE STUDY

The study is limited to the students registered at CUT, Welkom Campus, and focuses on their financial literacy levels, as measured by the questionnaire that was administered. For this reason, it will not be possible to generalise the findings of the study to other universities of technology, or to the Bloemfontein campus of CUT. The



aim of the study is, however, to investigate the financial literacy of this group of students who are taken from the population.

1.7 LAYOUT OF CHAPTERS

The layout of the remaining chapters is as follows:

Chapter 2

In Chapter 2 a literature review is presented, which is regarded as the foundation on which the study is based. A literature review is presented on financial literacy, with specific reference to students.

Chapter 3

Chapter 3 consists of a description and explanation of the research methodology which was employed in the research project. The topics discussed in this chapter are sample selection, collection of the data, and the statistical methods employed. The research instrument is also discussed.

Chapter 4

In Chapter 4, the results are presented, analysed, and interpreted.

Chapter 5

The findings of the study are summarised, conclusions are drawn, and possible recommendations are made based on the research findings. The limitations of the study, as well as the contribution of the study, are highlighted.



1.8 SUMMARY

This chapter presented the general introduction and background to the study. It further presented the aim, the objectives, the problem statement, the methodology, and the layout of the study. The following chapter provides a literature review of financial literacy, from both an internationally and a local perspective.



CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The previous chapter presented the introduction to the study, which focused on aspects such as the problem statement, research questions, the aim and objectives of the study, and an introduction to the research methodology employed in the study. This chapter intends to advance the study, by providing a literature review of previous research studies that have been conducted on financial literacy, both nationally and internationally, focusing on the financial literacy levels of students. This chapter addresses the first secondary objective of the study (see section 1.4.2), namely to conduct a literature review on financial literacy, with specific reference to students at tertiary institutions. To achieve this objective, this chapter will firstly look at general definitions of “financial knowledge” and “financial literacy”, as provided in the literature. Secondly, the chapter will present a literature review on financial literacy, focusing on university students from an international perspective and from a South African perspective. Lastly, the chapter presents the general aspects necessary in the process of determining financial literacy.

Botha (2013) has noted the importance of financial literacy to individuals who are financially active, as they have to ensure that their financial income meets their household needs. For working groups, these needs include preparation for retirement, buying a home, plans for children’s present and future education, and budgeting for monthly household expenses. Students at universities and colleges



have to go through a similar process of considering their monthly financial income, which is either from sponsors or parents or guardians, and utilising it effectively to meet their day-to-day expenses, which are both academic and social. These financial obligations for working groups and students make financial literacy a necessity for all South Africans.

2.2 FINANCIAL KNOWLEDGE AND LITERACY

It seems important to first understand the concepts of financial knowledge and literacy, before the concept of financial literacy is defined. The two concepts will initially be discussed separately, and will later be combined in concluding the discussion on financial literacy.

Although the term “literacy” is often used in everyday conversations, the concept is complex and dynamic, and is interpreted and defined in multiple ways (UNESCO, 2006:147). The term “literacy” has been popular in languages and related research, with very little mention thereof in other fields of study. Some of the definitions of literacy which have been offered are summarised in Table 2.1 (UNESCO, 2006:158).

From Table 2.1, it is clear that literacy is a basic set of skills that are used in a specific context. For the purposes of this study, literacy will be investigated in a financial setting, which brings in the issue of financial knowledge. Bowen (2002:93) has defined financial knowledge as the ability of an individual to understand crucial terms used in finance, which are essential and regularly used by society. This knowledge of concepts and terms includes matters relating to general banking (how to deposit funds, the various types of bank accounts, etc.), life insurance, credit card use, mortgages, homeowner’s insurance, personal taxes, and investing. Du, Qiu and Xu



(2011) assert that financial knowledge consists of obvious and hidden aspects of finances, while others describe these two aspects as two separate domains. The obvious aspects of financial knowledge include rules and regulations, interpretation of financial documents, and general financial control strategies. The hidden aspects of financial knowledge include the skills of dealing with finances, and the general know-how of dealing with finances and making important financial decisions.

Table 2.1: Definitions of literacy

Organisation	Definition of literacy
UNICEF (2006:149)	It is the ability to use reading, writing, and numeracy skills for effective functioning and development of the individual and the community. A person is literate who can, with understanding, both read and write a short statement on their everyday life.
Organisation for Economic Co-operation and Development (OECD) (2012:5)	It is the ability to understand, evaluate, and use written texts by an individual to achieve set goals.
Canadian International Development Agency (2003); New Zealand Aid for International Development (2002)	It is one of the skills that basic education should provide. It is a component of basic education.
BMZ: German Federal Ministry for Economic Cooperation and Development (2004)	It is reading and writing skills, and it indicates the capacity for further learning.
Subba Rao (2003)	It refers to the set of essential learning tools, consisting of knowledge, values and skills, that enable the learner to better understand their environment, and to transform it to improve quality of life, both individually and collectively.



Du et al. (2011) assert that financial knowledge consists of a process of attaining, storing, disseminating, and using finance-related concepts. They maintain that an individual who has financial knowledge is able to carefully scrutinise financial statements, and they demonstrate financial awareness (Du et al., 2011). Financial knowledge has been defined as the informational base needed for financial literacy, and it consists of an individual's financial abilities and skills (Looney, 2011). Thus, an understanding of literacy and financial knowledge is the foundation for an understanding of financial literacy.

2.3 FINANCIAL LITERACY DEFINED

Based on the definitions of literacy and financial knowledge offered in the previous section, we can now combine the two concepts in discussing financial literacy. Remund (2010:279) has noted the lack of agreement among researchers regarding a definition of financial literacy. Schagen and Lines (1996:ii) define financial literacy as “the ability to make informed judgements and to take effective decisions regarding the use and management of money”. In order to have the ability to make sound financial decisions and judgements, an individual will need financial knowledge and skills. The definition offered by the Jump\$start Coalition (2007) includes these dimensions, and it states that financial literacy is regarded as an individual's ability to use knowledge and skills to manage financial resources effectively, in order to ensure a lifetime of financial security. The Australia and New Zealand Banking Group Limited (ANZ) (2011:1) takes this definition a step further, as it includes attitudinal and behavioural components in its definition of financial literacy.



Likewise, Atkinson and Messy (2012:14) have proposed a definition of financial literacy as “a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing”. Remund (2010:284), based on a review of the above literature, defined financial literacy as “a measure of the degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finances through appropriate short-term decision-making and sound, long-range financial planning, while mindful of life events and changing economic conditions”.

In an attempt to understand financial literacy, Remund (2010:279) divided his definitions of financial literacy into a conceptual definition and an operational definition. His conceptual definition states that financial literacy “[explains] abstract concepts in concrete terms”, while his operational definition defines financial literacy as a strategy for converting the concrete terms from the conceptual definition into measurable terms. In order to define financial literacy conceptually, Remund (2010:279-281) divided the concept into five categories, namely the following:

- **Knowledge and understanding of concepts in finance.** For effective and efficient use of personal financial resources, an individual needs to know and demonstrate some understanding of money (Remund, 2010:281). This assertion is confirmed by Hung, Parker and Yoong (2009), who acknowledge the importance of understanding some basic concepts of finance (Vitt, Anderson, Kent, Lyter, Siegenthaler & Ward, 2000). The Basic Skills Agency (2003:4) defines financial knowledge and understanding as being demonstrated by an individual's ability and skill in finance as they make sense of the variety, uses, and functions of money. This allows individuals to deal with financial issues, and consequently to make suitable and relevant financial decisions.



- **The skill of an individual to communicate their understanding of finance.** (See Vitt et al., 2000; Hung et al., 2009:5.) The Basic Skills Agency (2003:4) defines financial skills as the ability to plan, monitor, manage, and resolve any financial challenges. This includes an individual's ability to use personal financial knowledge and understanding in a variety of contexts.
- **The ability of an individual to control or manage the funds received.** Hung et al. (2009:5), in their definition of financial literacy, also recognise the ability of an individual to effectively distribute available financial resources. This is supported by Vitt et al. (2000).
- **The ability of an individual to make suitable choices on how to utilise the funds.** Vitt et al. (2000) and Looney (2011) define financial literacy as an individual's ability to choose how they spend their funds in their everyday expenses.
- **The skill of an individual to make necessary preparations for the future.** (See Looney, 2011; Fox, Bartholomae & Lee, 2005.)

Mihalčová, Csikósová and Antošovác (2014:319) define financial literacy of an individual within the household as the ability to utilise financial knowledge, experience and skills to ensure financial stability. They acknowledge the fact that financial literacy is attained through the acquisition of financial knowledge. Mihalčová et al. (2014:320) identify the four aspects that are tested to determine financial literacy as “management of finances”, “planning of financial income and expenses”, “choice of banking products”, and “database for product providers”. Financial literacy can therefore also be regarded as the management of an individual's finances, focusing on incoming money, the individual's budget, and final expenses (Duca & Kumar, 2014).



This section has presented the various definitions of financial literacy that are offered by researchers. It is evident from this section that the definitions that different researchers propose are similar, but they differ in the way they describe the content areas that constitute financial literacy. Thus, the following sections will discuss the content areas described in the various definitions of financial literacy.

2.3.1 Content areas of financial literacy

Due to the fact that researchers have defined the concept of financial literacy differently, some researchers have chosen to define financial literacy by its content areas. Owojori, Akintoye and Adidu (2009:46) assert that financial literacy consists of the following content areas: budgeting, savings, investing, and credit. Studies by Remund (2010) and Huston (2010) conclude that financial literacy consists of content areas such as basic money concepts, saving and borrowing, investing, financial planning, and protecting resources (insurance). The Australia and New Zealand Banking Group Limited (ANZ) (2011:7) considers the following to be behavioural indicators of financial literacy: keeping track of finances, planning ahead, being able to choose financial products, staying informed, and financial control. The content areas that were identified by Botha (2013:4) in a study conducted in South Africa include money basics, saving/investing, borrowing/credit, and protecting financial resources (insurance, markets, and instruments). Louw (2009), after conducting an extensive literature study, identified the following content areas of financial literacy: the individual's knowledge related to banking, taxation, planning personal finances, interest rates, inflation, and financial legal matters. Some of these content areas are only applicable to working groups, and not to students at universities. Other content areas, such as borrowing, insurance, and retirement planning, are mostly relevant to working groups. The content areas that are most relevant to students are discussed in the following sections.



2.3.1.1 Money basics

Huston (2010:299) explains that money basics includes issues concerning the general use of money, managing personal financial income, and household expenditure. Huston (2010:299) reports that 33 of the 52 studies that he analysed mentioned this content area, and they considered it important. The Organisation for Economic Co-operation and Development (OECD) (2012:16) likewise describes money basics as focusing on general issues relating to personal finances, and it includes value for money, everyday payments, bank cards, spending, cheques, different types of bank accounts, and different currencies. The evaluation of this content area could include student demonstration of:

- understanding that money is used to exchange goods and services;
- recognising bank notes and coins;
- identifying different ways to pay for items, such as in person or via the Internet;
- calculating correct change;
- working out which of two consumer items of different sizes would give better value for money, taking into consideration the individual's specific needs and circumstances;
- recognising that there are various different ways of receiving money from other people, and of transferring money between people or organisations;
- using cash machines to withdraw cash or to obtain an account balance;
- checking transactions listed on a bank statement, and noting any irregularities;
- understanding that money can be borrowed or lent, and the reasons for paying or receiving interest; and
- using a credit or debit card (OECD, 2012:16).



2.3.1.2 Saving and investing

Huston (2010:303) describes investing as a strategy for keeping part of one's financial resources for future use, or using the funds to buy shares or bonds. In an analysis of 52 studies, Huston (2010:299) found that this content area was the most common (41 articles) in financial literacy. The OECD (2012:17) asserts that an individual who is financially literate should understand that income and wealth should be planned and managed over a short period and also over a long period. A student who is financially literate in this content area should be able to:

- identify various types of income, and different measures of income (e.g. allowances, salary, commission, benefits, hourly wage, and gross and net income);
- understand the meaning of government taxes and benefits, and their implications for personal planning and management of one's finances;
- draw up a personal budget, which is necessary for planning personal spending and saving;
- manipulate budget elements by recognising priorities in a situation where personal income does not meet planned expenses. This includes personal strategies of finding options for reducing expenses or increasing income, in order to increase levels of savings;
- plan ahead for future expenses, such as working out the amount needed to be saved monthly in order to purchase a particular item;
- understand building wealth and compound interest on savings. This includes an understanding of the pros and cons of various different investment products; and
- demonstrate an understanding of planning for retirement from an early age, and the importance of building reserves (OECD, 2012:17).

2.3.1.3 Borrowing/credit

Borrowing, or credit, has been defined as the use of money that has not been received (Mahawk College, 2015). This also involves acquiring financial resources from other sectors for personal or family use, with the promise to repay, or replacement of, such resources. Of the 52 studies that Huston (2010:303) reviewed, 27 included this content area. Hale and Obstfeld (2014:5) defined borrowing and credit as a method of paying some of one's expenses, where individuals must learn to choose from a variety of sources of credit. Hence, incurring debt by borrowing creates an obligation to an individual for repayment. Consumers must understand the consequences of non-repayment of debt.

A student who is financially literate in borrowing and credit should be able to:

- Understand the best uses of credit and debt;
- Understand the time-value relationship of money, and how it affects debt repayment;
- Critically evaluate a credit card or loan agreement;
- Differentiate between market lending rates and above-market rates;
- Identify different types of loans (e.g. secured, unsecured, co-signed, closed-ended, open-ended);
- Demonstrate knowledge of the common types of mortgages;
- Demonstrate knowledge of the common types of car loans;
- Be able to critically evaluate the fees and charges bundled into a car loan;
- Demonstrate knowledge of college loans, repayment terms, and the consequences of failure to pay; and
- Demonstrate an understanding of credit bureaus, and factors impacting credit scores (Hales, 2014:7).



2.3.1.4 Protecting financial resources

Huston (2010:303) describes the content area of protecting financial resources as choosing insurance products, and other risk-management techniques. This includes planning for retirement, and many other strategies. This content area was present in only 17 of the 52 studies that were reviewed by Huston (2010:303). A student who is financially literate in protecting financial resources should be able to:

- Understand what type of information must be kept secure and private;
- Know how to protect personal information online;
- Identify how online activity increases vulnerability to identity theft, fraud, and other misuse of personal information;
- Understand the need to financially prepare for emergencies;
- Understand the basic function and purpose of insurance; and
- Understand the key information – including information on risk, occupation, lifestyle, and age – that insurance companies need to determine coverage and premiums (Hales, 2014:13).

Huston (2010:303) reports that of the 52 studies that he reviewed, 25% presented all four content areas, while 40% mentioned two or three of the content areas. Huston further shows that the accuracy of financial literacy measures is dependent on the number of content areas covered by the research instrument, which means that a research tool that covers four content areas is deemed more accurate. For this reason, the current study was designed to cover at least these four content areas of financial literacy.



2.3.2 Summary

From the above discussion, it is clear that authors are not in total agreement regarding the definition of financial literacy, they have the same general idea of what it consists of. However, scholars have identified similar content areas of financial literacy. Most of the studies conducted in the past have investigated financial literacy of adults, with the focus being on the mentioned content areas. One such study was conducted by the Australian Government (2007:vi), which found that improved financial literacy provides solutions to the dynamic modern way of living of individuals. Furthermore, individuals who have achieved financial literacy receive rewards for themselves, their families, and their communities, such as individual financial well-being and financial freedom. This shows that financial literacy holds benefits not only for individuals, but also for families, communities, and the country at large.

2.4 ADVANTAGES OF BEING FINANCIALLY LITERATE

Financial literacy has been increasingly noted as being essential for individuals and their families as they try to balance their personal income through budgeting, so that they can buy a home, pay school fees for their children's education, as well as medical expenses, while at the same time ensuring that their retirement will be able to provide for their needs (Hall, 2008:17). Many scholars (Lusardi & Mitchell, 2014:9; Cohen & Nelson, 2011:11) have identified the different benefits and advantages related to personal financial literacy. It has even been stated that the financial skills and knowledge of individuals are the most significant aspects of life (Swart, 2005:49).



Lusardi (2011:2) asserts that financial literacy is an important instrument that individuals require in order to become valuable citizens who are able to make acceptable financial choices. Furthermore, the importance of financial literacy to both family life and the economic status of the country at large has been confirmed by Cude, Lawrence, Lyons, Metzger, LeJeune, Marks and Machtmes (2006:102). This shows the importance of starting early to enhance the financial literacy of students, as they will be the future working class (Lerman & Bell, 2006:2). Students are the future effective contributors to the economy of a country, and hence they must be financially responsible citizens.

The OECD (2012:141) has identified different benefits of financial literacy. Individuals who are financially literate are able to:

- plan and manage personal money;
- make better choices on different portfolios provided by financial institutions;
- choose options with lower fees for mortgage and other services;
- accumulate assets;
- manage their debt; and
- take part in savings and make choices as to better investment options.

Low (2009:27) proposed a list of advantages of financial literacy, which is similar to that proposed by Swart (2005). Among other things, students who are financially literate:

- understand financial matters and their restrictions within the household;
- can take part in the preparation of family budgets;
- have the necessary skills to take good care of their personal finances;
- have the capacity to plan their debt and its repayment; and



- are able to effectively deal with different issues pertaining to personal finances.

The importance of appropriate levels of financial literacy has been observed to benefit citizens of all stages, as well as those with different levels of financial income (Commission of the European Communities, 2007:4). Furthermore, these benefits have been noted to have an impact on society and the economy of the country. Capuano and Ramsay (2011:14) have noted that the microeconomic benefits of an individual spread out and result in macroeconomic benefits for the economy and the financial system. Capuano and Ramsay (2011:14) divide the beneficiaries of these benefits into the following three categories: individuals, the community, and greater competition. These three categories are explained below.

2.4.1 The benefits of financial literacy to individuals

This category identifies the benefits to all individuals, including working groups and students. Individuals who are financially literate have the knowledge and skills required to choose financial products and investment options that are suitable and that meet their needs. This renders more microeconomic benefits, such as:

- *Increased savings and retirement planning.* Financially literate individuals ensure that they put aside money to be used in the future for different purposes, such as emergencies, unforeseen circumstances, and retirement (Jappelli, 2010; Bernheim, Garrett & Maki, 2001). Financial literacy therefore has the potential to positively improve personal wealth and individuals' behaviour towards savings.
- *More realistic assessments of financial knowledge by consumers.* Being financially literate will take the poor out of poverty, as they are more likely to



be able to build a better future for themselves and their families, through effectively choosing services (Bank of Uganda, 2011:20).

- *Life skills and bargaining power.* Financially literate individuals are able to make highly informed decisions, and have the potential to demand higher-quality services, which will encourage competition in financial markets (Bank of Uganda, 2011:20). These individuals are not likely to react to financial challenges as unpredictable, but have the skills to bargain (OECD, 2012:141). They are less likely to make unfounded financial criticisms, and are highly able to take the relevant steps to manage the financial risks transferred to them.

All of these factors will lead to a more efficient financial services sector, and potentially less costly financial regulatory and supervisory requirements. They can also ultimately help in reducing government aid (and taxation) aimed at assisting those who have taken unwise financial decisions – or no decision at all.

2.4.2 The benefits of financial literacy to the community

Capuano and Ramsay (2011:30) have also considered financial literacy benefits to the community, which they explain as inclusion in the financial markets, and increasing awareness by the public of financial issues. This then ensures that citizens are well informed and can participate effectively in the debates on different government financial policies. Sub-benefits include:

- *Financial inclusion.* Higher levels of financial literacy enable members of society to be included in the design and implementation of different financial products and services (Capuano & Ramsay, 2011:30; Taft, Hosein, Mehrizi, & Roshan, 2013:64).



- *Understanding government financial policies.* Financial literacy enables reasonable evaluation of government's financial policies, and the strategies of different financial institutions. According to Capuano and Ramsay (2011:31) and the Bank of Uganda (2011:20), this “creates better informed citizens who are able to make sense of policy reform to the financial sector”. The call for some of the financial institution reforms and political financial reforms are highly complex, and the understanding by the public is of great importance, as it ensures critique, which will ensure that these policies are for the benefit of the greater community.

This demonstrates the benefits of financial literacy for the community, and how these benefits impact on government policies and the inclusion of such communities.

2.4.3 Greater competition, innovation and quality products

Individuals who are financially literate tend to be more efficient financially, by purchasing superior products, which are also cheaper and highly relevant for the intended purpose. According to Capuano and Ramsay (2011:31), “[t]his leads to increased competition, better quality products and greater innovation and diversity in the market”. Knowledge of consumer rights and contracts also “allows consumers to evaluate products more carefully and as a result demand more from suppliers” (Capuano & Ramsay, 2011:31).

Based on the literature reviewed in the section above on the advantages of being financially literate, it can be concluded that there are four definite advantages to being financially literate (Louw, 2009:29). These advantages of individuals who are financially literate include:



- effectively planning ahead;
- demonstrating high financial independence at the time of retirement;
- choosing and contributing to investment/saving activities; and
- demonstrating other sound financial behaviour.

2.5 FINANCIAL LITERACY OF STUDENTS

Students who leave their institutions with qualifications in different professions and who are financially literate have been observed to be more responsible (Ministry of Education, 2010:8). Their financial well-being and stability depend highly on their financial knowledge and skills within the current complex financial context. Financial decision making is, however, an essential component of financial literacy, which has been noted to be lacking among most students who register for undergraduate degrees (Lusardi, Mitchell & Curto, 2010).

Recently, various studies have focused specifically on the financial literacy of students and teenagers, mainly with the aim of designing financial intervention programmes for them in the early stages of their lives (Botha, 2013; Johnson & Sherraden, 2007; Louw, Fouché & Oberholzer, 2013; Lusardi et al., 2010). These studies investigating financial literacy were mostly conducted in developed countries, such as the United States and Australia. One such study, conducted in America by the Jump\$tart Coalition (2008), found that the level of financial literacy for American teenagers was 48.5%. Leclerc (2012:154) also found that older students who are not performing well academically were more likely to access credit.



Botha (2013:i) investigated the financial literacy levels of South African students at a traditional university, and found that literacy levels of students are generally low. She also found that third-year students studying towards a qualification in a finance-related field had higher financial literacy levels than students who were studying towards a qualification that was not finance-related, specifically architecture and sport management students (Botha, 2013:i).

Louw et al. (2013:447) presented findings and conclusions on the South African students who participated in their study. The parents of most of the students took responsibility for managing major finance issues, and only allowed their children to participate in making cash transactions. Hence, most students lacked exposure to some financial practices. Furthermore, the students did not possess sufficient knowledge and understanding of investment, interest rates, and inflation. Consequently, the students in Louw et al.'s (2013) study required more training in investment, interest rates, and inflation. Hence, based on these findings, Louw et al. (2013) concluded that the students who participated in their study had insufficient financial literacy. Louw et al. (2013:448), in their study, did not perform data analysis in the various different faculties, such as Arts, Economic and Management Sciences, and Natural Sciences, separately in order to determine whether there would be significant differences between the financial literacy levels of students in different faculties.

From the above discussion, it can be concluded that financial literacy is important not only to adults, but also to teenagers and young adults who are currently scholars and students. Financial literacy is an important aspect, as it guides the different decisions that an individual makes with the money they receive, no matter how little that money might be. Furthermore, financial literacy is also a necessity to students who are being trained for professions that are not in a finance-related field. Botha (2013:13) noted that financial literacy is not only a necessity to those who are not



interested in a finance-related career. It is also an important ability to those who are active in different financial matters, such as workers and students at different levels. A study by Sallie Mae (2009:3) noted an increase in the number of students who arrived at university with credit cards. In the sample from that study, 84% demonstrated that they needed some training on credit cards (Sallie Mae, 2009:3). Investigating the financial literacy levels of young people is important, as they will soon be in a position to make serious financial decisions, such as buying a house, a car, or insurance, and even saving for the future.

2.6 FINANCIAL LITERACY AND DEMOGRAPHIC VARIABLES

Botha (2013:16) defines financial literacy as an individual's skills, financial knowledge, and ability to effectively manage financial resources. She indicates that financial literacy seems to vary with personal demographics. Fernandes, Lynch and Netemeyer (2014:4) assert that studies on financial literacy have concentrated on financial knowledge, with very little evaluation of skills and personal experiences, and their relation to participants' demographics. According to Willis (2009:456), "[b]oth experimental and non-experimental studies demonstrate that understanding the basic principles of saving, such as compound interest, has a direct effect on financial preparation", and that "[t]his effect holds after controlling for demographic characteristics".

Abu Daabes and Kharbat (2013:3) list gender, age, marital status, education, and income level as demographic variables. Hunnur and Bagali (2014:164) add one more aspect, namely experience, to the list provided by Abu Daabes and Kharbat. Demographic variables are the specific features or qualities of the participants that



are utilised to label the specific sample of research (Kaur, 2013:37). Demographic variables cannot be changed or manipulated by the researcher.

In a study by Klapper, Lusardi and Panos (2012:3), it was found that financial literacy is below acceptable levels in certain social groups, such as females, people in low-income groups, people residing in rural areas, and those with a low educational level. This finding is confirmed by Hung et al. (2009:22), who also found that financial literacy is related to biographical factors, education, and income. These findings were also confirmed for a student population in the United States, where it was found that factors such as family background, socio-economic status, age, race, and other social factors contribute to student spending and access to credit (Leclerc, 2012:149).

Botha (2013:99) found that some of the demographic and background characteristics did not show any relationship with students' financial literacy, except for students whose fees are paid by their parents, and students from certain ethnic groups. It has also been asserted that individuals cannot reach a complete state of financial literacy, as this depends on many issues, such as the person's age, family background, personal culture, and place of origin (Mihalčová et al., 2014:321). This demonstrates the important role of personal biography in financial literacy.

Based on the different demographic factors that have been presented by various research studies, this study will investigate how financial literacy relates to race, gender, age, source of student funding, course registered for, or field of study, parental education, and background.



2.6.1 Gender

Many studies use the demographic variable of gender to demonstrate differences in knowledge and understanding of various aspects of financial literacy (Buckland, 2010; Lusardi et al., 2010). Ahsan (2013:3) noted a difference in income and expenditure between males and females, where females indicated more money spend on shopping. Furthermore, Ahsan (2013:3) found that more females than males were regularly facing financial challenges which they indicated they were struggling to cope with.

In Australia, more females than males were found to be doing budgets regularly, even though they were less confident to handle money during crises (Commonwealth of Australia, 2007:4). Furthermore, in the same study, a greater number of females indicated that they think about saving before spending. Lusardi et al. (2010:12), in their study, found that the financial literacy levels of males was higher than that of females. Based on different studies, Lusardi et al. (2010:12) concluded that females were not doing well in financial planning, and were not able to do the necessary financial analyses. The financial literacy of boys has been noted to improve over time relative to girls, as observed in a study conducted by Jump\$tart (Butters, Asarta & McCoy, 2012; Mandell, 2009).

Butters et al. (2012:142) reported that many research studies have used the demographic variable of gender as a significant factor of financial literacy, and those studies have noted that differences exist even after time. Danes and Haberman (2007:58) established that female students discussed money more often with their families than male students. Furthermore, they found that after training in finance, male students had a greater understanding of financial content, such as insurance, savings, and credit, than female students. Van Rooij, Lusardi and Alessie (2011:456)



reported that there are differences between the financial literacy of males and females, with females displaying low levels of financial literacy.

Jang, Hahn and Park (2014:3) reported on a study that was conducted by the Bank of Korea in 2013, which focused on individuals' financial behaviour, knowledge and attitudes, where a tool was used that was designed by the International Network on Financial Education. Jang et al. (2014) found that there were slight differences between the financial literacy of males and females, with females having higher levels of financial literacy.

Based on these findings, it can be concluded that females have been noted to demonstrate lower levels of financial literacy in many studies compared to their male counterparts. Therefore, gender as part of the demographic data and participants' background provides rich information, and how it impacts on the financial literacy of individuals is also an interesting aspect. For this reason, this study will investigate the financial literacy of students of different genders.

2.6.2 Age

With regard to age, it is expected that younger respondents will have lower financial literacy, because they do not yet have enough experience or knowledge at such an age. Botha (2013:88) noted no statistically significant differences in her study conducted in South Africa on non-finance and finance students of different ages (18-20, 21-23, 24-25, and older than 25 years). It has been noted that financial knowledge gained during early years by children has a great impact as they reach middle age (Lerman & Bell, 2006:3). From a study conducted on middle-aged farmers, Gaurav and Singh (2012:375) noted the significance of age on financial understanding and knowledge, including knowledge about debt, asset ownership,



and planning income. The farmers' age was positively correlated with their level of financial literacy, which means that the older farmers demonstrated the skills of making acceptable financial decisions and choices.

Lusardi and Mitchell (2007:39) found that individuals who were aged 50 and above were concerned with contributions for retirement more than anything else. Lusardi and Mitchell also found that around 18% of participants in this age group were able to make specific calculations on both simple and compound interest, which has been cited as a real-life situation. A greater number was able to calculate only the simple interest, and failed to compute the following steps which are required in calculating compound interest. This group was also found to have a lack of interest in obtaining the necessary detailed financial information, and never recognised the need to find this information.

Based on the above literature, the dominant finding on the relationship between financial literacy and age has been that there is a positive correlation between age and the financial skills of an individual. Consequently, these studies have noted the relationship between age and financial literacy, and its importance in the general demonstration of financial literacy of individuals. This study will further investigate the impact of age of students at CUT on their level of financial literacy, in order to develop guidelines that can be used to improve students' financial skills and knowledge.

2.6.3 Source of funding

In a study conducted among university students, Botha (2013:88) found that there was a significant difference in the levels of financial literacy between students who were funded by their parents and those who were funded by the NSFAS, or who



received other financial support. The students whose fees were paid by their parents or other family members demonstrated high levels of financial literacy. The parent- or family-funded students were aware of the financial and cost implications of their not passing, and hence demonstrated higher levels of financial literacy. Furthermore, those who received financial support from home were also found to be regularly participating in financial administration and management, even before coming to university, which accounts for their higher levels of financial literacy (Botha, 2013:104). Botha further indicated that students who qualify for NSFAS funding are from disadvantaged families, and most of them hardly engage in the administration of finances in their homes.

Consequently, understanding how these different methods of funding affect students' financial literacy will provide the answers needed for this study to develop guidelines that can be used to improve the financial literacy of students.

2.6.4 Parental education and background

Family education and background has been noted as another factor that is important, and also related to personal financial knowledge (Lusardi & Tufano, 2009). Russell, Brooks and Nair (2006:4) found that students from families with low income were not likely to benefit from any of the financial benefits of their parents as compared to students of middle- and high-income parents. This implies that parental background has an impact on the benefits of the children, and hence also affects children's process of learning how to become financially literate. In addition, it has been shown through research that the financial literacy levels of students are strongly related to the education and guidance they receive from their parents (Furnham, 1999). Hence, parental lack of financial resources could be a factor which leads to low financial literacy. Families with higher income and more education tend



to have better financial literacy, which they pass on to their children through different activities within the family (Danes & Haberman, 2007).

Parental level of education has also been observed to impact on the financial literacy of students (Mandell, 2009; Lusardi et al., 2010). Students from families in which parents had higher education seemed to perform better in financial literacy tests than students whose parents had low levels of education (Chen & Volpe, 1998). Parents can provide the necessary financial information and their general financial expertise to their children, as children mostly consult their parents for guidance in personal finance. Chen and Volpe (1998) found that students gained functional financial literacy from their parents. Sohn, Joo, Grable, Lee and Kim (2012) named the relationship between parents and their children “financial socialisation”, where children gain skills, knowledge, and attitudes from their parents. They went further to demonstrate that parents are primary socialization agents mainly when it comes to influencing financial matters and attitudes towards personal saving.

The literature provides a clear indication of how parental background and education impacts on children’s level of financial literacy. This study will therefore also investigate the relationship between parental level of education and students’ personal financial literacy, as part of establishing guidelines for financial training at CUT.

2.6.5 Course registered for/field of study

Botha (2013:33) found that the course registered for by students had an important influence on their level of financial literacy. Mandell (2009) observed an improvement in achievement through financial literacy analysis among students registered for finance-related courses.



Louw (2009:163-164) demonstrated that students who registered in the Faculty of Economic and Management Sciences performed better:

- in the question about general financial literacy, while students from the Faculty of Health Sciences performed the worst;
- in the question about taxation and banking, where students from the Faculty of Health Sciences performed the worst in this section;
- on the question about financial planning, interest rates, and inflation, while students from the Faculty of Natural Sciences performed the worst; and
- on the question about financial legal aspects, where students from the Faculty of Health Sciences performed the worst.

Louw (2009:164) further concluded that the students from the Faculty of Economic and Management Sciences performed better than their counterparts in all the categories represented, namely banking, taxation, financial planning, interest rates, inflation, and legal aspects in terms of financial matters.

Most of these studies did not focus on specific courses, but considered faculties in general. It is therefore necessary to establish whether there is any correlation between the course registered for by students (as one of the demographic factors) and the level of financial literacy that students have, in order to achieve the objectives of the study.

2.6.6 Race and language groups

Botha (2013:103) conducted a study in South Africa where different language groups participated. Botha observed that there were significant differences in financial literacy between Afrikaans speakers, English speakers, Nguni speakers,



and Sotho speakers. Walstad, Rebeck and MacDonald (2010:340) observed a differential improvement in financial literacy scores that showed an association with race after training on financial literacy. In most studies, however, race has been one of the demographic variables that has been difficult to test, due to the fact that samples have been drawn from the same race.

Botha (2013:31) noted that her sample was predominantly black, with very few participants from other races. Carlin and Robinson (2012) found that there were differences in levels of financial literacy between different races and ethnic groups. More white respondents got the answers of all three financial literacy questions correct compared to the black and Hispanic respondents. Likewise, this may be a challenge to this study, as the focus population consists mostly of black students, with very few students from other races.

2.6.7 Summary

The study by Jang et al. (2014:3) demonstrated that individuals which had relatively higher financial literacy levels:

- were from high-income families;
- had parents who had better education;
- were middle-aged;
- were from the metropolitan areas; and
- were earning a salary.



Therefore, one of the objectives of this study will be to determine the relationship between demographic variables and financial literacy levels of South African students studying at a university of technology. The demographic variables relevant to this study are age, gender, parental education, race, and source of funding.

2.7 MEASURING FINANCIAL LITERACY

Measuring personal financial literacy is a complex issue, which can only be done through the analysis of personal skills and decision making (Lerman & Bell, 2006:8). Studies that have evaluated financial literacy in different contexts have measured participant confidence in specific skills and decision-making processes.

The Commonwealth of Australia (2007), in their study, which was intended to measure the financial literacy of Australians, focused on budgeting, saving, investing, credit planning, retirement, protecting money, and information. A similar study was also conducted focusing on women in Australia, looking at the same categories in finance (Commonwealth of Australia, 2008). All these aspects were used to determine the degree of financial literacy of women in the sample.

According to Huston (2010:303), studies on financial literacy have focused on different content areas, namely:

- Essential money issues, such as the importance of money, authority to purchase, concepts related to personal financial accounting, and time-based transfers of financial resources, which have two aspects, namely:
 - current use of resources, which include personal loans, home loans, and credit cards; and



- saving currently available financial resources for future, through investments in stock exchanges, opening savings accounts, and other investment opportunities; and
- Strategies for providing protection for different resources, through risk-management techniques and insurance.

Investigations into financial literacy have focused on understanding and knowledge of certain fundamental concepts, such as saving and investment (OECD, 2012). Some of the studies mentioned above (such as Commonwealth of Australia, 2007) have focused on three such concepts, namely:

- Numeracy and capacity to do calculations related to interest rates, such as compound interest;
- An understanding of inflation; and
- An understanding of risk diversification.

These concepts are being translated into easily measurable financial literacy questions (Lusardi & Mitchell, 2011). Lusardi and Mitchell (2014) designed what can be adopted as standard questions to be used in the evaluation of financial literacy.

According to Louw (2009:90), the different content areas that were observed and used in questionnaires include:

- Record keeping – FSA (2006:44-46), ANZ Banking Group (2003:42), Feeny (2006:14), Chen and Volpe (1998:113, 121);
- Credit – FSA (2006:49), ANZ Banking Group (2003:26), Chen and Volpe (1998:113), Moore (2003:9-10), FinScope (2004:15, 22);



- Planning ahead – FSA (2006:49, 67-68), ANZ Banking Group (2003:57), Feeny (2006:15), Chen and Volpe (1998:113, 121), Moore (2003:10), FinScope (2004:7-10);
- Planning for retirement – FSA (2006:69-70), ANZ Banking Group (2003:7, 47), Chen and Volpe (1998:113), Moore (2003:10), FinScope (2004:18);
- Financial planning – FSA (2006:70), ANZ Banking Group (2003:9-10), FinScope (2004:18);
- Financial products – FSA (2006:85-88), ANZ Banking Group (2003:10), Moore (2003:8), FinScope (2004:12, 13); and
- Investments and savings – FSA (2006:93-94), ANZ Banking Group (2003:6), Feeny (2006:13), Chen and Volpe (1998:113), Moore (2003:8), FinScope (2004:18-19), Bernheim et al. (2001:451).

Having examined the instruments available, it was decided to make use of the instrument designed by Louw (2009), as it was considered to be the most comprehensive of the instruments. It can also be used to identify needs, as well as measure financial literacy.

2.8 CONCEPTUAL FRAMEWORK

Fram (2014) defined a conceptual framework as the procedure used to understand tangible experiences and associations between ideas from a particular viewpoint. The researcher can choose to use the term “conceptual framework” or “theoretical framework” in their study, to describe and justify the choice of participants, the research design employed, and the various different variables to be identified (McMillan & Schumacher, 2010:74). The term “conceptual framework” can be taken to mean assumptions on which the research is based.



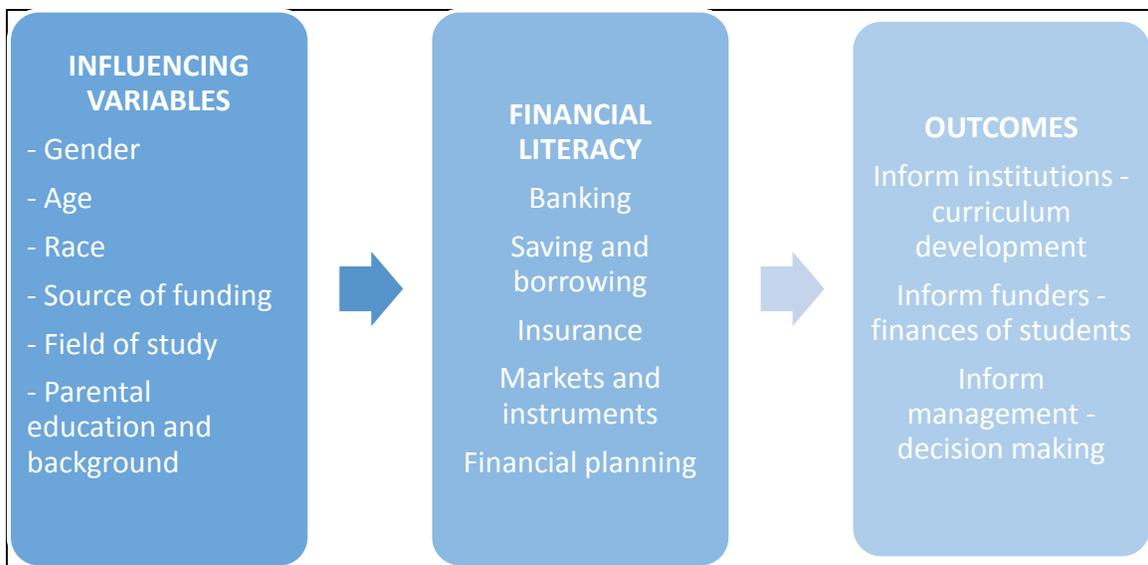
Buckland (2010:360) asserts that financial literacy is about learning how to plan and use the financial resources available, and it is basically concerned with how individuals learn. Buckland (2010:360) further describes the various different learning theories, such as behaviourism, constructivism, and situated learning, among others. This study adopts the learning theory of situated learning, as recommended by Buckland (2010:360). Situated learning places the emphasis on learning that takes place through interaction with activities and specific set environments. Anderson, Reder and Simon (1996:5) maintain that a lot of what is learned is influenced by the context in which it is learned.

Yamauchi and Swanson (2010:190) also noted that situated learning takes into consideration that individual learning is based on practice and the context in which this learning takes place. Individual learning is not knowledge acquisition only, but instead a developmental process engaging social participation (Keskin & Metcalf, 2011:203). Hendricks (2001:302) asserts that situated learning is made up of learning and doing. Hendricks (2001:302) also maintains that there is a relationship between learning and action within situated learning, and that they complement each other. This theory suggests that learning is centred on specific tasks, which are set in a real setting and provide real experience.

Learning is seen as a process that takes place within a specific setting. Learning is established by engaging in a specific activity that brings together the material being learned and the situation in which it is applicable. For this reason, situated learning within financial literacy is important. The theory of situated learning is utilised in this study, since a lot of what students know about finance has been acquired through experience, which is highly dependent on one's context (Barker, Quennerstedt & Annerstedt, 2013:2). The context of participants could also be taken as their demographic background, which is the main focus of this study.

Figure 2.1 graphically represents the conceptual framework of the study, which is in line with the theoretical framework, which was presented in the previous section. Figure 2.1 indicates that the study will measure financial literacy as consisting of five content areas, namely banking, savings and borrowing, insurance, markets and instruments, and financial planning.

Figure 2.1: Conceptual framework



Financial literacy will be considered in terms of different biographical groups (i.e. age and gender, type of accommodation, source of funding, and field of study). The study will seek to understand through the use of situated learning how students utilise their knowledge of money matters and their everyday experiences to develop the level of financial literacy that they have. In addition, the study aims to understand the impact of different demographic variables on the level of financial literacy.



2.9 SUMMARY

This chapter reviewed various research reports on student financial literacy. This was achieved by initially looking at definitions of the concepts of literacy and financial knowledge separately and then combining the two concepts in a discussion of definitions of financial literacy. For the purposes of this study, financial literacy can be defined as an individual's ability to demonstrate a positive attitude towards personal finances, which is based on learning how to control personal finances, and understanding the implications of making good or bad financial decisions.

Financial literacy can be investigated from the perspective of adults/working groups, or students at high school or university. The chapter went on to discuss the importance of student financial literacy, and how this relates to students' personal demographics. Important demographic variables include age, gender, source of funding, parental background, course registered for, race, and language. The chapter further described the various strategies that are used to measure financial literacy. Lastly, the chapter presented the conceptual framework that will be used to guide the study through the processes of data collection and interpretation and analysis of the results. The following chapter describes the specific processes and methods that were followed to collect data for the study, and it explains why these particular processes were followed.



CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

In chapter 2, a literature review was presented regarding financial literacy. In chapter 3, the research methodology of the study is discussed. Firstly, the research questions of the study are presented, where after the research design and research paradigm which were adopted is discussed. This will follow with a discussion of the population for the study and sampling. The chapter further presents the processes that the researcher utilised for data collection.

3.2 RESEARCH QUESTIONS

3.2.1 Main research question

The main research question is: “What are the financial literacy levels of students studying at CUT, Welkom Campus, and what can be done to assist students at CUT, Welkom Campus to increase their financial literacy?”



3.2.2 Secondary research questions

The study intends to answer the following secondary research questions, based on the main research question:

1. What were the findings of previous financial literacy studies?
2. What are the financial literacy needs of CUT, Welkom Campus students?
3. What are the categories of financial literacy that students studying at CUT, Welkom Campus perform particularly well or poorly in?
4. What are the differences between the financial literacy levels of students studying towards a qualification in finance-related fields and those studying towards a qualification in non-finance-related fields at CUT, Welkom Campus?
5. Is there a relationship between demographic variables and the financial literacy levels of students studying at CUT, Welkom Campus?

Therefore, this chapter shows the processes, measures and techniques used in collecting the data, in order to answer the research questions, and to discuss how the various ethical considerations were met.

3.3 RESEARCH DESIGN AND METHODOLOGY

A research design is described as the choice made by the researcher on the process of collecting information, or data, and the analysis of the data, in order to provide answers to the research questions that have been set (Babbie, 2007:112). Fouché, Delpont and De Vos (2011:143) explain that a research design is the specific step-



by-step plan intended to be followed by the researcher, as a way of meeting the research objectives.

A research design can be qualitative, quantitative, or both (Fouché et al., 2011:143). The research design presents the researcher's understanding of the research paradigm to be adopted within quantitative research, and how it can be utilised to generate data. It also stipulates the research tools and methods to be used.

3.3.1 Research paradigm

Cohen, Manion and Morrison (2007:5) define a paradigm "as a way of looking at or researching phenomenon, a world view, a view of what counts as accepted". Maree (2007:47) defines a research paradigm as a set of beliefs and assumptions about important features of reality that provides a basis for understanding a particular world view. Terre Blanche, Durrheim and Painter (2006:6) categorise research paradigms as either positivist, interpretive, or constructivist. Positivism focuses on the observable, assuming that reality is objectively given, functionally necessary, and politically necessary (Johnson & Duberley, 2000:40). Interpretivism, on the other hand, is a philosophical framework relying on qualitative approaches and natural settings (Hurworth, 2005:210). Constructivism is a philosophical perspective that asserts that knowledge is mediated by cognition, and that humans construct meaning out of their experiences and situations (Mathison, 2005:82). For the purposes of this study, the positivist research paradigm will be adopted, as the study relies on empirical data. In the following section, the three philosophical perspectives of research paradigms are discussed, namely ontology, epistemology, and methodology (Terre Blanche et al., 2006:6; Scotland, 2012:9).



3.3.1.1 Ontology

Ontology is described as a way of presenting the reality of nature to be investigated, and facts that are known about it (Terre Blanche et al., 2006:6). Cohen et al. (2007:33) state that ontology is a way of looking at socially constructed values and beliefs within the natural setting. Within positivism, it is noted that in many cases, positivist researchers focus on a phenomenon in its real situation, in the process of gaining knowledge about the phenomenon, and where the object of the research does not depend on the researcher (Scotland, 2012:9). This implies that knowledge exists independent of the researcher (Pring, 2000:59). Cohen et al. (2011:7) assert that in positivism the ontological positioning is the understanding that existence of things occurs independent of the knower. For the purposes of this study, positivist ontological positioning recognises the fact that students' beliefs, values, and knowledge are socially constructed, and that they exist independent of the researcher.

3.3.1.2 Epistemology

Cohen et al. (2007:33) explain that epistemology refers to how one comes to know multiple realities. Epistemology relates to how facts come to be known, or the truth about facts or any physical laws, if they exist (Maree, 2007:55). Therefore, epistemology specifies the type of "relationship between the researcher (knower) and what can be known" from real settings (Terre Blanche et al., 2006:6). For the purposes of this study, it is assumed that the information (or facts) obtained regarding financial literacy can be used to make certain legitimate knowledge claims. Furthermore, the researcher is independent of the outcomes of the study, and does not influence the outcomes of the study in any way.



3.3.1.3 Methodology

Terre Blanche and Durrheim (2012:6) have defined methodology as the practically and realistically chosen process of establishing knowledge. The methodology depends on the type of research approach adopted, that is, qualitative research or quantitative research. Anderson (2006) defines qualitative research as an approach in which the researcher is collecting, analysing, and interpreting data through observation of what the participants do and say. On the other hand, Welman, Kruger and Mitchell (2009:6) define quantitative research as an objective search for singular truths that rely on hypotheses and variables, and it is used in large-scale enquiries. This shows that it is appropriate to conduct quantitative research within the positivist paradigm in order to measure financial literacy objectively. Furthermore, a fairly large sample will be used, and different variables will be measured.

The methodological design of positivist research focuses on providing processes for obtaining the information necessary to explain the relationship between the various different variables (Scotland, 2012:9). Creswell (2012:7) explains that positivists work towards determining reasons for a specific outcome, in order to establish laws or models. This is relevant, as this study intends to measure the financial literacy of students studying at CUT, Welkom Campus, and also to determine differences in the financial literacy levels of students studying towards a qualification in finance-related fields and those studying towards a qualification in non-finance-related fields.

There are two categories of quantitative research, namely experimental research and non-experimental research (Maree & Pietersen, 2007:149). In the experimental design, the researcher intends to compare groups, by applying interventions, or manipulating certain variables, while in the non-experimental design, the researcher makes use of mostly descriptive studies, where specific variables of the selected participants are measured without any manipulation taking place. For the purposes



of this study, a quantitative design will be used, following the non-experimental process. No interventions are planned.

In line with the above discussion, a cross-sectional research design was chosen for this study, which is quantitative in nature. In order to answer the quantitative research questions of the study, an established structured questionnaire, which is quantitative in nature, was used. The quantitative information was collected at a specific time by means of a structured questionnaire consisting of a section soliciting biographical information, and an instrument measuring financial literacy.

3.4 POPULATION AND SAMPLING

In any research that is conducted, the population is the main group from which a small number of participants will be chosen to take part in the research (Gay, Mills & Airasian, 2011:113). Therefore, the population is the main group that has characteristics of interest to the researcher. For this study the population consists of students who are registered for the 2015 academic year at Central University of Technology, Welkom Campus. These participants are chosen from the three faculties that are offering academic courses on the Welkom campus, namely the Faculty of Management Sciences, the Faculty of Humanities, and the Faculty of Engineering and Information Technology. The reason for this is that students studying in finance-related fields and those studying in non-finance-related fields were included in the study. There were 2,503 registered students in various different courses for the 2015 academic year (CUT Enrolments Report, 2015), and although the ideal would be to include the entire population in the study, it was not possible due to various constraints. Hence, a sample of the population was selected.



A sample is a smaller group that is chosen from the larger group, which is the population of the study (Fraenkel & Wallen, 2010:91). Fraenkel and Wallen (2010:93) explain that sampling can be done by means of random sampling or non-random sampling. One method of doing random sampling is by putting into a container pieces of paper with the names of participants, and allowing someone to pick pieces of paper from the container (Fraenkel & Wallen, 2010:93). There are four ways that random sampling can be done: simple random sampling, stratified random sampling, cluster random sampling, or two-stage random sampling (Fraenkel & Wallen, 2010:96).

In non-random sampling, all participants from the population do not have equal chances to be part of the sample (Fraenkel & Wallen, 2010:93). Non-random sampling is directly influenced by the researcher, where the researcher specifically chooses those participants that will provide the information that is required (Cohen et al., 2011:155). There are three ways that non-random sampling can be done: systematic sampling, convenience sampling, and purposive sampling. In this study, non-random sampling was done. Although the ideal would have been to do random sampling, it was not possible, as the data was collected at a specific point in time, and the researcher had access only to the students who were present on campus on that specific day. However, the researcher did ensure that the sample represented certain characteristics.

The non-random sampling method which was used was purposive sampling, specifically quota purposive sampling. This sampling method allowed the researcher to ensure that both the students studying towards a qualification in finance-related fields and those studying towards a qualification in non-finance-related fields were included in the study. Furthermore, data was collected from first-year, second-year and third-year students. A total of 450 questionnaires were distributed by lecturers to different groups of students, and the final sample consisted of 300 students, thus



representing a response rate of 66.7%. According to Babbie (2001:256), in a mail survey, a response rate of 50% is adequate for purposes of analysis and reporting of data, a response rate of 60% is good, and 70% is a very good response rate. Thus, the response rate in this study was good for purposes of analysis and reporting of data.

3.5 DATA COLLECTION

This study has been designed as quantitative, and hence it adopted quantitative techniques for data collection. This study adopted a quantitative design. Hence, the data generated produced tables, graphs, and relationship coefficients, which were utilised to answer the set research questions. Louw (2009:109) asserts that a common research tool that is used in a quantitative research design is the questionnaire. Leedy and Ormrod (2014:7) describe research tools as specific instruments that the researcher utilises to collect participants' views, for the purpose of analysing them and answering the set research questions. Hence, in quantitative research, questionnaires are utilised as the research tool to obtain the necessary information from the participants.

With self-administered questionnaires, participants take the questionnaire and complete it while the researcher is available, and participants can also ask any questions that they may have that may arise from the questions in the questionnaire (Delpont & Roestenburg, 2011:188). Delpont and Roestenburg (2011:188) recommend that the researcher limit their contribution to answering questions asked by the participants, as this could otherwise impact greatly on the data collected. Some of the advantages associated with self-administered questionnaires are the low cost thereof, they allow participants to think about the questions before answering them, they are perceived as more anonymous, and complex instruments



can be used (Cooper & Schindler, 2014:225). The disadvantages of this method are a possible low response rate, the questionnaire should not be too long, and there is a possibility that it could induce anxiety in the participants (Cooper & Schindler, 2014:225).

For the purposes of this study, self-administered questionnaires were used to source information from respondents with regard to their financial literacy levels (Annexure A). This was done through paper-and-pencil questionnaires, which were administered to groups of students studying at CUT, Welkom Campus.

3.5.1 Questionnaires as data-collection technique

McMillan and Schumacher (2010:195) assert that the questionnaire is the technique that is used the most by researchers to obtain information from participants. They define a questionnaire as a list of statements and questions that are asked to establish a specific aim (McMillan & Schumacher, 2010:195). Similarly, Kumar (2014:178) describes a questionnaire as a number of questions that are set to solicit answers from the respondents. Babbie (2007:246) also defines a questionnaire as a document that presents questions or statements that relate to specific information necessary for analysis in a research project.

Using questionnaires holds a number of advantages. For example, it is not expensive to use, since time and money are saved, because questionnaires are quick to administer and prepare (Kumar, 2014:181). Furthermore, it is easier to ensure anonymity than is the case in other methods, since the researcher does not engage in face-to-face interaction with the participants (Kumar, 2014:181). The disadvantages of using questionnaires are (Kumar, 2014:181-182):



- The response rate is often low. This is a common problem in the use of questionnaires, as most participants do not feel obliged to complete and return the questionnaire. This disadvantage can be dealt with by increasing the number of questionnaires distributed to participants, to ensure that even if the return rate is low, the target number of returned questionnaires is reached.
- No clarification of issues is given to the respondents. If respondents are not clear about a certain question, there is no way of providing clarification. This can be addressed by ensuring that the questions are clear, and do not have hidden meanings.
- There is no clarification of responses provided. Since the questions are closed and do not provide space for further explanation, participants who feel like explaining their choices are restricted from doing so.

There are three main types of questionnaires, namely mailed questionnaires, telephonic surveys, and self-administered questionnaires (Delpont & Roestenburg, 2011:186). Mailed questionnaires are posted or mailed to the participants. The researcher expects the participants to receive these questionnaires, read the instructions provided, give answers in the copy, and post/mail the questionnaires back (Delpont & Roestenburg, 2011:186). This type of questionnaire always poses a challenge of low return rate from participants, and the researcher has to design proper strategies to deal with such a low return rate if this type of questionnaire is chosen (Delpont & Roestenburg, 2011:186). Mailed research questionnaires have the advantage that the costs associated with them are low, and participants have the freedom to complete them in their own time (Delpont & Roestenburg, 2011:186). In addition, this type of questionnaire can reach a wide range of participants, from different geographical areas (Delpont & Roestenburg, 2011:186).



In the telephonic survey, the researcher poses questions orally to the respondents. Some of the advantages of telephonic survey are the low cost associated with this type of questionnaire, a large geographical area can be covered, and the completion time is short (Cooper & Schindler, 2014:225). In addition, this type of questionnaire allows participants to obtain clarification on any question or statement that is not clear, and illiterate participants can be included in the study (Delpont & Roestenburg, 2011:186). The main disadvantage of this questionnaire type is the cost involved in making calls, and in some areas, not everyone may have access to a telephone at the time that the researcher is making such calls (Delpont & Roestenburg, 2011:186).

Before the questionnaires were distributed, a pilot study was conducted to ensure that the questionnaire was usable and understandable to the sample. After the pilot study was conducted, the questionnaire was discussed with a statistician, and all suggestions that were made were included in the final questionnaire.

In this particular study, questionnaires were distributed to students during a contact session, in order to avoid a low response rate. Lecturers gave permission for students to complete the questionnaires during the contact session, and the completed questionnaires were collected by the lecturer at the end of the contact session. The researcher was present in the venue, in order to clear up any issues that respondents may have had.

3.5.2 Measuring instrument

Because researchers define the concept of financial literacy differently, some researchers have opted to define financial literacy by its content areas. For this reason, the questionnaire chosen for this study includes questions that cover the



various content areas of financial literacy, as well as questions soliciting participants' biographical data.

The questionnaire (see Annexure C) consisted of three sections, which were arranged in such a way that made it easy for respondents to understand the purpose of the items in each section. Section 1, headed "Background information", included questions soliciting demographic data from the participants, and background information about their financial life. This section consisted of 18 questions relating to the respondents' mother tongue, field of study, race and gender, and information on their financial status. All respondents were requested to answer this section, and the information collected in this section was used to provide descriptive data to explain the sample from which the data was collected. Section 2 evaluated the students' financial needs, and consisted of 28 questions, all designed to evaluate what are important financial concepts in the lives of the students. Section 3 consisted of 43 questions evaluating the students' financial literacy knowledge.

The questionnaire was adapted from a questionnaire developed by Louw (2009). It was modified to suit the current study, and the following steps were taken to ensure the validity and reliability of the questionnaire. Firstly, before the pilot study was conducted, the questionnaire was evaluated by a statistician. Based on the recommendations received, the questionnaire developed by Louw (2009:213) was adjusted, in order to ensure that it is in line with the set objectives of this particular study. Thus, before the questionnaire was distributed to the sample, 30 individuals from the target population participated in a pilot study. Gay et al. (2011:121) define a pilot study as a trial process which is done before the main study is conducted. They assert that conducting a pilot study is important for two reasons: it rehearses the process of data collection, and it tests the tools that are to be used (Gay et al., 2011:121). The process of conducting a pilot study thus eliminates any unforeseen problems.



The 30 respondents participating in the pilot study were selected using convenience sampling. The selected respondents were requested to complete the questionnaire, and to provide critical feedback, general comments, and/or advice, in order to ensure that the wording and layout of the questionnaire are logical, understandable, unbiased, and non-ambiguous. In addition, the minimum time that it takes to complete the questionnaire was established. Thus, face validity was determined (Jonck, 2014:347). Content validity is the measure of accuracy of a test to evaluate the content area that it has been set for (Gay et al., 2011:161). In order to determine initial content validity of the questionnaire, two statisticians were requested to provide insight into the content of the questionnaire. The respondents included in the pilot study were not considered for inclusion in the final sample. After the completed questionnaires were returned, comments were considered. Amendments were made to the layout of the questionnaire, after which the final questionnaire was distributed to the sample.

During the pilot study, the initial reliability of the questionnaire was also determined. Gay et al. (2011:166) indicate that there are two types of reliability, namely stability, also referred to as test-retest reliability, which is achieved by determining the scores of the participants over time, and internal consistency, which determines how the set questions and statements in the questionnaire correspond with each other. During the pilot study, the internal consistency of the measuring instrument was established by determining a Cronbach's alpha coefficient. The initial results show that the instrument had a Cronbach's alpha coefficient of 0.74, while Louw (2009:119), in a similar study, reported a Cronbach's alpha coefficient of 0.74.



3.5.3 Questionnaire administration

The final questionnaire (see Annexure A) was distributed during scheduled contact sessions by selected lecturers. A total of 450 questionnaires were distributed and completed by the respondents. The respondents were informed about the aim of the study, and were requested to sign a consent form before commencing with the completion of the questionnaire (see Annexure B). The researcher was available in the venue to correct any misunderstandings that the participants may have had. A total of 300 completed questionnaires were returned.

3.6 DATA ANALYSIS AND REPORTING

For this study, the data collected was analysed using statistical methods which considered the data from each participant, and combined them for various different purposes. The quantitative data analysis of the responses was planned and coordinated by the researcher, in collaboration with his supervisor, and the statistical analysis was carried out by an independent research statistician. All the returned questionnaires were given a unique code, and the responses were captured on an Excel spreadsheet. Later the researcher checked the data, to ensure that all the numbers entered represented responses given by the participants. The data was then analysed by the independent research statistician, using SSPS (Statistical Package for the Social Sciences) version 20. SPSS is one of the preferred tools used by researchers to present data in their research work, as it is used in the process of interpreting and analysing data retrieved from questionnaires (Durrheim, 2006:193).



Leedy and Ormrod (2014:10) explain that statistical analysis has two main functions, namely to describe data (descriptive statistics), and to draw inferences from the data (inferential statistics). Descriptive statistics present summaries of the data obtained (Leedy & Ormrod, 2014:10). In descriptive statistics, the researcher discusses how certain measured characteristics appear to be, on average, how much variability there is between different pieces of data, and how closely two or more characteristics are associated with one another (Leedy & Ormrod, 2014:10). Therefore, in descriptive statistics, the researcher discusses measures of central tendency, frequencies, measures of variability, measures of relative position, and measures of relationship (Gay et al., 2011:322). Frequencies represent the number of times a certain option on the questionnaire has been selected by participants, while measures of central tendency include the mean, the median, and the mode. Measures of variability include the range, the standard deviation, and the quartile deviation (Gay et al., 2011:325).

Apart from descriptive statistics, the study also used inferential statistics. Gay et al. (2011:341) describe inferential statistics as a technique for analysing data, in order to determine “how likely it is that the output obtained from the sample or samples are the same results that would have been obtained from the entire population”. A Kolmogorov-Smirnov test was performed to assess the normality of the distribution (Pallant, 2011:63). The results of this test show that the data was not normally distributed. Consequently, the following non-parametric tests were used: a Mann-Whitney U test, and a Kruskal-Wallis test. These tests were performed to determine the influence of the demographic variables on the dependent variable (i.e. financial literacy). Spearman rank-order correlations were performed to determine the relationship between the subcategories of the dependent variables. To determine the reliability of the measuring instrument, a Cronbach’s alpha coefficient was determined. Detailed results are presented in chapter 4.



3.7 ETHICAL CONSIDERATIONS

McMillan (2012:17) asserts that when data from individuals is collected and analysed, ethical considerations should be adhered to, to ensure that participants are not exposed to any risks. Before the data was collected from the students, an application for ethical clearance was submitted to the institution which supervised the study, and permission was granted. In order to obtain informed consent from the participants, an introductory letter was attached to the questionnaire. In the introductory letter, the purpose of the research project and the rights of the participants were explained. Participants were also requested to sign an informed consent form to participate in the study. The students were also informed that participation in the study was completely voluntary, and that they were not required to provide any personal identifying information, such as student number or names, as a strategy to ensure their anonymity and confidentiality. The respondents were also requested to personally complete the questionnaire, and they were informed that they had the right to withdraw from the study at any stage.

3.8 SUMMARY

This chapter explained the research processes employed in measuring the level of financial literacy of students at Central University of Technology, Welkom Campus. First, the research design and research methodology were discussed. For the purposes of this study, a structured questionnaire was used, the study was quantitative in nature, and it adopted the positivist paradigm. Thereafter, the population, the sample, the research techniques used, the validity and reliability of the questionnaire, and ethical considerations were discussed. The following chapter presents the numerical data obtained using the structured questionnaire. In addition,



in chapter 4 the descriptive and inferential statistics will be presented, in order to answer the set research questions for the study.

CHAPTER 4

FINDINGS OF THE STUDY

4.1 INTRODUCTION

The previous chapter explained the research methodology employed in the study. The study was designed to determine the financial literacy levels of students studying at CUT, Welkom Campus, and to draw conclusions on the strategies that can be used to assist students at this campus to increase their financial literacy levels. The present chapter provides a discussion of the findings of the study, based on the research objectives stated in chapter 1. The reliability of the research instrument used will be discussed, after which the findings of the study will be presented. This will address the following secondary objectives.

1. To conduct a literature review on financial literacy, with specific reference to students at tertiary institutions;
2. To identify a measuring instrument to test the financial literacy of students;
3. To determine the financial literacy needs of students at CUT, Welkom Campus;
4. To identify the categories of financial literacy that students studying at CUT, Welkom Campus are performing particularly well or poorly in;
5. To determine the relationship between demographic variables and financial literacy levels of students who are studying at CUT, Welkom Campus;
6. To establish whether differences exist between the financial literacy levels of students studying towards a qualification in finance-related fields and those studying towards a qualification in non-finance-related fields at CUT, Welkom Campus; and



7. To develop guidelines that can be used to improve the financial literacy of students studying at CUT, Welkom Campus, based on the empirical findings of the current study.

4.2 BIOGRAPHICAL PROFILE OF THE RESPONDENTS

In Tables 4.1–4.9, the biographical profile of the respondents is reported. The biographical variables measured include age, gender, language, province of origin, year of study, and parental education.

In Table 4.1, the gender distribution of the sample is presented.

Table 4.1: Gender distribution of the sample

Gender	N	%
Male	108	36.6
Female	189	63.4
Total*	297	100.0

* Whenever the total is less than 300, not all respondents answered the question.

As can be seen from Table 4.1, the majority of the sample consisted of female respondents ($n = 189$; 63.4%), while the remaining 36.6% of the sample were male respondents ($n = 108$).

In Table 4.2, mother tongue distribution of the sample is presented.



Table 4.2: Mother tongue distribution of the sample

Language	N	%
English	5	1.7
Afrikaans	7	2.3
Sesotho	213	71.2
IsiXhosa	42	14.0
IsiZulu	16	5.4
Other	16	5.4
Total*	299	100

* Whenever the total is less than 300, not all respondents answered the question.

When considering the mother tongue distribution of the sample, 71.2% (n = 213) of the respondents indicated that their mother tongue was Sesotho, followed by 14% (n = 42) isiXhosa-speaking respondents. IsiZulu-speaking respondents constituted 5.4% (n = 16) of the sample, Afrikaans-speaking respondents constituted 2.3% (n = 7) of the sample, English-speaking respondents accounted for 1.7% (n = 5) of the sample, and speakers of other languages not mentioned accounted for 5.4% (n = 16) of the sample.

In Table 4.3, the provinces of origin of the sample are presented.



Table 4.3: Provinces of origin of the sample

Province	N	%	Cumulative %
Free State	266	89.6	89.6
Eastern Cape / Western Cape	9	3.0	92.6
Mpumalanga / Limpopo	7	2.4	95.0
North West	5	1.7	96.7
Gauteng	4	1.3	98.0
KwaZulu-Natal	3	1.0	99.0
International	2	0.7	99.7
Northern Cape	1	0.3	100
Total*	297	100	

* Whenever the total is less than 300, not all respondents answered the question.

Table 4.3 shows that, as can be expected, the overwhelming majority of the participants originated from the Free State province (n = 266; 89.6%), followed by the Eastern Cape and Western Cape (n = 9; 3%) and Mpumalanga and Limpopo (n = 7; 2.4%). The remainder of the sample consisted of 5 (1.7%) students from the North West province, 4 (1.3%) respondents from Gauteng, 3 (1%) participants from KwaZulu-Natal, 2 (0.7%) international respondents, and 1 (0.3%) respondent from the Northern Cape.

In Table 4.4, the years of study of the sample are presented.



Table 4.4: Years of study of the sample

Year of study	N	%	Cumulative %
1st year	145	48.5	48.5
2nd year	111	37.0	85.6
3rd year	35	11.7	97.3
4th year	8	2.7	100
Total	299	100	

* Whenever the total is less than 300, not all respondents answered the question.

When considering the current year of study of the respondents, Table 4.4 shows that the majority of the respondents were in their first year of study ($n = 145$; 48.3%), followed by those in their second year ($n = 111$; 37%), those in their third year ($n = 35$; 11.7%), and those in their fourth year ($n = 8$; 2.7%). With regard to method of payment for studies, Table 4.5 reflects that more than half of the respondents were funded either by the NSFAS ($n = 174$; 58.8%) or by a bursary ($n = 24$; 8.1%), while 93 respondents (31.4%) indicated that they themselves were paying for their studies.

In Table 4.5, the various methods of payment for studies of the sample are presented.

Table 4.5: Method of payment for studies

Method of payment for studies	N	%	Cumulative %
NSFAS	174	58.8	58.8
Bursary	24	8.1	66.9
Self-payment	93	31.4	98.3
Other	5	1.7	100
Total	296	100	

* Whenever the total is less than 300, not all respondents answered the question.



As can be expected, in light of the findings with regard to current year of study, the majority of the respondents (see Table 4.6) were in the 18-20-year age group (n = 111; 37.1%), followed by respondents in the 21-23-year age group (n = 102; 34.1%), while 38 (12.7%) respondents indicated their age as being between 24 and 26. Only 48 (16.1%) respondents indicated that they were 27 years or older.

In Table 4.6, the age distribution of the sample is presented.

Table 4.6: Age distribution of the participants

Age group	N	%	Cumulative %
18 – 20 years	111	37.1	37.1
21 – 23 years	102	34.1	71.2
24 – 26 years	38	12.7	83.9
27 and older	48	16.1	100
Total	299	100	

** Whenever the total is less than 300, not all respondents answered the question.*

In Table 4.7, the racial distribution of the sample is presented.

Table 4.7: Racial distribution of the sample

Population group	N	%	Cumulative %
Asian	2	0.7	0.7
Black African	291	97.3	98.0
Coloured	6	2.0	100
Total	299	100	

** Whenever the total is less than 300, not all respondents answered the question.*



Based on the results depicted in Table 4.7, it should be noted that the racial distribution of the sample is not representative of South Africa's population. The independent variable of population group consisted of 291 (97.3%) black African, 6 (2%) Coloured and 2 (0.7%) Asian respondents.

In Table 4.8, the paternal highest level of academic qualification is presented.

Table 4.8: Paternal highest academic qualification

Highest academic qualification	N	%	Cumulative %
Did not complete high school	65	21.7	21.7
Completed high school	114	38.1	59.8
Diploma graduate	28	9.4	69.2
Degree graduate	19	6.4	75.6
I don't know	73	24.4	100
Total	299	100	

* Whenever the total is less than 300, not all respondents answered the question.

When the independent variable of paternal highest academic qualification is considered, it was found that 38.1% (n = 114) of the sample indicated that their father had completed secondary school (see Table 4.8), 24.4% (n = 73) did not know their father's highest academic qualification, while 21.7% (n = 65) indicated that their father had not completed secondary school. Twenty-eight (9.4%) respondents indicated that their father was a diploma graduate, and 19 (6.4%) indicated that their father held a degree qualification. Similar results were found for maternal highest academic qualification (see Table 4.9), in that 106 (35.5%) respondents indicated that their mother had completed secondary school, while 92 (30.8%) respondents responded that their mother had not completed secondary school. Fourteen percent (n = 42) of the sample indicated that they did not know their mother's highest



academic qualification, 10.7% (n = 32) indicated that their mother was a degree graduate, and 9% (n = 27) responded that their mother was a diploma graduate. In Table 4.9, the maternal highest level of academic qualification is presented.

Table 4.9: Maternal highest academic qualification

Highest academic qualification	N	%	Cumulative %
Did not complete high school	92	30.8	30.8
Completed high school	106	35.5	66.3
Diploma graduate	27	9.0	75.3
Degree graduate	32	10.7	86.0
I don't know	42	14.0	100
Total	299	100	

* Whenever the total is less than 300, not all respondents answered the question.

In table 4.10, field of study is presented

Table 4.10: Field of study

Field of study	N	%	Cumulative %
Finance related	160	54.6	54.6
Non finance related	133	45.4	45.4
Total	293	100	100

* Whenever the total is less than 300, not all respondents answered the question.

Finally, the responses of the participants were divided into finance-related responses and non-finance-related responses, where 54.6% of respondents (n = 160) indicated that they were studying a finance-related course, and 45.4% (n = 133) indicated that they were studying a non-finance-related course.



A description of the results obtained in section 2 of the questionnaire, which measured financial independence is presented in table 4.11 and 4.12. In table 4.11, the number of respondents that answered the questions regarding financial independence is represented.

Table 4.11: Number of respondents regarding financial independence

Question No	Question	Number of "yes"	Number of "No"	Number of respondents
7	Do you have any loans?	206	87	293
8	Do you have any other debt?	208	89	297
9	Do you know how you will be earning a living next year?	212	85	297
10	Are able to prepare your own will (testament) according to the minimum legal requirements?	158	120	278
11	Do you have any investments?	253	46	299
12	Do you budget for your day to day expenditure?	93	205	298
13	Do you think that retirement is too far away to think about it right now?	93	204	297
14	Do you keep track of your daily spending?	133	165	298
15	Do you have a credit card?	251	48	299
16	Do you have a store card?	212	86	298
17	Do you have a part -time job?	259	40	299
18	Do your parents still support you?	76	223	299

In table 4.12, the percentage of respondents that answered the questions regarding financial independence is represented.



Table 4.12 Percentage of respondents

Question No	Question	Percentage of "yes"	Percentage of "No"	Percentage respondents
7	Do you have any loans?	70.30	29.70	100
8	Do you have any other debt?	70.00	30.00	100
9	Do you know how you will be earning a living next year?	71.38	28.62	100
10	Are able to prepare your own will (testament) according to the minimum legal requirements?	56.83	43.17	100
11	Do you have any investments?	84.62	15.38	100
12	Do you budget for your day to day expenditure?	31.20	68.80	100
13	Do you think that retirement is too far away to think about it right now?	31.32	68.68	100
14	Do you keep track of your daily spending?	83.95	16.05	100
15	Do you have a credit card?	83.95	16.05	100
16	Do you have a store card?	71.14	28.86	100
17	Do you have a part -time job?	86.62	13.38	100
18	Do your parents still support you?	25.42	74.58	100

Despite being students and not being fully employed, about 70% of the students already have loans and debts. Similarly 71.38% of the students indicated that they know how they will be earning a living in the coming year. Of all the students who took part in this study, 84.62% already have an investment while around 31.32% think that it is too early to talk about retirement now. Most of the students have credit cards and 71.14% already have accounts in different stores.



4.3 RESULTS FOR THE MEASURING INSTRUMENT

A Cronbach's alpha coefficient was used to measure the reliability of the measuring instrument. During the pilot study, the initial reliability of the questionnaire was established (see section 3.5.2). The initial results show that the measuring instrument had a Cronbach's alpha coefficient of 0.74.

Table 4.13 depicts the Cronbach's alpha coefficient results for the final measuring instrument that was used to collect the data.

Table 4.13: Reliability of the measuring instrument

Subscale	No. of items	Cronbach's alpha
Financial independence (Section 1)	12	0.844
Financial needs (Section 2)	28	0.946
Financial knowledge (Section 3)	43	0.829
Total scale	83	0.844

As can be seen from Table 4.13 above, the measuring instrument consisted of three subscales, measuring financial independence, financial needs, and financial knowledge, respectively. The subscale measuring financial independence consisted of 12 items, and had a Cronbach's alpha coefficient of 0.844. Section 2, which measured financial needs, consisted of 28 items, and had a Cronbach's alpha of 0.946. Section 3, which measured financial knowledge, consisted of 43 items, and had a Cronbach's alpha of 0.829. The total scale consisted of 83 items, and had a reliability of 0.844. This is somewhat higher than the Cronbach's alpha reported by



Louw (2009:119), who used the same measuring instrument. Louw (2009) reported a Cronbach's alpha of 0.74.

According to Salkind (2012:208), a correlation coefficient of between 0.8 and 1.00 may be regarded as very strong. This shows that the instrument used to measure financial literacy and its components had very strong levels of reliability, which meant that they could be used in the current sample to measure financial literacy, and the identified subscales thereof.

4.4 MEASURES OF CENTRAL TENDENCY

Before the results of the study are presented and analysed, it is necessary to assess the levels of the scores of the respondents in the current population on the variables of financial independence, financial needs, and financial knowledge. The results are depicted in Table 4.14. Note that the median represents the 50% mark in each case.

Table 4.14: Measures of central tendency with regard to financial independence, financial needs, and financial knowledge

Variable	Minimum	Maximum	\bar{X}	Median	Standard deviation
Financial independence	9	23	19.0200	19.00	1.95080
Financial needs	28	112	92.1233	94.00	13.35600
Financial knowledge	26	116	73.1700	73.00	11.68573



According to Table 4.14, with regard to financial independence, respondents scored just above 50% ($\bar{x} = 19.02$; $SD = 1.95080$), which was also the case with financial knowledge ($\bar{x} = 73.170$; $SD = 11.68573$). On the other hand, respondents scored below the 50% mark when it came to financial needs ($\bar{x} = 92.1233$; $SD = 13.35600$). Thus, respondents scored moderately positively in terms of financial independence and financial knowledge, but negatively in financial needs.

4.5 FINANCIAL NEEDS OF RESPONDENTS

This section presents the descriptive statistics of the section measuring financial needs of the respondents. In this section of the questionnaire, respondents had to indicate their answers on a four-point Likert scale, with options ranging from “strongly agree” to “strongly disagree”.

Table 4.15: Choosing appropriate insurance (Question 19)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	16	5.4	5.4
Disagree	33	11.1	16.5
Agree	140	47.0	63.5
Strongly agree	109	36.6	100.0
Total	298	100.0	

The results presented in Table 4.15 show that 83.6% of respondents either agreed or strongly agreed that there is a need for them to learn more about choosing appropriate insurance at this point in their lives, while the remainder of the respondents either disagreed or strongly disagreed.



Table 4.16: The financial impact on my career planning (Question 20)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	13	4.4	4.4
Disagree	11	3.7	8.1
Agree	112	38.0	46.1
Strongly agree	159	53.9	100.0
Total	295	100.0	

The results presented in Table 4.16 show that 91.9% of respondents either agreed or strongly agreed that there is a need for them to learn more about the financial impact on their career planning at this point in their lives, while the remainder either disagreed or strongly disagreed.

Table 4.17: How taxation works (Question 21)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	11	3.7	3.7
Disagree	21	7.0	10.7
Agree	143	47.7	58.3
Strongly agree	125	41.7	100.0
Total	300	100.0	

The results depicted in Table 4.17 show that 89.4% of respondents either agreed or strongly agreed that it is necessary for them to learn more about how taxation works at this point in their lives, while the remainder either disagreed or strongly disagreed.



Table 4.18: Estate planning (Question 22)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	12	4.1	4.1
Disagree	45	15.5	19.6
Agree	150	51.5	71.1
Strongly agree	84	28.9	100.0
Total	291	100.0	

The results depicted in Table 4.18 show that 80.4% of respondents either agreed or strongly agreed that it is needed that they learn more about estate planning at this point in their lives, while the remainder either disagreed or strongly disagreed.

Table 4.19: How to deal with banks (Question 23)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	7	2.4	2.4
Disagree	11	3.7	6.1
Agree	120	40.5	46.6
Strongly agree	158	53.4	100.0
Total	296	100.0	

According to Table 4.19, 93.9% of respondents either agreed or strongly agreed that it is needed that they learn more about how to deal with banks at this point in their lives, while the rest either disagreed or strongly disagreed.



Table 4.20: How to deal with other financial service providers (Question 24)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	8	2.7	2.7
Disagree	18	6.1	8.8
Agree	127	42.8	51.5
Strongly agree	144	48.5	100.0
Total	297	100.0	

According to Table 4.20, 91.3% of respondents either agreed or strongly agreed that there is a need for them to learn more about how to deal with other financial service providers at this point in their lives, while the rest either disagreed or strongly disagreed.

Table 4.21: How to broaden my knowledge of personal finance (Question 25)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	6	2.0	2.0
Disagree	11	3.7	5.7
Agree	115	38.7	44.4
Strongly agree	165	55.6	100.0
Total	297	100.0	

Table 4.21 shows that 94.3% of respondents either agreed or strongly agreed that there is a need for them to learn more about how to broaden their knowledge of personal finance at this stage in their lives, while the rest either disagreed or strongly disagreed.



Table 4.22: How to save money (Question 26)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	8	2.7	2.7
Disagree	6	2.0	4.7
Agree	64	21.3	26.0
Strongly agree	222	74.0	100.0
Total	300	100.0	

Table 4.22 shows that 95.3% of respondents either agreed or strongly agreed that there is a need for them to learn about how to save money at this stage in their lives, while the rest either disagreed or strongly disagreed.

Table 4.23: How to invest money (Question 27)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	8	2.7	2,7
Disagree	9	3.0	5,7
Agree	68	23.0	28,7
Strongly agree	211	71.3	100,0
Total	296	100.0	

Table 4.23 shows that 94.3% of respondents either agreed or strongly agreed that it is necessary for them to learn more about how to invest money at this stage in their lives, while the rest either disagreed or strongly disagreed.



Table 4.24: How to plan for your long-term financial security (Question 28)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	7	2.3	2.3
Disagree	10	3.3	5.7
Agree	82	27.4	33.1
Strongly agree	200	66.9	100.0
Total	299	100.0	

The results in Table 4.24 show that 94.3% of respondents either agreed or strongly agreed that it is necessary for them to learn more about how to plan for their long-term financial security at this stage in their lives, while the rest either disagreed or strongly disagreed.

Table 4.25: How to budget day-to-day expenditure (Question 29)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	5	1.7	1.7
Disagree	17	5.7	7.3
Agree	111	37.0	44.3
Strongly agree	167	55.7	100.0
Total	300	100.0	

The results in Table 4.25 show that 92.7% of respondents either agreed or strongly agreed that it is needed that they learn more about how to budget day-to-day expenditure at this point in their lives, while the remainder either disagreed or strongly disagreed.



Table 4.26: How to responsibly use credit cards (Question 30)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	18	6.1	6.1
Disagree	40	13.5	19.5
Agree	120	40.4	59.9
Strongly agree	119	40.1	100.0
Total	297	100.0	

The results in Table 4.26 show that 80.5% of respondents either agreed or strongly agreed that there is a need for them to learn more about how to responsibly use credit cards at this stage in their lives, while the remainder either disagreed or strongly disagreed.

Table 4.27: How to responsibly use store cards (Question 31)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	13	4.4	4.4
Disagree	51	17.2	21.5
Agree	131	44.1	65.7
Strongly agree	102	34.3	100.0
Total	297	100.0	

The results presented in Table 4.27 show that 78.4% of respondents either agreed or strongly agreed that there is a need for them to learn more about how to responsibly use store cards at this point in their lives, while the remainder either disagreed or strongly disagreed.



Table 4.28: Health planning (Question 32)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	7	2.3	2.3
Disagree	13	4.4	6.7
Agree	101	33.9	40.6
Strongly agree	177	59.4	100.0
Total	298	100.0	

The results presented in Table 4.28 show that 93.3% of respondents either agreed or strongly agreed that it is necessary for them to learn more about health planning at this stage in their lives, while the remainder either disagreed or strongly disagreed.

Table 4.29: Medical aid (Question 33)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	9	3.0	3.0
Disagree	31	10.4	13.5
Agree	189	63.6	77.1
Strongly agree	68	22.9	100.0
Total	297	100.0	

The results in Table 4.29 depict that 86.5% of respondents either agreed or strongly agreed that it is necessary for them to learn more about medical aid schemes at this point in their lives, while the remainder either disagreed or strongly disagreed.



Table 4.30: Buying a house/housing (Question 34)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	20	6.8	6.8
Disagree	52	17.7	24.5
Agree	122	41.5	66.0
Strongly agree	100	34.0	100.0
Total	294	100.0	

The results in Table 4.30 depict that 75.5% of respondents either agreed or strongly agreed that it is needed that they learn more about buying a house at this point in their lives.

Table 4.31: The financial implications of emigration (Question 35)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	22	7.5	7.5
Disagree	56	19.1	26.6
Agree	159	54.3	80.9
Strongly agree	56	19.1	100.0
Total	293	100.0	

According to Table 4.31, 73.4% of respondents either agreed or strongly agreed that it is needed that they learn more about the financial implications of emigration at this point in their lives, while the remainder either disagreed or strongly disagreed.



Table 4.32: Ante nuptial contracts, and their financial implications (Question 36)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	15	5.2	5.2
Disagree	63	21.6	26.8
Agree	156	53.6	80.4
Strongly agree	57	19.6	100.0
Total	291	100.0	

According to Table 4.32, 73.2% of respondents either agreed or strongly agreed that there is a need at this stage in their lives for them to learn more about ante nuptial contracts and their financial implications, while the remainder either disagreed or strongly disagreed.

Table 4.33: How to start my own business (Question 37)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	9	3.0	3.0
Disagree	28	9.5	12.5
Agree	103	34.8	47.3
Strongly agree	156	52.7	100.0
Total	296	100.0	

According to Table 4.33, 87.5% of respondents either agreed or strongly agreed that there is a need at this stage in their lives for them to learn more about how to start their own business, while the rest either disagreed or strongly disagreed.



Table 4.34: Choosing between different financial institutions (Question 38)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	5	1.7	1.7
Disagree	16	5.4	7.1
Agree	125	42.2	49.3
Strongly agree	150	50.7	100.0
Total	296	100.0	

The results depicted in Table 4.34 show that 92.9% of respondents either agreed or strongly agreed that it is necessary at this point in their lives for them to learn more about choosing between different financial institutions, while the rest either disagreed or strongly disagreed.

Table 4.35: Ways to reduce spending (Question 39)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	8	2.7	2.7
Disagree	12	4.0	6.7
Agree	95	31.9	38.6
Strongly agree	183	61.4	100.0
Total	298	100.0	

The results depicted in Table 4.35 show that 93.3% of respondents either agreed or strongly agreed that it is necessary at this stage in their lives for them to learn more about ways to reduce spending, while the rest either disagreed or strongly disagreed.



Table 4.36: My rights as a consumer (Question 40)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	6	2.0	2.0
Disagree	4	1.3	3.4
Agree	105	35.4	38.7
Strongly agree	182	61.3	100.0
Total	297	100.0	

The results in Table 4.36 depict that 96.7% of respondents either agreed or strongly agreed that at this point in their lives it is necessary for them to learn more about their rights as consumers, while the rest either disagreed or strongly disagreed.

Table 4.37: Managing my cash flow (Question 41)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	7	2.3	2.3
Disagree	9	3.0	5.4
Agree	94	31.5	36.9
Strongly agree	188	63.1	100.0
Total	298	100.0	

The results in Table 4.37 depict that 94.6% of respondents either agreed or strongly agreed that there is a need for them to learn more about managing their cash flow at this point in their lives, while the rest either disagreed or strongly disagreed.



Table 4.38: Planning for a financially independent retirement (Question 42)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	12	4.0	4.0
Disagree	50	16.8	20.8
Agree	110	36.9	57.7
Strongly agree	126	42.3	100.0
Total	298	100.0	

Table 4.38 shows that 79.2% of respondents either agreed or strongly agreed that there is a need for them to learn more about planning for a financially independent retirement at this stage in their lives, while the remainder either disagreed or strongly disagreed.

Table 4.39: Which financial records to keep, and how to keep them (Question 43)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	7	2.3	2.3
Disagree	17	5.7	8.1
Agree	123	41.3	49.3
Strongly agree	151	50.7	100.0
Total	298	100.0	

Table 4.39 shows that 92.0% of respondents either agreed or strongly agreed that there is a need for them to learn more about which financial records to keep, and how to keep them, at this point in their lives, while the remainder either disagreed or strongly disagreed.



Table 4.40: How to keep financial records (Question 44)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	9	3.0	3.0
Disagree	23	7.7	10.7
Agree	145	48.3	59.0
Strongly agree	123	41.0	100.0
Total	300	100.0	

Table 4.40 shows that 89.3% of respondents either agreed or strongly agreed that it is needed for them to learn more about how to keep financial records at this stage in their lives, while the remainder either disagreed or strongly disagreed.

Table 4.41: Managing debt (Question 45)

	Frequency	Valid percent	Cumulative percent
Strongly disagree	12	4.0	4.0
Disagree	12	4.0	8.0
Agree	133	44.5	52.5
Strongly agree	142	47.5	100.0
Total	299	100.0	

According to Table 4.41, 92.0% of respondents either agreed or strongly agreed that it is needed for them to learn more about how to manage their personal debts at this point in their lives, while the remainder either disagreed or strongly disagreed.



**Table 4.42: Basics of the economy, such as inflation, interest, etc.
(Question 46)**

	Frequency	Valid percent	Cumulative percent
Strongly disagree	10	3.4	3.4
Disagree	13	4.4	7.7
Agree	142	47.7	55.4
Strongly agree	133	44.6	100.0
Total	298	100.0	

According to Table 4.42, 92.3% of respondents either agreed or strongly agreed that there is a need for them to learn more about basics of the economy, including inflation, interest, and other matters, at this point in their lives, while the remainder either disagreed or strongly disagreed.

4.5.1 Summary

This section on participants' financial needs consisted of 28 questions, where for 16 of the questions the combined percentages for the responses "agree" and "strongly agree" came to more than 90% (see Tables 4.15–4.42). There were seven questions presenting different financial needs that were found to have the highest rate of agreement. These questions were determined by combining percentages for the responses "agree" and "strongly agree" and resulted in percentages above 80%. Similarly five of 28 questions also showed combined percentages for the responses "agree" and "strongly agree" came to between 70% and 79%. Therefore none of the combined percentages for the responses "agree" and "strongly agree" came to below 70%. The need to learn more about antenuptial contracts and their financial implications had the lowest rate of agreement among the participants in terms of the



combined proportion of “agree” and “disagree” responses (73.2%), while the need to know more about their rights as consumers had the highest rate of agreement among the participants (96.9%). The conclusion then is that more than 70% of the participants feel that there is a need for them to learn more about the various aspects of financial literacy.

4.6 FINANCIAL KNOWLEDGE

This section presents the different answers that participants provided for each question under the section on financial knowledge (Section 3 of the questionnaire). The participants were requested to answer these questions to the best of their ability by choosing between the following options: “yes”, “no”, and “don’t know”.

The study adopted the four clusters that were generated by Louw (2009:152), which were used to compare different questions and produce the four cluster groups below. These clusters were generated by analysing similarities between the questions in the questionnaire. The four cluster groups are:

- Cluster 1: This cluster is made up of questions which relate more to general financial literacy. This cluster is thus referred to as the “General financial literacy” cluster;
- Cluster 2: This cluster consists of questions which focus on banking and taxation. Hence, this cluster is named the “Banking and taxation” cluster;
- Cluster 3: This cluster is made up of questions that focus on financial planning, interest rates, and general inflation. Therefore, this cluster is named “Financial planning, interest rates, and inflation”; and



- Cluster 4: This cluster consists of questions focusing on the legal aspects of personal financial management. Hence, this cluster is named “Legal aspects in terms of financial matters”.

In Table 4.43, the layout of the cluster groups is presented.

Table 4.43: Questions in cluster groups

Questions	Cluster 1: General financial literacy	Cluster 2: Banking and taxation	Cluster 3: Financial planning	Cluster 4: Legal aspects
47		X		
48	X			
49				X
50		X		
51	X			
52				X
53				X
54		X		
55	X			
56	X			
57	X			
58	X			
59			X	
60		X		
61			X	
62	X			
63		X		
64	X			
65				X
66		X		
67	X			
68			X	
69	X			
70	X			
71	X			
72			X	
73		X		

Questions	Cluster 1: General financial literacy	Cluster 2: Banking and taxation	Cluster 3: Financial planning	Cluster 4: Legal aspects
74				X
75			X	
76			X	
77				X
78	X			
79				X
80				X
81			X	
82				X
83				X
84			X	
85	X			
86	X			
87		X		
88		X		
89	X			

4.7.1 General financial literacy (Cluster 1)

For this cluster, the question that most participants got correct was the question that asked whether invoices of assets purchased should be kept for warranty purposes, while the most incorrectly answered question was the question that asked whether a valid will (testament) has to meet legal requirements. The average performance of participants on this cluster was 60.3%.

In Table 4.44, the percentages of correct responses to the questions related to general financial literacy are presented.

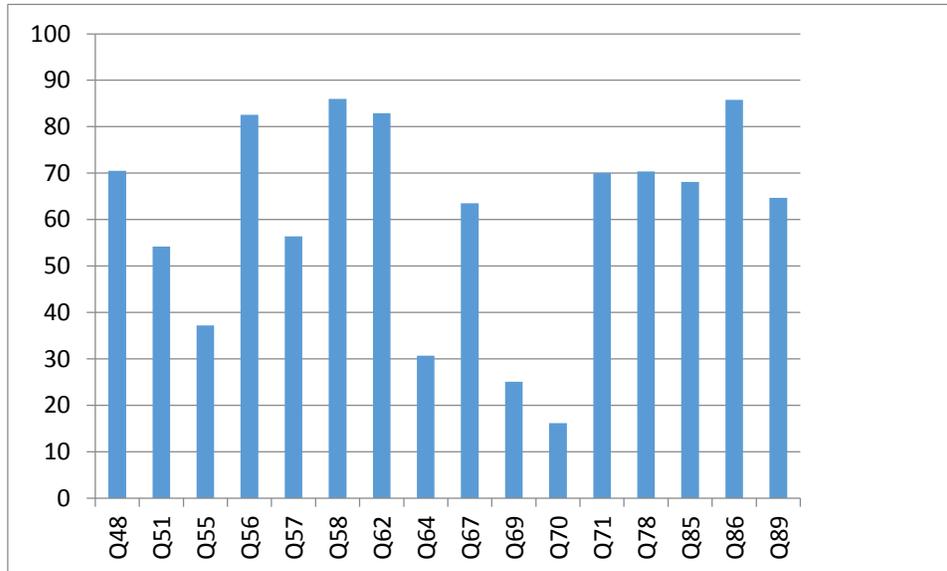


Table 4.44: Correct responses to Cluster 1 (General financial literacy)

Questions	Correct responses (%)
Q48 - Long-term financial goals should be changed as new information becomes available.	70.5
Q51 - It is not necessary for budgeted and actual expenses to be equal.	54.2
Q55 - Two investments, namely A and B, have the same level of risk associated with them. A has a higher level of return than B. Thus B is the preferred investment choice.	37.2
Q56 - A budget is a monetary expression of my financial priorities.	82.6
Q57 - Tax records should be kept for five years.	56.4
Q58 - Invoices of assets purchased should be kept for warranty purposes.	86.0
Q62 - Inflation has an impact on savings.	82.9
Q64 - Debt is always a bad idea.	30.7
Q67 - All job openings are advertised in newspapers.	63.5
Q69 - The "tax year" normally extends from 1 January until the last day in December of the same year.	25.1
Q70 - A valid will (testament) does not have to meet legal requirements.	16.2
Q71 - Age plays a role in determining a person's car insurance.	70.0
Q78 - All banks charge the same service fees on cheque accounts.	70.4
Q85 - If I am married in community of property, both spouses must sign the documents if I purchase a fixed property.	68.1
Q86 - A statement of my financial position shows my assets, liabilities, and net worth at a given date.	85.8
Q89 - Certain health care/medical aid plans only pay for hospital expenses.	64.7
Average	60.3

The information presented in Table 4.44 is graphically presented in Figure 4.1.

Figure 4.1: Correct responses to Cluster 1 (General financial literacy)



The findings presented in Figure 4.1 can be summarised as follows:

- A small number (9.1%) of the participants indicated that all banks charge the same service fees on cheque accounts. The majority (70.4%) of the participants knew that banks do not charge the same service fees on cheque accounts, and 20.5% did not know (see Question 78).
- 16.2% of the participants indicated that a valid will (testament) has to meet legal requirements, while 58.1% said that it did not, and 25.7% did not know. Most of the participants did not know that a valid will (testament) has to meet legal requirements (see Question 70).
- For Question 55, “yes” was the least-chosen response (28.9%), while the most-chosen response was “no” (37.2%), followed by “don’t know” (33.9%). Most of the participants thought that the statement was not correct, and that B would not be a preferred investment over A, despite the fact that investment A had a higher level of return than investment B.



- 33.1% of the participants indicated that all job openings are advertised in newspapers, while 63.5% said no, and 3.4% did not know. The majority of the participants answered the question correctly, namely that not all job openings are advertised in newspapers (see Question 67).
- 41.7% of the participants indicated that the “tax year” normally extends from 1 January until the last day in December (the same as the calendar year), while 25.1% said no, and 33.2% did not know. Most participants did not know that the “tax year” does not extend from 1 January until the last day in December (the same as the calendar year) (see Question 69).
- 54.2% of the participants indicated that it is not necessary for budgeted and actual expenses to be equal, while 30.6% said it is necessary, and 15.2% did not know. Most participants knew that it is not necessary for budgeted and actual expenses to be equal (see Question 51).
- 56.4% of the participants indicated that tax records should be kept for five years, while 7.1% said no, and 36.5% did not know. The majority of the participants knew that tax records should be kept for five years (see Question 57).
- 62.8% of the participants indicated that debt is always a bad idea, while 30.7% said no, and 6.4% did not know. The majority of the participants did not know that debt is not always a bad idea (see Question 64).
- 64.7% of the participants knew that certain health care/medical aid plans only pay for hospital expenses, while 18.3% said no, and 16.9% did not know (see Question 89).
- 68.1% of the participants knew that if they are married in community of property, both spouses must sign the documents when purchasing a fixed property, while 10.4% said no, and 21.5% did not know (see Question 85).
- 70% of the participants indicated that age plays a role in determining a person’s car insurance, while 17.4% said no, and 12.6% did not know. Most

of the participants answered the question correctly, namely that age plays a role in determining a person's car insurance (see Question 71).

- A total of 70.5% of the participants indicated that long-term financial goals should be changed as new financial information becomes available, while 20.8% said no, and 8.7% did not know. Therefore, the majority knew that long-term financial goals should be changed as new information becomes available (see Question 48).
- 82.6% of the participants indicated that a budget is a monetary expression of their financial priorities, while 6.4% said no, and 11.1% did not know. Most of the participants knew that a budget is a monetary expression of financial priorities (see Question 56).
- 82.9% of the participants indicated that inflation has an impact on savings, while 8.7% said no, and 8.4% did not know. The majority of the participants knew that inflation has an impact on savings (see Question 62).
- 85.8% of the participants responded that a statement of financial position shows their assets, liabilities, and net worth at a given date, while 3.7% said no, and 10.5% did not know (see Question 86).
- 86% of the participants indicated that invoices of assets purchased should be kept for warranty purposes, while 2% said no, and 12% did not know. The majority of the participants were aware that invoices of assets purchased should be kept for warranty purposes (see Question 58).

For General financial literacy cluster, the question that most participants answered correctly was the one that asked whether invoices of assets purchased should be kept for warranty purposes. Similarly in the same cluster the most incorrectly answered question was the one that asked whether a valid will (testament) does not have to meet legal requirements. The cluster average performance of participants



was 60.3%, which was far above 50%, and therefore, in general, participants performed well in this cluster.

4.7.2 Banking and taxation (Cluster 2)

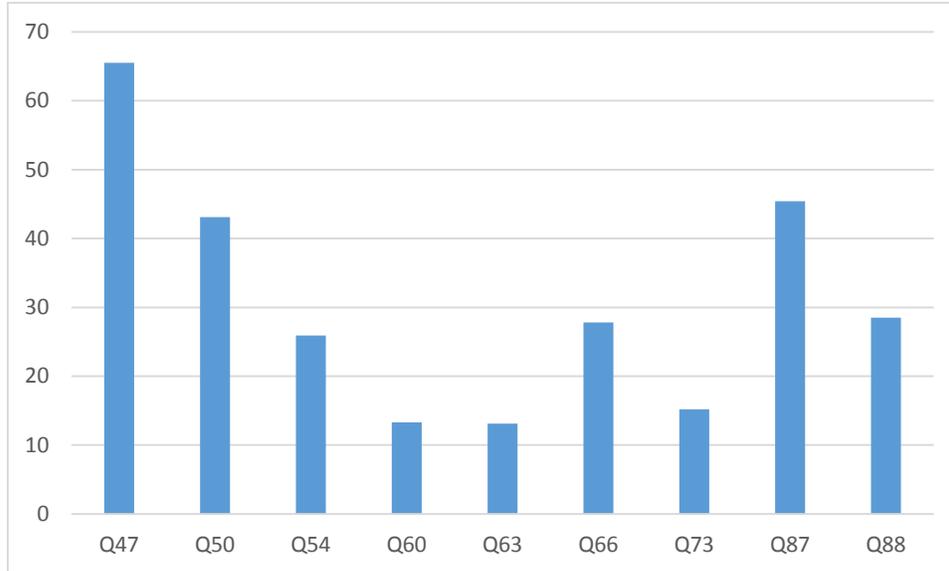
In Table 4.45, the percentages of correct responses to the questions related to banking and taxation are presented.

Table 4.45: Correct responses to Cluster 2 (Banking and taxation)

Questions	Correct responses (%)
Q47 - Financial planning should be affected by inflation.	65.5
Q50 - Fixed expenses remain fixed for many years.	43.1
Q54 - Returns on most investments are guaranteed.	25.9
Q60 - A deposit slip is a document used to transfer money between accounts.	13.3
Q63 - The best way to save money is to save money in a savings account.	13.1
Q66 - If I have car insurance and I have an accident, my premium should stay the same.	27.8
Q73 - Cash is a high-return-earning asset category.	15.2
Q87 - Consumer credit cards are generally regarded as the least expensive form of credit.	45.4
Q88 - Credit cards are generally regarded as the least expensive form of credit.	28.5
Average	30.8

The information presented in Table 4.45 is graphically presented in Figure 4.2.

Figure 4.2: Correct responses to Cluster 2 (Banking and taxation)



The findings presented in Figure 4.2 can be summarised as follows:

- 40.7% of the participants indicated that if they have car insurance and it happens that they have an accident, their premium should stay the same, while 27.8% said no, and 31.5% did not know. Most of the participants did not know that their car insurance premium will not stay the same if they happen to have an accident (see Question 66).
- 28.5% of the participants knew that credit cards are generally regarded as the most expensive form of credit, while 41.5% said no, and 29.8% did not know (see Question 88).
- 43.1% of the participants answered yes, and 43.1% answered no, when asked if fixed expenses remain fixed for many years, while 13.8% did not know. It is not true that fixed expenses remain fixed for many years. Equal proportions of participants answered this question correctly and incorrectly (see Question 50).



- 45.4% of the participants indicated that consumer credit cards are generally regarded as the least expensive form of credit, while 19% said no, and 35.6% did not know. Most of the participants did not know that consumer credit cards are not generally regarded as the least expensive form of credit (see Question 87).
- 53.9% of the participants indicated that returns on most investments are guaranteed, while 25.9% said no, and 20.2% did not know. Based on these results, most participants did not know that returns on most investments are not guaranteed (see Question 54).
- 57.6% of the participants indicated that cash is a high-return-earning asset category, while 15.2% said no, and 27.2% did not know. Most of the participants did not know that cash is not a high-return-earning asset category (see Question 73).
- 65.5% of the participants indicated that financial planning should be affected by inflation, while 17.7% said no, and 16.7% did not know. Therefore, the majority (65.5%) knew that financial planning is affected by inflation (see Question 47).
- 81.3% of the participants indicated that a deposit slip is a document used to transfer money between accounts, while 13.3% said no, and 5.7% did not know. The majority of the participants knew that a deposit slip is a document used to transfer money between accounts (see Question 60).
- 83.8% of the participants indicated that the best way to save money is to save money in a savings account, while 13.1% said no, and 3% did not know. Most of the participants did not know that saving money in a savings account is not the best way to save (see Question 63).



For the Banking and taxation cluster, the question that most participants answered correctly was the one that asked whether a deposit slip is a document used to transfer money between accounts. The most incorrectly answered question was the one that asked whether the best way to save money was to save money in a savings account. The average performance of participants on this cluster was 30.8%, which was far below 50%, and therefore, in general, participants performed poorly on this cluster.

4.7.3 Financial planning, interest rates, and inflation (Cluster 3)

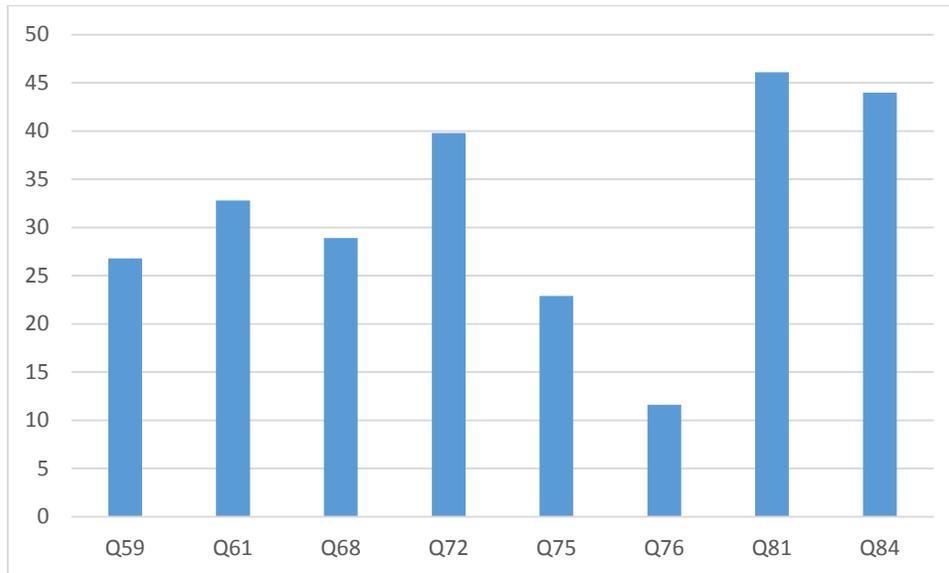
In Table 4.46, the percentages of correct responses to the questions related to financial planning, interest rates and inflation are presented.

Table 4.46: Correct responses to Cluster 3 (Financial planning, interest rates, and inflation)

Questions	Correct responses (%)
Q59 - If I have a debit balance on my bank statement, I have a positive balance on my account.	26.8
Q61 - If a person's net worth is R9,000 and the person owes R8,000, the person has total assets of R17,000.	32.8
Q68 - Every owner of a business must register for VAT.	28.9
Q72 - Compared to buying a house, renting a house provides more financial flexibility.	39.8
Q75 - The current maximum (marginal) tax rate for individuals is 40%.	22.9
Q76 - The current prime lending rate is 15%.	11.6
Q81 - At the moment, paying a bond repayment is generally more expensive than renting the same property.	46.1
Q84 - Retirement annuity fund contributions are tax-deductible.	44.0
Average	28.1

The information presented in Table 4.46 is graphically presented in Figure 4.3.

Figure 4.3: Correct responses to Cluster 3 (Financial planning, interest rates, and inflation)



The findings presented in Figure 4.3 can be summarised as follows:

- 65.4% of the participants indicated that if they have a debit balance on their bank statement it means that they have a positive balance on their account, while 20.8% said no, and 8.7% did not know. Most participants did not know that having a debit balance on their bank statement does not mean that they have a positive balance on their account (see Question 59).
- When asked if a person who has a net worth of R9,000 and who owes R8,000 has total assets of R17,000, 32.8% of the participants responded by choosing “yes”, while 48% chose “no”, and 19.3% did not know. The majority of the participants thus did not know how to calculate a person’s net worth (i.e. assets – liabilities) (see Question 61).



- 68.7% of the participants indicated that every owner of a business must register for VAT, while 28.9% said no, and 2.4% did not know. The majority of the participants did not know that not all businesses need register for VAT (see Question 68).
- 39.8% of the participants indicated that compared to buying a house, renting a house provides more financial flexibility, while 45.9% said no, and 14.3% did not know. Most of the participants did not know that compared to buying a house, renting a house provides more financial flexibility (see Question 72).
- 16.5% of the participants agreed that the current maximum (marginal) tax rate for individuals is 40%, while 22.9% said no, and the majority of the participants (60.6%) did not know (see Question 75).
- 19.1% of the participants indicated that the current prime lending rate is 15%, 11.6% of the participants knew that the current prime lending rate is not 15%, and the majority of the participants (68.3%) did not know (see Question 76).
- 46.1% of participants agreed that at the moment, paying a bond repayment is generally more expensive than renting the same property, while 25.9% said no, and 27.9% did not know (see Question 81).
- 44% of the participants agreed that retirement annuity fund contributions are tax-deductible, while 19.5% said no, and 36.6% did not know (see Question 84).

For the Financial planning, interest rates, and inflation cluster, the question that most participants answered correctly was the one that asked whether paying a bond repayment is currently generally more expensive than renting the same property. The most incorrectly answered question was the one that asked whether the current prime lending rate was 15%. The average performance of participants on this cluster was 28.1%, which is far below 50%, and therefore, in general, participants performed poorly on this cluster.



4.7.4 Legal aspects in terms of financial matters (Cluster 4)

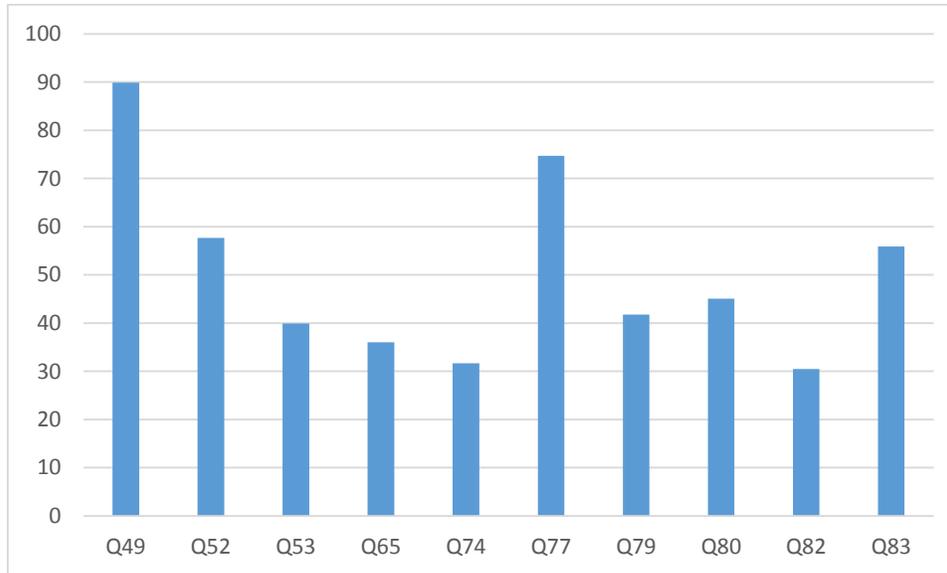
In Table 4.47, the percentages of correct responses to the questions related to legal aspects in terms of financial matters are presented.

Table 4.47: Correct responses to Cluster 4 (Legal aspects in terms of financial matters)

Questions	Correct responses (%)
Q49 - Setting short-term goals helps me to control my living expenses.	89.9
Q52 - I must register at the Department of Trade and Industry before I can start my own business.	57.7
Q53 - The use of credit can be helpful during periods of high inflation.	39.9
Q65 - A medical aid company can turn me down if I apply to become a member of a medical aid fund.	36.0
Q74 - The current inflation rate is between 10% and 11%.	31.7
Q77 - If I feel that I have been mistreated during a loan application, I can take the matter to the National Credit Regulator.	74.7
Q79 - I need to have an antenuptial contract if I am married out of community of property.	41.8
Q80 - If I emigrate, there is a limit to the amount of money I can take out of the country.	45.1
Q82 - A general rule of thumb is that I will need 10 times my annual salary in savings at retirement, to be able to retire financially independent.	30.5
Q83 - If I have a complaint about my banking institution, I can take the matter to the Ombudsman for Banking Services.	55.9
Average	50.32

The information presented in Table 4.47 is graphically presented in Figure 4.4.

Figure 4.4: Correct responses to Cluster 4 (Legal aspects in terms of financial matters)



The findings presented in Figure 4.4 can be summarised as follows:

- 89.9% of the participants indicated that setting short-term goals helps them to control their living expenses, while 7.4% said no, and 2.7% did not know. The majority of the participants knew that setting short-term goals helps them to control their living expenses (see Question 49).
- 57.7% of the participants indicated that they must register at the Department of Trade and Industry before they can start their own business, while 11.7% said no, and 30.5% of participants did not know, which is more than those who said no. This means that the majority of the participants did not know that they do not have to register at the Department of Trade and Industry before they can start their own business (see Question 52).
- 39.9% of the participants indicated that the use of credit can be helpful during periods of high inflation, while 35.6% said no, and 24.5% did not know. The

majority of the participants thus did not know that using credit is helpful during periods of high inflation (see Question 53).

- 23.6% of the participants indicated that a medical aid company can turn them down if they apply to become a member of a medical aid fund, while 36% said no, and the greatest number of participants (40.4%) indicated that they did not know. The majority of the participants did not know that a medical aid company cannot turn down their applications if they want to become a member of a medical aid fund (see Question 65).
- 18.8% of the participants indicated that the current inflation rate is between 10% and 11%, 31.7% of the participants knew that the current inflation rate is not between 10% and 11%, and approximately half of the participants (49.5%) did not know (see Question 74).
- 74.7% of the participants indicated that if they feel that they have been mistreated during a loan application, they can take the matter to the National Credit Regulator, while 8.1% said no, and 17.2% did not know. The majority of the participants answered the question correctly, namely that if they feel that they have been mistreated during a loan application, they can take the matter to the National Credit Regulator (see Question 77).
- 41.8% of the participants knew that they need to have an ante nuptial contract when married out of community of property, while 12.5% said no, and the majority of the participants (45.8%) did not know (see Question 79).
- 45.1% of the participants knew that if they emigrate, there is a limit to the amount of money they can take out of the country, while 14% said no, and 41% did not know (see Question 80).
- 30.5% of the participants knew that a general rule of thumb is that you need 10 times your annual salary in savings at retirement, to be able to retire financially independent, while 15.4% said no, and the majority of the participants (54%) did not know (see Question 82).



- 55.9% participants knew that if they have a complaint about their banking institution, they can take the matter to the Ombudsman for Banking Services, while 7.7% said no, and 36.4% did not know (see Question 83).

For this cluster, the question that most participants answered correctly was the one about whether setting short-term goals helps one to control one's living expenses. The question that most participants answered incorrectly was the question about whether it is a general rule of thumb that one needs 10 times one's annual salary in savings at retirement, to be able to retire financially independent. The average performance of participants on this cluster was 50.32%, which is around 50%, and therefore, in general, participants performed fairly on this cluster.

4.8 THE INFLUENCE OF THE DEMOGRAPHIC VARIABLES ON THE DEPENDENT VARIABLES

In this study, the dependent variables are financial independence, financial needs, and financial knowledge. To determine the influence of the demographic variables on the dependent variables, non-parametric tests, namely a Mann-Whitney U test and a Kruskal-Wallis test, were performed, due to the fact that the data was not normally distributed, as determined by a Kolmogorov-Smirnov test and a Shapiro-Wilk test. The Mann-Whitney U Test is used for gender and field of study, due to the fact that these variables have only two levels. The results of the Mann-Whitney U test for gender and for field of study, respectively, are presented in Tables 4.48 and 4.49.



Table 4.48: Mann-Whitney U test results for gender

Variable	Z-score	P
Financial independence	-0.20	0.984
Financial needs	-0.484	0.628
Financial knowledge	-0.055	0.956

As can be seen from Table 4.48 above, gender did not have a statistically significant influence on the dependent variables, as measured by the questionnaire discussed in the previous section. In Table 4.49 the influence of field of study on financial independence, financial needs, and financial knowledge is illustrated.

Table 4.49: Mann-Whitney U test results for field of study

Variable	Z-score	P
Financial independence	-0.803	0.422
Financial needs	-1.957	0.05*
Financial knowledge	-1.071	0.284

Note: * $p \leq 0.05$

According to Table 4.49 above, only financial needs were statistically significantly influenced by field of study, on the 95th percentile. Thus, respondents who studied a finance-related course and those who studied a non-finance-related course differed statistically significantly in terms of financial needs, at the 5% level of significance. The mean ranking for the non-finance-related respondents was 157.62, and for those respondents who studied a finance-related course it was 138.18. Taking into consideration the mean for financial needs, as is illustrated in Table 4.11, it was 92.1233. It would thus appear as if the respondents registered for non-finance-related courses had higher financial needs than those registered for finance-related courses.

The Kruskal-Wallis test results for mother tongue are depicted in Table 4.50.



Table 4.50: Kruskal-Wallis test results for mother tongue as independent variable and financial literacy as dependent variable

Level of the variable	Chi-square	DF	p
Financial independence	11.887	5	0.036*
Financial needs	13.110	5	0.022*
Financial knowledge	4.345	5	0.501

Note: * $p \leq 0.05$

As can be seen from Table 4.50 above, home language had a statistically significant influence on both financial independence and financial needs, on the 95th percentile. Thus, the various language groups differ statistically significantly from each other in terms of the mentioned aspects of financial literacy. As such, isiZulu-speaking respondents had the lowest mean ranking with regard to financial independence (mean ranking = 110.97), followed by those who spoke a language that was not listed (mean ranking = 144.22), Sesotho-speaking respondents (mean ranking = 145.41), those who spoke Afrikaans (mean ranking = 159.50), isiXhosa-speaking respondents (mean ranking = 184.02), and, lastly, English-speaking respondents (mean ranking = 189.80). Thus, English-speaking respondents had the highest mean in terms of financial independence.

Similar results were found for financial needs. Those who spoke a language other than the ones that were listed had the lowest mean ranking (mean ranking = 97.25), followed by Sesotho-speaking respondents (mean ranking = 148.27), those who spoke isiXhosa (mean ranking = 151.96), Afrikaans-speaking respondents (mean ranking = 179.07), isiZulu-speaking respondents (mean ranking = 184.72), and, lastly, English-speaking respondents (mean ranking = 224). Thus, in terms of financial needs, English-speaking respondents performed the best in comparison with the other language groups.



The Kruskal-Wallis test results for province of origin are depicted in Table 4.51 below.

Table 4.51: Kruskal-Wallis test results for province of origin as independent variable and financial literacy as dependent variable

Level of the variable	Chi-square	DF	p
Financial independence	10.788	7	0.148
Financial needs	4.704	7	0.696
Financial knowledge	8.564	7	0.285

As can be seen from Table 4.51 above, province of origin did not have a statistically significant influence on financial literacy as measured by financial independence, financial needs, and financial knowledge.

The Kruskal-Wallis test results for year of study are depicted in Table 4.52 below.

Table 4.52: Kruskal-Wallis test results for year of study as independent variable and financial literacy as dependent variable

Level of the variable	Chi-square	DF	p
Financial independence	4.138	3	0.247
Financial needs	6.029	3	0.110
Financial knowledge	1.883	3	0.597

As can be seen from Table 4.52 above, year of study did not have a statistically significant influence on financial literacy as measured by financial independence, financial needs, and financial knowledge.

The Kruskal-Wallis test results for method of payment for studies are shown in Table 4.53 below.



Table 4.53: Kruskal-Wallis test results for method of payment for studies as independent variable and financial literacy as dependent variable

Level of the variable	Chi-square	DF	p
Financial independence	0.222	3	0.974
Financial needs	0.595	3	0.898
Financial knowledge	4.664	3	0.198

As can be seen from Table 4.53 above, method of payment for studies did not have a statistically significant influence on financial literacy as measured by financial independence, financial needs, and financial knowledge.

The Kruskal-Wallis test results for age are shown in Table 4.54 below.

Table 4.54: Kruskal-Wallis test results for age as independent variable and financial literacy as dependent variable

Level of the variable	Chi-square	DF	p
Financial independence	8.182	3	0.042*
Financial needs	12.622	3	0.006**
Financial knowledge	3.259	3	0.353

Note: * $p \leq 0.05$; ** $p \leq 0.01$

According to Table 4.54, the independent variable of age had a statistically significant influence on both financial independence and financial needs. With regard to financial independence, the statistical significance was at the 5% level of significance. The results in terms of the different age groups were interesting, in that one would have expected the older respondents to have more financial independence, and this was not the case. The 27-years-plus age group had the lowest mean ranking (mean ranking = 121.68), followed by respondents in the 21-23-year age group (mean ranking = 147.43), respondents in the 24-26-year age group (mean ranking of 153.53), and, lastly, the youngest age group (18-20 years)



(mean ranking = 163.40). With regard to financial needs, which was statistically significantly influenced by age, on the 99th percentile, or at the 1% level of significance, respondents in the 21-23-year age group had the lowest mean (mean ranking = 127.26), followed by those who were 27 years or older (mean ranking = 152.32), the youngest age group (18-20 years) (mean ranking = 160.39), and, lastly, the respondents in the 24-26-year age group (mean ranking = 177.75).

The Kruskal-Wallis test results for population group are presented in Table 4.55 below.

Table 4.55: Kruskal-Wallis test results for population group as independent variable and financial literacy as dependent variable

Level of the variable	Chi-square	DF	p
Financial independence	1.418	2	0.492
Financial needs	1.506	2	0.471
Financial knowledge	2.594	2	0.273

As can be seen from Table 4.55 above, the independent variable of population group did not have a statistically significant influence on financial literacy as measured by financial independence, financial needs, and financial knowledge. This, however, should be interpreted in line with Table 4.7, which indicated that 97.3% of the sample constituted black African respondents. Hence, the differences in the means of various population groups would not be statistically significant, as a result of the homogeneous nature of the sample.

The Kruskal-Wallis test results for paternal highest academic qualification are presented in Table 4.56 below.



Table 4.56: Kruskal-Wallis test results for paternal highest academic qualification as independent variable and financial literacy as dependent variable

Level of the variable	Chi-square	DF	p
Financial independence	3.826	4	0.430
Financial needs	3.837	4	0.429
Financial knowledge	8.645	4	0.071

As can be seen from Table 4.56 above, the independent variable of paternal highest academic qualification did not have a statistically significant influence on financial literacy as measured by financial independence, financial needs, and financial knowledge.

The Kruskal-Wallis test results for maternal highest academic qualification are presented in Table 4.57 below.

Table 4.57: Kruskal-Wallis test results for maternal highest academic qualification as independent variable and financial literacy as dependent variable

Level of the variable	Chi-square	DF	P
Financial independence	4.764	4	0.312
Financial needs	1.658	4	0.798
Financial knowledge	7.882	4	0.096

As can be seen from Table 4.57, the independent variable of maternal highest academic qualification did not have a statistically significant influence on financial literacy as measured by financial independence, financial needs, and financial knowledge.



4.9 THE RELATIONSHIP BETWEEN FINANCIAL INDEPENDENCE, FINANCIAL NEEDS, AND FINANCIAL KNOWLEDGE

In order to determine the relationship between the various components that constitute financial literacy, as measured by the questionnaire, Spearman rank-order correlations were performed. The results of the correlations are presented in Table 4.58.

Table 4.58: Results of the Spearman rank-order correlations between the components of financial literacy

Variable	Financial independence	Financial needs	Financial knowledge
Financial independence	1		
Financial needs	-0.087 0.134	1	
Financial knowledge	0.131 0.023*	-0.186 0.001**	1

Note: * $p \leq 0.05$; ** $p \leq 0.01$

According to Table 4.58, there is a positive statistically significant correlation between financial knowledge and financial independence. However, the correlation is not very strong ($r = 0.131$), which, according to Pallant (2011:134), represents a small effect. The same is true for the relationship between financial knowledge and financial needs, which, likewise, represented a small effect ($r = -0.186$), although the relationship is negative. This means that as financial knowledge increases, there is a decrease in financial needs, and vice versa. Financial independence does not seem to be associated with either financial needs or financial knowledge.



4.10 CONCLUSION

In this chapter, the findings of the study were presented. The Cronbach's alpha coefficients measured for the instruments used in this study proved to be reliable for the current sample. Based on the results presented in the chapter, one may conclude that the financial literacy of the current sample is not sufficiently developed. Based on the analysis of the clusters discussed in section 4.7, one may conclude that the sample performed poorly on the following clusters: Financial planning, interest rates, and inflation; and Banking and taxation. The sample performed well on the cluster General financial literacy, while they performed moderately on the cluster Legal aspects in terms of financial matters. In addition, some of the demographic variables measured, such as field of study, age, and mother tongue, were statistically significantly related to financial literacy. Finally, it was established that some of the components of financial literacy measured were statistically significantly related to each other.



CHAPTER 5

DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

5.1 INTRODUCTION

In chapter 4, the results of the study were presented and analysed. In this chapter, the previous chapters are discussed. Firstly, a financial background is given of the sample, as well as the objectives of the study. The limitations of the study will be discussed, followed by recommendations for future research, and the final conclusion.

The study was designed specifically to determine the financial literacy levels of students registered and studying at Central University of Technology (CUT), Welkom Campus. Hence, this chapter intends to present a discussion based on the responses of 300 students who were registered with CUT, Welkom Campus in 2015. This chapter intends to provide conclusions regarding the following objectives:

1. To conduct a literature review on financial literacy, with specific reference to students at tertiary institutions (see chapter 2);
2. To identify a measuring instrument to test the financial literacy of students (see chapter 3);
3. To determine the financial literacy needs of students at CUT, Welkom Campus (see chapter 4);



4. To identify the categories of financial literacy that students studying at CUT, Welkom Campus are performing particularly well or poorly in (see chapter 4);
5. To determine the relationship between demographic variables and financial literacy levels of students who are studying at CUT, Welkom Campus (see chapter 4);
6. To establish whether differences exist between the financial literacy levels of students studying towards a qualification in finance-related fields and those studying towards a qualification in non-finance related fields at CUT, Welkom Campus (see chapter 4); and
7. To develop guidelines that can be used to improve the financial literacy of students studying at CUT, Welkom Campus, based on the empirical findings of the current study (see this chapter).

5.2 FINANCIAL LITERACY OF STUDENTS

Based on the different definitions of financial literacy, it is noted that different researchers in this field have different ways of presenting their definitions. They focus on different aspects of financial literacy, such as content knowledge, financial communication, the ability to manage personal finances, making financial decisions, and planning for the future.

5.2.1 Defining financial literacy and benefits

Most researchers agree that personal financial literacy is complex, and that it encompasses personal financial skills, knowledge and decision making. The different research projects presented in chapter 2 illustrate that financial literacy can be evaluated in different contexts to measure participant confidence in specific skills



and the decision-making process. To determine levels of financial literacy, studies have focused on the measurement of content areas such as budgeting, saving, investing, credit planning, retirement, and protecting money and information.

Studies conducted have focused mainly on the financial literacy of adults or working groups, by investigating specific content areas (Botha, 2013; Huston, 2010; Louw, 2009; Remund, 2010). The content areas covered in definitions of financial literacy include the following:

- Money basics (Huston, 2010; OECD, 2012);
- Saving and investing (Huston, 2010; OECD, 2012);
- Borrowing/credit (Mahawk College, 2015; Huston, 2010; Hales, 2014); and
- Protecting financial resources (Huston, 2010; Hales, 2014).

Furthermore, some researchers presented a conceptual definition of financial literacy, and they divided their definition into five categories, namely the following:

- Knowledge and understanding of concepts in finance (Remund, 2010; Hung Parker & Yoong, 2009; Vitt, Anderson, Kent, Lyter, Siegenthaler & Ward, 2000; Basic Skills Agency, 2004);
- The skill of an individual to communicate their understanding of finance (Remund, 2010; Vitt et al., 2000; Hung et al., 2009; Basic Skills Agency, 2003);
- The ability of an individual to control or manage the funds received (Remund, 2010; Hung et al., 2009; Vitt et al., 2000);
- The ability of an individual to make suitable choices on how to utilise the funds (Remund, 2010; Vitt et al., 2000; Looney, 2011); and
- The skill of an individual to make necessary preparations for the future (Remund, 2010; Looney, 2011; Fox, Bartholomae & Lee, 2005).



The literature also presented the various benefits of being financially literate. These benefits were presented in the following three categories:

- The benefits of financial literacy to individuals. This was broken down into the following smaller benefits:
 - ✓ *Increased savings and retirement planning* (Jappelli, 2010; Bernheim, Garrett & Maki, 2001);
 - ✓ *More realistic assessments of financial knowledge by consumers* (Bank of Uganda, 2011:20); and
 - ✓ *Life skills and bargaining power* (Bank of Uganda, 2011; OECD, 2012).
- The benefits of financial literacy to the community (Capuano & Ramsay, 2011). This was likewise presented according to sub-benefits, namely the following:
 - *Financial inclusion* (Capuano & Ramsay, 2011:30; Taft et al., 2013:64); and
 - *Understanding government financial policies* (Capuano & Ramsay, 2011:31; Bank of Uganda, 2011:20).
- Greater competition, innovation and quality products (Capuano & Ramsay, 2011; Louw, 2009:29). These were further presented according to the following advantages:
 - ✓ Being able to effectively plan ahead;
 - ✓ Demonstrating high financial independence at the time of retirement;
 - ✓ Choosing and contributing to investment/saving activities; and



- ✓ Demonstrating other sound financial behaviour.

5.3 RESEARCH METHODOLOGY

The study was designed to follow a quantitative approach within the positivist paradigm, in which a questionnaire developed by Louw (2009) was utilised. An adapted version of the questionnaire was administered to 300 CUT, Welkom Campus-registered students. The responses were analysed using SPSS version 21, to present both the descriptive and the inferential statistical data. Based on the analysis of the data and the discussion, the following conclusions and recommendations are made.

5.4 FINANCIAL BACKGROUND OF CENTRAL UNIVERSITY OF TECHNOLOGY STUDENTS

Section 1 of the questionnaire was designed to solicit information about the background of the students, and to determine the level of financial independence of the sample. In Table 5.1 the biographical profile of the sample is presented.

**Table 5.1: Biographical profile of the sample**

Variable	Level of the variable	N	%	Cum %
Gender	Male	108	36.6	36.6
	Female	189	63.4	100
Mother tongue	English	5	1.7	1.7
	Afrikaans	7	2.3	4.0
	Sesotho	213	71.2	75.3
	IsiXhosa	42	14.0	89.3
	IsiZulu	16	5.4	94.6
	Other	16	5.4	100
Place of origin or Province	North West	5	1.7	1.7
	Free State	266	89.6	91.3
	Gauteng	4	1.3	92.6
	KwaZulu-Natal	3	1.0	93.6
	Eastern Cape / Western Cape	9	3.0	96.6
	Northern Cape	1	0.3	96.9
	Mpumalanga / Limpopo	7	2.4	99.3
	International	2	0.7	100
Year of study	1st year	145	48.5	48.5
	2nd year	111	37.0	85.6
	3rd year	35	11.7	97.3
	4th year	8	2.7	100
Method of payment for studies	NSFAS	174	58.8	58.8
	Bursary	24	8.1	66.9
	Self-payment	93	31.4	98.3
	Other	5	1.7	100



Variable	Level of the variable	N	%	Cum %
Age	18 – 20 years	111	37.1	37.1
	21 – 23 years	102	34.1	71.2
	24 – 26 years	38	12.7	83.9
	27 and older	48	16.1	100
Population group	Indian/Asian	2	0.7	0.7
	Black African	291	97.3	98.0
	Coloured	6	2.0	100
Paternal highest academic qualification	Did not complete high school	65	21.7	21.7
	Completed high school	114	38.1	59.8
	Diploma graduate	28	9.4	69.2
	Degree graduate	19	6.4	75.6
	I don't know	73	24.4	100
Maternal highest academic qualification	Did not complete high school	92	30.8	30.8
	Completed high school	106	35.5	66.3
	Diploma graduate	27	9.0	75.3
	Degree graduate	32	10.7	86.0
	I don't know	42	14.0	100
Study field	Finance-related study field	160	54.6	54.6
	Non-finance-related study field	133	45.4	100

As can be seen from Table 5.1 above, the majority of the sample consisted of female respondents ($n = 189$; 63.4%), while the remaining 36.6% of the sample were male respondents ($n = 108$). With regard to the mother tongue distribution of the sample, 71.2% ($n = 213$) of the respondents were Sesotho-speaking, followed by 14% ($n = 42$) isiXhosa-speaking respondents. Those who spoke isiZulu ($n = 16$; 5.4%), Afrikaans ($n = 7$; 2.3%), English ($n = 5$; 1.7%), and other languages not mentioned ($n = 16$; 5.4%) made up the rest of the sample. As can be expected, the overwhelming majority of the sample originated from the Free State province ($n =$



266; 89.6%), followed by the Eastern Cape and the Western Cape ($n = 9$; 3%), and Mpumalanga and Limpopo ($n = 7$; 2.4%). The remainder of the sample consisted of 5 students (1.7%) from the North West province, 4 respondents (1.3%) from Gauteng, 3 respondents (1%) from KwaZulu-Natal, 2 international respondents (0.7%), and 1 respondent (0.3%) from the Northern Cape. Regarding the current year of study of the respondents, Table 5.1 shows that the majority of the respondents were in their first year of study ($n = 145$; 48.5%), followed by those in their second year ($n = 111$; 37%), those in their third year ($n = 35$; 11.7%), and those in their fourth year ($n = 8$; 2.7%). With regard to method of payment for studies, more than half of the respondents were funded either by the NSFAS ($n = 174$; 58.8%) or by a bursary ($n = 24$; 8.1%), while 93 respondents (31.4%) indicated that they themselves were paying for their studies. As can be expected from the data on current year of study, the majority of the respondents were in the 18-20-year age group ($n = 111$; 37.1%), followed by respondents in the 21-23-year age group ($n = 102$; 34.1%), while 38 respondents (12.7%) indicated their age as being between 24 and 26. Only 48 respondents (16.1%) indicated that they were 27 years or older.

In terms of the data depicted in Table 5.1, it should be noted that the racial distribution of the sample was not representative of the population. The independent variable of population group consisted of 291 black African respondents (97.3%), 6 Coloured respondents (2%), and 2 Indian/Asian respondents (0.7%). With regard to the independent variable of paternal highest academic qualification, 38.1% ($n = 114$) of the sample indicated that their father had completed secondary school, 24.4% ($n = 73$) did not know their father's highest academic qualification, and 21.7% ($n = 65$) indicated that their father had not completed secondary school. Twenty-eight (9.4%) respondents indicated that their father was a diploma graduate, and 19 (6.4%) indicated that their father held a degree qualification. Similar data were obtained for maternal highest academic qualification, in that 106 respondents (35.5%) indicated that their mother had completed secondary school, while 92 respondents (30.8%)



responded that their mother had not completed secondary school. Fourteen percent of the sample ($n = 42$) indicated that they did not know their mother's highest academic qualification, 10.7% ($n = 32$) indicated that their mother was a degree graduate, and 9% ($n = 27$) responded that their mother was a diploma graduate. The responses of the participants were then categorised according to field of study, and it was found that 54.6% of respondents ($n = 160$) were enrolled for a finance-related course, and 45.4% ($n = 133$) were enrolled for a non-finance-related course.

To summarise:

- The sample represented both genders, namely female and male.
- The majority of participants were Sesotho-speaking.
- The majority of participants originated from the Free State province.
- Most of the participants were funded by the NSFAS.
- The majority of respondents was black African.
- The majority of participants were in the age group of 18-20 years, followed by those in the age group of 21-23 years.
- The majority of participants had parents who had completed matric.
- The majority of participants were first-year students.

In conclusion, the sample represented both genders. The majority of participants were Sesotho-speaking and originated from the Free State, which is expected, as the Welkom campus of CUT consists predominantly of Sesotho-speaking students who originate from the Free State. Most of the participants were black African, thus the sample was representative of the population of the campus. The majority of the students were funded either by the NSFAS or by a bursary, and most of the students were in the first or second year of their studies.



The following information about the level of financial independence of the sample was obtained from the participants:

- Most of the participants in the study had a loan (70.3% of the participants).
- The majority of participants (70%) indicated that they had other debt.
- Most of the participants seemed to know how they would be earning a living the following year (71.38%).
- The majority of respondents claimed to know how to prepare a will (testament) according to the minimum legal limit (56.83%).
- A total of 84.62% of respondents claimed to have an investment.
- The majority of participants did not budget for their day-to-day expenses (68.8%).
- 68.8% of the participants indicated that they did not think about retirement, as it was still too far away.
- The majority of the participants did not keep track of their day-to-day spending (83.95%).
- 83.95% of the respondents had a credit card.
- 71.14% of the respondents had a store card.
- The majority of the respondents had a part-time job (86.62%).
- 74.58% of the respondents indicated that they were independent of their parents.

In conclusion, the majority of respondents from Central University of Technology, Welkom Campus have a loan or some other debt. This is in contrast to the findings of a study conducted at North-West University, where 60.61% of the respondents indicated that they did not have a loan or any debt (Louw 2009:192). Most of the students indicated that their method of payment was the NFSAS, which may be the



reason why many respondents indicated that they were in debt. Most of the respondents knew how they would be earning a living the following year, which is consistent with the findings of Louw (2009:192), where the majority of the participants indicated that they knew how they would be earning a living the following year. The majority of the students indicated that they had a part-time job; however, most of the students did not budget for their day-to-day expenses. Furthermore, most of the students indicated that they had a credit card or a store card, which is in contrast to the findings of Louw (2009:192), who reported that in his sample, most of the students did not have a credit card or a store card.

From the above discussion, it is clear that the majority of students at CUT, Welkom Campus are using credit cards, and the fact that they have part-time jobs may be a contributing factor to their getting into debt. It is also possible that they may have easier access to credit facilities due to their part-time employment. It is also important to note that the majority of students cannot afford to pay for their studies, and that most of them do not depend on their parents to finance their studies. Furthermore, the majority of the respondents indicated that they do not keep track of their day-to-day spending, and that they do not budget for day-to-day expenses.

5.5 FINANCIAL LITERACY NEEDS OF STUDENTS AT CUT, WELKOM CAMPUS

The third objective of the study was to determine the financial literacy needs of students studying at CUT, Welkom Campus. Section 2 of the questionnaire was designed to determine the respondents' financial literacy needs. Respondents had to indicate what they regard as important to learn about regarding financial literacy at that point in time. The respondents had to indicate their answers on a four-point Likert scale, where options were "strongly agree", "agree", "disagree", and "strongly



disagree”. If respondents indicated “agree” or “strongly agree” for a particular area of financial literacy, it was assumed that that was an area that they would like to know more about. If respondents indicated “disagree” or “strongly disagree” for a particular aspect of financial literacy, it was assumed that the respondents did not regard that aspect as important to learn about at that point in time.

The respondents agreed that the following aspects of financial literacy were important for them at that point in time:

- Choosing appropriate insurance,
- Understanding how taxation works,
- Estate planning,
- How to responsibly use credit cards,
- How to responsibly use store cards,
- Medical aid,
- Buying a house/housing,
- The financial implications of emigration,
- Antenuptial contracts, and their financial implications,
- How to keep financial records, and
- The basics of the economy (inflation, interest, etc.)

The respondents strongly agreed that the following aspects of financial literacy were important for them at that point in time:

- The impact of finances on career planning,
- How to deal with banks,
- How to deal with financial service providers,



- How to broaden knowledge of personal finance,
- How to save money,
- How to invest money,
- How to plan for your long-term financial security,
- How to budget day-to-day expenditure,
- Health planning,
- How to start a business,
- Choosing between different financial institutions,
- Ways to reduce spending,
- My rights as a consumer,
- Managing personal cash flow,
- Planning for a financially independent retirement,
- Keeping financial records, and
- Managing debt.

From the above responses, it is clear that the respondents would like to learn about many aspects regarding financial literacy. Louw (2009:195) identified similar training needs, except for the following aspects of financial literacy: estate planning, and how to start a business. Therefore, one may conclude that the financial literacy needs identified by students studying at CUT, Welkom Campus are mainly similar to the training needs identified by other student samples in South Africa. Furthermore, from the information presented, it is clear that there is a need for financial literacy training at CUT, Welkom Campus.



5.6 FINANCIAL KNOWLEDGE OF PARTICIPANTS

The fourth objective of the study was to identify the categories of financial knowledge that students studying at CUT, Welkom Campus are performing particularly well or poorly in. Section 3 of the questionnaire focused on the financial knowledge of the participants. The responses to the financial knowledge section were grouped into four clusters (or categories), namely “General financial literacy”, “Banking and taxation”, “Financial planning, interest rates, and inflation”, and “Legal aspects in terms of financial matters”. The respondents were required to select their responses from three options, namely “yes”, “no”, and “I do not know”.

5.6.1 General financial literacy

The General financial literacy cluster consisted of questions focusing on general financial literacy, for example “Debt is always a bad idea”. In this section the participants demonstrated their knowledge of issues relating to general financial literacy. The results presented in Table 4.41 show that the average performance of participants on this cluster was 60.3%. The questions that most of the respondents answered correctly were Question 48 (i.e. “Long-term financial goals should be changed as new information becomes available”) and Question 56 (i.e. “A budget is a monetary expression of my financial priorities”). Most of the respondents also answered Question 58 (i.e. “Invoices of assets purchased should be kept for warranty purposes”) correctly, and most respondents knew the answer to Question 86 (i.e. “A statement of my financial position shows my assets, liabilities, and net worth at a given date”).



There were certain questions that were mostly answered incorrectly, which indicates areas of financial literacy that the respondents are potentially weak in. With regard to general financial literacy, the following questions were mostly answered incorrectly:

- **Question 70:** The question stated “A valid will (testament) does not have to meet legal requirements”. Only 16.2% of the respondents answered this question correctly. Most of the respondents (58.1%) answered this question incorrectly.
- **Question 69:** The question stated “The ‘tax year’ normally extends from 1 January until the last day of December of the same year”. Most of the respondents (41.7%) indicated that this was true. This shows that the majority of the participants did not have knowledge about the beginning and the end of a “tax year”.
- **Question 64:** The question stated “Debt is always a bad idea”, and 62.8% of the respondents answered the question incorrectly.
- **Question 55:** The question stated “Two investments, namely A and B, have the same level of risk associated with them. A has a higher level of return than B. Thus B is the preferred choice of investment”, and 62.8% of the respondents did not answer the question correctly (i.e. they did not indicate that A is the preferred choice of investment).
- **Question 57:** The question stated “Tax records should be kept for five years”, and only 56.4% of the sample answered the question correctly. Thus, 43.6% of the sample was not aware that tax records should be kept for a period of five years after being submitted to tax authorities.
- **Question 51:** The question stated “It is not necessary for budgeted and actual expenses to be equal”, and 54.2% of the respondents answered the question correctly. This shows that 45.8% of the respondents either thought



that budgeted and actual expenses must be equal, or they did not know the answer.

From the above discussion, it is clear that the respondents did not perform well in some of the content areas in the category measuring general financial literacy. Louw (2009:195), in his study, similarly found that 55% of respondents answered questions in this category incorrectly, and only 12% of his sample knew that it is not necessary for budgeted and actual expenses to be equal (see Question 51). Another international study found that college students lacked general financial knowledge, and that they were likely to make financial mistakes when joining the real world (Chen & Volpe, 1998). One may therefore conclude that students at CUT, Welkom Campus did not perform well on questions pertaining to testaments or wills, the tax year, debt management, and personal investments. To a lesser extent, the respondents did not perform well on questions pertaining to budgeting and record keeping. Hence, it is recommended that these content areas should form part of financial literacy training of students studying at CUT, Welkom Campus.

5.6.2 Banking and taxation

The second cluster of financial knowledge focused on banking and taxation. It was apparent from the responses to the questions in this cluster that the participants are not knowledgeable about banking and taxation. Overall, only 1 of the 9 questions which form part of this cluster (see Table 4.42) was answered correctly by more than 50% of the respondents. This was Question 47, which stated “Financial planning should be affected by inflation”. The overall average for this cluster was 37.3%, which is much lower than the average performance of the respondents on the previous cluster (i.e. 60.3%), namely the General financial literacy cluster. With regard to banking and taxation, the following questions were answered mostly incorrectly:

- **Question 60:** The question stated “A deposit slip is a document used to transfer money between accounts”, where 13.3% of the respondents answered the question correctly, and 81.3% answered it incorrectly.
- **Question 63:** The question stated “The best way to save money is to save money in a savings account”. Only 13.1% of the respondents answered this question correctly, while 86.8% either did not know the answer to the question, or answered the question incorrectly.
- **Question 73:** The question stated “Cash is a high-return-earning asset category”. Only 15.2% of the respondents answered correctly, while 57.6% answered the question incorrectly. This shows that the majority of the participants did not know that cash is not a high-return-earning asset.
- **Question 87:** The question stated “Consumer credit cards are generally regarded as the least expensive form of credit”. Only 19% of the respondents gave the correct answer, while 81% either did not know the answer or answered incorrectly.
- **Question 54:** The question stated “Returns on most investments is guaranteed”, where 25.9% of the respondents answered the question correctly, and 53.9% answered it incorrectly. Thus, most of the respondents did not know that returns on investments are not guaranteed for most investments.
- **Question 66:** The question stated “If I have car insurance and I have an accident, my premium should stay the same”, where 27.8% of the respondents answered the question correctly, and 40.7% answered it incorrectly.
- **Question 88:** The question stated “Credit cards are generally regarded as the least expensive form of credit”, where 41.7% of the respondents answered the question correctly, and 28.5% answered it incorrectly.



- **Question 50:** The question stated “Fixed expenses remain fixed for many years”, where 43.1% of the respondents answered the question correctly, and 43.1% answered it incorrectly.

From the above discussion, it is clear that the respondents answered most questions in this cluster incorrectly. This indicates that their performance is weak in terms of banking and taxation. Specifically, respondents performed weakly on questions pertaining to saving money, the importance of cash, credit card usage, returns on and cost of investments, and car insurance. The findings in terms of banking and taxation are similar to those of Louw (2009:196), who found that 54.05% of respondents knew that a deposit slip is not a document used to transfer money between accounts. This shows is that the majority of Louw’s sample actually knew the correct answer, while only 13.3% of the sample in this study knew the correct answer (see Question 60). Louw’s findings in this respect are not at all similar to the findings in this study. Similarly, 58.06% knew that having an accident increases car insurance premiums. Majority of Louw’s sample actually knew the correct answer, while only 27.8% of the sample in this study knew the correct answer (see Question 66). So Louw’s findings in this respect are not similar to the findings in this study. Therefore, it is recommended that banking and taxation should form part of financial literacy training of students studying at CUT, Welkom Campus.

5.6.3 Financial planning, interest rates, and inflation

The third cluster of financial knowledge was “Financial planning, interest rates, and inflation”. The overall average for this cluster was 30.8% (see Table 4.43), which is even lower than that of the previous cluster, namely “Banking and taxation” (37.3%). It was apparent from the responses to the questions in this cluster that the participants are not knowledgeable about financial planning, interest rates, and



inflation. The performance of the respondents in terms of financial planning, interest rates, and inflation ranged from 11.6% to 46.1%. The respondents did not perform well in any of the questions in this cluster:

- **Question 76:** The question stated “The current prime lending rate is 15%”, where 88.4% of the respondents either did not know the answer, or answered the question incorrectly, and only 11.6% of the participants answered the question correctly.
- **Question 75:** The question stated “The current maximum (marginal) tax rate for individuals is 40%”, where 77.1% of the respondents either did not know the answer or answered the question incorrectly, and only 16.5% of the participants answered the question correctly.
- **Question 59:** The question stated “If I have a debit balance on my bank statement, I have a positive balance on my account”, where 26.8% of the respondents answered the question correctly, and 73.1% of the participants either answered the question incorrectly or did not know the answer.
- **Question 68:** The question stated “Every owner of a business must register for VAT”, where 28.9% of the participants answered the question correctly, and 68.7% of the participants answered it incorrectly.
- **Question 61:** The question stated “If a person’s net worth is R9,000 and the person owes R8,000, the person has total assets of R17,000”, where 32.8% of the respondents answered the question correctly, and 67.2% either answered the question incorrectly or did not know the answer.
- **Question 72:** The question stated “Compared to buying, renting a house provides more financial flexibility”, where 39.8% of the respondents answered the question correctly, and 45.9% answered it incorrectly.
- **Question 84:** The question stated “Retirement annuity fund contributions are tax-deductible”, where 44% of the respondents answered the question correctly, and 66% either did not know the answer or answered incorrectly.



- **Question 81:** The question stated “At the moment, a bond payment is generally more expensive than renting the same property”, where 46.1% of the participants answered the question correctly, and 53.8% either did not know the answer or answered incorrectly.

From the above discussion, it is clear that the respondents did not perform well on any of the questions in this cluster. This is consistent with the findings of Louw (2009:197), who found that the students in his study similarly demonstrated a lack of knowledge of financial planning, interest rates, and inflation, where almost half of the respondents in his study (i.e. 48.1%) did not know that a debit balance on a bank statement represents a negative balance. He further found that 63.5% of the respondents in his study did not know how to calculate net assets, and 56.53% of his respondents stated that all business owners should register for VAT, which is incorrect. Thus, it is recommended that financial planning, interest rates, and inflation should form part of financial literacy training of students studying at CUT, Welkom Campus.

5.6.4 Legal aspects in terms of financial matters

The fourth cluster of financial knowledge was “Legal aspects in terms of financial matters”. The questions in this cluster focused on the legal aspects of personal financial management. The participants’ overall performance in this cluster was 49.9% (see Table 4.44). Respondents performed well on Question 49 (i.e. “Setting short-term goals helps me to control my living expenses”) and Question 77 (i.e. “If I feel that I have been mistreated during a loan application, I can take the matter to the National Credit Regulator”). The respondents’ performance was adequate on Question 83 (i.e. “If I have a complaint about my banking institution, I can take the matter to the Ombudsman for Banking Services”). The respondents did not perform well on the following questions included in this cluster:



- **Question 82:** The question stated “A general rule of thumb is that I will need 10 times my annual salary in savings at retirement, to be able to retire financially independent”, where 30.2% of participants answered the question correctly, and 69.4% of participants either did not know the answer or answered the question incorrectly.
- **Question 74:** The question stated “The current inflation rate is between 10% and 11%”, where 31.7% of participants answered the question correctly, and 68.3% either did not know the answer or answered the question incorrectly.
- **Question 53:** The question stated “The use of credit can be helpful during periods of high inflation”, where 35.6% of participants answered correctly, and 64.4% answered incorrectly.
- **Question 65:** The question stated “A medical aid company can turn me down if I apply to become a member of a medical aid fund”, where 36% of participants answered correctly, and 64% answered incorrectly.
- **Question 79:** The question stated “I need to have an antenuptial contract if I am married out of community of property”, where 41.8% answered correctly, and 58.3% answered incorrectly.
- **Question 80:** The question stated “If I emigrate there is a limit to the amount of money I can take out of the country”, where 45.1% of the respondents answered correctly, and 55% did not answer correctly.

From the above discussion, it is clear that the respondents did not perform well on most of the questions included in this cluster. In terms of retirement planning, the findings of the current study are similar to those of Louw (2009:198), who found that most of the respondents in his study did not know much about retirement planning. Therefore, it is recommended that legal aspects regarding financial matters should form part of financial literacy training of students studying at CUT, Welkom Campus.



5.6.5 Concluding remarks

Based on the results of the four clusters presented in this section, one may conclude that the students in this study who are registered with CUT, Welkom Campus performed poorly in most of the clusters. In particular, students did not perform well in the following clusters: Banking and taxation; Financial planning, interest rates, and inflation; and Legal aspects of personal financial management. The performance of the respondents on the General financial literacy cluster may be regarded as adequate, but not necessarily good. Therefore, based on the results in terms of the different categories (i.e. clusters), the students studying at CUT, Welkom Campus need to be trained in at least the following categories of financial literacy:

- Banking and taxation;
- Financial planning, interest rates, and inflation; and
- Legal aspects of financial management.

5.7 THE ASSOCIATION BETWEEN FINANCIAL LITERACY AND DEMOGRAPHIC VARIABLES

Most previous studies investigating financial literacy have reported on the relationship between levels of financial literacy and the demographic variables of participants (Abu Daabes & Kharbat, 2013; Hunnur & Bagali, 2014). Most of these studies have showed that financial literacy is statistically significantly related to demographic variables such as gender, race, language, age, marital status, course registered for, parental education, and income level (Abu Daabes & Kharbat, 2013; Botha, 2013; Fernandes, Lynch & Netemeyer, 2014; Hung et al., 2009; Kaur, 2013; Klapper, Lusardi & Panos, 2012; Leclerc, 2012; Mihalčová, Csikósová & Antošovác, 2014; Willis, 2009). For the purposes of this study, the following demographic



variables were measured: gender, field of study, parental highest qualification, mother tongue, and age.

5.7.1 Financial literacy and gender

The Mann-Whitney U test results presented in Table 4.45 show that gender was not statistically significantly associated with financial independence, financial needs, or financial knowledge. The findings of the current study are consistent with those of Shaari, Hasan, Mohamed and Sabri (2013:293), who reported no differences in financial literacy levels between males and females. It is argued that females and males are exposed to the same financial encounters in school and in their everyday life (Wagland & Taylor, 2009:22), and that no differences therefore exist between males and females in terms of financial literacy. Louw (2009:200) found that some aspects of financial literacy were associated with gender, mainly in issues relating to banking and taxation. Mandell (2008) found that there was very little difference in the levels of financial literacy between males and females. For the current sample there is no relationship between gender and financial literacy, possibly because both genders are exposed to the same financial encounters at this point in their lives.

5.7.2 Financial literacy and mother tongue

The Kruskal-Wallis test results presented in Table 4.47 show that mother tongue was statistically significantly related to financial independence and financial needs. The isiZulu-speaking participants had the lowest level of financial independence, and demonstrated the greatest need for financial literacy training, by scoring the lowest in the financial needs section. They were followed by participants from the category of "other", who, in turn, were followed by Sesotho-speaking respondents,



Afrikaans-speaking respondents, and isiXhosa-speaking participants. English-speaking participants had the highest mean scores in financial independence and financial knowledge, while Sesotho-speaking participants had the lowest mean scores in financial independence and financial knowledge. Botha (2013:81) reported similar findings, in that the Sesotho-speaking participants in her sample had the lowest financial literacy scores. She asserted that language is a possible barrier when learning about financial matters.

5.7.3 Financial literacy and province of origin

The Kruskal-Wallis test results presented in Table 4.48 show that students' province of origin was not statistically significantly related to financial independence, financial needs, or financial knowledge. This is in contrast to the findings of Louw (2009:158), who reported associations in terms of province of origin. Furthermore, respondents from the Free State province performed well in the questions focusing on banking and taxation. It is important to note that the majority of the students at the Welkom campus of CUT are from the Free State province. This may be the reason why there was no statistically significant association between province of origin and financial literacy.

5.7.4 Financial literacy and year of study

The Kruskal-Wallis test results presented in Table 4.49 show that year of study did not have a statistically significant influence on financial literacy in the focus areas of financial independence, financial needs, and financial knowledge. This implies that students in their third year of study did not possess higher levels of financial literacy



than students in their first year (both students who were registered for finance-related courses and students who were registered for non-finance-related courses). Students who were in their first year were observed to have the same financial literacy levels as students who had been at the university for some years. Botha (2013) reported different findings in her study, where students who were in their third year had low levels of financial literacy (both students who were enrolled for finance-related courses and those who were enrolled for non-finance-related courses). Botha (2013) further noted that this is a major concern, as these students with low levels of financial literacy were about to join the labour force. The greatest concern for this sample at the Welkom campus of CUT is that students do not seem to have gained financial needs and financial knowledge as they have progressed with their studies.

5.7.5 Financial literacy and method of payment for studies

The Kruskal-Wallis test results presented in Table 4.50 show that method of payment for studies did not have a statistically significant relationship with the three aspects of financial literacy that were measured, namely financial independence, financial needs, and financial knowledge. These findings are different from what Botha (2013:81) observed in her study, namely that levels of financial literacy in the sample were associated with source of funding. Botha (2013) observed high levels of financial literacy among students whose fees were paid directly by the parents or other family members. The reason posited for this finding was that these students recognised the implications of failing. Botha (2013:81) attributed the high levels of financial literacy of these students to regular participation in financial administration and management in their families by the students, even before they came to university. Botha (2013) further indicated that most of the students that were funded by the NSFAS hardly ever engaged in handling and administration of finances in



their homes, as they came from poor families. The majority of the respondents in the current study were funded by the NSFAS, and there was no statistically significant relationship between method of payment for studies and level of financial literacy.

5.7.6 Financial literacy and age

The Kruskal-Wallis test results presented in Table 4.51 show that age had a significant relationship with both financial independence and financial needs. This means that age of participant was related to level of financial independence. There was an inverse relationship between the two variables, which means that the older age groups had the lowest levels of financial independence. Similarly, financial needs were noted to have a significant relationship with age of participant. The relationship between age group and financial needs was not linear, but varied with different age groups. This means that being an older participant did not mean having more financial needs, and, similarly, being a younger participant did not mean fewer financial needs. Lerman and Bell (2006) asserted that the financial knowledge that individuals gain when they are young has an impact when they are older. Mihalčová, Csikósová and Antošovác (2014) noted the relationship between personal financial literacy and age. Similarly, Lusardi and Mitchell (2007) found that concern about finances, and financial understanding and knowledge, among individuals varied with age. Individuals learn and acquire more understanding of different aspects of finances at certain times in their lives, such as at the age of around 50 years, when individuals acquire more understanding about investment for retirement and personal insurance. The findings from this study show that certain aspects of financial literacy, namely financial independence and financial needs, did have a relationship with the age of the participants, while financial knowledge was not associated with age.



5.7.7 Financial literacy and race

The Kruskal-Wallis test results presented in Table 4.52 show that race did not have any relationship with financial literacy, in terms of the financial independence, financial needs, and financial knowledge of the sample. This is attributed to the fact that the sample consisted predominantly of black African participants (97.3), with Indian/Asian participants accounting for only 0.7% of the sample, and Coloured participants accounting for only 2.0% of the sample. A study by Mandell (2009) similarly found that race had no impact on the levels of financial literacy of students in his sample. Botha (2013:71) also did not find any relationship between race and financial literacy in her study. The majority of respondents were black African, and there was not sufficient diversity in terms of race, to establish a statistical relationship between race and financial literacy.

5.7.8 Financial literacy and parental highest academic qualification

The Kruskal-Wallis test results presented in Table 4.53 show that paternal highest academic qualification did not have any significant relationship with participants' levels of financial literacy, specifically in terms of the aspects of financial independence, financial needs, and financial knowledge. Similarly, maternal highest academic qualification did not have any significant relationship with participants' levels of financial literacy, as measured by financial independence, financial needs, and financial knowledge (see Table 4.54). The findings of this study are in line with those of Homan (2015:109), which showed that parental (that is, both paternal and maternal) qualifications had no impact on students' financial literacy. Similarly, in South Africa, Botha (2013:80) found that the education level of neither the father nor the mother had any significant relationship with students' levels of financial literacy.



The findings of this study contradict the findings of Mandell (2009) and Lusardi, Mitchell and Curto (2010), who found that level of parental education had a direct relationship with students' levels of financial literacy.

5.7.9 Financial literacy and field of study

The Mann-Whitney U test results presented in Table 4.46 show that field of study had a relationship with financial needs of the participants, where there was a statistically significant association between financial needs and field of study. There was a significant difference between respondents who were studying a finance-related course and those who were studying a non-finance-related course, based on the mean for financial needs. The students who were studying a non-finance-related course demonstrated more needs in terms of financial skills than those students who were studying a finance-related course. The findings in this study seem to be different from what Mandell (2009) noted. Mandell (2009) observed an improvement in achievement after students had taken a finance-related course. This was also observed by Botha (2013), as the level of financial literacy of students in her sample varied with the course that they were registered for, where those students who were studying a finance-related course performed better than those who were studying a non-finance-related course. Louw (2009) similarly noted that students who were registered for a finance-related course were more financially literate in certain aspects of financial literacy than those students who were registered for a non-finance-related course.

In table 5.2 the association between financial literacy and demographic variables are presented.



Table 5.2: Association between financial literacy and demographic variables

	Financial independence	Financial needs	Financial knowledge
Gender	X	X	X
Mother tongue	X	X	✓
Province of origin	X	X	X
Year of study	X	X	X
Method of payment for studies	X	X	X
Age	✓	✓	X
Race	X	X	X
Parental highest qualification	X	X	X
Field of study	X	✓	X

In conclusion, some aspects of financial literacy were observed to have a relationship with certain biographical aspects of the participants (namely mother tongue, field of study, and age), while other aspects of financial literacy had no relationship at all to certain biographical aspects of the participants (namely parental highest qualification, race, method of payment for studies, year of study, gender and province of origin).



5.8 FINANCIAL LITERACY LEVELS OF STUDENTS REGISTERED FOR A FINANCE-RELATED FIELD OF STUDY AND THOSE REGISTERED FOR A NON-FINANCE-RELATED FIELD OF STUDY

Some of the participants in this study were registered for a finance-related field of study, while others were registered for a non-finance-related field of study. Based on the findings of this study, the financial needs of the participants showed a significant relationship with field of study. This means that those participants who were registered for a finance-related course and those who were registered for a non-finance-related course differed significantly in personal financial needs.

This study thus shows that those participants who were registered for a non-finance-related study field had more financial needs than those who were registered for a finance-related study field. Shaari et al. (2013:293), in their study, found that there was a significant relationship between the financial literacy levels of participants and the courses that they were doing as majors, while Louw (2009:200), in his study, found that participants who were registered in the Faculty of Economic and Management Sciences (doing finance-related courses, in other words) performed the best in all aspects of financial literacy.

5.9 IMPLICATIONS OF THE STUDY

In this study, some aspects of financial literacy were noted to have a relationship with certain biographical aspects of the participants (namely mother tongue and age), while other aspects of financial literacy had no relationship at all to certain biographical aspects of the participants (namely parental highest qualification). Finally, those students who were registered for a finance-related course were not



utilising their content knowledge to improve their general personal financial knowledge. The students have a need for further training in all aspects of financial literacy.

The students at CUT need support and assistance to further develop their personal knowledge in the following aspects of financial literacy: general financial literacy, and legal aspects of personal financial matters. Finally, the strongest support of the students in CUT is required in the following aspects of financial literacy: banking and taxation, and financial planning, interest rates, and inflation. This is because the students performed unsatisfactorily in these aspects. Therefore, any training and support to be designed for these students should be guided by the needs mentioned above, so as to improve the financial literacy of students studying at CUT, Welkom Campus. The Coalition of Higher Education Assistance Organizations (2014:5) has noted the need for college and university students to be given training on financial matters, and has also presented various models that have been successful in achieving this.

5.10 LIMITATIONS OF THE STUDY

The conclusion and findings presented in this study are based on the results of the sample of participants who were registered for various courses at CUT, Welkom Campus for the 2015 academic year. Hence, the findings are not generalisable to all CUT students; on the contrary, they merely indicate the financial literacy of those students who agreed to take part in the study. The sample used in the study is also not representative of students in South Africa in general.

5.11 CONCLUSION

Based on the data presented in chapter 4, and the discussions presented in the preceding sections of this chapter, it is thus concluded that the students who took part in this study need training in many aspects of financial literacy. As it was stated that the main objective of this study was to investigate the financial literacy levels of students studying at CUT, Welkom Campus, and to make recommendations to help students improve their financial literacy, it has been noted that students in this study were lacking in certain aspects of financial literacy. The students demonstrated low levels of knowledge in banking and taxation, in financial planning, interest rates, and inflation, and in legal aspects of personal financial matters. They also did not perform that well in general financial literacy.

5.12 RECOMMENDATIONS

One of the secondary objectives of the study that was formulated was the development of guidelines that can be used to improve the financial literacy levels of students studying at CUT, Welkom Campus. These guidelines are based on the empirical findings from the data provided by the students who took part in the study. This section thus presents recommendations based on the conclusions. The following recommendations are made:

- Similar to Louw's (2009) findings, this study found that students lacked knowledge about banking and taxation. Hence, the universities, in collaboration with banking institutions and government agencies, such as the South African Revenue Service, should engage in activities that are intended to educate students on various issues of personal finance, which will improve students' financial literacy. Financial literacy could impact on most decisions

and behaviour (Agarwalla et al., 2013) that these students would engage in in their first months of working, when they first receive a salary. Content must include information about interest rates, investments, savings, debt management, and retirement.

- The students in the study who were registered for finance-related modules indicated many training needs. This requires reflection and a further look at the type of course these students are engaged in. Students who are being trained in financial matters are expected to also demonstrate better understanding and knowledge of personal finances.
- There is a need for a course which is specially designed to educate university students on various aspects of personal financial management. This course should not be too broad, in order to ensure that students obtain the necessary skills needed in financial literacy (Louw, 2009).
- There is a need for research which could include a larger sample size, in order to reduce the potential for bias, while also working towards increasing the accuracy of the results. This would also ensure that questionnaires are distributed fairly to all races and genders, as well as students who have registered for different courses.

REFERENCES

- Abu Daabes, A. & Kharbat F. (2013). Mining the relationship between demographic variables and brand associations. *International Journal of Managing Value and Supply Chains*, 4(3). Retrieved on 22 August 2014, from <http://arxiv.org/ftp/arxiv/papers/1310/1310.2079.pdf>.
- Ahsan, M. H. (2013). Financial literacy research on undergraduate students in Malaysia: Current literature and research opportunities. *International Journal of Education and Research*, 1(11): 1-12.
- Anderson, J. R., Reder, L. M. & Simon H. A. (1996). Situated learning and education. *Educational Researcher*, 25(4): 5-11.
- Anderson, J. (2006). Well-suited partners: Psychoanalytic research and grounded theory. *Journal of Child Psychotherapy*, 32: 329–348.
- Ash, K. (2009). Digital games evolve as tools for teaching financial literacy. *Education Week*, 29(12): 1-8.
- Atkinson, A. & Messy, F. (2012). “Measuring financial literacy: Results of the OECD/ International Network on Financial Education (INFE) pilot study”, *OECD Working Papers on Finance, Insurance and Private Pensions*, No. 15, OECD Publishing. Retrieved on 23 July 2014, from <http://dx.doi.org/10.1787/5k9csfs90fr4-en>.
- Australian and New Zeland Banking Group Limited (2011). *Adult Financial Literacy in Australia*. Retrieved on 28 January 2015, from <http://www.financialliteracy.gov.au/media/465153/2011-adult-financial-literacy-full.pdf.pdf>
- Australian Government. (2007). *Financial literacy: Australians understanding money*. Retrieved on 28 January 2014, from <https://www.moneysmart.gov.au/media/209293/australians-understanding-money.pdf>.

- Babbie, E. (2007). Conducting qualitative field research. In *The practice of social research* (11th Ed.). U.S.A.: Thomson Wadsworth.
- Bank of Uganda. (2011). *Annual Supervision Report, 2*. Retrieved on 26 October 2015, from [https://www.bou.or.ug/bou/bou-downloads/asr/2011/Dec/Annual Supervision Report 2011.pdf](https://www.bou.or.ug/bou/bou-downloads/asr/2011/Dec/Annual_Supervision_Report_2011.pdf).
- Barker, D., Quennerstedt, M. & Annerstedt, C. (2013). Inter-student interactions and student learning in health and physical education: a post-Vygotskian analysis. *Physical Education and Sport Pedagogy*, (ahead-of-print), 1-18.
- Basic Skills Agency. (2003). *Adults financial capability framework*. Retrieved on 26 October 2015, from <http://www.basicskills.co.uk/resources/resourcesearchresults/detail.php?ResourceID=2124886057>.
- Bernheim, D., Garrett, D. & Maki, D. (2001). Education and saving: The long-term effects of high school financial curriculum mandates. *Journal of Public Economics*, 80(3): 435-465.
- Botha, M. (2013). *A comparative analysis of the financial literacy of final year diploma students in different fields of study at the University of Johannesburg*. (MCom dissertation). Johannesburg: University of Johannesburg.
- Boweni, C. F. (2002) Financial Knowledge of Teens and Their Parents. *Association for Financial Counseling and Planning Education*. Retrieved on 26 October 2015, from <https://afcpe.org/assets/pdf/vol1328.pdf>.
- Buckland, J. (2010). Are low-income Canadians financially literate? Placing financial literacy in the context of personal and structural constraints. *Adult Education Quarterly*, 60(4), 357-376.
- Butters, R. B., Asarta, C. J. & McCoy, S. G. (2012). Financial literacy and gender in U.S. high schools. *Journal of Economics and Finance Education*, 11(2):142-149.

- BMZ. 2004. *Position paper: Basic education for all as an international development goal – A key challenge for German development policy*. Bonn, Germany, Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung [Federal Ministry for Economic Cooperation and Development].
- California State University (CSU), Fullerton. (2013). *The importance of financial literacy*. <http://bizblogs.fullerton.edu/entrepreneurship/2013/09/13/the-importance-of-financial-literacy/>
- Canadian International Development Agency. (2003). *Departmental Performance Report 2003*. http://publications.gc.ca/collections/collection_2012/sct-tbs/BT31-4-27-2003-eng.pdf
- Capuano, A. & Ramsay, I. (2011). *What causes suboptimal financial behaviour? An exploration of financial literacy, social influences and behavioural economics. Research report*. Retrieved on 14 November 2014, from http://www.law.unimelb.edu.au/files/dmfile/FINANCIAL_LITERACY_PROJECT_RESEARCH_REPORT_MARCH_20111.pdf.
- Carlin, B. I. & Robinson, D. T. (2012). What Does Financial Literacy Training Teach Us? *The Journal of Economic Education, Taylor & Francis Journals*, 43(3): 235-247.
- Central University of Technology (CUT). 2015. *Enrolment Report 2015*.
- Channell, K., McCormick, R. & Parrot, J. (2008). *Financial Literacy Education*. The University of Vermont: Vermont Legislative Research Shop. Retrieved on 26 October 2015, from <http://www.uvm.edu/~vlrs/Education/financialliteracy.pdf>.
- Chen, H. & Volpe, R. P. (1998). An analysis of personal financial literacy among college students. *Financial Services Review*, 7(2):107-128.
- Cohen, L., Manion, L. & Morrison, K. (2007). *Research methods in education* (6th Ed). London: Routledge.

- Cohen, M. & Nelson, C. (2011). *Financial Literacy: A Step for clients towards financial inclusion, Microfinance Opportunities, Washington*. Retrieved on 26 October 2014, from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.466.2029&rep=rep1&type=pdf>.
- Commission of the European Communities. (2007). *Communication from the Commission for Financial Education*. Retrieved on 14 November 2014, from <http://eurlex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:52007DC0808&from=EN>.
- Commonwealth of Australia. (2007). *Financial literacy: Australians understanding money*. Retrieved on 10 September 2014, from <https://www.moneysmart.gov.au/media/209293/australians-understanding-money.pdf>.
- Commonwealth of Australia. (2008). *Financial literacy: Women understanding money*. Retrieved on 10 September 2014, from <http://www.financialliteracy.gov.au/media/209296/women-understanding-money.pdf>.
- Commonwealth Bank Foundation. (Undated). *Financial Literacy in Action*, 1. Retrieved on 26 October 2015, from <https://www.commbank.com.au/about-us/download-printed-forms/financial-literacy-action-volume1.pdf>.
- Cooper, D. R. & Schindler, P. S. (2014). *Business research methods* (12th Ed.). New York, NY: McGraw-Hill.
- Creswell, J. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th Ed.). Upper Saddle River, New Jersey: Pearson Education.



- Cude, B. J., Lawrence, F. C., Lyons, A. C., Metzger, K., LeJeune, E., Marks, L. & Machtmes, K. (2006). *College students and financial literacy: What they know and what we need to learn. Eastern Family Economics and Resource Management Association Conference*. Retrieved on 28 January 2014, from http://www.cgsnet.org/ckfinder/userfiles/files/College_Students_and_Financial_Literacy.pdf.
- Danes, S. M. & Haberman, H. R. (2007). Teen financial knowledge, self-efficacy, and behavior: A gendered view. *Financial Counseling and Planning*, 18(2): 48-60.
- Delpont, C. S. L. & Roestenburg, W. J. H. (2011). Quantitative data collection methods: questionnaires, checklists, structured observation and structured interview schedules. In: De Vos, A. S., Strydom, H., Fouché, C. B. & Delpont, C. S. L. *Research at grass roots for the social sciences and human service professions* (4th Ed.). Pretoria: Van Schaik Publishers.
- Du, M., Qiu, F. & Xu, W. (2011). Construction of Enterprises' Financial Knowledge Management System (EFKMS). *Procedia Environmental Sciences*, 11, 1240–1244. Retrieved on 26 October 2015, from <http://www.sciencedirect.com/science/article/pii/S1878029611010097>.
- Duca, J. V. & Kumar, A. (2014). Financial literacy and mortgage equity withdrawals. *Journal of Urban Economics*, 80: 62-75.
- Durrheim, K. (2006). Research Design. In M. Terre Blanche, K. Durrheim, & D. Painter (Eds.), *Research in Practice: Applied methods for the social sciences*. Cape Town: University of Cape Town Press.
- Feeny, T. (2006). *Beyond budgeting to financial literacy: An evaluation of the Smith Family's MoneyMinded program*. Sydney: The Smith Family. Retrieved on 22 June 2014, from http://www.thesmithfamily.com.au/webdata/resources/files/MoneyMinded_Report_301006.pdf.

- Fernandes, D., Lynch, J. G. & Netemeyer, R. G. (2014). *Financial literacy, financial education and downstream financial behaviors*. Retrieved on 22 June 2014, from <http://ssrn.com/abstract=2333898>.
- Financial Services Authority (FSA). (2006). *Young people (18-24) and their financial information needs*. Retrieved on 20 November 2014, from <http://www.fsa.gov.uk/consumer-research/crpr44.pdf>.
- FinScope, (2004). *Survey Highlights*. Retrieved on 20 November 2014, from <http://www.finscope.co.za/documents/2004/SA2004Brochure.pdf>.
- Fouchè C. B., Delpont C. S. L. and de Vos A. S. (2011). Quantitative Research design. In A. S. de Vos, H. Strydom, C. B. Fouchè and C. S. L. Delpont (Eds.), *Research at grass roots*. Pretoria, Van Schaik Publisher, pp 142-157.
- Fox, J., Bartholomae, S. & Lee, J. (2005). Building the case of financial education. *The Journal of Consumer Affairs*: 39(1):195-214.
- Fram, S. (2014). *Using a conceptual or theoretical framework*. Retrieved on 22 August 2014, from <http://research-methods-etc.org/2014/02/03/using-a-conceptual-or-theoretical-framework/>.
- Fraenkel J. R. and Wallen N. E. (2010). *How to Design and Evaluate Research in Education*. (7th Ed.). New York, McGraw-Hill.
- Furnham, A. (1999). The saving and spending habits of young people. *Journal of Economic Psychology*, 20: 677-697.
- Gaurav, S. & Singh, A. (2012). An inquiry into the financial literacy and cognitive ability of farmers: Evidence from rural India. *Oxford Development Studies*, 40(3): 358-380.
- Gay L. R., Mills G. E. & Airasian P. W. (2011). *Educational Research: Competencies for analysis and applications*. (10th Ed.). New Jersey, Pearson Education.
- Hales, O. (2014). Financial Literacy Education in Libraries: Guidelines and Best Practices for Service. Retrieved on 31 March 2015, from http://www.ala.org/rusa/sites/ala.org/rusa/files/content/FLEGuidelines_Final_September_2014.pdf



- Hale, G. & Obstfeld, M. (2014). *The Euro and the Geography of International Debt Flows*. Retrieved on 26 October 2015, from <http://www.frbsf.org/economic-research/publications/working-papers/wp2014-10.pdf>.
- Hall, K. (2008). *The importance of financial literacy*. The Conference on Deepening Financial Capacity in the Pacific Region, Sydney.
- Hendricks, C. C. (2001). Teaching causal reasoning through cognitive apprenticeship: What are results from situated learning? *Journal of Educational Research*, 94(5): 302-311.
- Hung, A. A., Parker, A. M. & Yoong, J. K. (2009). *Defining and measuring financial literacy*. Rand Labour and Population Working Paper. Retrieved on 22 January 2014, from http://www.prgs.edu/content/dam/rand/pubs/working_papers/2009/RAND_WR708.pdf.
- Hunnur, R. R. & Bagali, M. M. (2014). A study on relationship between Occupation Stress Index dimensions and demographic variables of police sub inspectors and asst. sub inspectors in police department. *International Journal of Business and Administration Research Review*, 1(3): 161-175.
- Hurworth, R. (2005). *Interpretivism*. In S. Mathison (Ed.), *Encyclopedia of Evaluation*. Thousand Oaks, CA: Sage Publications, Inc. Retrieved on 26 October 2014, from <http://dx.doi.org/10.4135/9781412950558.n289>.
- Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs*, 44(2): 296-316.
- Jang, K., Hahn, J. & Park, H. J. (2014). Comparison of financial literacy between Korean and U.S. high school students. *International Review of Economics Education*. Retrieved on 22 June 2014, from <http://dx.doi.org/10.1016/j.iree.2014.07.003>
- Jappelli, T. (2010). Economic literacy: An international comparison. *The Economic Journal*, 120(548): 429-451.



- Johnson, P. & Duberley, J. (2000) *Understanding management Research: An Introduction to Epistemology*. London: Sage.
- Johnson, E. & Sherraden, M. S. (2007). From financial literacy to financial capability among youth. *Journal of Sociology and Social Welfare*, 34(3): 119-145. Retrieved on 22 June 2014, from <http://csd.wustl.edu/Publications/Documents/WP06-11.pdf>.
- Jonck, P. (2014). Validation of a Measuring Instrument to Ascertain the Effectiveness of Career Guidance Provided as Part of the Subject Life Orientation. *Academic Journal of Interdisciplinary Studies*, 3(6). Retrieved on 26 October 2014, from <http://www.mcser.org/journal/index.php/ajis/article/viewFile/4879/4724>.
- Jump\$tart Coalition. (2007). *The national Jump\$tart Coalition's high school survey*. Retrieved on 22 January 2014, from <http://www.jumpstart.org/states-ohio.html>.
- Jump\$tart Coalition. (2008). *The national Jump\$tart Coalition's high school survey*. Retrieved on 22 January 2014, from <http://www.jumpstart.org/states-ohio.html>.
- Kaur, S. P. (2013). Variables in research. *Indian Journal of Research and Reports in Medical Sciences*, 3(4):36-38. Retrieved on 22 August 2014, from [http://www.ijrrms.com/pdf/2013/julep2013/IJRRMS%20Vol.3%20\(4\)_10.pdf](http://www.ijrrms.com/pdf/2013/julep2013/IJRRMS%20Vol.3%20(4)_10.pdf).
- Keskin, N. O. & Metcalf, D. (2011). The current perspectives, theories and practices of mobile learning. *The Turkish Online Journal of Educational Technology*, 10(2): 202-208.
- Klapper, L. F., Lusardi, A. & Panos, G. A. (2012). *Financial literacy and the financial crisis*. National Bureau of Economic Research Working Paper 17930. Retrieved on 22 August 2014, from <http://www.umass.edu/preferen/You%20Must%20Read%20This/Financial%20Literacy%20JEP%202014.pdf>.

- Kumar, R. (2014) *Research Methodology: A step-by-step guide for beginners*. (4th Ed.). London: Sage.
- Lerman, R. I. & Bell, E. (2006). *Financial literacy strategies: Where do we go from here?* The Urban Institute. Retrieved on 22 August 2014, from www.urban.org.
- Leclerc, K. (2012). Influential factors contributing to college student spending habits and credit card debt. *Perspectives: University of New Hampshire*, 149-156. Retrieved on 22 January 2014, from http://cola.unh.edu/sites/cola.unh.edu/files/studentjournals/P12_Leclerc.pdf.
- Leedy, P. D. & Ormrod, J. E. (2014). *Practical Research: Planning and Design*. (11th Ed). Saddle River, New Jersey: Pearson Education.
- Looney, S. M. (2011). Cohort Default Rates in Context. Washington, DC: Institute for Higher Education Policy. Retrieved on 26 October 2015, from <http://files.eric.ed.gov/fulltext/ED527705.pdf>.
- Louw, J. J. (2009). *Financial literacy competencies of third-year university students – A case study*. (MCom dissertation). Potchefstroom: North-West University.
- Louw, J., Fouché, J. & Oberholzer, M. (2013). Financial Literacy Needs of South African Third-Year University Students. *International Business & Economics Research Journal*, 2(4): 439-450.
- Lusardi, A. (2011). *Survey of the states: Economic and personal finance education in our nation's schools*. Council for Economic Education. Retrieved on 20 November 2014, from <http://www.councilforeconed.org/wp/wp-content/uploads/2011/11/2011-Survey-of-the-States.pdf>.
- Lusardi, A. & Mitchell, O. (2011). Financial literacy around the world: an overview. *Journal of Pension Economics and Finance*, 10(4): 497-508.
- Lusardi, A. & Mitchell, O. S. (2007). Financial literacy and retirement preparedness: Evidence and implications for financial education. *Business Economics*, 42(1): 35-44.



- Lusardi, A. & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1):5-44.
- Lusardi, A., Mitchell, O. S. & Curto, V. (2010). Financial literacy among the young. *Journal of Consumer Affairs*, 44(2):358-380.
- Lusardi, A. & Tufano, P. (2009). *Debt literacy, financial experiences, and overindebtedness*. NBER Working Paper 14808. Retrieved on 22 January 2014, from <http://www.nber.org/papers/w14808>.
- Mahawk College (2015). *Financial Statements*. Retrieved on 31 March 2016, from <http://www.mohawkcollege.ca/Assets/Documents/Reports/Financial+Statements+2015.pdf>
- Mandell, L. (2009). *The financial literacy of young American adults. Results of the 2008 national Jump\$tart Coalition survey of high school seniors and college students*. Retrieved on 22 August 2014, from <http://www.jumpstart.org/assets/files/2008SurveyBook.pdf>.
- Maree, K. (2007). *First Step in Research*. Pretoria: Van Schaik.
- Maree, K. & Pietersen, J. (2007). The Quantitative Research Approach. In Maree, K., Ed. *First steps in research*, pp. 144-164. Pretoria: Van Schaik.
- Mathison, S. (2005). *Encyclopedia of Evaluation*. Thousand Oaks, CA: Sage.
- Mbajjorgu, C. A., Maake, M. S., Kayoka P. N. & Masafu M. M. (2012). Impact of parental Socio-economic conditions in the education of the children: a case of Science Learners at the Mandlethu FET School in Mpumalanga Province, South Africa. *Proceedings of the first Community Engagement Conference held at the University of South Africa*.
- McMillan, J. H. (2012). *Educational Research: fundamentals for the consumer*, (6th Ed.). Boston, Pearson Education Inc.
- McMillan, J. H. & Schumacher, S. (2010). *Research in education: Evidence-based inquiry*. (7th Ed). Upper Saddle River, NJ: Pearson Education.

- Mihalčová, B., Csikósová, A. & Antošovác, M. (2014). Financial literacy – the urgent need today. 2nd World Conference on Business, Economics and Management. *Procedia – Social and Behavioral Sciences*, 109: 317-321.
- Ministry of Education. (2010). *A sound investment: Financial literacy education in Ontario schools*. Working Group on Financial Literacy. Retrieved on 22 January 2014, from www.edu.gov.on.ca.
- Moore, D. 2003. Survey on financial literacy in Washington State: Knowledge, behaviour, attitudes and experiences. Retrieved on 26 July 2014, from <http://www.dfi.wa.gov/news/finlitsurvey.pdf>.
- National Student Financial Aid Scheme, (2013). Annual Report 2013. Retrieved on 26 October 2014, from <http://www.nsfas.org.za/staticfiles/NSFAS/Internet/static%20files/pdf/NSFAS%20AR%202013.pdf>.
- New Zealand Aid for International Development, (2002). *Policy statement: Towards a safe and just world free of poverty*. Wellington, New Zealand. Retrieved on 14 November 2014, from <http://www.nzaid.govt.nz/library/docs/nzaid-policy-statement.pdf>.
- Nkosi, N. (2013). *Student spending high and on the rise*. Retrieved on 15 January 2014, from <http://activateonline.co.za/student-spending-high-and-on-the-rise/>.
- Organisation for Economic Co-operation and Development (OECD). (2012). *PISA 2012 Financial Literacy Framework*. Retrieved on 14 November 2014, from <http://www.oecd.org/finance/financialeducation/PISA2012FrameworkLiteracy.pdf>.
- Organisation for Economic Co-operation and Development (OECD) (International Network on Financial Education, INFE), (2011). *Measuring Financial Literacy: Questionnaire and Guidance Notes for Conducting an Internationally Comparable Survey of Financial Literacy*. Retrieved on 14 November 2014, from <http://www.oecd.org/finance/financial-education/49319977.pdf>

- Organisation for Economic Co-operation and Development (OECD) (2012) *International Adult Literacy and Basic Skills Surveys in the OECD Region*. Retrieved on 26 October 2015, from <http://www.oecd.org/edu/skills-beyond-school/45052608.pdf>.
- Owojori, A. A., Akintoye, I. R. & Adidu, F. (2009). Political stewardship accounting for good governance in Ekiti state, Nigeria. *Journal of Accounting and Taxation*, 1(3): 41-52.
- Pallant, J. (2011). *SPSS survival manual: A step by step guide to data analysis using SPSS*. 4th ed. Sydney: Allen & Unwin. Retrieved on 14 November 2014, from http://www.academia.dk/BiologiskAntropologi/Epidemiologi/PDF/SPSS_Survival_Manual_Ver12.pdf.
- Pring, R. (2000). *Philosophy of educational research*. London: Continuum.
- Ramasawmy D., Thapermall S., Dowlut S. A. & Ramen M. (2013). A Study of the Level of Awareness of Financial Literacy among Management Undergraduates. *Proceedings of 3rd Asia-Pacific Business Research Conference*. Kuala Lumpur, Malaysia.
- Remund, D. L. (2010). Financial literacy explicated: The case for a clearer definition in an increasingly complex economy. *Journal of Consumer Affairs*, 44(2): 276-295.
- Roberts, B., Struwig, J., & Gordon, S (2014). Financial Literacy in South Africa: Results from the 2013 South African Social Attitudes Survey round. Report prepared by the Human Sciences Research Council on behalf of the Financial Services Board. Pretoria: Financial Services Board. Retrieved on 26 October 2014, from <http://benefitsbarometer.co.za/wp-content/uploads/2015/02/Financial-Literacy-Report.pdf>.
- Russell, R., Brooks, R. & Nair, A. (2006). *Evaluation of the Youth Financial Literacy Trial Program*. RMIT University. Retrieved on 10 September 2014, from https://www.anz.com/documents/oli/peterlalorseccoltrialeval_rmit.pdf.
- Salkind, N. J. (ed.). 2012. *Exploring research*. (8th Ed). New York: Pearson.



- Sallie Mae. (2009). *How undergraduate students use credit cards*. Retrieved on 1 May 2014, from <http://inpathways.net/SLMCreditCardUsageStudy41309FINAL2.pdf>.
- Schagen, S. & Lines, A. (1996). *Financial literacy in adult life*. Slough, UK: National Foundation for Educational Research.
- Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms. *English Language Teaching*, 5(9): 9-16.
- Shaari A., Hasan N. A., Mohamed R. K. M. H. & Sabri M. A. J. (2013). Financial Literacy: A Study among the University Students. *Interdisciplinary Journal of Contemporary Research in Business*, 5(2): 279-299.
- Sohn, S., Joo, S., Grable, J. E., Lee, S. & Kim, M. (2012). Adolescents' financial literacy: The role of financial socialization agents, financial experiences, and money attitudes in shaping financial literacy among South Korean youth. *Journal of Adolescence*, 35: 969-980.
- Subba Rao, I. V. (2003). *Learning tools and learning contents: Texts, contexts and assessment*. Paper presented to the Expert Meeting on Literacy Assessment, Paris, 10-12 June 2003. Retrieved on 14 November 2014, from <http://unesdoc.unesco.org/images/0014/001401/140125eo.pdf>.
- Swart, N. (2005). Why financial literacy is a complete failure. *Management Today*: 48-50.
- Symanowitz, C. D. (2006). *The relationship between financial literacy, economic measures and delayed gratification in South African high school learners*. (MBA research project). Pretoria: University of Pretoria.
- Taft, M. K., Hosein, Z. Z., Mehrizi, S. M. T. & Roshan, A. (2013). The Relation between Financial Literacy, Financial Wellbeing and Financial Concerns. *International Journal of Business and Management*, 8 (11). Retrieved on 26 October 2015, from www.ccsenet.org/ijbm.



- Terre Blanche, M., Durrheim, K. & Painter, D. (2006). *Research in Practice: Applied Methods for the Social Sciences*. Cape Town, University of Cape Town Press.
- UNESCO. (2006). *Education for All monitoring report: Understanding literacy*. Retrieved on 22 January 2014, from http://www.unesco.org/education/GMR2006/full/chapt6_eng.pdf.
- United Nations International Children's Fund, (2006). *Girls' Education: Literacy*. Retrieved on 26 October 2015, from http://www.unicef.org/girlseducation/index_focus_literacy.html.
- van Rooij, M., Lusardi, A. & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, 101(2): 449-472.
- Vitt, L. A., Anderson, C., Kent, J., Lyter, D. M., Siegenthaler, J. K. & Ward, J. (2000). *Personal finance and the rush to competence: Financial literacy education in the U.S.* Washington, DC: Fannie Mae Foundation.
- Wagland, S. P. & Taylor, S. (2009). When it comes to financial literacy, is gender really an issue? *Australasian Accounting Business and Finance Journal*, 3(1): 11-25.
- Walstad, W. B., Rebeck, K. & MacDonald, R. A. (2010). The effects of financial education on the financial knowledge of high school students. *Journal of Consumer Affairs*, 44(2):336-357. Retrieved on 22 January 2014, from <http://onlinelibrary.wiley.com/doi/10.1111/j.1745-6606.2010.01172.x/abstract>.
- Welman, C., Kruger, F. & Mitchell, B. (2009). *Research methodology*. Cape Town: Oxford University Press.
- Willis, L. E. (2009). Evidence and ideology in assessing the effectiveness of financial literacy education. *San Diego Law Review*, 46(2): 415-458.
- Yamauchi, Y. & Swanson, E. B. (2010). Local assimilation of an enterprise system: Situated learning by means of familiarity pockets. *Information and Organization*, 20: 187-206.



Annexure A

Students' financial literacy at CUT Welkom: a quantitative study

Dear Respondent

I am a M Tech research student enrolled at the Central University of Technology, Free State. I am involved in a study that investigates university students' financial literacy. You are a member of a carefully chosen sample and therefore I would like to invite you to participate in this study. Your informed consent to participate is an ethical requirement and it relates to your protection as a respondent.

The purpose of the study is to answer the following research questions:

1. What are the categories of financial literacy that students studying at CUT, Welkom campus perform particularly good or weak in?
2. What are the differences between the financial literacy levels of students studying towards a qualification in finance-related fields and non-finance related fields at CUT, Welkom campus?
3. Is there a relationship between demographic variables and financial literacy levels of students studying at CUT, Welkom campus?

The attached questionnaire will be administered during a contact session by your lecturer. Completing the questionnaire will take between 20 – 30 minutes of your time. If you agree to participate in this study, you will be expected to respond to the questionnaire as honestly as possible. Hand it back to your lecturer once you have completed it. There are no right or wrong answers to any of the questions, and I am only interested in your personal views.



Please take note that you will participate in this study on a voluntary basis. You have the right not to respond and to withdraw from the study at any stage. All information that you provide will be kept confidential and will only be used for research purposes. No individual identifiers will be used in any publications resulting from this study and only the researcher will work with the information that you shared.

Participating in the quantitative component of the study will provide students with feedback in terms of their level of financial literacy, which might serve you well in terms of personal growth and financial wellbeing through being aware of these results. All respondents are welcome to request feedback on the study. A financial framework is going to be developed after this study, and any participant can also request it for improvement of their financial literacy level. Please take note that you will receive no payment for responding to the questionnaire.

You are welcome to address any questions to the researcher before you decide to give informed consent to participate in this study. My contact number is 057 910 3529 or 071 8850 988. The findings of the research will be placed in the library under the doctoral and masters study section.

Your time and participation is appreciated and valued.

Kind regards,

Mr G Ramavhea

Date



Annexure B: CONSENT FORM
Students' financial literacy at CUT Welkom: a quantitative study

PARTICIPATION IN THIS RESEARCH IS VOLUNTARY.

You are free to decline to participate in this study, or to withdraw at any point even after you have signed the form, without any consequences.

Should you be willing to participate you are requested to sign this consent form:

I, _____ hereby voluntarily consent to participate in the above-mentioned study. I am not coerced in any way to participate and I understand that I can withdraw at any time should I feel uncomfortable during the study. I also understand that my name will not be disclosed to anybody who is not part of the study and that the information will be kept confidential and not linked to my name at any stage. I also understand what I might benefit from participation and what might be the possible risks. Also, I will contact the researcher if I _____ and should I need further discussions someone will be available.

SIGNATURE OF THE PARTICIPANT

DATE

Signature of the person obtaining consent



Annexure C: Research Questionnaire

Please tick in the appropriate box or supply the answer in the space provided.

Please use a tick to indicate your choice.

SECTION 1 - BIOGRAPHICAL INFORMATION

1.	My Gender is:	Male	1	Female	2
2.	My mother tongue is:	English	1	Afrikaans	2
		Sesotho	3	Xhosa	4
		Zulu	5	Other	6
3.	My home town is in the following province:	North West	1	Free State	2
		Gauteng	3	KwaZulu Natal	4
		Eastern Cape or Western Cape	5	Northern Cape	6
		Mpumalanga or Limpopo	7	Outside South Africa	8

4.	I am a student studying (fill the course):				
5.	Year of study (fill in the number)?	Year 1 <input type="checkbox"/>	Year 2 <input type="checkbox"/>	Year 3 <input type="checkbox"/>	Year 4 <input type="checkbox"/>
6.	How do you pay for your studies	NSFAS <input type="checkbox"/>	Bursary <input type="checkbox"/>	Self-paying <input type="checkbox"/>	other <input type="checkbox"/>



SECTION 2

You will now be asked questions regarding financial literacy. Please tick the appropriate box in the space provided.

	<i>Answer “definitely yes” or “yes” or “no” or “definitely no” to the following questions.</i>	YES	NO
7.	Do you have loans?	1	2
8.	Do you have any other debt?	1	2
9.	Do you know how you will be earning a living next year?	1	2
10.	Are you able to prepare your own will (testament) according to the minimum legal requirements?	1	2
11.	Do you have any investments?	1	2
12.	Do you budget for your day-to-day expenditure?	1	2
13.	Do you think that retirement is too far away to think about it right now?	1	2

	<i>Answer “definitely yes” or “yes” or “no” or “definitely no” to the following questions.</i>	Yes	No
14.	Do you keep track of your daily spending?	1	2
15.	Do you have a credit card?	1	2
16.	Do you have a store card?	1	2
17.	Do you have a part-time job?	1	2
18.	Do your parents still support you financially?	1	2



SECTION 3

	<i>Answer “strongly disagree” or “disagree” or “agree” or “strongly disagree” to the following questions.</i>	Strongly disagree	Disagree	Agree	Strongly agree
	At this point in my life, is it important for me to learn more about:				
19.	Choosing appropriate insurance	1	2	3	4
20.	The financial impact on my career planning	1	2	3	4
21.	How taxation works	1	2	3	4
22.	Estate planning	1	2	3	4
23.	How to deal with banks	1	2	3	4
24.	How to deal with other financial services providers				
25.	How to broaden my knowledge on personal finance	1	2	3	4
26.	How to save money	1	2	3	4
27.	How to invest money	1	2	3	4
28.	How to plan for your long-term financial security	1	2	3	4
29.	How to budget day-to-day expenditure	1	2	3	4
30.	How to responsibly use credit cards	1	2	3	4
31.	How to responsibly use store cards				



32.	Health planning	1	2	3	4
33.	Medical aid				
34.	Buying a house/housing	1	2	3	4
35.	The financial implications of emigration	1	2	3	4
36.	Ante-nuptial contracts and their financial Implications	1	2	3	4
37.	How to start my own business	1	2	3	4
38.	Choosing between different financial institutions	1	2	3	4
39.	Ways to reduce spending	1	2	3	4
40.	My rights as a consumer	1	2	3	4
41.	Managing my cash flow	1	2	3	4
42.	Planning for a financially independent retirement	1	2	3	4
43.	Which financial records to keep and how to keep them	1	2	3	4
44.	How to keep the financial records	1	2	3	4
45.	Managing debt	1	2	3	4
46.	The basics of the economy (inflation, interest etc)	1	2	3	4



SECTION 4

	<i>Answer the following questions to the best of your ability:</i>	YES	NO	I don't know
47.	Financial planning should be affected by inflation.	1	2	3
48.	Long-term financial goals should be changed as new information becomes available.	1	2	3
49.	Setting short-term goals helps me to control my living expenses.	1	2	3
50.	Fixed expenses remain fixed for many years.	1	2	3
51.	It is not necessary for budgeted and actual expenses to be equal.	1	2	3
52.	I must register at the department of Trade and Industry before I can start my own business	1	2	3
53.	The use of credit can be helpful during periods of high inflation.	1	2	3
54.	Return on most investments is guaranteed.	1	2	3
55.	Two investments namely A and B have the same level of risk associated to them. A has a higher level of return than B. Thus B is the preferred investment choice	1	2	3



	<i>Answer the following questions to the best of your ability:</i>	Yes	No	I don't know
56.	A budget is a monetary expression of my financial priorities.	1	2	3
57.	Tax records should be kept for five years.	1	2	3
58.	Invoices of assets purchased should be kept for warranty purposes.	1	2	3
59.	If I have a debit balance on my bank statement I have a positive balance on my account.	1	2	3
60.	A deposit slip is the document used to transfer money between accounts.	1	2	3
61.	If a person's net worth is R9000 and the person owes R8000, the person has total assets of R17000.	1	2	3
62.	Inflation has an impact on savings.	1	2	3
63.	The best way to save money is to save money in a savings account.	1	2	3
64.	Debt is always a bad idea.	1	2	3
65.	A medical aid company can turn me down if I applied to become a member of the medical aid fund.	1	2	3
66.	If I have car insurance and I have an accident my premium should stay the same.	1	2	3
67.	All job openings are advertised in newspapers.	1	2	3



68.	Every owner of a business must register for VAT.	1	2	3
69.	The "tax year" normally stretches from 1 January until the last day in December (the same year).	1	2	3
70.	A valid will (testament) does not have to meet legal requirements.	1	2	3
71.	Age plays a role in determining a person's car insurance.	1	2	3
72.	Compared to buying, renting a house provides more financial flexibility.	1	2	3
73.	Cash is a high-return earning asset category.	1	2	3
74.	The current inflation rate is between 10% and 11%.	1	2	3
75.	The current maximum (marginal) tax rate for individuals is 40%.	1	2	3
76.	The current prime lending rate is 15%.	1	2	3



	<i>Answer the following questions to the best of your ability:</i>	Yes	No	I don't know
77.	If I feel that I have been mistreated during a loan application I can take the matter to the National Credit Regulator	1	2	3
78.	All banks charge the same service fees on cheque accounts.	1	2	3
79.	I need to have an ante-nuptial contract if I am married out of community of property.	1	2	3
80.	If I emigrate there is a limit to the amount of money I can take out of the country.	1	2	3
81.	At the moment, a bond payment is generally more expensive than renting the same property.	1	2	3
82.	A general rule of thumb is that I will need 10 times my annual salary in savings at retirement, to be able to retire financially independent.	1	2	3
83.	If I have a complaint about my banking institution I can take the matter to the Banking Ombudsman.	1	2	3
84.	Retirement annuity fund contributions are tax deductible.	1	2	3
85.	If I am married in community of property both spouses must sign the documents if I purchase a fixed property.	1	2	3
86.	A statement of financial position shows my assets, liabilities and net worth at a given date.	1	2	3



87.	Consumer credit cards are generally regarded as the least expensive form of credit.	1	2	3
88.	Credit cards are generally regarded as the least expensive form of credit.			
89.	Certain healthcare/medical aid plans only pay for hospital expenses.	1	2	3

The following are some more personal questions. Although this section is optional, your input will be highly valued and this will contribute to the quality of the study.

90 What is your age category?

18 – 20	1
21 – 23	2
24 – 25	3
Older than 25	4

91 What is your race?

Asian	1
Black	2
Coloured	3
White	4
Other (please specify).....	5



92 What is the highest level of schooling your father completed?

Did not complete high school	1
Completed high school	2
Diploma graduate	3
Degree graduate or higher	4
I do not know	5

93 What is the highest level of schooling your mother completed?

Did not complete high school	1
Completed high school	2
Diploma graduate	3
Degree graduate or higher	4
I do not know	5

If you would like to receive the results of the study, kindly provide me with your email address.

Thank you for your time.

*******END OF QUESTIONNAIRE*******