

FINANCIAL LITERACY COMPETENCIES OF THIRD-YEAR UNIVERSITY STUDENTS – A CASE STUDY

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PREFACE

I would sincerely like to thank the following people:

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ABSTRACT

FINANCIAL LITERACY COMPETENCIES OF THIRD-YEAR UNIVERSITY STUDENTS – A CASE STUDY

There seems to be a definite need for financial literacy education and training, especially under young people. The lack of financial literacy seems to be from a lack of sufficient financial education. A lack in personal financial skills seems to be an international problem. The primary aim of this research is to evaluate the financial literacy competencies of university students, and to make recommendations on improving their competencies, if necessary.

Financial literacy was defined as: "a financially literate individual should have a positive attitude towards his/her finances and learning, the understanding to take control of his/her own finances; the ability to discern good from bad financial decisions, and the skills to make it practical."

The advantages of being financially literate seem to be overwhelming. Financial education or training seems to have a positive effect on individuals. The timing of financial literacy education, what and how to provide financial literacy education about, seems to play a vital role. It seems to have a positive impact if this training is provided early in life. There seems to be certain topics that form a vital part when compiling a personal finance curriculum, such as financial planning, budgeting, credit, investments and retirement.

A questionnaire was completed by third-year students from the North-West University's Potchefstroom Campus. Respondents in this study indicated that they viewed learning more about personal finance as important. Also, the respondents in this study do not appear to be financially competent in all areas. They lacked knowledge in the fields of banking, taxation, financial planning, interest rates, inflation and legal matters in terms of financial matters. Students from the Faculty of Economic and Management Sciences performed best and students from the Faculty of Health Sciences performed worst. Students who did a short course in personal finance had an advantage and students who were only exposed to this at school level performed worst. The challenge to educate scholars and students to be responsible, economic participants is great and a call is made to role players to attend to this as soon as possible.

OPSOMMING

FINANSIËLE GELETTERDHEIDSBEVOEGDHEID VAN DERDE-JAARSTUDENTE – 'N GEVALLESTUDIE

Daar blyk 'n definitiewe behoefte te wees aan finansiële onderrig en opleiding, veral onder jonger mense. Die tekort aan finansiële geletterdheid blyk te wees weens 'n tekort aan voldoende finansiële onderrig. 'n Tekort aan persoonlike finansiële vaardighede blyk ook 'n internasionale probleem te wees. Die hoofdoel van hierdie navorsing is om die finansiële geletterdheidsbevoegdhede van universiteitstudente te evalueer, en om voorstelle te maak ten einde hul bevoegdhede te verbeter, indien nodig.

Finansiële geletterdheid word soos volg gedefinieer: “'n finansiële-geletterde individu behoort 'n positiewe ingesteldheid jeens sy/haar finansies en leer te hê, die begrip om beheer te neem van sy/haar eie finansies, die vermoë om tussen goeie en swak finansiële besluite te onderskei, en die vaardighede om dit prakties te maak”.

Die voordele daarvan om finansiële geletterd te wees blyk oorweldigend te wees. Finansiële onderrig of opleiding blyk 'n positiewe effek op individue te hê. Die tydsberekening van finansiële geletterdheidsonderrig, wat en hoe om finansiële geletterdheidsonderrig aan te bied, blyk 'n kernrol te speel. Dit wil voorkom of die effek positief is indien die opleiding vroeg in 'n persoon se lewe plaasvind. Dit wil ook voorkom of daar sekere onderwerpe is wat 'n belangrike rol speel by die opstel van 'n persoonlike finansies-kurrikulum, soos finansiële beplanning, begroting, krediet, beleggings en aftrede.

'n Vraelys is voltooi deur derde-jaarstudente van die Potchefstroomkampus van die Noordwes-Universiteit. Respondente in hierdie studie het aangedui dat hulle dit belangrik ag om meer oor persoonlike finansies te leer. Die respondente in hierdie studie het ook nie finansiële-kompetent in alle areas geblyk te wees nie. Hulle het gebrekkige kennis in die velde van bankwese, belasting, finansiële beplanning, rentekoerse, inflasie en wetlike sake ten opsigte van finansiële aangeleenthede. Studente van die Fakulteit Ekonomiese en Bestuurswetenskappe het die beste gevaar en studente van die Fakulteit Gesondheidswetenskappe het die swakste gevaar. Studente wat 'n kortkursus in persoonlike finansies geloop het, het 'n voordeel bo die ander studente gehad, en studente wat slegs op skoolvlak

blootstelling gekry het, het die swakste gevaar. Die uitdaging om skoliere en studente op te lei om verantwoordelike, ekonomiese deelnemers te wees, is groot, en 'n beroep word gedoen aan rolspelers om so spoedig moontlik aandag aan hierdie saak te skenk.

Keywords

Financial literacy, financial education, financial competencies, financial training, financial management, secondary school, students, higher education, university

Sleutelwoorde

Finansiële geletterdheid, finansiële onderrig, finansiële bevoegdhede, finansiële opleiding, finansiële bestuur, hoërskool, studente, hoër onderrig, universiteit

CONTENT

CHAPTER 1 - BACKGROUND, OBJECTIVES, SCOPE AND METHODOLOGY.....	1
1.1 Background	1
1.1.1 Introduction.....	1
1.1.2 Motivation	3
1.2 Problem statement	9
1.3 Research objectives	9
1.3.1 General objective.....	9
1.3.2 Specific objectives	9
1.4 Hypothesis.....	10
1.5 Field of investigation.....	10
1.6 Research methodology.....	11
1.6.1 Phase 1: Literature review	11
1.6.2 Phase 2: Empirical study	11
1.7 Chapter overview.....	12
CHAPTER 2 - A BROAD SCOPE OF FINANCIAL LITERACY	14
2.1 Introduction.....	14
2.2 Conceptualising financial literacy.....	15
2.2.1 Difficulty in conceptualising financial literacy.....	15
2.2.2 Definitions.....	16
2.2.3 Elements and levels of financial literacy and financial capability	18
2.2.4 Conclusion.....	21
2.3 Advantages of being financially literate or financially capable	27
2.3.1 Prominent advantages.....	28
2.4 The possible effects of being financially illiterate.....	31
2.5 International comparison of financial literacy competencies and financial capabilities	39
2.5.1 Keeping record	40
2.5.2 Credit.....	42
2.5.3 Planning ahead and financial planning.....	43
2.5.4 Retirement planning.....	47
2.5.5 Financial products.....	48
2.5.6 Investments and savings	50
2.5.7 Application and financial calculations.....	53
2.5.8 Conclusion on the financial competencies in different countries.....	57

2.6 Summary	59
CHAPTER 3 - REMEDIES AND MODELS	61
3.1 Introduction.....	61
3.1.1 A need for financial literacy education.....	61
3.1.2 Financial literacy education.....	63
3.2 Remedies for financial illiteracy and financial incapability and the effects thereof.....	64
3.2.1 Financial literacy education at schools.....	65
3.2.2 Financial literacy training by employers	67
3.2.3 Other financial literacy training.....	70
3.2.4 Summary	71
3.3 Matters to consider in personal financial education.....	72
3.3.1 Factors that can be considered when defining such a programme.....	72
3.3.2 Individuals' needs	75
3.3.3 The timing of financial literacy education	77
3.3.4 How and what to provide financial information about	78
3.3.5 Summary	82
3.4 An overview of topics used in personal finance	82
3.4.1 Books	83
3.4.2 Local university courses.....	87
3.4.3 Research	89
3.4.4 Summary of topics	90
3.4.5 Summary of topics to consider in a personal financial literacy curriculum	95
3.5 Summary	96
CHAPTER 4 – RESEARCH METHODOLOGY	99
4.1 Introduction.....	99
4.2 Previous methodologies used.....	100
4.2.1 A model by the Federal Services Authority	100
4.2.2 Model by the ANZ Banking Group	103
4.2.3 Summary	106
4.3 Method of research for this study.....	107
4.3.1 Purpose of the study.....	108
4.3.2 Data collection techniques	109
4.3.3 Designing the questionnaire	110
4.3.3.1 Purpose of the questionnaire	111
4.3.3.2 Types of questions.....	112
4.3.3.3 Content of the questions	114

4.3.4 Defining the population	115
4.3.4.1 Pilot study	115
4.3.4.2 Defining the sample	116
4.3.5 Conducting the empirical study	117
4.3.6 Ethical considerations	118
4.4 Summary	118
CHAPTER 5 - RESULTS FROM THE MEASURING OF FINANCIAL LITERACY OF THIRD-YEAR STUDENTS	120
5.1 Introduction	120
5.2 Survey results	120
5.2.1 Survey validity	121
5.2.2 Analysis of results	122
5.2.2.1 Frequencies	122
5.2.2.2 Cluster groups	149
5.2.2.3 T-test	153
5.2.2.4 ANOVA (two-way test)	155
5.3 Summary	167
CHAPTER 6 - CONCLUSIONS AND RECOMMENDATIONS	175
6.1 Introduction	175
6.2 Motivation for the study	176
6.2.1 Uncertain financial future	176
6.2.2 Lack of knowledge on personal finance	176
6.2.3 Over-confidence mindset about personal finance	176
6.2.4 Lack of improving financial literacy level	177
6.2.5 The educational system does not support financial literacy education ..	177
6.2.6 South African context	177
6.2.7 Problem statement	178
6.3 Objectives	178
6.4 Conclusion	179
6.4.1 Conclusions regarding the need for financial literacy	179
6.4.2 Defining financial literacy	180
6.4.3 The advantages of being financially literate	181
6.4.3.1 Broad guideline of being financial literate	181
6.4.3.2 Prominent advantages of being financial literate	182
6.4.4 The implications of being financially illiterate	183
6.4.5 International comparison of financial literacy competencies and financial capabilities	184

6.4.5.1 Keeping record/ track.....	185
6.4.5.2 Credit.....	185
6.4.5.3 Planning ahead and financial planning.....	185
6.4.5.4 Retirement planning.....	186
6.4.5.5 Financial products.....	186
6.4.5.6 Investments and savings.....	186
6.4.5.7 Financial literature.....	186
6.4.6 Financial education.....	187
6.4.6.1 Remedies for financial illiteracy and financial incapacities and the effects thereof.....	187
6.4.6.2 Matters to consider in personal financial education.....	188
6.4.7 The content of a personal finance curriculum.....	188
6.4.8 Suggesting a means to measure the level of financial literacy of university students.....	189
6.4.8.1 Validity.....	191
6.4.10 Comparison between the different faculties in terms of financial literacy competencies.....	203
6.4.11 Conclusion on the first part of the primary objective.....	204
6.5 Testing the hypothesis.....	206
6.6 Recommendations.....	209
6.7 Further research possibilities and improvements.....	211
6.8 Final concluding remarks.....	211
Annexures	213
Annexure – 1 – Questionnaire	213
Bibliography	217

TABLES, DIAGRAMS AND CHARTS

Diagram 2.1: Information and advice environment:.....	21
Diagram 5.1 : Rescaled distance cluster	150
Table 3.1: Comparison of books reviewed	91
Table 3.2: Comparison between local universities	92
Table 3.3: Comparison between researchers	93
Table 3.4: Comparison between topics found in books, courses and research.....	93
Table 5.1: Gender of respondents.....	122
Table 5.2: Mother tongue of respondents.....	123
Table 5.3: Province of origin of respondents (hometown)	123
Table 5.4: Faculty of respondents.....	123
Table 5.5: Respondents' previous financial literacy education	124
Table 5.6: Section 2 – Number of respondents	125
Table 5.7: Section 2 – Percentage of respondents	125
Chart 5.1: Choosing appropriate insurance	127
Chart 5.2: The financial impact on my career planning	128
Chart 5.3: How taxation works	128
Chart 5.4: Estate planning	129
Chart 5.5: How to deal with banks or other financial service providers.....	129
Chart 5.6: How to broaden my knowledge on personal finance	130
Chart 5.7: How to save money.....	130
Chart 5.8: How to invest money	131
Chart 5.9: How to plan for your long-term financial future.....	131
Chart 5.10: How to budget day-to-day finances	132
Chart 5.11: How to effectively use credit cards and store cards	132
Chart 5.12: Health planning and medical aid.....	133
Chart 5.13: Buying a house/housing.....	133
Chart 5.14: The financial implications of emigration	134
Chart 5.15: Ante-nuptial contracts and their financial implications	134
Chart 5.16: How to start you own business.....	135
Chart 5.17: Different financial institutions.....	135
Chart 5.18: Ways to reduce spending	136
Chart 5.19: Your rights as a consumer	136
Chart 5.20: Managing my cash flow	137
Chart 5.21: Planning for a financially independent retirement.....	137

Chart 5.22: Which financial records to keep and how to keep them	138
Chart 5.23: Managing debt.....	138
Chart 5.24: The basic of the economy	139
Chart 5.25: General financial literacy.....	141
Chart 5.26: Banking and taxation.....	143
Chart 5.27: Financial planning interest rates and inflation	145
Chart 5.28: Legal aspects in terms of financial matters	147
Table 5.8: Cluster groups	151
Table 5.9: Cronbach alpha – Cluster 1.....	152
Table 5.10: Cronbach alpha – Cluster 2.....	152
Table 5.11: Cronbach alpha – Cluster 3.....	152
Table 5.12: Cronbach alpha – Cluster 4.....	153
Table 5.13: Average of cluster groups.....	153
Table 5.14: T-test question 1	154
Table 5.15: T-test question 7	154
Table 5.16: T-test question 9	155
Table 5.17: P-values question 3	156
Table 5.18: Two-way test question 3.....	156
Table 5.19: Effect sizes question 3	157
Table 5.20: P-values question 5	159
Table 5.21: 2 way test question 5.....	159
Table 5.22: Cluster 1 effect sizes (question 5)	160
Table 5.23: Cluster 2 effect sizes (question 5)	160
Table 5.24: Cluster 3 effect sizes (question 5)	161
Table 5.25: P-values question 4	163
Table 5.26: Two-way test question 4.....	163
Table 5.27: Cluster 1 effect sizes (question 4)	164
Table 5.28: Cluster 2 effect sizes (question 4)	165
Table 5.29: Cluster 3 effect sizes (question 4)	165

CHAPTER 1 - BACKGROUND, OBJECTIVES, SCOPE AND METHODOLOGY

1.1 Background

1.1.1 Introduction

A number of research studies have been done on financial literacy, yet there is no clear definition that can be awarded to financial literacy (Kempson *et al*, 2006:46). Financial literacy in many cases depends upon a person's circumstances, background and past financial experiences and therefore it is difficult to define financial literacy in the broad sense.

Keeping the above statements in mind, the following can be noted from literature to support these statements. The Organization for Economic Co-operation and Development (2005:26) states that individuals have different associations with the term personal financial education and that it has a different meaning for different individuals. Kempson, Collard and Moore (2006:46) also suggested that to define a basic level of financial capability in a given society is achievable, but they go on to say that a level beyond the basic level is determined by every person's individual circumstances. Kempson *et al*. (2006:46) also say that financial capability is a relative and not an absolute concept.

Although there is no clear-cut definition for financial literacy, the fact remains that every individual must make financial decisions through his/her life. As noted by Campbell (2006:1553), it is often difficult for consumers to exhibit carefully reasoned and informed economic decisions, as for many households the discrepancies between observed and ideal behaviour have relatively minor consequences and can easily be rationalised by small frictions that are ignored in standard finance theory. Campbell (2006:1553) also states that for a minority of households, particularly poorer and less educated households, there are larger discrepancies with potentially serious consequences.

In the next paragraphs the importance of being financially literate is highlighted. A problem associated with a lack of financial literacy is that an individual may not be

able to save money or *plan ahead* for the future. Most individual's live for the here and now and few have even begun to plan for their future. The problem is that people tend to get into debt as they do not know how financial matters work or have no or little financial background on which they can rely. A study done by Hogarth (2006:6) confirms this statement, since the study shows that financial knowledge and financial experiences are positively associated with more positive financial behaviours such as cash flow management, savings and investments. A study done by the ANZ Banking Group (2003:7), in Australia and New Zealand, found in their survey that 37 percent of respondents had not calculated how much money they needed to save to enable them to retire.

Getting into *debt* is one thing, but getting out of debt can be rather difficult. People fall into debt due to a lack of financial literacy and struggle to get out of debt with little or no money available for retirement or saving. For some individuals this cycle can go on through their entire lives. According to Personal Finance Education Group (2007:1), when asked why someone might have an overdraft, more than one in four (26%) teenagers claimed it was so they would not have to worry about overspending every month and a further 23% stated that it would allow them to spend more than they earn every month. Training done by The Smith Family's MoneyMinded Program, according to Feeny (2006:15), in New Zealand and Australia, had a pre-training questionnaire as part of their training. In this questionnaire, respondents were asked about their feeling towards debt. Close to six percent of respondents agree that they feel out of control and did not see how they could ever repay their debt. Approximately 24 percent of respondents from the same survey said that they were worried by their debt, but are sure that they will get back on track.

Apart from falling into debt and planning ahead, there are numerous other problems that can be associated with being financially illiterate. According to the Federal Services Authority (2004a:25-29), being financially illiterate can have a number of *influences* on individuals' behaviours, such as:

- Influences on saving;
- Influences on spending;
- Influences on money management;
- Influences on getting money;
- Influences on debt and credit cards;
- Influences on online banking;

- Influences on investment and pension; and
- Influences on shopping around.

Although these are merely influences, they can all turn into risks and problems very quickly if not dealt with. According to the ANZ Banking Group (2003:3), financial literacy influences three broad domains. These domains are:

- Financial understanding;
- Financial competence; and
- Financial responsibility.

One of the statutory objectives of the Federal Services Authority (2004a:6), in the United Kingdom, is to promote the public understanding of the financial system. The understanding of financial matters is of particular importance to the 15-19 year old age group now and in the future. This group is faced with many life changing events, for example leaving school, starting a first job, going to university, resulting in the need for an array of financial products, services and money management skills. Young people *own a range of financial products*. Over four fifths (81%) of 16-19 year olds have a current account, but only 39% have a savings account. There are lower levels of uptake of other financial products: 18% of 18-19 year olds hold a credit card; 12% hold at least one store card; 17% have motor insurance. As would be expected, there are very low levels of uptake of investment products among this group; for example only 2% have stocks and shares compared with 21% of all adults.

From the above, it can be seen that financial literacy is an important matter in each individual's life. Some of the crucial matters regarding personal finances include financial planning, debt management and the wide spread of influences on the individuals' lives. It is also evident that people are confronted with financial decisions at an early age. This raises the question as to whether the young people of today are equipped for the financial decisions they face.

1.1.2 Motivation

A study quizzed 1,000 participants on important financial information (such as saving and investing, risk and protection, and retirement) that will affect their futures; most were unable to get 60 percent of the questions correct. Another area where respondents in this study fell short is their understanding of the benefits of whole-life

insurance. The majority of respondents were unaware that a whole-life policy can pay dividends, and only 25 percent of respondents knew that the cash value these policies earn is tax-free. Perhaps less surprising is Americans' confusion about investments. Not even a quarter of respondents understood the concept of indexed mutual funds, and most erroneously picked bonds over stocks as the best long-term protection against inflation and market downturns. In general, those surveyed who currently work with an advisor had higher scores than those who do not (Leyes, 2006:36).

According to Miles (2004:21), UK borrowers display a weak understanding of mortgages and interest rates. The UK Financial Services Authority also concluded that younger people, those in low social classes, and those with low incomes were the least sophisticated financial consumers. Christelis, Jappelli and Padula (2005:26) documented that respondents in several European nations scored low on financial numeracy and literacy scales. Meanwhile, on the other side of the Pacific, a Japanese consumer finance showed that 71 percent of adult respondents knew little about equity and bond investments, and more than 50 percent lacked any knowledge critical for effective saving plans (as quoted by Lusardi & Mitchel, 2007:39) .

According to another survey, conducted for the National Council on Economic Education by Harris Interactive (National Council on Economic Education, 2005:10-12), nearly all US adults believe that it is "important to have a good understanding of economics." But despite this lofty goal, the evidence shows that actual financial knowledge was sorely deficient for both high school students and working-age adults. The survey consisted of a 24-item questionnaire on topics grouped into categories including "Economics and the Consumer," "Money, Interest Rates and Inflation," and "Personal Finance." When results were tallied using standard grading criteria, adults had an average score of C, while the high school population fared worse, with most earning an F (average score of 53 percent). Particularly troublesome were the sections dealing with money, interest rates, inflation, government and trade, and personal finance. Once again it is seen that the average capabilities of today's youth are dangerously low with regard to financial literacy. What is even more troublesome is the score of adults in this survey, seeing that most young people turn to their parents for help and guidance regarding financial matters.

According to the 2004 FinMark Trust's (2005:3) FinScope survey of financial service providers, in South Africa, with regard to consumer financial literacy, the following was found:

- "Annual price increases" could only be described by 34 percent of respondents.
- 45 percent of respondents who had a bank account said that they were confused about financial matters.
- While 61 percent of respondents who do not have a bank account also stated that they were confused about financial matters.

It thus shows that the average financial literacy levels in South Africa are low and that most people living in South Africa may be financially illiterate. Mandell (2005:1) states that most studies about financial literacy come to the same conclusion that financial literacy levels are low and that these levels are not improving. Although financial literacy levels are low, not much is being done to improve these financial levels. Cohen and Sebstad (2003:3) state that once an individual has acquired financial literacy skills, it cannot be taken away from him/her. Cohen and Sebstad (2003:3) also state that even a one-time financial education programme can have long-term results, even permanent in some cases. Thus, one solution for the low levels of financial literacy lies with educational programmes that affect individuals' lives.

As touched on before, research results are particularly troublesome regarding young people. In 1998, a study was done by Chen and Volpe (1998:122) among 924 college students. This study was done to examine students' knowledge of personal finance. The results from this survey show that college students need to improve their knowledge pertaining to personal finance. The mean scores for areas of general knowledge, savings and borrowing, insurance, and investment in the survey were not above 65 percent, which shows that college students' knowledge of personal finance is inadequate. The weakest area for most of the college students was the area of investment. Chen and Volpe (1998:122) concluded that college students do not have adequate knowledge about personal finance, and that these students are likely to make mistakes in the real world. Chen and Volpe (1998:122) also stated that it is important to improve students' knowledge about personal finance, since there is a systematic lack of personal finance education in America's public schools.

The disturbing results of the level of knowledge of teenagers in high school are further supported by a survey by the JumpStart Coalition for Personal Financial

Literacy that noted that financial literacy scores for high school seniors grew only 0.1 percent in two years' time (from 1997 to 1998). That year's average score (1998) was 52.4 percent, down from 57.3 percent in 1997-1998. In addition, the easy availability of credit has filtered down to this age group. A survey by Junior Achievement found that one out of 10 teenagers carries a credit card (Mazur, 2006:64).

When reviewing the South African school curriculum, the following was noticed. Firstly, a review of the Department of Education subject statement concerning the subject economic and management science was done. This subject is compulsory for learners from grade R to grade 9. A summary of the purpose of the subject can be summarised as follow.

The subject, according to the Department of Education (2002:4), will enable a learner to do the following:

- To be economically literate;
- To be able to understand and apply economic and management principles and concepts in a responsible and accountable way;
- To be able to understand and reflect critically on the wealth creation process;
- To be able to understand and promote the importance of savings and investments for economic development;
- To be able to develop the entrepreneurial skills needed to play a vital role in transforming the country's socio-economic environment, and reducing the gap between rich and poor; and
- To be able to understand the impact of economic activities on human, natural and financial resources and socio-economic systems.

As seen from the literature, the subject economic and management sciences focuses more on the economic side and not so much on the personal finance side. Although it promotes investments and savings, it is in terms of economic development and not on a personal basis. It would thus seem from literature that there is not sufficient education from grade R to grade 9 in South Africa regarding personal financial literacy.

Secondly, a review will be made of the Department of Education subject statement concerning the subjects: Economics, Accountancy, Mathematical literacy and Business studies. The reason for only reviewing these subjects is that, from grade 10

to grade 12, a learner selects his/her own subjects and these subjects are the only subjects that seem to correlate with personal financial literacy. A brief review of each of the scopes of the different subjects (grades 10 - 12) will be provided:

The scope of the subject Accountancy, according to the Department of Education (2003a:10), can be summarised into three broad features:

- Financial accountancy;
- Managerial accountancy; and
- Tools in managing resources.

The scope of the subject Business studies, according to the Department of Education (2003b:10), can be summarised as follow. The Department of Education (2003b:10) identifies the following key features to capture the core of the subject and the scope of the subject:

- Business environment;
- Business ventures;
- Business roles; and
- Business operations.

The scope of the subject Economics, according to the Department of Education (2003c:10), has the following four key features that summarise the scope of the subject:

- Macro-economics;
- Micro-economics;
- Economic pursuit; and
- Significant contemporary economic issues.

The scope of the subject Mathematical literacy, according to Department of Education (2003d:10-11), can be summarised into the following points:

- The use of numbers to solve social, personal and financial problems;
- The use of mathematically-acquired skills to perform financially-related calculation with regard to personal, provincial and national budgets;
- The modelling of relevant situations using suitable functions and graphical representation to solve related problems;
- The use of geometrical skills to describe, represent and analyse the shape and space in two and three dimensions;

- Critically engaging with the handling of data; and
- The competent use of computational tools.

From the review of literature, there seems to be no formal subject for high school individuals from grade 10 to grade 12 regarding personal financial literacy. The only subject that incorporates some personal financial literacy elements is Mathematical literacy (which not all students take).

From the above it seems that most students coming from a *secondary school* in South Africa have little knowledge about financial matters, even the students who had financial subjects as part of their curriculum. According to a survey by the Federal Services Authority (2002:4), in the United Kingdom, it was found “that 80% of primary schools and 54% of secondary schools had no policy on personal finance education”.

The above facts are also alarming for *universities*, since the scholar of yesterday is the student of today. What adds to this problem is that many students rely on banks for loans to support their studies and accumulate a large amount of debt in their years as a student. Many students do not recognise this as a problem as they rely on their future job, once graduated, to pay off the debt. Many students may view the money as “free” money, not realising it has to be paid back in the near future. The impact from a failing school system, not equipping students with the necessary financial education or background, can be seen right through their lives as they lack the vision and the knowledge of managing their money, handling debt and planning ahead.

According to Swart (2005:48), lecturer of personal finance at UNISA and the author of 22 books on personal finance planning, financial education and financial training also fail in South Africa. Swart (2005:49) goes on to say that South African tertiary institutions are sending their students into the world with a shocking lack of preparedness for the financial challenges that await them. His solution is very simple: compulsory personal financial literacy and management components in all degree syllabi. If this all rings true, then there is much work to be done by universities in South Africa as well as the current secondary school system.

This raises a number of important questions, such as the following: What foundation needs to be laid in terms of financial literacy? What knowledge do university students

possess about financial literacy? Is the knowledge university students have about financial literacy sufficient for their future? What can be done to equip university students in becoming financially literate? Do universities play a sufficient role in any of these?

As mentioned above in the above section, the problems of a lack of financial literacy are not limited to a certain country or region, but can be seen as a wide-spread problem. The academics of South Africa would be ignorant not to pay any attention to this problem. After all, universities have always acknowledged their responsibility in terms of community service and development.

1.2 Problem statement

Flowing from the above motivation it is clear that there is a lack of financial literacy among young people that has the potential to result in numerous financial problems associated with being financial illiterate. The lack of financial literacy seems to be from a lack of sufficient financial education.

1.3 Research objectives

The research objectives are divided into general and specific objectives.

1.3.1 General objective

The primary aim of this research is to evaluate the financial literacy competencies of university students, and to make recommendations on improving their competencies, if necessary.

1.3.2 Specific objectives

In order to reach the general objective, the following specific objectives are set:

1. Determine the need for financial literacy (Addressed in Chapter 1).
2. Define financial literacy (Addressed in Chapter 2).
3. Note the advantages of being financially literate (Addressed in Chapter 2).
4. Note the implication of being financially illiterate (Addressed in Chapter 2).

5. Look at what other countries are doing in terms of equipping young people to be financially literate (Addressed in Chapter 3).
6. Determine whether financial education made a difference in the past (Addressed in Chapter 3).
7. Establish what the content of a personal finance curriculum should be (Addressed in Chapter 3).
8. Suggest a means to measure the level of financial literacy of university students (Addressed in Chapter 4).
9. Study the financial literacy levels of university students to evaluate the financial competencies of university students (Addressed in Chapter 5).
10. To make a comparison between the different faculties in terms of financial literacy competencies (Addressed in Chapter 5).
11. Make recommendations on how universities can contribute to help students become financially literate or improve students' financial literacy competencies (Addressed in Chapter 6).

1.4 Hypothesis

The hypotheses can be stated as follows

H_0 Third-year university students do not have the necessary financial literacy competencies.

H_1 Third-year university students have the necessary financial literacy competencies.

1.5 Field of investigation

This research will focus on the current financial literacy competencies of third-year university students. The reason for using only third-year students is that they are final-year students who have gone through the university educational system and, most of them will be pursuing a career in the near future. Their level of financial literacy will thus reflect the contribution of the South African educational system.

The study will focus on full-time third-year students from all faculties enrolled at the North-West University (Potchefstroom Campus). The most of the current students enrolled at the North-West University are situated at the Potchefstroom Campus, and

thus the results from this selection should be representative of all third-year students of the North-West University. From the study at different faculties, one would also be able to conclude whether any differences exist between the capabilities of the students pursuing different careers.

1.6 Research methodology

The research pertaining to the specific objectives consists of two phases, namely a literature review and an empirical study.

1.6.1 Phase 1: Literature review

The method proposed is firstly to review the literature with regard to the need for being financially literate and what is seen to be financial literacy as well as the advantages of being financially literate and the disadvantages of being illiterate. (This specifically addresses objectives 1 to 4). Included in this review will be a review of what was found on financial literacy and what is being done in terms of financial literacy education in other countries and whether this has made a difference. (This specifically addresses objectives 5 to 6). Lastly, to suggest the content of a financial literacy curriculum and a means to measure the financial literacy level of university students. (This specifically addresses objective 7)

1.6.2 Phase 2: Empirical study

Thereafter, an empirical study will be performed on the selected students at the North-West University. The empirical study will review previous methodologies used in other international studies that measured financial literacy competencies (Chapter 4). In the empirical study, an appropriate method of research will be chosen by reviewing different methods of research (Chapter 4). Also in this review, different data collection techniques will be reviewed (Chapter 4). There will also be a review of the different ways of designing a questionnaire. In this review of designing a questionnaire, the following topics will be reviewed: types of questions to be used in the questionnaire, content of the questions to be used in the questionnaire, defining the population and defining the sample (Chapter 4). A pilot study will be done to

ensure the validity of the study and ethical considerations will be taken into consideration before conducting the study (Chapter 4).

The empirical study will be in the form of a questionnaire that will allow a quantitative analysis of data. The questionnaire will include a list of questions testing the students' financial literacy skills. Their responses will be recorded on a rating scale that will be subjected to statistical analysis. Their responses will also be documented and the different faculties will be compared to one another. It is believed that such a methodology will provide an answer to the research questions as well as furnish statistical evidence to support or reject the stated hypotheses. (This will specifically address objectives 8, 9 and 10).

1.7 Chapter overview

The chapters in this dissertation are presented as follows:

Chapter 1 – The need for financial literacy

This chapter explains the background and motivation for the research. It states the problem of the research with the general and specific objectives of the research.

Chapter 2 – A broad scope of financial literacy

Chapter 2 contains a literature review on what is seen to be a definition for financial literacy. Also reviewed in this chapter are the implication of being financially illiterate and the advantages of being financially literate. It includes a literature review of the different competency levels of different countries.

Chapter 3 – Remedies and models

Chapter 3 is a literature review on the possible remedies that exist for financial literacy education. Matters to consider in financial literacy education were also considered. There is an overview of literature on the subjects used in personal finance education.

Chapter 4 – Measuring the financial literacy competencies of third-year university students

This chapter sets out a detailed explanation of the research methodology used in the study. This chapter includes issues such as the nature of the selected students, the

structure of the questionnaire and the statistical analysis to be applied. Included in this chapter is a suggestion regarding a measure for the level of financial literacy of students.

Chapter 5 – Results from the measuring of financial literacy of third-year students

Chapter 5 contains the empirical review of the financial literacy competencies of university students. In this chapter, the results that were found in the empirical review will be discussed. Also to be discussed in this chapter are an explanation and interpretation of the results that were found in empirical review.

Chapter 6 – Conclusion and recommendation

This chapter is used to conclude the research. Recommendations on how to improve the financial literacy competencies of university students will be made. Also discussed in this chapter are the differences between the different faculties in terms of financial literacy competencies of students.

CHAPTER 2 - A BROAD SCOPE OF FINANCIAL LITERACY

2.1 Introduction

In Chapter 1, the background for the need for financial literacy was established. The problems associated with the need for financial literacy were highlighted and specific objectives for the study were identified.

In recent times, financial literacy has gained the attention of a wide range of interested parties, such as major banking companies, government agencies, grass-root consumers and community interest groups. These interested groups, including policy-makers, are concerned that a lack of financial concepts may be affecting their economic well-being, since consumers do not have the tools they need to make appropriate decisions. This can leave a consumer vulnerable to severe financial crises (Braunstein & Welch, 2002:445).

According Kempson *et al.* (2006:43), financial capability is a relatively new concept and there should be a strong established consensus about what it should entail. Although this is a new concept, it is becoming more important for households to acquire and manage economic know-how (Lusardi & Mitchell, 2007:35). As this is the case, there is a need for more financially capable people. In practice there is, however, widespread financial illiteracy, as many households are unfamiliar with the most basic economic concepts (Lusardi & Mitchell, 2007:35). Not being familiar with basic economic concepts can have a number of implications (Lusardi & Mitchell, 2007:35).

In a survey conducted by Lusardi (2006:13), it was found that one of the gender groups of respondents answered less than 50 percent of answers correctly pertaining to inflation and interest compounding, and even a smaller fraction answered questions correctly about risk diversification. Lusardi (2006:14) states that people are becoming more in charge of making decisions about their financial well-being after retirement, and it is essential to equip them with an important tool, namely financial literacy.

In this chapter it will be attempted to conceptualise financial literacy and financial capabilities. A literature study will be done on the advantages of being financially literate and the implications of being financially illiterate or incapable.

The literature study in this chapter will also examine the success of financial literacy education. Findings in other countries in terms of financial literacy will be compared. The descriptions provided in this chapter will specifically address objectives 2, 3 and 4 (paragraph 1.3.2 page 9).

2.2 Conceptualising financial literacy

2.2.1 Difficulty in conceptualising financial literacy

Defining financial literacy can be rather difficult, since there are a number of definitions associated with the term financial literacy and financial capability. To determine what financial literacy is, existing definitions should be examined. Some of these definitions will be discussed in later paragraphs.

The Organization for Economic Co-operation and Development (2005:3) states that people have different associations with regard to the term personal financial education and that it means different things to different people. Some people view it as *a broad sense, encompassing an understanding of economics and how household decisions are affected by economic conditions and circumstances*. Other people view financial education in a narrower sense, focusing more on *basic money management such as budgeting, saving, investing, and insuring*. While others include *a set of consumer and buymanship skills* within a financial education framework. According to Hogarth (2006:3), financial education should include most, if not all, of these components and topics.

Kempson *et al.* (2006:46) point out that financial capability is a relative and not an absolute concept. According to Kempson *et al.* (2006:46), to define a basic level of financial capability in a given society is achievable, but they go on to say that a level beyond the basic level is determined by every person's individual circumstances.

2.2.2 Definitions

While it is rather difficult to define financial literacy as seen from the previous paragraphs, it is worthwhile to review definitions that have been attempted. The definition that will be reviewed from literature will be divided into different sections in order to see where these definitions overlap and where they differ from each other.

The first theme of these definitions that will be reviewed from literature will be where individual's assess their financial position and make or act accordingly to that information:

- *"Financial capability varies from individual to individual. It is dependent both on the living circumstances and also the personal needs, values and attitudes of the consumer – on what is actually important in his/her life. Financial capability also includes an understanding of one's own financial situation and adapting one's behaviour to that situation. Low-income families, for example, have to accept that they cannot afford certain expensive durables"* (Leskinen & Raijas, 2006:20).
- Financial literacy can be defined, according to Notcor *et al.* (quoted by Kempson *et al.*, 2006:44), as the following: *"the ability to make informed judgments and take effective decisions regarding the use and management of money."*
- Mason and Wilson (2000:31) provided the following definition of financial literacy: *"Financial literacy could therefore be defined as an individual's ability to obtain, understand and evaluate the relevant information necessary to make decisions with an awareness of the likely financial consequences."*

The second theme of these definitions reviewed from literature is individuals who have certain abilities and see the bigger picture in terms of financial literacy:

- According to Kempson *et al.* (2006:44), financial literacy can also be defined as people who are financially capable. They present the following definition in their paper: *"Financially capable people are able to make informed financial decisions. They are numerate and can budget and manage money effectively. They understand how to manage credit and debt. They are able to assess needs for insurance and protection. They can assess the different risks and returns involved in different saving and investment options. They have an*

understanding of the wider ethical, social, political and environmental dimensions of finances.”

- Vitt, Reichbach and Siegenthaler (2005:7) define what personal financial literacy is as follows: *“Personal financial literacy is the ability to read, analyze, manage and communicate about the personal financial conditions that affect material well-being. It includes the ability to discern financial choices, discuss money and financial issues without (or despite) discomfort, plan for the future, and respond competently to life events that affect everyday financial decisions, including events in the general economy.”*
- The Organization for Economic Cooperation and Development (2005:3) states that a financial educated person should be able to exhibit *“behaviours such as paying bills on time, having manageable levels of credit, setting financial goals and having a way of achieving those goals through saving and investing, spending wisely, and so on. The specific implementation of these behaviours may vary by income, family circumstance, and asset level, however. For example, we want all households to set financial goals; for some the goal may be having \$200 in an emergency fund, while for others the goal may be having \$20,000 for a down payment on a house. These individual behaviours can and should have effects beyond the realm of an individual household.”*
- Vitt, Reichbach and Siegenthaler (2005:29) define an individual financial literate as follows: *“A financially literate individual understands his or her relationship to money (e.g., the need for financial security, tolerance for risk) and can read about, discuss and communicate regarding personal financial issues. They possess knowledge of banking and credit, practice money management, understand the need for protection against unforeseen emergencies, plan for major life events, and save and invest for the future. A financially literate individual is a lifelong learner who applies that learning to new financial situations. He knows how and where to find information to make effective personal financial choices. The distinguishing characteristic of such a person is self efficacy – the sense that “I can do this!” and “I want to do this!” – in pursuit of what he or she believes are attainable goals.”*

2.2.3 Elements and levels of financial literacy and financial capability

From the previous paragraphs it can be seen that there are numerous definitions about financial literacy. While there are definitions about financial literacy, it would seem that financial literacy and financial capabilities in general have certain elements and levels. These elements will be highlighted from literature.

The Adult Financial Capability Framework was developed by the Basic Skills Agency (2006:44) and the Financial Services Authority. This model identifies three broad elements of financial capabilities and, in doing so, begins to specify what it is that financial capability enables individuals to do (Basic Skills Agency, 2003:44). The three broad elements are the following:

- *Financial knowledge and understanding* – According to the Basic Skills Agency (2004:4) “this is the ability to make sense of and manipulate money in its different forms, uses and functions. Financial knowledge and understanding allow people to acquire the skills they need to deal with everyday financial matters and make the right choices for their needs.”
- *Financial skills and competence* – According to the Basic Skills Agency (2003:4) “this is the ability to apply knowledge and understanding across a range of contexts including both predictable and unexpected situations. Financial skills and competence make available to people the necessary skills to allow them to plan, monitor, manage and resolve any financial problems or opportunities.”
- *Financial responsibility* – According to the Basic Skills Agency (2003:4) “this is the ability to appreciate the wider impact of a financial decision on personal circumstances, the family and the broader community, and to consider the social and ethical issues. Financial responsibility enables people to understand and appreciate their rights and responsibilities. They understand the need and have the right skills and attitudes to plan, analyse, decide, evaluate and monitor financial decisions and choices. They understand the various sources of advice and guidance available.”

According to Hogarth (2006:3), there are consistent themes running through various definitions of financial education. These themes include:

- “being knowledgeable, educated, and informed on the issues of managing money and assets, banking, investments, credit, insurance, and taxes;

- understanding the basic concepts underlying the management of money and assets e.g., the time value of money in investments and the pooling of risks in insurance); and
- using that knowledge and understanding to plan, implement, and evaluate financial decisions”.

The framework designed by the Basic Skills Agency (2003:4) goes on to specify three levels of capability in terms of financial capability:

- *Basic understanding and developing confidence* – According to the Basic Skills Agency (2003:4), this level is “aimed at those adults who have a low level of understanding and who require the skills to make informed judgments concerning their finances and the ability to use appropriate financial services.”
- *Developing competence and confidence* – According to the Basic Skills Agency (2003:4), this level is “aimed at those adults who have a basic understanding and competence in handling financial services and require more knowledge and skills to meet their needs.”
- *Extending competence and confidence* – According to the Basic Skills Agency (2003:4), this level is “aimed at adults who require the skills and knowledge to understand the wider range of services and the ability to make informed decisions regarding their own personal circumstances.”

The Federal Services Authority (2006:17-18), in their research on levels of financial capabilities when measuring the levels of financial literacy, divided it into different domains that they felt would effectively measure a person's financial capabilities, including:

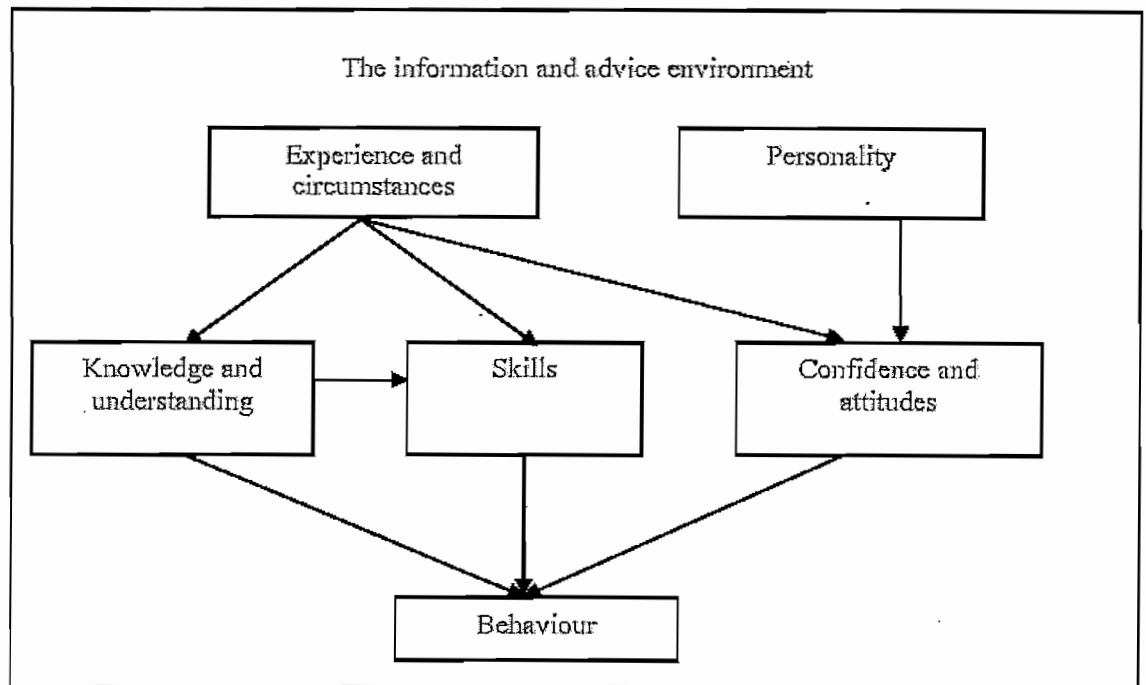
- *Managing money* – The focus group respondents identified managing money as a vital part, and indeed a key part of financial capability. They felt that people who were financially capable would certainly be making ends meet and manage their money on a day-to-day basis. For most of these respondents, money management involved being in control of one's financial resources, monitoring income and keeping some kind of record of expenditure. Aspects that are viewed by them as important are aspects like keeping track of personal finances, predictable future expenses, people's attitudes toward credit and their spending habits (FSA, 2006:17).
- *Planning ahead* – The second domain that was identified was the domain of planning ahead. They viewed people who were financially capable to be able

to expect and deal with sizeable financial commitments that they know are coming, and make adequate provision for their future. People who would plan ahead in order to minimise the impact of reduction in income or a large outgoing, were also viewed as people who planned ahead. Retirement was felt to be seen as long-term planning; also to be considered was that of significant financial changes for which people may be making plans, or are at least seeing the need for making such plans. People who are successfully planning ahead are the ones most likely to be considering unexpected events and planning for them. Attitude towards planning was also considered to be part of this domain of financial capability (FSA, 2006:17).

- *Choosing products* – In this domain, a financially capable person should make appropriate product choices and thus it is an important aspect of financial capability. Focus groups in the study agreed that people need a good awareness of the types of financial products that are available. They (the respondents of the study) said that they were less certain that a financially capable person should keep up to date with changes relating to terms and conditions of specific types of products. They viewed it as more important that a financially capable person should know when to seek advice when necessary than spending time looking up new information. These kinds of persons will know when to say no to sales persons and when to switch providers, and will know the key features of the products that they are buying (FSA, 2006:18).
- *Getting help, information and advice* – The final domain of financial capabilities comprises people's knowledge of financial matters. It considers how often people keep abreast of key financial matters, and their use and awareness of mechanisms for dealing with problems or complaints should they arise. The persons interviewed in this study said that they viewed a financially capable person as a person who is able to complain about poor service, and would know how to complain effectively (FSA, 2006:18).

Kempson *et al.* (2006:48) found in their study that there are inter-relationships between factors associated with financial literacy. The inter-relationships of these factors were formulated into the following table:

Diagram 2.1: Information and advice environment:



Source: Kempson *et al.* (2006:48)

Diagram 2.1 shows that experience and circumstances influence knowledge and understanding, skills, and confidence and attitudes; which in turn influence behaviours. From Table 2.1 it can also be noted that there is a relationship between personality, confidence and attitudes. It would also seem from Table 2.1 that knowledge and understanding have an influence on skills.

From Diagram 2.1 it seems that at least three elements are found in financial literacy, namely.

- knowledge and understanding;
- skills; and
- behaviour.

2.2.4 Conclusion

It would seem from the literature that there are numerous definitions, levels and domains when it comes to financial literacy. What financial literacy is may even differ between individuals. The themes as noted in the last paragraph can be used as a basic framework when formulating a definition for financial literacy.

From the previous findings it seems that financial literacy can be defined as:

1) Behaviours

- A definition about financial literacy should include the concept of behaviours such as paying bills on time, having manageable levels of credit, setting financial goals and having a way of achieving those goals through saving and investing, and spending wisely.

2) Understanding

- When looking at the definition of financial literacy, understanding should be one of the key notions to be included in the definition. Understanding includes an understanding of one's own financial situation and adapting one's behaviour to that situation;
- To be financially literate, one should have an understanding of the wider ethical, social, political and environmental dimensions of finances; and
- Understanding his or her relationship to money (e.g., the need for financial security, tolerance for risk) and reading about, discussing and communicating with regard to personal financial issues.

3) Ability/knowledge

- The definition of financial literacy should also include the notion that in order to be financially literate as an individual, that individual should have certain knowledge or abilities.
- A person who is financially literate should possess knowledge of banking and credit, should practice money management, should understand the need for protection against unforeseen emergencies, should plan for major life events, and should save and invest for the future; and.
- The ability to make informed judgments and make effective decisions regarding the use and management of money.

4) Skills

- Skills form a vital part of the definition of financial literacy and should be included when forming a definition of financial literacy.

- A individual should have the following skills in order to be financially literate: an individual should be able to budget and manage money effectively; and
- Be a lifelong learner who knows how and where to find information to make effective personal financial choices.

From the literature it would seem that a definition can be conceptualised to summarise most of the important elements of financial literacy. The elements for a definition of financial literacy can thus be as follows:

- Behaviour
An individual's behaviour towards his or her own finances would seem to be the starting point for financial literacy, as well as an individual's attitude towards equipping him/herself on an ongoing basis.
- Understanding
To only have knowledge about financial literacy would seem to be insufficient; an individual should rather be able to show an understanding of financial literacy, which should enable him or her to take control of his or her own finances.
- Ability
An individual should be able to combine the knowledge and understanding of financial literacy to ensure that he or she is able to manage his or her own finances and to discern between good and bad financial decisions.
- Skills
Skills can be viewed as one of the most important elements, since this ultimately shows whether an individual is able to take the above-mentioned elements and turn them into a practice, thus making an individual financially literate.

Therefore, a definition, simply put, is : *"a financially literate individual should have a positive attitude towards his or her finances and learning; the understanding to take control of his or her own finances, the ability to discern good from bad financial decisions, and the skills to make it practical."*

From the literature reviewed, it would seem that personal financial literacy management takes place on three different levels:

The first level of personal financial literacy management, as identified from literature, would be:

1) Knowledge

Financial literacy knowledge can be summarised as follows:

- From literature, financial knowledge and understanding is one of the three key elements and can be described as follows: "This is the ability to make sense of and manipulate money in its different forms, uses and functions.
- Financial knowledge and understanding, when observing the literature, can also be described as: "being knowledgeable, educated, and informed on the issues of managing money and assets, banking, investments, credit, insurance, and taxes.
- Financial knowledge can also be described as the following, as seen from literature: An understanding of the basic concepts underlying the management of money and assets (e.g. the time value of money in investments and the pooling of risks in insurance).

2) Competence

- To be financially literate, an individual should have the following competencies, the first being the ability to apply knowledge and understanding across a range of contexts, including both predictable and unexpected situations.
- Financial literacy competencies can also be describe as using that knowledge and understanding to plan, implement, and evaluate financial decisions.

From the literature, the following competencies were also identified and a list of these competencies includes the following:

- *Developing competence and confidence* – According to the Basic Skills Agency (2003:4), this level is "aimed at those adults who have a basic understanding and competence in handling financial services and require more knowledge and skills to meet their needs.";
- *Managing money* – The focus group respondents identified managing money as a vital part, and indeed key part of financial capability. They felt that people who were financially capable would certainly be making ends meet and manage their money on a day-to-day basis. For most of these respondents money management involved being in control of one's financial resources,

monitoring income and keeping some kind of record of expenditure. Aspects that are viewed by them as important are aspects like keeping track of personal finances, predictable future expenses, people's attitudes towards credit and their spending habits (FSA, 2006:17);

- *Planning ahead* – The second domain that was identified was the domain of planning ahead. They viewed people who were financially capable to be able to expect and deal with sizeable financial commitments that they know are coming, and make adequate provision for their future. People who would plan ahead in order to minimise the impact of reduction in income or a large outgoing, were also viewed as people who planned ahead. Retirement was felt to be long-term planning; also to be considered was that of significant financial changes for which people may be making plans, or are at least seen the need for making such plans. People who are successfully planning ahead are the ones most likely to be considering unexpected events and planning for them. Attitude toward planning was also considered to be part of this domain of financial capability (FSA, 2006:17); and
- *Choosing products* – In this domain, it is viewed that a financially capable person should make appropriate product choices and thus it is an important aspect of financial capability. Focus groups in the study agreed that people need a good awareness of the types of financial products that are available. They (the respondents of the study) said that they were less certain that a financially capable person should keep up to date with changes relating to the terms and conditions of specific types of products. They viewed it as more important that a financially capable person should know when to seek advice when necessary, then spending time looking up new information. These kinds of persons will know when to say no to sales persons and when to switch providers, and will know the key features of the products that they are buying (FSA, 2006:18).

The last level of personal financial literacy management, as identified from literature, is responsibility:

3) Responsibility

Financial responsibility, as seen from literature, can be summarised as follows:

- *Financial responsibility* – To appreciate the wider impact of financial decisions on personal circumstances, the family and the broader community, and to consider the social and ethical issues;
- *Extending competence and confidence* – According to the Basic Skills Agency (2004:4), this level is “aimed at adults who require the skills and knowledge to understand the wider range of services and the ability to make informed decisions regarding their own personal circumstances.”; and
- *Getting help, information and advice* – The final domain of financial capabilities comprises people’s knowledge of financial matters. It considers how often people keep abreast of key financial matters, and their use and awareness of mechanisms for dealing with problems or complaints should they arise. The persons interviewed in this study, said that they viewed a financially capable person as a person who is able to complain about poor service, and would know how to complain effectively (FSA, 2006:18).

To summarise, it can be seen that there are certain levels associated with financial literacy. These levels include:

- Knowledge
Knowledge in terms of financial literacy can be described as being and staying informed about financial matters, as well as being well educated enough to enable an individual to make sense of his own finances.
- Competence
Two words capture the essence of competences in terms of financial literacy. These two words are *managing* and *planning*. Effectively managing your finances that you know about, and planning towards a financial future. Out of managing and planning, the skills associated with financial literacy will flow automatically.
- Responsibility
This is the very essence of financial literacy, since a person who takes responsibility for his or her finances would ensure that he or she comes to a place where they are adequate in terms of financial literacy and would never stop engaging in financial literacy.

2.3 Advantages of being financially literate or financially capable

There are numerous advantages associated with being financially literate or financially capable. In this section of the chapter there will be a review of literature on this matter.

According to Swart (2005:49), personal financial knowledge and skills are without a doubt the most significant life skill. Moreover, according to him, it offers numerous career opportunities, either as an employer or employee. Swart (2005:49) lists a number of advantages associated with learners gaining financial expertise; these expertises are the following:

- These learners have a financial advantage over others;
- Their self-confidence grows as they have received outcomes-based education and training;
- They have the ability to take personal responsibility for their financial future;
- They have gained the best life skills as they know how to handle their personal finances;
- They understand household finances and the limitations thereof (as well as the need to contribute to their own retirement);
- They participate in compiling the household budget;
- They are financially informed people;
- They have a better chance of financial success in business;
- There are fewer sequestrations;
- They have the ability to plan their debt, and the ability to do personal financial planning;
- They live purposefully with their own objectives;
- They should be financially independent at retirement; and
- They possess entrepreneurial skills.

A survey carried out on Australians noted that as the level of financial literacy increased, so did the readiness for retirement, and the ability and confidence to make sound financial discussions on behalf of their employers (Taylor, 2006:15). Taylor (2006:15) also states that being financially literate, apart from being profitable for employers, it is also profitable for the entire community's overall well being, now and in the future.

According to a study done by Beder (1999:70) about adult literacy education, adult financial education had a number of positive effects on the participants of the study. It is believed that these same advantages would also apply if a person were to receive financial literacy education. The advantages that arose from the study were:

- Gains in employment;
- Job employment;
- Earning gain;
- Continued education;
- Reduction in welfare dependence;
- Gains in personal skills;
- Positive self image; and
- Achieving personal goals.

Thus, being financially literate has a number of personal advantages associated with being financially literate.

2.3.1 Prominent advantages

Being financially literate, as seen from the previous paragraphs, can have a number of advantages for an individual and even society. It would seem that planning ahead, financial independence at retirement, investing, saving and other sound financial behaviour were the most prominent advantages when it comes to being financially literate.

Planning ahead

According to Lusardi (2006:11), financial planning and financial literacy are strongly and highly correlated. In Lusardi's study, she found that people who planned gave more correct answers to questions about basic financial literacy than people who were not planners. Lusardi (2006:12) also found that people who understood risk diversification were better planners; thus, people who have an understanding about financial matters are more likely to be planners and plan ahead.

According to Mandell (2005:2), people who are savings orientated are less likely to experience financial failure in their lives, as opposed to an individual who is not planning ahead and saving for the future. Thus, the advantages of planning ahead can help an individual avoid serious financial failure. This confirms what the previous

paragraph says that financially literate individuals are planners and therefore have the advantage of avoiding financial difficulties or failure.

Lusardi and Mitchell (2006:14) state that people who are not financially literate may not appreciate the role or may have a hard time solving problems with compound interest, inflation and risk. This proves what was found in the previous two paragraphs, since financial literacy and planning are correlated, being financially literate can improve an individual's lifestyle when it comes to planning ahead. If an individual understands compound interest, inflation and risk, which are all components of financial literacy, it would seem that if an individual is financially literate, he or she would have a definitive advantage when it comes to planning ahead.

As part of planning ahead, financial independence at retirement plays a vital role for most individuals. The following paragraph will be associated with the advantage of planning ahead, since retirement is an occurrence that happens in the future.

Financial independence at retirement

According to Lusardi and Mitchell (2006:14), people fail to retire or do so unsuccessfully due to the fact that they are financially illiterate. Clark, Ambrosio and McDermid (2003:1) confirm this in their study, since a greater understanding of retirement income through the delivery of financial education on this subject produces individuals to increase their savings rate in order to achieve the new goals of the altered retirement. According to Lusardi and Mitchell (2007:39), for the population over the age of 50, those who were more financially knowledgeable were also those individuals who were more likely to have thought about retirement. Furthermore, these individual who planned, are most likely to have an understanding about interest compounding, which makes sense since a good knowledge about interest compounding is needed for effective saving plans (Lusardi and Mitchell, 2007:39). This shows that individuals with an understanding of financial matters are most likely to be the ones that are planning ahead and are saving for the future, thus they possess an advantage when it comes to making financial decisions and understanding financial matters, as they are not only planning ahead, but they also have the knowledge that goes with it. There are other authors who found the same and confirmed the correlation between knowledge and financial behaviour.

Clark *et al.* (2003:1) studied people who received financial education on retirement savings in order to alter their goals and their savings behaviour. According to Clark *et al.*'s (2003:1) survey, it was found that individuals, after receiving financial education, re-evaluated their lifetime plans for retirement. It was also found by Clark *et al.* (2003:1) that people who received financial education on the aspect of retirement savings, re-evaluated their savings and consumption. It thus shows that people who are financially literate have the ability to plan ahead and the vision required for retirement. Financial literacy in terms of retirement well-being can be seen as one of the most significant and important advantages.

Lusardi and Mitchell (2006:15), in their study on how financial literacy affects retirement well-being, found that individuals who are financially literate were more likely to be plan ahead. Lusardi and Mitchell (2006:15) go on to state that persons who are planners are more likely to experiences a satisfying retirement. Lusardi and Mitchell (2006:15) also state that if financial literacy is positively correlated with wealth at the bottom of the wealth distribution, it can thus be said that individuals who are financially literate will be able to save better. While financial literacy leads to a person being able to save better, a better saver in turn is also better off once retired.

Investment and saving

Calvet, Campbell and Sodini (2006:2) found that more financially sophisticated households were more likely to invest effectively and that these individuals were also more likely to buy risky assets. A positive correlation between financial sophistication and the choosing of a portfolio was also found (Lusardi & Mitchell, 2007:40. Hilgert *et al.* (2003:311) and a positive trend between being financially knowledgeable and sound financial behaviour was also documented.

According to Cohen and Sebstad (2003:9), financial education resulting in a person becoming more financially literate can help individuals choose between different financial options and also to help individuals use microfinance services to their advantage. Financial education resulting in an individual having improved financial knowledge of the range of financial services available, the cost and the risk associated with it could help an individual decide which financial service suites them best. Thus, improving a person's ability too effectively make sound investments.

Baek and DeVaney (2004:341) found similar results. They found a higher level of financial literacy education leads to an increase in savings and investments. Thus

being financially literate has a positive effect on an individual's saving patterns, investment and overall wealth.

Other sound financial behaviour

Cohen and Sebstad (2003:3) state that financial literacy skills can be applied in a wide range of areas. The areas range from individuals, households, businesses, and community resources. It would therefore seem that people who have financial literacy skills have the advantage that they are able to practice good financial behaviour. It would also seem that financial literacy in terms of skills affects more than just the individual; thus, having good financial literacy can have a positive effect on more than just the individual, resulting in good financial behaviour for society as a whole.

Cohen and Sebstad (2003:9) found that financial literacy increases an individual's decision-making power and preparedness to cope with the financial demands of daily life. Cohen and Sebstad (2003) documented that financial planning can help individuals position themselves into taking advantage of opportunities that present themselves. Thus, being financially literate can help individuals in their day-to-day lives, which makes everyday living easier.

In Danes *et al.* (1999:35) study, they gave respondents of the study a financial education course and after three months followed up to see what the results were. Danes *et al.* (1999:35) found in their study that after three months that a greater percentage of respondents said that they compared prices when shopping around. Danes *et al.* (1999:35) stated that a greater percentage of respondents set aside money for future needs, and a greater percentage of respondents paid back the money they owed on time. Danes *et al.* (1999:35) also found that respondents knew the cost of buying on credit and they knew that the way they manage their finances affects their future after the three months follow-up. It would seem that people who receive financial education did become financially literate and formed good financial behaviours, like shopping around, putting away money, and releasing the cost of credit.

2.4 The possible effects of being financially illiterate

Being financially illiterate can have some minor effects on individuals' lives, but it can also have enormous effects on some individuals' lives, such as bankruptcy and not

being able to retire one day. The Federal Services Authority (2003:8), in the United Kingdom, confirms this when they state that being financially incapable holds a serious consequence for consumers, the industry, other service providers and society as a whole. In the following paragraphs, a number of disadvantages of being financially illiterate for consumers, the financial service industry and for firms will be highlighted.

The first possible effect of being financially illiterate can be seen on consumers being financially incapable and has the following consequences:

- *Losing money* – As a result of being financially illiterate, consumers may loose out on financial prosperity (Federal Services Authority, 2003:8);
- *A lack of understanding or meeting needs* – Being financially incapable can lead to consumers miss-buying financial products, buying financial products that would fail to meet their needs, which increases the risk to consumers to make sufficient provision to meet those needs (Federal Services Authority, 2003:8);
- *Feeling of helplessness* – Consumers feel that financial matters were too complicated for them; this leads to consumers feeling helpless and unable to take the action they need to (Federal Services Authority, 2003:8); and.
- *Uninformed about products* – clients of micro-finance institutions are not well informed about the products and services offered by such institutions (Cohen and Sebstad, 2003:8).

Clearly there are many emotions attached to being financial illiterate.

The second theme that can be seen from literature is the possible effects financial illiteracy can have on the financial services industry, for example banking institutions that are financially incapable have the following effects on the financial services industry and this can be summarised as follows from literature:

- *Lack of consumer confidence in markets and in firms* – Consumers not understanding products or feeling that they have been bought or been sold something unsuitable can ultimately lead to a consumer losing confidence in the individual firms or in the market as a whole (Federal Services Authority, 2003:9);

- *Increased cost* – Inadequate understanding on the part of consumers, leading to miss-buying and increased vulnerability to miss-selling, which in turn means higher cost for the industry (Federal Services Authority, 2003:9);
- *Stronger regulatory intervention* – The lack of financial capabilities on the part of consumers has led to relatively high levels of regulatory intervention to protect consumers (Federal Services Authority, 2003:9); and
- *Managing the additional cost, institutional demands and risk* – introducing new products, since clients are not informed about these new products and products in general (Cohen and Sebstad, 2003:8).

The last (third) theme where the possible effects of financial illiteracy can be seen from literature is on other service providers being financially incapable and this has the following consequences for other service providers:

- *More effort on reactive services* – Lack of financial capabilities produces a greater need for reactive, problem-solving services (Federal Services Authority, 2003:9);
- *Understand financial management strategies* – Cohen and Sebstad (2003:8) state that financial education that improves an individual's financial literacy levels will help institutions' staff to understand the financial management strategies of the poor, financial service gaps and how microfinance products and services could be improved and expanded upon. Thus, individuals who are financially illiterate can have some consequences for institutions; and
- *Benefit both the industry and the individuals themselves* – Cohen and Sebstad (2003:8) found that individuals who are informed and financially literate benefit both the institutions and clients of these institutions. Thus, it shows that people who are financially literate can benefit both the industry and the individuals themselves, while people who are not financially literate can have the inverse effect.

Prominent disadvantages

From the previous paragraph it can be noted that being financially illiterate or incapable can have disadvantages for not only the consumers, but also for firms and financial service providers. As with the advantages, there are some prominent disadvantages associated with being financially illiterate that stand out from the literate. What follows is a description of some of these disadvantages.

Being unable to interpreting financial information

According to a study by the Financial Services Authority (2004b:26) that was carried out on young adults between the ages of 18 and 24, it was extremely difficult for these young adults to interpret financial information when it was given to them; they simply did not have the tools in place to assess what they were being told. These individuals did not have the desire to obtain more detailed information when it comes to financial information; they did not care, did not see the need or were too embarrassed because they did not understand how the basics of finance work. Not understanding or interpreting the information given to an individual can be a disadvantage on many areas of life, especially when it comes to financial matters.

According to the Federal Services Authority (2004b:27-28), many young people have a need for financial information that they do not understand or do not know the basic workings of finance. The information needs that were found among young people aged 18 to 24 were the following:

- Many of these young people did not understand financial terms or their meanings; terms such as net interest, gross interest, APR and percentages.
- Although this is a rather simple process, most individuals did not know what information was needed to open a bank account.
- Participants did not understand the difference between a savings account and a current account, as well as the interest rates, accessibility or functionality of the different types of accounts.
- Uninformed decisions regarding savings were made by many of the young people involved in this study, since they did not understand the range of financial products available and the different/best ways of using them.
- Tax allowances, claims and employment rights – Many of the young people involved in this study did not understand what tax allowances and claims were available to them and what employment rights they had.
- There was a lack of awareness pertaining to the requirement to keep financial information (such as bank statements or pay slips) for future reference or as financial references.
- The respondents in this study had little understanding (and considerable fear) of financial advisers or 'the Taxman'.
- The young people involved in this study were unaware of credit rating, how it works and how it can affect an individual's credit history.

As many of these needs of information stem from a lack of financial literacy, it can be seen that this too is a disadvantage and can influence the ability to make sound financial decisions.

In many cases, when it comes to credit transactions and loan agreements, the terms of such contracts are not technically illegal, but rather are inappropriate for and disadvantageous to a person not knowledgeable about the terms used (Braunstein & Welch, 2002:446). Individuals who are unfamiliar with the terms used in credit transactions and unaware of the full financial implications of the loan terms may be vulnerable to unethical lenders' sales strategies (Braunstein & Welch, 2002:446). The lack of basic financial concepts can influence a person when it comes to loan agreements and the jargon used in such agreements; usually the average individual is worst off in the long run because of an uninformed decision stemming from his or her lack of financial knowledge.

According to Braunstein and Welch (2002:445), interested groups, including policy-makers, are concerned that consumers lack a working knowledge of financial concepts and do not have the tools they need to make decisions most advantageous to their economic well-being. Also noted by Braunstein and Welch (2002:445) is that these consumers suffer from a lack of financial literacy deficiencies; these financial deficiencies can affect an individual personally or his /her family.

These respondents, according to Moore (2003:26), also did not know about mutual funds, many did not know what a no-load mutual fund was or that mutual funds do not pay or guarantee rate of return. Moore (2003:26) also states that more than one-third of these respondents did not know that stock had a higher return than bonds over the past forty years, and did not know about risk diversification. According to Agnew and Szykman (2005:17-19), similar results were obtained when a financial literacy survey was carried out as part of an experiment held at a mid-sized public university in the Southeast. Agnew and Szykman (2005:17-19) state the respondents knew little about mutual funds and these respondents could not explain the differences between stock, bonds, and money market mutual funds. This shows that people who lack the necessary financial literacy skills have a big disadvantage when it comes to investment decisions; even if they have the goal or the money to invest, they still lack the knowledge to make a sound judgment when it comes to investment.

Over-confidence

With people who have a lack of financial knowledge, it is also the case that those individuals tend to be more confident about their abilities that should be warranted (Lusardi & Mitchell: 2007:39). A German survey conducted by Commerzbank AG in 2003, shows exactly this. The survey found that 80 percent of respondents were confident about their understanding of financial issues, while only 42 percent could answer half of the survey questions correctly (OECD, 2005). Similar patterns can be seen in the United States, the United Kingdom and Australia (Lusardi & Mitchell: 2007:39).

People with a lack of financial knowledge who are confident about their abilities can have a serious disadvantage, since they base their decisions on the confidence they have when it comes to financial matters. These individuals usually think they make sound financial decisions, but when looking from a perspective of an expert, these financial decisions are most often poor decisions. The disadvantage is not only that an individual is making a bad financial decision, but these individuals rarely seek the information to make financial decisions, since they are confident about their abilities (Lusardi & Mitchell, 2007:39).

Chen and Volpe (1998:122) also found in their study that the level of financial knowledge influences people's opinions and also affects their decision-making. In Chen and Volpe's (1998:122) study, they also found that subjects from their study who were less knowledgeable made wrong decisions when it comes to finances. When taking the two previous paragraphs into consideration, it can be seen that people who are financial illiterate are over-confident about their financial abilities, and people who have a lack of knowledge are also making bad financial decisions. Thus, these two, being over-confident and lacking financial knowledge, work against each other, which both lead to people making bad financial decisions.

Over-indebtedness and not understanding the effect of compounded interest

The following question was asked to Americans over the age of 50: "Let's say you have 200 dollars in a savings account. The account earns 10 percent interest per year. How much would you have in the account at the end of two years?" It was found that only 18 percent of these individuals got the answer correct and 43 percent forgot about the compounding interest (Lusardi & Mitchell, 2007:37). The equation asked is a rather simple one, but in real-life circumstances it gets even more difficult, for example buying a car, and the payments that need to be calculated. This can be a

serious disadvantage for any person, since almost every financial decision nowadays has some sort of compound interest linked to it.

When looking at New Zealand and Australia, similar results were found. In 2005, a survey was conducted by the ANZ Banking group on the financial practices of consumers in Australia and New Zealand. The survey in Australia was conducted on 3,500 randomly-chosen respondents aged 18 and above. The topics that were evaluated ranged from investment fundamentals, retirement planning, financial records and basic arithmetic. What was found by the Australian and New Zealand banking groups (2003:19) in their survey under the Financial Terms section, is that 67 percent of respondents said they understood compound interest, but a mere 28 percent were rated as having a good level of comprehension when faced with an actual problem to solve.

Also found by Moore (2003:26) in his survey, is that a large number of respondents did not understand interest rates, which was especially troublesome since most of them applied for loans.

According to Braunstein and Welch (2002:448), due to more flexible underwriting standards for credit, younger people now have access to credit at a younger age. Braunstein and Welch (2002:448) state that it is not uncommon for college students, even those without a job or a source of income, to obtain a credit card. According to Braunstein and Welch (2002:448), younger people have difficulty managing their debt, which results in people filing for bankruptcy at an earlier age. Thus, people, especially younger people, do not understand the implication of credit and being in debt. This lack of knowledge of credit, which is in fact financial literacy, can have the disadvantage of people falling into debt, which later leads to a person filing for bankruptcy. Bristol, Fehr and Tripp (2003:2) also found similar results when they looked at figures from the US Department of Treasury, namely that four in ten Americans live beyond their means, primarily due to the fact that these individuals do not understand the implications of credit. This again shows that people, who do not understand the importance of credit, easily fall into debt and become over indebted, which later leads to bankruptcy.

Lack of planning

Braunstein and Welch (2002:445) state that the financial literacy deficiencies that mostly affect people, are their day-to-day money management and the ability to have

the vision to save for the long term. Long-term goals such as buying a house, seeking higher education and financial retirement, all form part of a lack of financial literacy (Braunstein and Welch, 2002:445). The results from ineffective money management can lead to severe financial crises and behaviour that make consumers vulnerable (Braunstein & Welch, 2002:445).

A lack of financial literacy may be troublesome for individuals in the future as the lack of financial literacy usually leads to a person not being able to prepare for retirement. According to Taylor (2006:14), people with a low level of financial literacy just do not understand enough to handle their personal finance to prepare for retirement. Taylor (2006:14) also adds that persons with a low level of financial literacy have a greater potential to rely on government assistance once retired, and were less confident to make financial decisions both in the work place and at home. In his article, Taylor (2006:14) notes that half of the working population of Australia has given thought to retirement, but only a few have acted on it. Having a low level of financial knowledge may also influence your lifestyle once retired (Taylor, 2006:14).

A lack of savings is usually the outcome of a lack of planning for the future. According to Mandell (2005:2), a lack of savings is resulting in families being vulnerable to financial failure. Unfortunate circumstances associated with the lack of savings are, according to Mandell (2005:2), expenses such as buying a car, events like losing one's job, or an illness in the family. An individual who therefore does not save or plan for these circumstances can leave the door open for financial failure or financial discomfort.

Clark *et al.* (2005:6) state that a lack of financial education can result in individuals starting to save too late in life to realise their planned retirement goals. This lack of financial education may also lead to individuals not achieving the balance between current consumption and future consumption once retired (Clark *et al.*, 2005:6). Clark *et al.* (2005:6) also found that a lack of information concerning retirement may also cause an individual to misallocate his or her retirement portfolio. It thus shows that people who are not financially literate have a disadvantage when it comes to planning for the future.

Bankruptcy

In some cases, the effects of being financially illiterate can be so severe that it can lead to a person being bankrupt or not meeting his or her required payments on his

or her mortgages or loans. A statistic, according to the American Bankruptcy Institute, which links with the former statement, is that in 2001, 1.5 million Americans who were not business owners filed for bankruptcy showing a 19 percent increase in bankruptcy from the previous year (American Banking Institute: 2001). What led to some of these people filing for bankruptcy was that their savings rate was far less than their lending rate (Braunstein & Welch, 2002:447). It so happens that their lending rate increased each year, while their savings rate stayed the same (Braunstein & Welch, 2002:447). What added to this problem was that people did not plan for unfortunate circumstances like losing their job or a big expense that was then covered with another loan.

Similar results were found by Bristol *et al.* (2003:2), when they looked at figures from the US Department of Treasury, namely that the amount of bankruptcies doubled in the last ten years (1990-2000). The origin of many of these bankruptcies, according to Bristol *et al.* (2003:2), is the fact that people have a low understanding or a misunderstanding of credit.

When looking at comparative South African statistics, they do not seem any more different. The following were the complete number of sequestration from 1998 up until 2000:

- For 1998, the total number of sequestrations was 3776;
- For 1999, the total number of sequestrations was 4012; and
- For 2000, the total number of sequestrations was 3805 (Statistics South Africa, 2001:10-11).

According to Statistics South Africa, the total number of liquidations increased by 66,8% from February 2000 to February 2001 (Statistics South Africa, 2001:3). The total number of liquidations more than doubled from 2000 to 2001.

2.5 International comparison of financial literacy competencies and financial capabilities

The topic of financial literacy is one which has been written about a lot and even speculated about, but very little research, apart from countries like the United States, Australia, New Zealand, and the United Kingdom, has been done to measure the financial literacy of people in these countries. In this paragraph, it will be attempted to provide an overview of what has been found so far. This is divided in topics like

keeping record, credit, planning ahead, retirement planning, financial planning, financial products, investments and savings, and financial literacy.

2.5.1 Keeping record

According to research by the Financial Services Authority in the United Kingdom, keeping track of spending was part of being financially capable. In the research conducted, questions pertaining to keeping track of their money, included things like the extent to which people checked their credit and bank statements, whether people checked their balances in their accounts before making a withdrawal, and how accurately they knew how much money they had left to last them until their next pay check (FSA, 2006:44). The findings were split into the following:

- **Checking bank and credit card statements**

When it came to bank statements, four in ten persons (42 percent) said that they kept and checked receipts against their bank statements. 36 percent said they checked the detail of the entries to ensure that they were correct. One in six (16 percent) people were more content to focus on their final balance, while approximately six percent appeared to ignore their bank statements altogether (FSA, 2006:44).

In their study, the ANZ Banking Group (2003:44) found that 54 percent of respondents found it easy to reconcile their bank statement, and 33 percent found it very easy. However, there were also respondents who found it difficult (9%), and other respondents who found it very difficult (2%). Groups of people who found it most difficult were non-workers, unskilled workers and farm workers. Persons who were above the age of 70 were the group that found it least difficult. Also found by the ANZ Banking Group (2003:42), was that 85 percent of respondents who used bank accounts, ATMs, credit cards and store cards could read and understand the financial records that were applicable for each transactional product.

When it came to credit card statements, people were found to check them more carefully than their bank statements. Half of the respondents kept their credit card receipts and compared them against the monthly statement. A third of the respondents scrutinised the entries to make sure they all looked

correct, while only one in ten (11 percent) only looked at the final balance, while one in twenty (five percent) did not look at all at their statements (FSA, 2006:44).

- Keeping track of money available

Overall, two in five (38 percent) of the respondents always checked their balance before making a withdrawal, one in five (21 percent) did so most of the time, and on the extreme side, a quarter of people never or hardly ever checked their balances. What was interesting was that women were making more frequent inquiries about their balances than men (FSA, 2006:45).

When respondents were asked if they kept any records when drawing money out of a current account or out of a day-to-day spending account, four in ten of the respondents did not keep any records of the withdrawals they made from their accounts (FSA, 2006:46).

According to Feeny (2006:14), in their programme, Money Minded Program, they found when they asked respondents questions about their spending behaviour, that most of the respondents, almost 40 percent, kept a close eye on their expenses, but did not keep any documentation. Almost half, 41 percent, of respondents did not monitor their spending, while 10, 3 percent had no idea how much they were spending. Only 19 percent of respondents were found to keep a close eye on their expenses with the necessary documentation.

Feeny (2006:14), in their programme, asked their respondents to choose one of four statements when it came to bills. Almost 47 percent of respondents stated that they compared their bills from the previous periods in order to monitor their spending. 27.6 percent merely paid the bill and filed it away, while 10 percent threw away the bill after paying it.

Chen and Volpe (1998:113) found in their study of 924 college students, in the United States, that an average 62.55 percent of these students answered questions correctly about checking account reconciliation, this percentage shows that it is above average. Chen and Volpe (1998:113) also found that an average of 63.64 percent of students answered questions correctly about

checking their account overdraft; this percentage, as with the former, shows that it is above average.

Chen and Volpe (1998:121), in their survey on financial literacy, split the respondents into two groups – a more knowledgeable group and a less knowledgeable group. The more knowledgeable group view keeping records as more important than the less knowledgeable group. A higher percentage of the more knowledgeable group also kept detailed financial records, whereas the less knowledgeable group did not.

It can be concluded from the findings that many people do not keep sufficient financial records.

2.5.2 Credit

The Federal Services Authority also found mostly cautious views about credit among the respondents. 61 percent of the respondents said that they would rather cut back on spending than accumulate a debt on a credit card. 23 percent of respondents said that they tended to agree with this perspective, while 15 percent said that they disagreed with this perspective, and six percent said that they disagreed strongly. On the other hand, 79 percent of people said they would rather buy things on credit, rather than taking the time to save to afford them (FSA, 2006:49).

According to the ANZ Banking Group (2003:26), most respondents were able to recognise unmanageable debt, but less so by the less well educated and less affluent. Respondents seemed to understand the implication of a poor credit record for future borrowing. In this study, there was also evidence to suggest that there is a limited knowledge about high interest rates imposed if unsecured credit is not paid in full within the appropriate time. It was also found by the ANZ Banking Group (2003:48), that seven percent of adults did not feel in control of their borrowing and credit in general; most of these adults said they “agreed” or “strongly agreed” with this statement. Young people, renters, and those with low savings were among the groups that felt out of control.

Chen and Volpe (1998:113), in their study of 924 college students, found that on average 23.81 percent of students answered the question about credit card usage

correctly. Chen and Volpe (1998:113) also found that, on average, 76.95 percent of students answered questions about creditworthiness correctly; this shows that their understanding of this subject is above average.

Moore (2003:9-10), in her survey of financial literacy in Washington State, found that respondents who had at least one college degree, as opposed to respondents who had no college degree, did not have loans with harmful terms. However, those who had no college degree were more likely to have a loan with harmful terms.

In a survey done by FinScope (2004:15) on approximately 3000 respondents in South Africa, it was found when asking respondents "who is the ideal financial service provider" that 48 percent of respondents said that banks were ideal for loans, while 48 percent also stated that they did not know. Four percent of respondents also stated that micro-lenders were the ideal financial service providers when it comes to loans.

According to a study done by FinScope (2004:22), in South Africa, it was found that consumers try to avoid debt as much as possible. FinScope also found that 12 percent of the population has borrowed money in order to buy food. White and Asian people seemed to take out loans in order to purchase assets, while black and coloured people tend to take out loans in order to tend to their basic needs, like food.

It would seem, when looking at all the studies, that most of the respondents of these studies viewed debt with caution. While this is true, many respondents could not answer questions about debt correctly and also bought on credit even if they could not afford it. There appears to be a positive relationship between higher education and the understanding of the negative effects of loans.

2.5.3 Planning ahead and financial planning

Planning ahead

The third part of the domain on planning ahead as part of the research study by the Federal Services Authority carried out in the United Kingdom, focuses on the relation to respondents who planned ahead, and are making provision to meet the cost of anticipated major expenses. Respondents were therefore asked whether they expected to face one of ten specific expenses in their foreseeable future or whether

they anticipated some other major expense that was not on the list. Of the respondents, 49 percent said that they anticipated such an expense. One in five respondents (20 percent) said that they expected to buy or replace their cars, while the other major expense respondents mentioned was that of home improvements (15 percent of the respondents). Of the respondents, 19 percent said that they had made provision for such an expense, while 49 percent of respondents stated that they had no anticipated expenses. Three percent of respondents said that they were relying on someone else to do so, and 29 percent of respondents said that they had not made provision for such an expense (FSA, 2006:67-68).

According to a research study by the Federal Services Authority, when they asked respondents if they were to experience a drop in their income, what provision these respondents made personally rather than relying on someone else, three in ten of the respondents said that they had done so, while 14 percent had household provision that would help them deal with such an event, but they had not been personally responsible for making this provision. Of the respondents, 55 percent did not make any provision for such an event (FSA, 2006:49).

In a study done by the ANZ Banking Group (2003:57), in Australia and New Zealand, 98 percent of respondents appeared to understand that prioritising is needed to balance income and expenditure. Also found in this study was when people were asked the question as to what would happen if there was a major loss of income, 76 percent of respondents agreed or strongly agreed that they were able to manage for a period of time. Single parents and renters were among the groups that stated that they would not cope in such an event. In such an event, 43 percent of respondents said that they would turn to a bank/financial institution, and 39 percent of respondents said that they would turn to their family for help. Only six percent of respondents stated that they would go to a financial planner/adviser for help, and one percent of respondents said they would go see a financial counsellor for help. Most of the respondents were able to suggest a range of appropriate strategies when facing such an event. The ANZ Banking Group found that respondents would rather have income-increasing strategies than cutting back expenditure.

In the study done by the ANZ Banking Group (2003:57), it was also found that 80 percent of respondents viewed short-term and long-term financial plans as important, but 13 percent of respondents disagree on the view that short-term financial plans are important, and seven percent of the respondents disagreed with the view that long-

term financial plans are important. Single persons who live alone and households with a lower income were the most likely to disagree about long-term financial plans, while persons 70 years old and older were the most likely to disagree about short-term financial plans.

Respondents in Feeny's (2006:15), *the Money Minded*, stated their views about debt. Almost 37 percent of respondents stated that they had formulated a plan to get rid of their debt and felt they were achieving this goal. Almost 25 percent of respondents said they were worried about their debt, but had no plan and simply hoped for the best. What was troublesome was that 10 percent of respondents stated that their debt was out of control and that they had no idea as to how to repay it.

Chen and Volpe (1998:113), in their study of 924 college students in the United States, found that on average 52.38 percent of these students answered questions correctly about personal financial planning. Chen and Volpe (1998:113) also found that, on average, students could answer 66.67 percent of questions about insurance correctly. Questions under the subject of insurance, were reasons to buy insurance, health insurance characteristics and insurance conflict resolution. Insurance and planning ahead are most of the time seen as the same category.

Chen and Volpe (1998:121), in their study of financial literacy among college students in the United States, split their respondents into two groups – a more knowledgeable group and a less knowledgeable group. It was found that the more knowledgeable group viewed spending less than their income more important than the less knowledgeable group. When the two groups were in a hypothetical situation, the more knowledgeable group scored higher than the less knowledgeable group.

According to a Survey by FinScope (2004:7), in their survey of approximately 3000 respondents in South Africa, it was found that one in eight respondents believed that a loan from a bank would help them cope with financial life events. Also found by FinScope (2004:9) was that only 47 percent worked out a budget and 17 percent of respondents withdrew most of their money as soon as they received it. FinScope (2004:9) also found in their survey, when asking respondents about financial decision-making, that 58 percent of respondents said that they made financial decisions on their own or in conjunction with a partner/spouse, while 20 percent stated that they did not make any financial decisions. FinScope (2004:10) also found

that respondents on average had only one source of income and thus did not have any back-up source of income.

From the literature it would seem that respondents in some of the studies had made no provision for facing financial crises or did not know how to, while in other studies respondents understood the importance of planning ahead, but not all had sufficient provision.

Financial planning attitude

The last set of questions in the planning ahead domain in the survey conducted by the Federal Services Authority in the United Kingdom was designed to capture respondents' attitudes toward financial planning. A large percentage (60 percent) of respondents agreed with the statement that they tend to live for today and let tomorrow take care of itself, indicating that they placed some importance on the idea of planning ahead. Respondents namely 75 percentage of respondents said they made sure that they had some money saved for a rainy day. Despite this high number saving for a rainy day, 44 percent of respondents reported that they found spending more satisfying than saving. The last statement had once again to do with retirement saving, where 42 of respondents agree with the statement that they would rather have a good standard of living today than plan for retirement (FSA, 2006:70).

In a study done by the ANZ Banking Group (2003:9-10) in Australia and New Zealand, 98 percent of respondents knew that prioritising needs to balance income and expenditure was important, and 67 percent of respondents said they were trying to save regularly, if possible. Although the previous percentages are all high, 16 percent of respondents spend all their income when they receive it, and did not plan for the future. While this is alarming, what is even more alarming is that 26 percent of the adult population had problems putting aside money for major financial expenditure.

In the survey done by FinScope (2004:18) on approximately 3000 respondents in South Africa, only 19 percent of respondents stated that they are saving for something specific like a car, holiday or furniture. Also in this survey, 69 percent of respondents stated that they saved and invested regularly and that the money that they are saving, even if it is small amount, would mount up and that they would be secure.

As with planning ahead, most of the respondents in the studies used in the literature, viewed financial planning as important.

2.5.4 Retirement planning

Retirement planning, according to a survey conducted by the Federal Services Authority in 2006 in the United Kingdom, was very topical during the period that the survey on financial capabilities was being designed. The respondents that were used, were both people that had retired and people who did not have to retire yet in order to form a broad perspective. Persons under state pension age were asked if they personally made provision for their retirement and if they were able to make ends meet on state pension alone. Over four in five (81 percent) stated that government pension alone would not provide them with the standard of living that they would hope for in retirement. Considering the latter, only two in five respondents (42 percent) who were not yet retired had a current personal or occupational pension, and 28 percent of respondents had had a pension that they had paid into in the past. Of those who did not have any provision, 29 percent of respondents said it was because they either did not have a job or had not had one for long, and 28 percent said that they did not have enough income. Results from the survey indicated that 37 percent of respondents who felt that government provision would not be sufficient, did not have any additional pension provision, indicating a relatively small degree of planning ahead in this context (FSA, 2006:69).

When the Federal Services Authority looked at persons who already reached retirement age, 55 percent had their own occupational pension and 17 percent had a personal pension. These proportions include six percent who had both types of pension. 34 percent did not have a pension and the reason they gave was that they have not been able to afford it. When the results from all the respondents were put together, 59 percent were making provision for their own pension, and 41 percent had no own provision (FSA, 2006:69-70).

In a study done by the ANZ Banking Group (2003:7) in Australia and New Zealand, it was found that the respondents of the study understood the basics when it came to superannuation and understood its importance. Only five percent of respondents under the age of 65, who were not retired, said that superannuation, planning and saving for retirement did not really matter. While most understood the importance of retirement, only 37 percent actually worked out how much they need to be saving for

retirement. Of the people who were over 35, who had inadequate savings for retirement, 40 percent thought they would be able to maintain their standard of living once retired. Also found by the ANZ Banking Group (2003:47), was that there were groups that were less likely to have planned for retirement. Females, young people and single people were found to be part of these groups.

Chen and Volpe (1998:113), in their study of 924 college students in the United States, found that students could answer on average 53.68 percent of the questions about retirement correctly, including the benefits of early investments.

According to a survey done by FinScope (2004:18) on some 3000 respondents in South Africa, it was found that 51 percent of respondents stated that they are worried about not having enough money for old age.

In all of the studies, most of the respondents stated that they viewed planning for retirement as important, but many did not have any retirement plan, and many stated that they would not have enough money once retired. Most of the studies show that retirement and retirement planning in general are misunderstood by most of the respondents.

2.5.5 Financial products

A study carried out by the Federal Services Authority in the United Kingdom, asked respondents to look at a list of products and tell the interviewer which, if any, they currently held either in their own name or jointly with their partner. 98 percent of respondents said that they had held at least one of them and on average held seven different types of products. 61 percent of the respondents held a savings account, 56 percent of respondents held a credit card and various types of general insurance (home contents 66 percent, motor 61 percent and buildings 56 percent). 47 percent of the respondents had a life insurance policy, and 33 percent held a mortgage, while 28 percent had a cash ISA (Individuals Savings Account) or similar product. Only a small proportion of these respondents held specific types of investment, unsecured loans or protection insurance. While almost nine in ten respondents held a current account, just 21 percent of respondents had opened one in the last five years. Similar findings were made: 20 percent of respondents had taken out a credit card in the last

five years; and even though 18 percent held stocks and shares, only five percent of the respondents had made purchases over the previous five-year period. The results from the survey showed that many of the respondents held insurance products for long periods of time, though they come up for annual renewal. It is likely that some will pay more than they need to by staying with the same provider for many years and do not switch between different providers (FSA, 2006:85-88).

When looking at Australia and New Zealand, in a survey done by the ANZ Banking Group (2003), it was found that everyday accounts were among the most commonly held products by some 97 percent of adults. Vehicle insurance was the second most common product to be held (approximately 80 percent of adults). House insurance and superannuation were held respectively by 75 percent and 71 percent of adults. The least common financial product to be held by people were loans, held by two percent of respondents, home equity loans held by eight percent of respondents and mortgages on investment properties held by 10 percent of respondents.

In a study done by the ANZ Banking Group (2003:10) in Australia and New Zealand, it was found that:

- 46 percent of respondents shopped around for loans;
- 51 percent of respondents shopped around for insurance;
- 56 percent of respondents shopped around for investments;
- only 24 percent of respondents shopped around when choosing a financial specialist; and
- 33 percent of respondents shopped around for a bank account.

“Just going with what was recommended” and “satisfied with current provider” were the most common reasons for not shopping around (ANZ Banking Group, 2003:10).

In Moore’s (2003:8) survey on financial literacy in Washington State, it was found that respondents could not answer questions on cost of financial service products correctly (30 percent or more answered incorrectly).

According to FinScope (2004:12), it was found that the number of the population that is “un-banked” (not having any form of bank account), totalled 15 835 821 in South Africa. Also, in a survey by FinScope (2004:13), on approximately 3000 respondents,

the following was found when it comes to personal experience with products and services:

- 53 percent of respondents said that they had personal experiences with bank accounts;
- 24 percent of respondents said they had personal experiences with retail cards;
- 14 percent of respondents said they had personal experiences with loans; and
- Nine percent of respondents said they had personal experiences with housing.

It would seem from the information in the studies used in the literature that most of the respondents held general financial products like savings accounts, credit cards and insurances, but in South Africa, according to the FinScope (2004:13) survey, many respondents did not even have a bank account or did not have any personal experience with banks. From most studies it would seem that people in general do not shop around when it comes to financial products.

2.5.6 Investments and savings

According to a survey conducted by the Federal Services Authority (2006:93) in the United Kingdom on the topic of savings and investments, the following findings were made: Respondents of the survey were asked if they recently bought a savings product other than Premium Bonds. Respondents were then asked, whether they had personally collected information about different savings accounts from more than one company, and whether it was one of the two most complex products they bought. 44 percent of the respondents said that they had done so, while two thirds (66 percent) said that they had made the decision entirely by themselves, which indicated a low level of shopping around when it comes to savings products. Approximately a quarter (23 percent) made the decision to choose a savings account based on the convenient location of the branch or cash machine, 25 percent of the respondents based their decision on the fact that they had used the same provider before. 37 percent of the respondents of the survey based their choice on the rate of interest paid, but almost 49 percent could not even estimate the current level of interest on the account at the time of the interview. The respondents of the survey who had investment products were asked if they personally monitored the performance of their investments. 24 percent claimed to monitor them at least once a month, nine percent said they monitored their investments less than once a year, and 22 percent said they never monitored their investments. All of the respondents who

had taken out an investment in the past five years were asked about their purchases. It was less common for respondents to collect their own information about the investment than on insurance. 39 percent of respondents said that they had collected information from more than one provider. 49 percent of respondents claimed to have made the decision by themselves, despite collecting information from more than one provider, and merely 25 percent of the respondents relied entirely on a professional adviser. 21 percent of respondents based their final choice on the past performance of the investments they purchased, while 22 percent chose an investment with high potential returns (FSA, 2006:93-94).

A study done by the ANZ Banking Group (2003:6), in Australia and New Zealand, found that the majority, namely 85%, of respondents understood that high returns generally mean high risk, but few people actually applied this concept in their own finances. This survey also found a mixed level of knowledge of other investment basics. Ninety-one percent of respondents in the survey by the ANZ Banking Group (2003:7) viewed diversification as important when it came to investments, while only 51% viewed it as very important. Also found in the study by the ANZ Banking Group (2003:7), was that 37% of adult Australians who had insurance and investments did understand that short-term fluctuations can be associated with good investments. In this study, the ANZ Banking Group (2003:10) found that 92 percent of the respondents properly understood short-term investments, while only 39 percent of respondents properly understood long-term investments.

Feeny (2006:13), in their programme, Money Minded, found that respondents showed the following different attitudes towards saving and planning ahead: Approximately 27 percent stated that they tried to save on a regular basis, but on the other side, approximately 23 percent said they spend all of their income and did not save at all.

Chen and Volpe (1998:113), in their study of 924 college students in the United States, found that on average respondents could correctly answer 40.37 percent of questions when it comes to investment, which is below average. Other correct answers under investments were 45.35 percent for high risk returns on investments, 30.09 percent for investment diversification and 47.08 for mutual fund investment return.

Chen and Volpe (1998:113) also found that the average score for the students when asked questions about savings and borrowing was 54.47 percent, which is below average. Another score worth mentioning was that 69.16 percent were correctly answered pertaining to deposit insurance, 44.7 for loan co-sign consequences and 56.39 for compound interest.

A survey done by Moore (2003:8) on financial literacy in Washington State, found that questions that could not be answered correctly (57 percent or more answered incorrectly) or not understood by most of the respondents, were questions about bond markets and mutual funds. Approximately 70 percent of respondents in the general population group missed questions on these subjects. Moore (2003:8) also found that other questions that were not understood or missed (30 percent or more answered incorrectly), were questions about reducing risk in investment, fees and cost, and financial markets operations and outcomes.

According to FinScope (2004:18) in their survey of approximately 3000 respondents in South Africa, 47 percent of respondents said that they tried to save on a regular basis, while 23 percent of respondents said that they would live without basic things in order to save more. 31 percent of respondents in this survey stated that they had a good understanding of the return they would get on the money they are saving. Respondents in the survey by FinScope also stated that they would rather invest/save money where they know it is safe, even if the interest rate/return is lower (55 percent of respondents stated this).

The survey by FinScope (2004:18) asked whether respondents had extra money and where they would invest it.

- 60 percents stated they would invest it in a bank account;
- 35 percent stated that they would invest it in a business;
- 23 percent stated that they would invest it by improving their home;
- 23 percent stated that they would invest it in a burial society; and
- 18 percent stated that they would invest it in policies with an insurance company.

FinScope (2004:19) also asked respondents the question pertaining to where they would not invest their extra money.

- 27 percent stated that they would not invest it in someone else's business;
- 26 percent stated they would not invest it in a timeshare;

- 25 percent stated that they would not invest it in a stokvel / savings club; and
- 18 percent stated that they would not invest it in shares on the stock exchange.

Therefore, the conclusion by FinScope (2004:19) was that respondents are avoiding high risk investment and tend to go for the safer option.

According to a study done by Bernheim, Garrett and Maki (2001:451), in the United States, on the correlation between savings rate and financial education, it was found that 17 percent of respondents stated that they did not save at all. It was also found by Bernheim *et al.* (2001:451) that four percent of respondents saved more than 30 percent of their earnings, while almost nine percent saved more than 50 percent. The highest rate of savings to be reported by a respondent was 75 percent of earnings (Bernheim *et al.*, 2001:451).

When looking at investment, most of the studies show that people do not understand risk diversification or other terms associated with investments. It also seems as though most people do not understand fluctuation in the market associated with investments. When looking at saving, studies used in the literature show that most respondents from the studies had inadequate savings rates although most of these respondents tried to save. Savers also tend to choose less risky, low-yield investments.

2.5.7 Application and financial calculations

According to a survey done by the Federal Service Authority (2006:118-121), in the United Kingdom, the following was found when respondents answered questions pertaining to applied financial literacy. The results were placed under the following titles:

- Reading and using bank statements

The first task for the respondents was to read out the final balance from a bank statement. One in ten respondents (nine percent) did not answer the question correctly. Respondents over the age of 60 were the most likely to get the answer wrong, while 15 percent of people over the age of 70 also answered incorrectly. The respondents from the lower-income households were also more likely to get the

answer wrong (15 percent), while those with higher incomes tended to get the answer right, where only three percent of those respondents answered incorrectly (FSA, 2006:118).

The second question that the respondents were asked was whether or not there was sufficient money in the account to cover a direct debit payment that was due. It tested the respondent's basic arithmetic as well as the ability to read a bank statement and understand the concept of being overdrawn. Only 15 percent of the respondents could not answer the question correctly. One in five persons in the age group 18 to 20 years of age answered the question incorrectly, while 24 percent of people in the age group 70 years and older got the answer wrong. Seven percent of the respondents from the high-income households did not get the answer right, while 21 percent of respondents from the lower-income households did not get the answer right. Nine percent of these respondents said they did not know at all, compared to just one percent from the higher-income households (FSA, 2006:119).

In a study performed by the ANZ Banking Group (2003:8), in Australia and New Zealand, it was found that 85 percent of respondents felt they were able to read and understand records that are related to bank accounts, ATMs, credit cards and store cards, while 25 percent found it difficult to practically use a bank account statement. In this study, 21 percent of respondents who received and read their superannuation statement said that they do not understand it, and only 40 percent could answer four out of four questions about a sample superannuation statement correctly. Also found by the ANZ Banking Group (2003:25) was that all consumers knew how to use cash, while 90 percent of respondents understood how to use ATMs or credit cards.

According to Feeny (2006:14), in their programme, the Money Minded programme, respondents were asked to choose between one of three statements to describe their knowledge about banking products and service providers. Almost 68 percent of respondents stated that they understood the basics when it comes to banking and services providers, but nothing more; while 1 in 5 respondents felt they did not understand banking at all.

- Understanding percentages and the effects of inflation on savings

Respondents were asked a question to assess their understanding of the effects of inflation and percentages. 21 percent of respondents did not get the answer right, and this percentage almost doubled in the aged group 18 to 20 years old as 41

percent of them did not get the answer right. 14 percent of respondents in their fifties failed to correctly answer the question. Interestingly, women were more likely to get the questions wrong than men (26 percent of women and 17 percent of men respectively answered incorrectly (FSA, 2006:120).

Chen and Volpe (1998:113), in their study of 924 college students, found in the category pertaining to compound interest, that the average score for students was 56.39 percent. These percentages represent a below-average score in this category. Chen and Volpe (1998:113) also found a below-average score in the area of annual percentage rate. An average score of 33.23 percent was what these students achieved.

In the study done by the ANZ Banking Group (2003:22), it was found that 67 percent of adult respondents either understood the term "Compound Interest", "very well" or "fairly well". Only 28 percent of respondents could be described as having a "good level of comprehension" when they were tested on a specific scenario pertaining to the understanding of compound interest.

Moore (2003:8), in her survey on financial literacy in Washington State, in the United States, found that respondents in her survey frequently missed (30 percent or more answered incorrectly) or did not understand questions about compound interest. Moore also found that the concept most respondents lack an understanding of, was compound interest.

According to a survey done by FinScope (2004:9) on approximately 3000 respondents in South Africa, one third of respondents knew what the term inflation meant, while most of the respondents who knew what the term meant, did not know what the current rate of inflation is.

- Using graphs to determine returns on investments

The respondents were all given two questions to answer to measure their understanding of graphs to determine returns on investments. One quarter of respondents were unable to give the correct reply to the two questions – 25 percent for the first question and 26 percent for the second question. Respondents in the age group 18 to 20 year old did not vary more than two percent of the average when it came to not getting the answers right pertaining too choosing the best investment fund. While, the respondents in the age group of 70 and older were the least likely to

choose the best investment fund in either of the question, 40 percent and 39 percent were unable to give the correct answer for each of the questions respectively. 20 percent of the respondents in their thirties could not give the correct answer in each case. Once again it was found that people with a higher income correctly answered the questions, while those with a lower income incorrectly answered the question. Only 11 percent of the higher-income respondents could not answer the questions, while 38 percent of those with a lower income failed to answer the question correctly (FSA, 2006:120).

- Basic arithmetic, percentages and subtraction

The respondents were tested on their basic arithmetic. They were asked whether a cash discount of £30 was better than a ten percent discount on a television with an original price of £250. One in ten of the respondents failed to answer this question correctly. Little differences were found between the age groups when it came to answering this question. Respondents over the age of 60 were less likely to get the question right, while 20 percent of those aged 70 and above chose the wrong answer. The respondents who struggled most with this question, were those with a low income (FSA, 2006:121).

In a study done by the ANZ Banking Group (2003:6), in Australia and New Zealand, it was found that the population as a whole had good skills when it came to mathematics, but applying these skills proves to be a problem. The following findings were made by the ANZ Banking Group (2003:21):

- 89 percent of respondents were able to perform basic addition of two dollar amounts;
- 81 percent were able to performs basic subtraction;
- 84 percent of respondents were able to perform basic division of round dollar amounts;
- 59 percent of adults were able to perform basic multiplication of round dollar amounts;
- Only 81 percent of respondents were able to perform more complex calculations; and
- 87 to 89 percent were able to calculate basic percentages.

Chen and Volpe (1998:113) interviewed 924 college students about financial literacy and found that the students fared below average in the questions pertaining to net worth calculations with a score of 56.49 percent.

A survey done by Moore (2003:8) on financial literacy in Washington State, in the United States, found that 36 percent of respondents were able to correctly answer seven or less questions out of 12 questions pertaining to financial knowledge.

The reading and using of bank statements were understood by most of the respondents in the studies used in the literature. Only a small percentage of respondents stated that they did not understand banking. Inflation and compound interest were mostly misunderstood by most of the respondents in studies used in the literature. It would seem that most of the respondents in the studies used in the literature had a good understanding about basic arithmetic, percentages and subtraction, but a small percentage could not apply it in a practical manner.

2.5.8 Conclusion on the financial competencies in different countries

To draw a conclusion from the above literature – on financial literacy in different countries based on the surveys used – would necessitate the determination of whether financial illiteracy is a global problem. From the above literature it would seem appropriate to summarise the findings into different categories.

1) Keeping records

In the studies used in the literature, results show that respondents lack the necessary knowledge when it comes to checking bank and credit card statements. When looking at how respondents from different studies kept track of the money available, most studies show a low percentage of respondents actually doing this, but in the United States it seems as though respondents are above average when it comes to checking available money.

2) Credit

It would seem when looking at all the studies that most of the respondents of these studies viewed debt with caution. While this is true, many respondents could not correctly answer questions pertaining to debt and also bought on credit even if they

could not afford it. There appears to be a positive relationship between higher education and the understanding of the negative effects of loans.

3) Planning ahead and financial planning

From the literature it would seem that respondents in some of the studies had made no provision for facing financial crises or did not know how to, while in other studies, respondents understood the importance of planning ahead. As with planning ahead, most of the respondents in the studies viewed financial planning as important.

4) Retirement planning

In all of the studies, most of the respondents stated that they viewed retirement as important, but many did not have any retirement plan, and many stated that they would not have enough money once retired. Most of the studies show that retirement in general is misunderstood by most of the respondents.

5) Financial products

It would seem from the information obtained from the studies that most of the respondents held general financial products like savings accounts, credit cards and insurances, but in South Africa many respondents did not even have a bank account or did not have any personal experience with banks. From most of the studies, it would seem that people in general do not shop around when it comes to financial products.

6) Investments and savings

When looking at investments, most of the studies show that people do not understand risk diversification or other terms associated with investments. It also would seem that most people do not understand fluctuation in the market associated with investments. When turning to look at saving, the studies used in the literature show that most respondents had inadequate savings rates, although most of these respondents tried to save.

7) Applications and financial calculations

The reading and using of bank statements were understood by most of the respondents in the literature review. Only a small percentage of respondents stated that they did not understand banking. Inflation and compound interest were mostly misunderstood by most of the respondents. It would seem that most of the

respondents had a good understanding about basic arithmetic, percentages and subtraction, but a small percentage could not apply it in a practical manner.

2.6 Summary

In Chapter 2, financial literacy was conceptualised. It was found that defining financial literacy can be rather difficult as noted in the literature, since individuals have different viewpoints pertaining to financial literacy. Also from the literature it seemed that several definitions can be awarded to financial literacy, and that there is no common definition awarded to financial literacy or financial capability. It was determined that there are different levels associated with financial literacy as well as different levels of capability associated with financial literacy. Also to be noted from the literature of Chapter 2, is that there are constant themes running through various definitions of financial literacy. Financial literacy was finally defined as *“a financially literate individual should have a positive attitude towards his/her finances and learning, the understanding to take control of his own finances, the ability to discern good from bad financial decisions, and the skills to make it practical.”*

Advantages associated with being financially literate or financially capable were highlighted. A broad list of advantages in Chapter 2 was highlighted from different sources. The most prominent advantages from the literature were found to be planning ahead, financial independence at retirement, and investment and savings. Financial education seemed to play a positive role when it comes to the advantages of financial literacy. It was also noted that the advantages of financial literacy influenced more than just the individual, but also the society as a whole.

The disadvantages associated with being financially illiterate or financially incapable were also highlighted. It was determined from the literature that financial illiteracy affects more than just the individual. The most prominent disadvantages seemed to be being unable to interpret financial information, over-confidence, over-indebtedness, not understanding the effects of compound interest, a lack in planning for the future, and bankruptcy.

In Chapter 2, studies from different countries were used to compare the financial capabilities and elements identified in the different countries. It was found from the literature that there are some common areas when comparing the financial

capabilities from different countries. The most common areas are keeping record, credit, planning ahead and financial planning, retirement planning, financial products, investments and savings, and financial literacy. It was found in this chapter that most of the respondents fared below average in most of the areas tested in the studies used. Areas that stood out were retirement planning and savings, where most respondents from these studies did not fair well. It was also noted that South Africa is behind in terms of the use of financial products.

In the next chapter, a literature review will be done on the international remedies that can be applied to solve the problem of financial illiteracy. In this chapter, there will also be a literature review on models that can be used to measure an individual's financial literacy competencies or capability.

CHAPTER 3 - REMEDIES AND MODELS

3.1 Introduction

In the previous chapter, financial literacy was conceptualised, and the advantages of being financially literate and the disadvantages of financial illiteracy were discussed. Also in Chapter 2, certain countries were compared in terms of financial literacy.

It is believed that financial literacy starts from an early age and continues right through into adult life. From literature the following can be seen.

3.1.1 A need for financial literacy education

The Federal Services Authority (2002:15) believes that managing money is important for all children and is a skill that is necessary not only for children but also for adults. A study done by the Federal Services Authority shows that the opportunities to learn about the mainstream financial world for children growing up in lower-income families are limited and therefore they fail to acquire the basic financial knowledge and skills associated with being financially literate (FSA, 2002:15). Children coming from more prosperous families lack the necessary budgeting skills. These children, who come from more prosperous families, are also not knowledgeable about how and where to pay bills and are also less involved in making decisions when it comes to their families' financial planning (FSA, 2002:15).

According to the Federal Services Authority (2002:15), there is a clear need for schools to provide personal finance education for children leaving school to be prepared for the financial challenges and responsibilities of adult life, since not all parents can provide financial information and experience to their children. The Federal Services Authority (2002:15) believes that personal finance education should start at an early age, with teaching that is relevant to the child. Research done by the FSA shows that by educating children at school during each key phase, the above can be achieved. The Federal Services Authority (2002:15) also believes that it is important to promote personal finance education to teachers in such a way that teachers realise the importance of this topic, and in doing so will include this topic and see the links with other curricula that are already being taught at schools.

It seems from the above paragraphs that there is a definite need for financial literacy among children and high school students. In this paragraph, there will be a review of whether the school system provides these young individuals with the necessary financial education. The Federal Services Authority (2004a:29), in another study, also shows the importance of financial education in schools. In a study done by the FSA, schools were not spontaneously mentioned as a source of information regarding financial matters. This is supported by findings that showed that 40 percent of young people perceived school as providing a “poor or very poor” coverage of managing money (FSA, 2004a:29). Very few young people who were part of this study could remember receiving any information about money or financial matters at school, and none could remember formalised teaching about financial matters (FSA, 2004a:29). Financial issues were mentioned as being taught in a number of subjects, but these tended to focus on money at a macro-level, for example talking about the importance of ensuring a good cash flow, rather than relating these principles down to managing personal finances (FSA, 2004a:30). All of the young people interviewed in the study performed by the FSA, believed that they would have benefited from a broader financial knowledge base, and admitted that they do not possess the necessary financial knowledge. The majority of respondents believe that the school environment was an appropriate channel through which they could promote the knowledge of financial issues that they are currently lacking. Respondents of this study believed that schools should be doing more to educate or inform young people about financial matters, and this is supported by 41 percent of young people who believed that their school should have covered financial matters in more detail (FSA, 2004a:30-31).

It would seem from this paragraph that although schools provide students with some financial literacy education, there is still a need for further education among high school students. Therefore, it would seem that schools are either not doing enough or are not doing it effectively enough to ensure that students are financially literate.

If financial literacy education in schools is not effective enough or missing completely, there must then be certain disadvantages associated with being financially literate. In this paragraph, from literature, it can be seen that there are some negative effects when financial literacy education is missing.

According to Hogarth (2006:2), the importance of financial education is given weight when financial education is not present. Hogarth (2006:2) states that the increasing amount of consumer debt that later leads to persons filing for bankruptcy, is a result

of financial education being absent. Hogarth (2006:2) also states that persons who are not saving for retirement are also demonstrating a lack of financial education. Low levels of financial education also tend to be correlated with low financial management behaviours (Hogarth, 2006:2).

Also from the literature the following was found concerning the above paragraph. Fox *et al.* (2005:195) state that debt, low saving rates and bankruptcy are a result, among Americans, of low financial literacy levels, and as a result of these low financial literacy levels many initiatives on financial education, both publicly and privately, have been implemented. Fox *et al.* (2005:195) go on to say that being financially literate is crucial in making effective financial decisions.

3.1.2 Financial literacy education

From the above it is clear that there exists a need for financial literacy education and that the school system is currently not providing students with the correct education in order for them to become financially literate. The question to be asked then, is what is financial education? Hogarth (2006:3) goes on to say financial education has different meanings to different people. Hogarth (2006:3) states that some people view it in a broad sense, which is an understanding of economics, while other people view financial education as budgeting, saving, investing and insuring, thus viewing it in a narrower sense. Hogarth (2006:3) also states that financial education should include all of these topics – both narrow and broad views about financial literacy education. Also from the literature Fox *et al.* (2005:195) found that a financial education programme or course can include the following topics or ideas that address the knowledge, attitudes and behaviour of an individual regarding financial literacy.

If we then know what financial literacy education is and what it should entail, another question arises: Does financial education work? Hogarth (2006:7), in her paper, asked the question: “Do financial education initiatives work, and how do we know that they are working?” Hogarth (2006:8) came to the conclusion that financial education may improve the economic status of families. Hogarth (2006:8) goes on to say that many studies on financial literacy education are conducted on a micro-level, which show positive results, however the results at a macro level shows no improvement on

problems with credit and bankruptcy. Hogarth (2006:8) concludes that there is still room for improvement regarding financial literacy levels.

Another author stated that financial literacy works and thus answers the question from the previous paragraph. According to Bernheim and Garrett. (2003:436), financial education at an early stage may increase an individual's comfort and familiarity with financial matters; therefore, providing early financial education can remove psychological barriers that hinder proper decision-making by individuals.

In this chapter a literature review will be done flowing from the above introductory paragraph, to ensure that the specific objectives listed below could be met.

In this chapter there will a literature review on:

- Different remedies for financial illiteracy (specific objective 6);
- Implementation of financial literacy education programmes (specific objective 6);
- Matter/topics to consider in personal financial education (specific objective 7); and
- An overview of subjects used in personal finance (specific objective 7).

3.2 Remedies for financial illiteracy and financial incapability and the effects thereof.

According to Braunstein and Welch (2002:448), efforts to improve the quality and quantity of financial information provided to consumers have been in place for many years. Although this might be true, Hogarth (2006:4) suggests that about a decade ago it would have been rather easy to determine the financial education initiatives, but new programs and initiatives which are added regularly, makes it impossible to determine the amount of initiatives on financial literacy education. Hogarth (2006:4) goes on to say that there seems to be a great amount of movement on the financial literacy front.

Although there are numerous movements on the financial literacy front, the following seems to be the most common providers when it comes to financial literacy programmes. Braunstein and Welch (2002:448) state that the providers of financial literacy programmes are a diverse group that includes employers, the military, state co-operative extension services, community colleges, faith-based groups and

community-based groups, to name but a few. These providers seem to target two main groups of individuals regarding financial literacy education, namely homeowners, who were the most common, and the youth. While two main groups were identified, the audience of many financial literacy education programmes can also differ from programme to programme, some will focus on a broad audience, while others might just focus on high school students or military personnel (Braunstein & Welch, 2002:449). It would also seem that the content of each programme differs. Braunstein and Welch (2002:448) found that the content and the audience of financial literacy programmes vary considerably; some programmes are intended to inform households about the fundamentals of saving and credit, while other programmes are more goal orientated, such as home ownership, saving accumulation or debt reduction.

The question still remains as to whether financial literacy education works. Caskey (2006) did a paper on whether a personal financial management education promotes asset accumulation by the poor. In his paper, Caskey (2006:14) comes to the conclusion that empirical studies suggest that personal financial education helps in promoting asset accumulation. Caskey (2006:14) also adds that most of the findings from these empirical studies are only suggestive. In the next few paragraphs, there will be a review of the different remedies for financial literacy education.

3.2.1 Financial literacy education at schools

In this paragraph, the need for financial literacy at school level will be shown from literature and it will be investigated whether financial education at school level shows any considerable results. The Minnesota Credit Union Network (USA), the Minnesota Family Involvement Council (FIC) and the University of Minnesota Extension Services joined forces to combat financial illiteracy among high school students in Minnesota, and to promote financial literacy education among high school students in Minnesota (Wright, 2005:15). Wright (2005:15) states that financial literacy is very important, since children learn about financial matters from a very young age. In April 2004, the collaborators co-ordinated a series of 10 financial education workshops, and invited all the state's public high schools and 175 Minnesota credit unions to participate in the workshops. The workshop topics that were discussed included topics like new credit cards, debt levels, student credit card practice, credit reports and scoring, legislative updates on the Fair & Accurate Credit Transaction Act,

bankruptcy reform, and proposed Minnesota legislation. Although it is believed that financial literacy education should begin at home, statistics show that this is not the case, and this is why these parties are using their collective resources to bring schools and credit unions together to provide true solutions (Wright, 2005:15). Therefore, there exists a need for financial education for high school students either from the high school itself or from other initiatives.

The following paragraphs will address the correlation between financial literacy education to high school students and the results obtained. According to Bernheim *et al.* (2001:436), studies found a positive correlation between financial training and the achievement of specific financial goals. A 1995 telephone survey of individuals aged 30 to 49 was performed to measure the long-term effects of financial curricula in high schools across the country. This study found that financial education in schools resulted in both increased exposure to such information and improved asset accumulation when participating students reached adulthood (Bernheim *et al.*, 2001:435). Bernheim *et al.* (2001:436), who studied the long-term effects on high school financial curriculum mandates on the correlation between education and saving, found that they provided the first systematic evidence on the long-term behavioural effects of high school financial curriculum mandates. The findings by Bernheim *et al.* (2001:436) are consistent with the view that financial curriculum mandates are uncorrelated with pre-existing inclinations to offer, require and take courses that cover financial topics. Bernheim *et al.* (2001:436-437) also found that financial curriculum mandates significantly increase exposure to financial education, and ultimately elevate the rates at which individuals save and accumulate wealth during their adult lives. These results contribute to the growing body of evidence that education may be a powerful tool to stimulate personal saving (Bernheim *et al.*, 2001:437). Braunstein and Welch (2002:452) also found that the long-term effects of financial curricula in high schools across the United States, which was state-mandated financial education, resulted in both increased exposure to such information and improved asset accumulation.

The above paragraph shows that there is a correlation between financial literacy education and saving, as well as asset accumulation. Although a correlation was found in the previous paragraph, there are also other positive effects experienced by high school students who received financial literacy education. A survey conducted by the National Endowment for Financial Education (NEFE) found that high school students, after participating in the High School Planning Program provided by the

National Endowment for Financial Education (NEFE), showed the following trends (Boyce and Danes: 1998:1).:

- Nearly 30 percent started saving;
- 15 percent stated that they began saving more;
- 37 percent said they now know how to keep track of their money;
- 47 percent said that they had more knowledge when it comes to cost of credit; and
- 38 percent said that they had more knowledge about investments and were more confident about managing their money.

The question remains as to whether the teachers at high school level are competent enough to present their students with the necessary financial literacy education. Barbara Argo, CEO of Cal Poly Federal Credit Union, when asked the question as to which financial literacy programmes they have initiated, responded by saying that their credit union developed a financial literacy curriculum library available to area educators. Their library includes materials from the National Endowment for Financial Education, and is free for teachers to access. They also have a full-time member who is an education director who conducts trainer-to-trainer sessions with teachers. Schools in California have implemented a high school exit examination programme, which includes financial literacy, and thus makes it important for teachers to pass on financial information to their students (Fleming, 2005:118).

As seen in the previous paragraphs, financial literacy education in schools shows positive results, and equipping teachers is one of the essential remedies, since these teachers are responsible for the shaping of the minds of students. Therefore, for outside parties, like government agencies and banks, to get involved in equipping teachers or school students does not stop at that, as they are creating better consumers and are investing in their consumers.

3.2.2 Financial literacy training by employers

As found in Chapter 1, financial literacy is a wide-spread problem that affects different countries as well as different age groups. In this paragraph, the importance of financial literacy education by employers will be highlighted. As the lack of financial literacy grows and the fact that many individuals are under saving or not planning ahead for their retirement, some employers have started to offer financial education

to their employees in the workplace (Lusardi & Mitchell, 2007:40). The question to be asked is whether this education adds value to the employees. Employers usually offer financial education training to workers when employers perceive their employees to be under saving (Bernheim & Garrett, 2003). This leads to employees who have a negative attitude when it comes to saving and the education received. Many of these types of complexities have meant that few researchers have come to a conclusion pertaining to the effects of seminars, as empirical findings are mixed (Lusardi & Mitchell, 2007:41).

One of the findings is that financial literacy education was most effective when retirement seminars were held for the lower half of the wealth distribution and particularly those who were not well educated (Lusardi & Mitchell, 2007:41). An increase in savings of approximately 18 percent was made by those who were least wealthy when they attended a seminar, which increased their financial wealth (a measure of retirement savings that excluded housing equity) (Lusardi & Mitchell, 2007:41). Lusardi and Mitchell (2007:41) state that this effect is derived from the very poorest where these individuals' wealth increased by more than 70 percent. This effect of financial education can mostly be seen among those individuals with low education, where financial wealth rose by approximately 100 percent. According to Lusardi (2006:14), although these percentages are high, this rise in financial wealth or not usually much, since the average change in wealth was that of only \$2000. Caskey (2006:1) found that personal financial management education has a positive impact when it comes to credit patterns and wealth, for those households that have a low to moderate income.

Bernheim and Garrett (2003:1516) have used a novel household survey to investigate the efficacy of employer-based financial education. Their primary focus has reinforced the effects of these programmes on savings, both in general and for the purposes of retirement. Bernheim and Garrett (2003:1517) interpret their findings in the light of several potential confounding considerations:

- That the availability of financial education in the workplace may be systematically correlated with the underlying predisposition to save;
- That their estimates may confound the effects of unobserved plan characteristics; and
- That education may affect reporting, rather than behaviour.

Though Bernheim and Garrett (2003:1517) are cognisant of the limitations of cross-sectional analysis, they believe that their results favour the hypothesis that financial education significantly stimulates retirement saving among low and moderate savers.

According to Braunstein and Welch (2002:451), there has been a shift in workplace programmes, as many individuals have assumed a greater responsibility for planning their financial needs for retirement; thus many employers have instituted training seminars to help employees assess their needs and evaluate their options for the future.

According to Braunstein and Welch (2000:451), the result of workplace financial education among employees, and the effect it has on employees' financial behaviour, has proven to be favourable. According to a study by Kim *et al.* (2001:28), more than half of the respondents who received counselling sessions and workshops changed at least one financial behaviour. Garman *et al.* (1999:83) noted that 75 percent of employees of a chemical production company, who received financial education, reported that they believe that they were able to make better financial decisions after attending the workshop and were also more confident in making decisions about investments. Braunstein and Welch (2002:451) also note that teaching financial literacy in the abstract appears to be ineffective and that providing consumers with ready access to information may better help households to avoid financial difficulties.

Thaler and Benartzi (2004:165-186) did a study on a savings programme that capitalises on the prosperity of households to engage in passive savings (called the Save More Tomorrow). In this programme, employees commit in advance a portion of their income towards a defined contribution retirement plan. Participants of this survey were offered counselling by an investment adviser throughout this study. What was found in this study was that the savings rate of participants tripled in twenty-eight months. Although this is not a traditional financial education programme, it shows that the manner in which information is presented can influence the effectiveness of financial literacy programmes and the motivation for the participants who participate in such programmes.

Noted from the above literature is that there are many different programmes being implemented in the workplace. It would seem from the literature that many of these programmes have a positive effect on the employees, especially if done in a practical

manner. Also to be noted is that individuals from lower-income classes tend to benefit more from these educational programmes than those from a higher class.

3.2.3 Other financial literacy training

A study done as part as the American Dream Demonstration, examined the effectiveness of the Individual Development Account, which is subsidised savings accounts targeted at the poor. Matching contributions would be provided if the balance is used for a specific purpose (Lusardi & Mitchell, 2007:41-42). According to Schreiner *et al.* (quoted by Lusardi & Mitchell, 2007:42), in a study that included 2364 participants, aged 13-72, of which 80 percent were female, it was found that those individuals with no financial education saved less than those who were exposed to the educational programme. The effect of the programme was nonlinear and after eight to ten hours of financial education training, the results were that there were no increases in the projected savings despite the additional financial education training. It might be that the information provided did not relate to the individuals and thus did not make the financial education ineffective.

In a research study conducted by the Federal Services Authority, it was clear that the respondents aged 18-24 were not engaging in financial information currently provided to them, almost irrespective of the source providing the information. The main reason provided for not seeking financial information, is that they did not recognise the need to consider this information in the first place. When the respondents were encouraged to read information on financial concepts provided by institutions, none of it was felt to be targeted specifically at young adults. As a result of this, many young adults felt disenfranchised, and many did not know how to interpret the information that was provided (FSA, 2004b:49).

According to Braunstein and Welch (2002:450), the cornerstones of government housing policy objectives and community development strategies in the United States of America are home ownership, a primary mechanism for household asset accumulation, and that a considerable amount of resources have been devoted to support consumers to buy a home. To prepare people for the responsibility of a mortgage, pre-purchase counselling has long been a way to prepare prospective homeowners, especially those who have a low income, inadequate savings, or impaired credit histories (Braunstein & Welch, 2002:450). Many of these

programmes for homeowners include a financial literacy component and address, for instance debt management budgeting and saving. As a catalyst for neighbourhood stabilisation, community organisations provide financial literacy programmes to enable borrowers to qualify for a mortgage and appropriately manage their debt so that these organisations can help develop more “bankable” borrowers (Braunstein & Welch, 2002:450).

Borrowers who received pre-purchase home ownership counselling had, on average, a 19 percent lower ninety-day delinquency rate than borrowers with “equivalent observable characteristics” who had not received any counselling (Braunstein & Welch, 2002:450). Borrowers who received individual pre-purchase home ownership counselling had a 34 percent lower delinquency rate than those who did not receive any counselling, while those who received classroom and home study training had 26 percent and 21 percent lower delinquency rates respectively. However, telephone counselling did not prove to lower the delinquency rate (Braunstein & Welch, 2002:450).

According to Fox *et al.* (2005:197), there are three different types of financial education programmes. The first programme should be aimed at improving basic financial literacy. Topics that would be covered in this programme should be topics like budgeting, savings and credit management. In the second programme, individuals should receive specific training about retirement and savings. The third programme should address topics like home buying and home ownership.

3.2.4 Summary

From the above it is clear that financial education or training has a positive effect on a person's financial literacy. It would seem that individuals who received financial education had gained an advantage when it comes to planning ahead, retirement, investment and money managing. Also seen from the literature is that financial education in schools can provide a solid platform to build from. The best time to provide financial literacy education therefore also seems to be before a person starts his or her employment.

3.3 Matters to consider in personal financial education

3.3.1 Factors that can be considered when defining such a programme

When looking at the literature, there are certain challenges, elements and features that need to be considered by policy-makers and educators of financial literacy. When combining these challenges, elements and features, the following summary can be made from the literature.

- The topics – What information does the receiver of the programme need or acquire? Does the receiver need information about cash flow management, savings or investments? (Hogarth, 2006:3-4; Braunstein & Welch, 2002:456);
- The audience – Who is the financial education programme targeted at? The programme should be suited to relate to the audience receiving the programme (Hogarth, 2006:3-4; Braunstein & Welch, 2002:456);
- Learning styles – What type of learning style best suites the specific audience or learner? For example, is the receiver of the programme a visual or auditory learner? (Hogarth, 2006:3-4; Braunstein & Welch, 2002:456);
- Behavioural stage – What is the learner's current stage of behavioural change? Are most targeted learners in the pre-contemplation, contemplation, preparation, action, or maintenance state? (Hogarth, 2006:3-4; Braunstein & Welch, 2002:456);
- A shared sense or purpose – Attempt to make more of the work that all of these participants are doing. In order to facilitate this, all participants need to agree on a common set of goals or objectives to which all of the participants can contribute. To be effective, the participants who participate all need to point in the same direction (FSA, 2003:10);
- Based on consumer needs – Understanding the participants who are helping with financial capability is very important when it comes to engaging with consumers, as well as the basis of the strategy. Most consumers will only identify a financial need when a particular event happens in their lives. Understanding when consumers seek financial advice will be the key to finding the right approach for raising financial capability. Relating to consumers, it is important to speak the language the consumer speaks (FSA, 2003:10);

- A co-ordinated approach – Sharing the same objectives will not be enough to raise financial capability, a more coherent, integrated, long-term effort is required to raise financial capabilities among consumers. This will imply some agreement on priorities and co-ordination of related work programmes to ensure that the whole adds up to more than the sum of the parts. One must investigate which provision already exists, and evaluate how effective this provision is, in order to identify the gaps and to fill them accordingly (FSA, 2003:11);
- With sufficient autonomy – Although all the participating parties need to work towards the same goal, the FSA recognises that every organisation or participant will have its own reason for contributing to the strategy of financial capability and will need to be confident that the work it is doing as an organisation is in pursuit of its own objectives, in its own way. This will require quite a difficult balancing act (FSA, 2003:11);
- Using targeted communications – Communication to the consumer must not be seen just as a matter of providing information, but it must be targeted at meeting the needs of consumers. According to the FSA (2003:11), it is proven that information overload is one of the reasons people switch off. The strategy should deliver simple, clear messages to specific target groups. This strategy needs to be innovative in its approach, using both traditional forms of communication, and developing new fresh and creative options to deliver the message to the consumer (FSA, 2003:11); and
- Effectiveness – There should be a measure to estimate the effectiveness of the financial literacy programme (Braunstein & Welch, 2002:456).

Although the above elements, factors and features are all valid matters to consider in personal financial education, one must remember that the definition of financial literacy differs from person to person. This fact will be further highlighted in the next section. Braunstein and Welch (2002: 456) state that many programmes are designed to provide as much information as possible in the least amount of time; this can be too much information for some people and too little for others. Braunstein and Welch (2002:456) state that in an ideal world, financial educators would analyse each individual's needs and provide customised training based on the needs of every individual. Although this is seemingly the best way to deliver financial literacy education, it is very time and resource intensive. Therefore, educators who deliver financial literacy education should be seeking ways to analyse consumer needs more effectively and deliver pertinent information more efficiently, and modify their

approaches when delivering financial education accordingly (Braunstein & Welch, 2002:457). Braunstein and Welch (2002:457) go on to state that educators or practitioners who can demonstrate the effectiveness of their programmes, should be able to identify the “best practices” and the setting of policies that may lead to consumers being better equipped in terms of financial literacy.

Moore (2003:28) found the same in his survey, stating that respondents would prefer to have a personalised way of learning about financial issues, rather than attending a financial literacy information session. Lusardi and Mitchell (2007:43) state that programmes that are targeted at specific subgroups would be more effective to address different needs in those subgroups, while Lusardi and Mitchell (2007:43) had a different approach to financial education, namely a one-size-fits-all education programme.

Even though financial literacy education would differ from person to person, it must be remembered that as with any other type of education, it takes time to get individuals to become financially literate. Lusardi and Mitchell (2007:43) state that, while learning more about the consequences about financial illiteracy, it should be kept in mind that one must be cautious when concluding that financial education has a potent effect on retirement saving. Lusardi and Mitchell also state that the cure for financial illiteracy will not be cured by a one-time benefit fair or a single seminar on financial economics. Lusardi and Mitchell (2007:43) go on to state that it is not that financial education is ineffective, but the cure is not appropriate for the disease.

The literature points out that even if all the factors mentioned above are considered and an individual's course is implemented for each individual, there are still a few matters that need to be taken into consideration. One of the key barriers for young people aged 18-24 to engage with financial messages, is the lack of appreciation for the need to know more about financial matters and therefore the lack of the desire to engage in financial information and education. The financial vehicle to achieve this is the main concern, since these young people are short-termist, carefree and are focused on the end goal. The challenges are therefore not what to provide, but how to provide financial information in order to reach these young people and to make them begin to seek this information for themselves, and to recognise the need for financial information. Repositioning the way in which financial messages are delivered can help to raise the profile of finances generally for this audience; focusing on a benefit-led approach, thus highlighting what young adults can gain, both

practically and emotionally. Within this framework, highlighting that even a relatively minor financial decision can have an impact on lifestyle, helps to encourage greater consideration of decisions, as currently viewed by these young people as unimportant or uninteresting (FSA, 2004b:49).

Therefore, there are several key features, elements and factors that should be taken into consideration when designing a financial literacy course. These are: topics, audience, learning styles, behaviour, shared sense of purpose, consumer needs, co-ordinated approach, sufficient autonomy, targeted communication, and effectiveness. It also would seem that a personalised form of financial literacy education is preferred over the one-size-fits-all approach when it comes to presenting individuals with financial literacy education. Also, financial literacy education is not limited to a once off occurrence, but rather develops as an ongoing process. The last paragraph also showed that it should be kept in mind that it is not about *what* to provide in financial literacy education, but rather *how* to provide financial literacy education and *how* to make individuals think for themselves.

3.3.2 Individuals' needs

In the previous paragraph the matters to consider when designing a personal financial literacy programme were discussed. In this paragraph, a review will be performed of the different needs of individuals in terms of topics when it comes to financial literacy education.

Rhine and Toussaint-Comeau (2000:3) state that identifying the appropriate subject areas and audiences is the first step when looking to implement a financial literacy education programme. Rhine and Toussaint-Comeau (2003:5) go on to state that most consumers can benefit from learning about all topics. The topics specified by lower-income individuals and students were budgeting, personal finance, and keeping record of financial transactions. Rhine and Toussaint-Comeau (2003:5) also state that there is a need to educate consumers about savings, and that there is also a need to educate persons about financial services and the costs associated with these services. Rhine and Toussaint-Comeau also found that participants in the study viewed information and education about loans as critical, especially pertaining to home mortgages.

According to the ANZ Banking Group (2003:66), in their survey on financial literacy in Australia and New Zealand, only 14 percent of respondents stated that they did not need any further financial education. In this survey, there were some key areas that were identified by the respondents that they felt they needed further education on. Investing was the area that most of the respondents stated they needed further education on; other areas included budgeting and taxation.

The ANZ Banking Group (2003:67) found that 14 percent of respondents stated that they need no further financial education. The following results have been taken from this study:

- 47 percent of respondents stated that they felt they needed further education on the topic of investment;
- 20 percent of respondents felt that they needed further education on superannuation;
- 15 percent of respondents said that they felt they needed further education on budgeting; and
- 10 percent of respondents said that they needed further information on taxation.

Rhine and Toussaint-Comeau (2000:3) stated that individuals should not only be educated about managing personal finances, but also about the benefits of saving. Rhine and Toussaint-Comeau (2000:3) go on to state that many individuals are not in the habit of saving regularly. Rhine and Toussaint-Comeau (2000:3) suggest that learning how to save should be done from a young age to promote a culture of saving, while Rhine and Toussaint-Comeau (2000:3) also suggest that “why to save” is more important than simply teaching individuals “how to save”.

Individuals tend to differ in their opinion about financial literacy topics, but it would also seem as though individuals tend to differ in their opinion as to who has to provide financial literacy education or training, as well as how to receive financial literacy training or education. Lusardi and Mitchell (2007:43) found that people have difficulty following planned actions, suggesting that education alone may not be sufficient in curing financial illiteracy; they rather suggest that it is important to give consumers the appropriate tools to enable them to make adequate financial decisions, rather than simply delivering financial education to these consumers. In addition to the last point, people differ in their levels of financial literacy or financial illiteracy. Respondents in this survey suggested that financial education should be

delivered by means of some of the following: financial adviser/stockbroker/accountant, via communications from financial institutions, and the Internet (ANZ Banking Group, 2003:66).

3.3.3 The timing of financial literacy education

In the previous paragraphs it was shown that there are certain factors to consider when designing a financial literacy programme and that individuals have different needs when it comes to financial literacy education. The following step it to look at the timing of financial literacy education.

In a study done by the Federal Services Authority (2004a:32), in the United Kingdom, the question was asked as to when to start with financial literacy education or training. Most of the respondents of the study believed that learning about financial matters or money should begin in secondary school at an age of about 14-15, because respondents stated that children of a lesser age would not see the relevance of learning about financial matters and would therefore not pay attention to such information. The respondents of the study, which were mostly young people, said that they would also be less receptive to information delivered at school that was not directly relevant to them at the time. It is therefore crucial that, like all good educational experiences, the information is being delivered in an impacting and relevant way in the school environment (FSA, 2004a:32). Therefore, it would seem that from secondary school level financial literacy education can be implemented.

If financial literacy is implemented from a secondary school level, when can results be expected? The FSA (2003:16), in their strategy towards financial capability, was faced with the question over what kind of timescale they should implement their strategy, as well as over what kind of timescale they can expect results. The FSA stated that is important to see some early results from the strategy, while the full impact of their strategy will be more likely to be visible in the next generation and beyond.

As in previously mentioned paragraphs, financial literacy education is not a once-off event or occurrence. When working with timing it is also important to consider the latter. The FSA (2003:16) realised that they should tackle the problem in bite-sized chunks and should not to try to solve the problem in one effort. The FSA (2003:16)

will identify and set targets for themselves, which they will reach over a period of time. This will help them to assess whether they are moving towards the long-term goal they set – that of confident, better-informed consumers. The FSA (2003:16) states that the effectiveness of their strategy depends on the extent of their ambition and on the nature and level of support they receive from their partners.

A summary of the timing of financial literacy education can be divided into the following categories:

- It is important to start from an early age (secondary school level);
- It is important to see early results when implementing a programme;
- The full impact of a financial literacy education programme may only be visible in the next generation; and
- It is important to give bite-sized chunks of information regarding financial literacy education over a certain period.

3.3.4 How and what to provide financial information about

This paragraph will highlight to whom and how to provide financial information to individuals. This paragraph will therefore be split into the type of financial literacy to be provided and how to provide financial literacy.

The type of financial literacy to be provided

In a previous paragraph, one of the factors when it comes to financial literacy education is the type of financial literacy to be provided.

The Federal services Authority (2003:12), in their national strategy towards financial capability, stated that their strategy should cover the following aspects:

- Financial education – The FSA states that to improve financial capability, well targeted and readily accessible education should be available to children, young people and adults. The aim of such education should be to get people to a point where they could recognise financial matters as important, and also to get them to identify and address their own financial needs or at least know where to find the necessary help they need;

- Information – Information that is provided to consumers must be relevant; thus addressing the questions these consumers have, and providing them with information in such a manner that they are comfortable with it. The information that is provided must also be available in a time or place that is convenient to them; and
- Generic advice –The FSA (2003:11) states that the aim is to help consumers identify their needs and to provide them with generic solutions; the aim should not be to provide product-specific recommendations. According to the FSA (2003:11), “it may be possible to build on advisory services and other facilities which are already available.”

The ANZ Banking group (2003:6) found in their survey of financial literacy that there are certain elements that are needed to make an individual become financially literate and thus information or education about these topics would be significant. According to the ANZ Banking group (2003:6-11), these elements are the following:

- Mathematical ability – This is the basis for financial literacy as it used to perform calculations when preparing a budget and understanding financial records.
- Investment fundamentals – The relationship between risk and return is important in making correct investment decisions.
- Retirement planning – The importance of retirement needs to be stressed and it is each individual’s responsibility to plan for retirement – it is not the responsibility of the government.
- Financial records – Interpreting and understanding financial records are important since it puts individuals in a position to identify possible problems when it surfaces.
- Consumer awareness – Important topics under this section are: payment methods, fees and charges, and resolving disputes.
- Behavioural issues – These are the core financial skills, such as budgeting, saving and investing, that every individual needs.
- Shopping around – The competition that is in the market will only be useful if respondents learn to shop around.

Therefore, to summarise, there seems to be several aspects or topics of a broad nature that should be included when it comes to the type of financial literacy to be provided.

How to provide financial literacy education

As seen in previous paragraphs, it is not so much what to provide, but the *how to provide* financial literacy. From the literature a summary will be made in order to identify the most common methods.

Rhine and Toussaint-Comeau (2003:5-7) identified several ways of delivery methods when it comes to financial literacy education. Rhine and Toussaint-Comeau (2003:5-7) also identified several advantages and disadvantages associated with each of the delivery methods of financial education. These methods of delivery will shortly be highlighted, as well as their advantages and disadvantages:

- Information seminars
 - They are good when promoting financial literacy among adults;
 - A formal seminar can be an intimidating experience;
 - Seminars held at a location familiar to the participants may be viewed as less intimidating;
 - The date and time of these seminars are very important; and
 - Advertising plays a key role in information seminars.
- Information pamphlets/booklets
 - This is a quick way to reach a large audience;
 - Pamphlets are most effective when they form part of a seminar;
 - Attractiveness, engaging and easy to follow are important when pamphlets are considered;
 - Information should be impartial and should be truly educational in nature; and
 - Pamphlets should consider different languages and ethnic makeup.
- Newspaper/radio/television/video
 - Most people either own or have access to a newspaper/radio/television, which makes it accessible;
 - Newspapers can reach elderly people who have mobility constraints; and
 - Newspapers can also be targeted towards a specific audience, and thus reach these specific audiences.

- Web pages/Internet
 - The Internet is an efficient and cost-effective way when delivering information about personal finances; and
 - Lower-income groups do not have access to the Internet.

Moore (2003:28) also found that respondents viewed the following ways as the most important when learning about financial literacy:

- Personal financial experiences;
- Friends and family; and
- High school and college courses.

Moore (2003:28) also found that respondents would prefer the following ways to be taught about personal finance:

- Internet or computer programmes (31%);
- Video presentations (23%);
- Informal seminars (16.5%); and
- Formal courses at a high school in their community (15%).

The FSA (2004a:32) found the following relevant ways pertaining to the delivery of financial literacy:

- Learning through financial games;
- Experimental learning; and
- External speakers – who have had first-hand experience of how the world of finance operates.

So far it can be seen that some of the methods overlap and the most common methods appear to be information seminars, video presentations and the Internet. It is important to note that different methods cater for different learning types.

Although three main methods were identified, the FSA (2004:49b) suggested that the visual material used in financial literacy education needs to be simple and well signposted, with information presented in a short, bullet-point style so that young adults are not put off by the material itself. Staying away from jargon is essential, seeing as most young adults do not understand it or they find it intimidating.

Therefore, the *how* pertaining to the delivery of financial literacy information should be combined with the information from the previous two paragraphs. Thus, information seminars, video presentations and the Internet should be used incorporating simple material and no financial jargon. Also, the information presented should encourage individuals to engage with the material and should consider the three points in the previous paragraph.

3.3.5 Summary

It would seem from the literature that there is a definite need for financial education among all age groups, but especially young people. There appears to be programmes aimed at making people financially literate. Also, from the literature, it can be noted that financial literacy education that is implemented at a young age, gives a good base to build on later in life – for the individual as well as the educators. It should be kept in mind that people differ and that no programme can be the ultimate programme when delivering financial education training. Also to be considered is that certain topics are more difficult to master than others, for example budgeting versus risk diversification. It is therefore important when delivering financial education to identify the specific needs of the individual receiving the training. One should also make use of a framework or principles identified by people who have tried and tested their training. It would be interesting to assess or measure whether these programmes actually have the ability to make an individual financially literate.

3.4 An overview of topics used in personal finance

Many books and courses on personal finance are available for educating individuals about personal finance in order to become financially literate. In this part of the study, the literature will be researched and a correlation will be made to show whether these books and courses show any correlation in terms of the topics they present to readers or learners. Also as part of the literature review, the more popular books people tend to buy that are not necessarily considered to be of an academic nature will be reviewed. The courses currently available at local universities on personal finance will also be reviewed. The findings of researchers will be briefly reviewed. After reviewing the books, courses and what researchers found, a comparison by

means of a matrix will be drawn up to illustrate the findings. This will also be done to identify a comprehensive topic list.

3.4.1 Books

Several books will be reviewed to see which topics are the most popular ones and which ones are considered to be irrelevant. The method that was used to choose the appropriate books can be described as follows. Firstly, the entire collection of books on personal finance at the local library was reviewed. It was decided to choose books that were dated back a few decades ago to more recent books in order to also note whether the topics have changed over the years.

The first book that will be examined, was written by Ike Mathur, namely *Personal finance*. In Mathur's book (1989:1-659), he divides personal finance into several different chapters, with sub-divisions for the topics of each chapter. The topics covered by Mathur (1989:1-659) are the following:

- Financial planning;
- Budgeting;
- Cash;
- Credit;
- Housing and transportation;
- Insurance;
- Investment; and
- Retirement and estate planning.

The second book to be reviewed was written by Nico Swart, namely *Personal financial management*. Swart (1996:1-624) also divided his book into several chapters. In Swart's (1996:1-624) book on personal financial management, the following topics are covered:

- Personal financial planning;
- Measuring and assessing personal financial performance;
- The time value of money;
- Career planning;
- Income tax planning;
- Estate planning;
- Investment planning;

- Buying a house;
- Buying fixed property;
- Buying an existing business;
- Protection planning;
- Credit planning;
- Productivity planning;
- Health planning; and
- Retirement planning.

The third book that will be reviewed was written by Thomas W. McRae, namely *Managing your own finances*. McRae (1997:1-335) also lists several different topics that form his chapters. The topics in McRae's (1997:1-335) book on managing your own finances are the following:

- Managing your own personal finances;
- Investing – real assets;
- Investing – an annuity;
- Managing your pension;
- Financing and investing in your home;
- Insurance;
- Personal credit;
- Personal tax;
- Keeping score;
- Protections against poor financial advice and fraud; and
- Finding out about personal finance.

The fourth book to be reviewed was written by Sid Mittra, namely *Personal finance: Lifetime management by objectives*. Mittra (1977:1-612) divides his book into five main parts, with each part consisting of chapters that are subdivided into the main parts of Mittra's book. The topics covered in Mittra's (1977:1-612) book on personal finance are the following:

- Management of personal finances;
- Consumption expenditure and budgeting;
- Consumer debt and credit;
- Protective health insurance – health, auto and home;
- Savings;
- Life insurance;

- Homeownership;
- Investment ;
- Retirement;
- Taxation and personal finance; and
- Estate planning.

The fifth book that will be reviewed was written by Gale Hurley, namely *Personal money management: A consumer guide*. Hurley's (1976:1-451) book is also divided into three broad themes, namely financial planning for daily living, risk and the need for insurance, and invest for the present and the future. These themes have sub-divisions, which form the chapters in Hurley's book. The subjects covered in Hurley's (1976:1-451) book on personal money management are the following:

- Planning ahead – budgeting, record keeping, financial goals, and choosing among alternatives;
- Consumerism;
- Consumer credit;
- A planned savings program;
- Using bank services;
- Life insurance;
- Property and casualty insurance;
- Retirement;
- Estate planning;
- Income tax;
- Home and real estate planning; and
- Investment.

The sixth book that will be reviewed was written by Philips and Lane, namely *Personal finance*. The book by Philips and Lane (1963: 1-499) consists of four main parts, namely an introduction, credit, saving and investment, major personal expenditures, and lifetime financial security. The main part of the book is split into several sub-divisions that form the chapters of the book. The subjects covered by Philips and Lane (1963: 1-499) are the following:

- Personal income and expenditure;
- Budgeting;
- Credit and credit facilities;
- Savings and savings facilities;

- Financial and investment programs;
- Investment – institutions and companies;
- Housing – expenditure and buying, selling or building a house;
- Expenditure – transportation, medical care, government services;
- Insurance – property and casualty;
- Life insurance;
- Income management strategy;
- Retirement; and
- Estate planning.

The seventh book that will be reviewed was written by Winger and Frasca, namely *Personal finance: An integrated planning approach*. The book by Winger and Frasca (1993:1-609) is divided into five different parts, namely a basic framework, spending, borrowing and saving, protecting what you have, investing for the future, and long-term planning. The five main parts are further divided into sub-divisions that form the chapters of the book. The subjects covered by Winger and Frasca (1993:1-609) are the following:

- Personal financial planning;
- Career planning and preparation;
- Financial statements;
- Budget management;
- Taxes;
- Cash management;
- Consumer credit;
- Consumer durables;
- Housing;
- Life insurance;
- Health care and disability insurance;
- Property and liability insurance;
- Investment – basics, stocks and bonds, portfolio management, and investing in tangibles;
- Retirement and pension planning; and
- Estate planning.

The last book that will be reviewed was written by Kapoor, Dlabay and Hughes, namely *Personal finance*. The book has six main parts that are split into several

different sub-divisions under each main section. These sub-divisions form the chapters of the book. The book written by Kapoor *et al.* (1991: 4-669) covers the following subjects pertaining to financial literacy:

- Personal finance planning;
- Personal career strategies;
- Financial statements;
- Budgeting;
- Taxes;
- Financial institutions – Banking services;
- Consumer credit;
- Cost of credit alternatives;
- Consumer purchasing strategies and legal protection;
- The finances of housing;
- Transportation – options and cost;
- Personal risk and insurance;
- Home and automobile insurance;
- Health care and disability insurance;
- Life insurance;
- Investment – fundamentals, stocks, bonds and mutual funds;
- Real estate and other investment alternatives;
- Retirement planning; and
- Estate planning.

3.4.2 Local university courses

Three local university courses will be reviewed to see which topics are the most popular ones and which ones are considered to be irrelevant. The procedure that was followed to choose the local university courses can be described as follows. The homepage of each university in South Africa was used to search for any course in personal finance that might be available. Through the use of the Internet, three university courses were identified.

The first local university course that will be reviewed is a course on basic financial life skills at the University of South Africa (UNISA). This is a three-month course in

basic financial skills, teaching learners about personal money matters. The course, according to UNISA (2007a), should enable learners to do the following:

- Do their own financial planning;
- How to budget;
- Identify debt problems and plan their debt situation;
- Choosing a micro-loan from the best micro-lender;
- Budgeting in order to buy a car;
- How to evaluate and plan the purchase of a residence;
- How to avoid investment pitfalls and how to choose the right investment;
- How to protect your income and assets;
- Retirement planning in order to retire financially independent;
- Protect your job and how to start your own business; and
- How to make use of a bank, banking products and services.

The second course is a course on personal financial management, also at the University of South Africa (UNISA). This is a six-month course in personal financial management in order to provide shop stewards, union leaders, managers, employees, entrepreneurs and professional people the fundamental skills of personal financial management. This course, according to UNISA (2007b), covers the following topics:

- Investing your package – severance or retirement;
- How to choose a broker;
- Financial risk needs and objectives;
- Choosing between pension and provident funds;
- Different investment alternatives;
- Moving to a new employer;
- Buying an existing business or franchise;
- Offshore investment;
- Investor protection;
- Investment;
- Income tax;
- Estate and retirement planning pitfalls;
- Ante-nuptial contracts; and
- Emigration.

The last course is also a course on personal financial management at the North-West University (NWU). This is also a six-month course on personal financial management. This course should enable learners to do the following, according to the NWU (2007):

- To understand and interpret general terms in the economy;
- To predict the interactions and movement of the inflation rate, interest rate, exchange rate, taxation and labour climate with the help of certain indicators;
- With the help of the last prediction to use the correct procedure in order to have an advantage in his/her work area.
- To manage his/her personal finances including topics like :
 - check account;
 - credit cards;
 - debit cards;
 - mortgages;
 - leases;
 - investments;
 - long term insurance; and
 - budgeting.

3.4.3 Research

In Chapter 2, a comparison between the different levels of financial capability in various countries was examined. This comparison was done by reviewing the research done by researchers who mostly used questionnaires. Most of the questionnaires had the same topics to test individuals' levels of financial capability. Therefore, the topics used in these questionnaires could be used when constructing a course in personal finance or a course in improving an individual's financial literacy levels. The process used for choosing these research studies can be described as follows: The literature review showed that there are only a selected few countries that have documented research studies regarding financial literacy capabilities or personal finance. The studies that were documented were chosen to form part of this review.

The topics that were mostly the same for most questionnaires were the following:

- Keeping record – 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).

Retirement planning – 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).
- Investments and savings – FSA (2006:93-94), ANZ Banking Group (2003:6,9&10), Feeny (2006:13), Chen and Volpe (1998:113), Moore (2003:8), FinScope (2004:18-19), Bernheim *et al.* (2001:451).

3.4.4 Summary of topics

A summary of all the topics that are covered by most books, courses and research will be summarised in a matrix form. Each one of the categories, namely books, courses and research will have its own matrix. A final matrix will be used to summarise all of the categories used in previous matrixes, compiling a comprehensive topic list.

Books

Table 3.1: Comparison of books reviewed

Books	I M	N S	T M	S M	G H	P & L	W & F	K, D & H
Financial planning	X			X	X	X	X	X
Budgeting	X	X	X	X	X	X	X	X
Cash	X						X	
Credit	X	X	X	X		X	X	X
Housing	X	X		X		X	X	X
Insurance	X	X	X	X	X	X	X	X
Investment	X	X	X	X	X	X	X	X
Retirement	X	X	X	X	X	X	X	X
Estate planning	X	X	X	X	X	X	X	X
Taxes		X	X		X		X	X
Career planning		X					X	X
Health planning/insurance		X		X	X	X	X	X
Debt				X				
Savings					X	X		
Consumerism					X			
Personal finance – day-to-day financial activities			X	X		X	X	X
Expenditure				X	X	X	X	X
Financial statements/record keeping		X	X		X		X	X
Financial institutions								X
Productivity planning		X						

*I M = Ike Mathur, *Personal finance*

*N S = Nico Swart, *Personal finance management*

*T M = Thomas McRae, *Managing your own finances*

*S M = Sid Mitra, *Personal finance: Lifetime management by objectives*

*G H = Gale Hurley, *Personal money management: a consumer guide*

*P&L = Philips and Lane, *Personal finance*

*W&F = Winger and Frasca, *Personal finance: An integrated planning approach*

*K, D & H = Kapoor, Dlabay and Hughes, *Personal finance*

Local university courses

Table 3.2: Comparison between local universities

<u>Local University Courses</u>	UNISA B F L S	UNISA P F M	North-West University P F M
Financial planning	X		
Budgeting	X		X
Debt	X		X
Budgeting – Buying a car	X		
Housing	X		X
Investment	X	X	X
Insurance	X	X	X
Retirement	X	X	
Career	X	X	X
Starting a business	X	X	
Banking	X		X
Choosing a broker		X	
Financial risk		X	
Tax		X	
Estate		X	
Ante-nuptial contracts		X	
Emigration		X	
Credit			X
Interpret economy principles			X

* B F L S = Basic Financial Life Skills

* P F M = Personal Financial Management

Researchers

Table 3.3: Comparison between researchers

Researchers	FSA	ANZ	F	C & V	M	Fin
Keeping record	x	x	x	x		
Credit	x	x		x	x	x
Planning ahead	x	x	x	x	x	x
Retirement planning	x	x		x	x	x
Financial planning	x	x				x
Financial products	x	x			x	x
Investments and savings	x	x	x	x	x	x

*FSA = Federal Services Authority

*ANZ = ANZ Banking Group

*F= Feeny

*C & V = Chen and Volpe

*M = Moore

*Fin = FinScope

Comparing topics in books, courses and research

The following comparison was made to obtain a comprehensive overview of the topics involved in financial literacy education.

Table 3.4: Comparison between topics found in books, courses and research

	Books	University courses	Researchers
Financial planning	X	X	X
Budgeting	X	X	X
Cash	X	-	-
Credit	X	X	X
Housing	X	X	-
Insurance	X	-	X
Investment	X	X	X
Retirement	X	X	X
Estate planning	X	X	-
Taxes	X	X	-

Career planning	X	X	-
Health planning/insurance	X	-	X
Debt	X	X	-
Savings	X	-	X
Consumerism	X	-	-
Personal finance – day-to-day financial activities	X	-	
Expenditure	X	-	-
Financial statements/record keeping	X	-	X
Financial institutions	X	-	-
Productivity planning	X	-	-
Starting a business	-	X	-
Banking	-	X	X
Ante-nuptial contracts	-	X	-
Emigration	-	X	-
Interpreting economic principles	-	X	-

Topics that were used in one of the three sources that were used to evaluate topics in personal finance are:

- Cash;
- Consumerism;
- Expenditure;
- Financial institutions;
- Financial planning;
- Starting a business;
- Personal finance – day-to-day financial activities;
- Ante-nuptial contracts; and
- Emigration.

Topics that were used in two of the three sources that were used to evaluate topics in personal finance are:

- Housing;
- Insurance;
- Estate planning;
- Taxes;
- Career planning;
- Health planning/insurance;

- Debt;
- Savings;
- Financial statements/record keeping; and
- Banking.

Topics that were used in all three sources that were used to evaluate topics in personal finance are:

- Financial planning;
- Budgeting;
- Credit;
- Investment; and
- Retirement.

3.4.5 Summary of topics to consider in a personal financial literacy curriculum

Any course in personal finance management should therefore include at least the following topics:

- Financial planning;
- Budgeting;
- Credit;
- Investment; and
- Retirement.

These topics were found to be the most common among all three sources that were used in comparing topics on personal finance. Thus, when it comes to educating an individual about personal finance, these topics should be included. There were topics that were not common to all three sources, but scored two out of three (66 percent) when it came to comparing the topics. These topics were:

- Housing;
- Insurance;
- Estate planning;
- Taxes;
- Career planning;
- Health planning/insurance;
- Debt;

- Savings;
- Financial statements/record keeping; and
- Banking.

These topics can be included to personalise education about personal finances according to the needs of the participants, since most of the topics are still highly relevant. What has to be kept in mind is that personal finance education will vary for each individual or group. Thus, other factors that should be considered are factors such as age, gender, income, and goals. Educating an individual about personal finance should therefore be a mixture of the right topics, other factors and the personal needs of individuals or groups.

3.5 Summary

In this chapter, the following topics were addressed:

- Remedies for financial illiteracy and financial incapability and the effects thereof (paragraph 3.2);
- Matters to consider in personal financial education (paragraph 3.3); and
- An overview of topics used in personal finance training (paragraph 3.4).

A brief summary of these points follows:

Remedies for financial illiteracy and financial incapability and the effects thereof

It is clear that financial education or training has a positive influence on a person's financial literacy. It would seem that individuals who received financial education had gained an advantage when it comes to planning ahead, retirement, investment and money managing. Financial education in schools provides a solid platform from which to build. The best time to provide financial literacy education also seems to be before a person starts employment.

Matters to consider in personal financial education

There is a definite need for financial education among all age groups, but especially young people. There appears to be programmes aimed at making people financially literate. Financial literacy education that is implemented at a young age gives a good basis to build on later in life – for the individual as well as other educators. It should

be kept in mind that people differ and that no programme can be the ultimate programme when delivering financial education training. Also to be considered is that certain topics are more difficult to master than other, for example budgeting versus risk diversification. It is therefore important when delivering financial education, to identify the specific needs of the individual receiving the training. It would also be suggested that one should use a framework or principles identified by people who have tried and tested their training. It is also important to note that different methods cater for different learning styles

An overview of topics used in personal finance

Any course in personal finance management should include at least the following topics:

- Financial planning;
- Budgeting;
- Credit;
- Investment; and
- Retirement.

These topics were found to be the most common among all three sources that were compared. When it comes to educating an individual about personal finance, it is suggested that these topics should be included. There were topics that were not common to all three sources, but scored two out of three (66 percent) when it came to comparing the topics. These topics were:

- Housing;
- Insurance;
- Estate planning;
- Taxes;
- Career planning;
- Health planning/insurance;
- Debt;
- Savings;
- Financial statements/record keeping; and
- Banking.

These topics can be included to personalise education about personal finances according to the needs of the participants, since most of the topics are still highly

relevant. What has to be kept in mind is that personal finance education will vary for each individual or group. Thus, other factors that should be kept in mind are factors such as age, gender, income and goals. Educating an individual about personal finance should therefore be a mixture of the right topics, other factors and the personal needs of individuals or groups.

In the next chapter, a means to measure the level of financial literacy of university students will be compiled.

CHAPTER 4 - RESEARCH METHODOLOGY

4.1 Introduction

In the previous chapters, knowledge was gained by doing a literature study on various aspects of financial literacy. The following elements were addressed:

- The need for financial literacy (Chapter 1);
- A definition of financial literacy (Chapter 2);
- The advantages of financial literacy and the disadvantages of being financially illiterate (Chapter 2);
- The financial literacy competency levels identified in different countries (Chapter 2);
- The success of financial literacy education (Chapter 3);
- The proposed content of a personal financial curriculum (Chapter 3);

The development of a means to measure financial literacy, according to the knowledge gained in Chapters 2 and 3 of the literature study, is fundamental to this study.

According to Neuman (2000:23-24), social research can be divided into two main types of research. The first is basic research, which focuses on fundamental knowledge about the social world and also focuses on supporting theories to explain the fundamental knowledge. The second is applied research, where research is focused on solving a specific problem. In this type of research, theory is not as important as providing a solution to a specific problem. In this study, mainly basic research is used to attain fundamental knowledge about the *financial literacy competencies of third-year university students*. If basic research is then applied, further research needs to be done to explain the fundamental knowledge gained in Chapters 1 to 3. Research objective 8 (paragraph 1.3.2, page 9) was to suggest a means to measure the level of financial literacy of university students.

In this chapter, the research methodologies will be discussed in detail. This discussion includes:

- Previous methodologies used (paragraph 4.2, page 100);
- Method of research for this study (paragraph 4.3, page 107)

- Purpose of the study (paragraph 4.3.1, page 108);
- Research methodology and data collection techniques (paragraph 4.3.2, page 109);
- Designing the questionnaire (paragraph 4.3.3, page 110);
- Defining the population (paragraph 4.3.4, page 115);
- Conducting the empirical study (paragraph 4.3.5, page 117); and
- Ethical questions (paragraph 4.3.6, page 118).

4.2 Previous methodologies used

In this paragraph previous research and the methodologies used in that research will be investigated. A summary will also be provided to highlight what appear to be the strengths and/or weaknesses of each of the methodologies used. The two models chosen to compare methodologies is firstly a model used by the Federal Services Authority in the United Kingdom, and secondly a model used by the ANZ Banking Group in Australia and New Zealand. The reason why previous research methodologies will be investigated is to assist in:

- Choosing a qualitative or quantitative approach;
- Choosing a sample;
- Deciding which models or methods to choose; and
- Supporting the questionnaire design.

4.2.1 A model by the Federal Services Authority

In their study, the Federal Services Authority (2006:10) commissioned the Personal Finance Research Centre to design a baseline survey, which could be used to measure levels of financial capabilities. The study was carried out in the United Kingdom. The study was based on a methodological study by designing a baseline questionnaire in order to measure financial capabilities in the United Kingdom. A great deal of care was taken to define the concept of financial capability to ensure that the survey questions were able to measure this concept. In the survey by the FSA a range of statistical and descriptive methods was used (FSA, 2006:10), including:

- A literature and research review to develop a model for financial capability. Other questions in other surveys were also reviewed;

- Focus groups were held to explore people's perception of financial capability and ways of capturing financial capabilities in a survey;
- In-depth interviews with people who participated in the focus groups in order to develop the content of the questionnaire;
- Semi-structured interviews to provide a cognitive test of the questionnaire; and
- Two more waves of interviews to test the questionnaire.

The FSA used four different domains when developing their questionnaire. The four domains are:

- Managing money;
- Planning ahead;
- Making choices; and
- Staying informed.

According to the FSA, these domains are interdependent (FSA, 2006:10-11)

Overview of questionnaire used

The questionnaire used by the FSA covered the four domains as described in the previous paragraph. The FSA noted that it is important to collect detail about the respondents' circumstances in order to compare groups of people. The questionnaire used by the FSA included sets of questions on financial capability. The questions by the FSA (2006:11) covered the following areas:

- Applied financial literacy;
- Managing money;
- Planning ahead;
- Making choices about financial products;
- Staying informed;
- Money quiz; and
- Demographics – detail about the respondents.

Data handling

As with most studies and questionnaires, the return rate of the questionnaire was not 100 percent. Where more than three percent of answers were missing, a statistical model was developed to impute the missing responses. The procedure meets the

standard set by local government or academic surveys. Where the amount of missing data was less than three percent, the median value was used (FSA, 2006:12).

Data analysis

The development work done by the FSA, as mentioned in paragraph 4.2.1, indicated that four domains, from the previous paragraphs, were important constituents of financial capability. A range of detailed questions were asked related to each of the four domains (FSA, 2006:13).

Statistical analysis was used to be able to indicate levels of consistency in the ways that questions were answered by respondents. This initial, investigatory analysis helped to identify those questions that might be most confidently added into the scoring, as well as which questions might be discarded from that part of the analysis. However, the theoretical framework on which the ultimate decisions were based was clearly that which emerged from the long set-up and conceptual phase of the research project by the FSA (FSA, 2006:13).

It was clear from the research done by the FSA that there could not be an overall measure of a financial capability scale across the whole questionnaire; instead a separate score for each domain was developed (FSA, 2006:14). The measurement of these separate four domains would make up financial capability.

Methods of developing a financial capability “score”

The FSA indicated that their survey was largely based on patterns of behaviour rather than a “test” with right or wrong answers. The FSA adopted five broad criteria for the scoring system, agreeing that the scoring should be:

- Reliable;
- Valid;
- Relevant;
- Comprehensible; and
- Repeatable (FSA, 2006:14).

The approach or method that was used to develop a “score”, is known as factor analysis. Although this method is a well-tested method, it is rather complex and not easily explainable. This approach seems to be the best possible approach for these inter-related questions, since factor analysis is a tried and tested statistical approach

that is also widely used by the government funding allocations and in academic work (FSA, 2006:15-16).

Processing data

The statistical analysis done by the FSA required that their respondents had to answer a broad range of questions on the four specified domains. On occasion, it was necessary to combine the answers to two or more questions of the questionnaire to make sense the different routes the respondents took through the questionnaire. Sometimes new codes had to be given to questions where the questions did not apply to all of the respondents (FSA, 2006:17).

Using the resulting factor scores

At the end of the study, each respondent would have a separate score for each of the four domains mentioned earlier, and two scores for the sub-domain of managing money. The scores that are gathered from this study can be used in many different ways. One of the ways that these scores can be of use, is to consider groups that scored more or less highly on different domains (FSA, 2006:23).

Cluster analysis

The FSA used the process of cluster analysis to identify groups with similar factor scores across four of the five financial capability scores. The financial capability scores that were included by the FSA were the following: the two managing money scores, planning ahead and staying informed (FSA, 2006:25).

4.2.2 Model by the ANZ Banking Group

Research by the ANZ Banking Group (2003:68) measured financial literacy of Australians and New Zealanders. Their research that measured financial literacy was divided into three broad stages:

- Stage 1: Stakeholders survey
- Stage 2: Telephone survey
- Stage 3: In-depth interview survey

Because this study will use a questionnaire, only Stage 3 of this research, done by the ANZ Banking Group, will be considered. Stage 3 of the Adult Financial Literacy survey involved the completion of a self-completion questionnaire, followed by a

face-to-face interview – the interview lasts approximately 1-1½ hours. All the respondents in this survey were over 18 years old. The fieldwork was conducted over a period of five days (ANZ Banking Group, 2003:71).

Sample

The sample used in Stage 3 of the survey represented the adult population in Melbourne and Sydney, Australia. Broad non-interlocking quotas were used for gender, age, education and household income, and approximating their distributions within the national population aged 18 and older, was applied at this stage of the study (ANZ Banking Group, 2003:71).

Questionnaire development

The self-completion questionnaire and the in-depth interview form were developed by the researchers; the development involved an extensive process of internal review and testing. The final self-completion questionnaire had 28 questions with clear and correct answers, and could therefore be asked in a test-style multiple-choice format. In this questionnaire, there were also 20 questions about demographic characteristics (ANZ Banking Group, 2003:72).

The final in-depth interview form that was developed by the researchers had 43 questions; however, these could not be asked in the same format as the self-completion questionnaire, because this was an interview where there existed a need to probe beyond superficial answers to reveal reasoning and it therefore required the skills of a senior experienced interviewer (ANZ Banking Group, 2003:72).

Questions in both the self-completion questionnaire and the in-depth interview were scenario-based. In the self-completion questionnaire, scenarios could be provided directly to respondents, while with the in-depth interview, show cards had to be used (ANZ Banking Group, 2003:72). Both the self-completion questionnaire and the in-depth interview were based on the framework and investigated aspects of adult financial literacy, which were far too complex in attempting to measure via the telephone interview.

Framework used for measuring financial literacy and developing a self completion questionnaire

The ANZ Banking Group (2003:73) designed a framework in their study to measure the financial literacy of adult Australians and New Zealanders. The framework was

split into different categories and sub-categories. Each sub-category was further divided into basic requirements and advanced required competencies. The following were subjects or areas included in the framework or self-completion questionnaire.

Mathematical literacy and standard literacy

This category was divided into a sub-category, namely “essential mathematical, reading and comprehension skills”. According to the ANZ Banking Group (2003:73), the following were seen as basic requirements:

- Performing basic calculations without the help of a calculator;
- Being able to calculate percentages and understanding these percentages;
- The ability to understand financial terminology.

Under the sub-category “essential mathematical, reading and comprehension skills”, the following was viewed as advanced competence:

- The ability to understand compound interest, as well as the ability to understand averages.

Financial understanding

This category was the next category in the ANZ Banking Group’s (2003:73) framework. The first sub-category was “understanding of what money is and how money is exchanged”. Again there were some basic requirements and advanced competencies or requirements. Under basic requirements, the ANZ Banking Group (2003:73) listed the following:

- Understanding that there are different ways to pay for goods and services.

Under advanced competence, the following were listed by the ANZ Banking Group (2003:73):

- Understanding unsecured credit and debt;
- Being able to compare interest rates and the effects of fees and other charges;
- Understanding the differences of secure versus unsecured debt, and the implications thereof;
- Understanding the concept of personal guarantor and co-borrower arrangements, as well as the implications thereof.
- Understanding how credit ratings work, and the implications of having a bad credit record when it comes to future borrowings.

The second sub-category in the study by the ANZ Banking Group (2003:73) is an “understanding of where money comes from and goes”. The ANZ Banking Group listed the following as basic requirements under this sub-category:

- To be able to read a pay-slip;
- To recognise household expenses and regular financial commitments.

The following was viewed as an advanced competence under this sub-category:

- Understanding how companies as well as other organisations are financed.

Financial competence

Financial competence was the third category that was used by the ANZ Banking Group (2003:75) in their self-completion questionnaire. Under this category were the following sub-categories:

- Understanding basic financial services;
- Understanding the concept superannuation;
- Understanding the concept mortgages;
- Understanding the importance in keeping and retaining financial records;
- Ability to understand financial records;
- Attitudes toward spending and saving; and
- Understanding the relationship between risk and return and being aware of the risk associated with some financial products of the ANZ Banking Group (2003:74-75).

Financial responsibility

The last category that was used in the study by the ANZ Banking Group (2003:73), was financial responsibility. It was divided into three sub-categories, namely:

- Making appropriate life choices about financial issues;
- Consumer rights and responsibility; and
- Having confidence to access assistance when things go wrong.

4.2.3 Summary

When comparing the two models in terms of methodology, both models have their strong and weak points. Many topics or points overlap in these two models, and thus

care has to be taken to consider these topics or points. The following can be summarised from the above models:

- Both used questionnaires;
- Their samples differ;
- The questions, although they overlap, are unique for every sample or questionnaire;
- Both did a pilot study, but only the ANZ Banking Group did a pre- and post-test;
- The FSA used factor analysis and good statistical techniques to produce scores for their questionnaires;
- From the literature, it is uncertain which method the ANZ Banking Group used for determining scores for their questionnaires;
- Both are studies with big samples and populations;

When choosing a model, one should preferably choose a model that is similar to the experimental research being done. A mixed method approach can also be adopted when choosing a model, thus taking the best components from every model to best suite one's needs. A suggested model to measure South African students would preferable be a "mixed method" approach, thus taking the best and most relevant questions related to these students. It would be suggested to borrow from each model the following:

- Both the FSA and the ANZ Banking Group's questions used and compared what was found in 3.4.
- Use the FSA method to determine a "score" for questions.

The rest of this chapter will be used to discuss in detail which methodology will be used for this research.

4.3 Method of research for this study

According to Wisker (2001:118), there are several different types of research that assist researchers in defining their outcomes as well as clarifying their strategies. The different kinds of research help us to decide which methodology to choose (Wisker, 2001:118). Wisker (2001:118) listed the different types of research as:

- *Descriptive* – Aims to find out more about the phenomenon and capturing it with detail;
- *Exploratory* – Asks “what?” and “why?” questions to determine whether the questions asked are true or not;
- *Predictive* – Asks the “what if?” questions and take several variables and attempts to predict what the outcome will be;
- *Action research* – Also asks the “what if?” questions and usually tries to solve a problem or tries out a hypothesis.

This research will mostly make use of descriptive and exploratory research. The reason for this is that this study is aimed at finding out more about the topic and to determine whether the hypothesis (being: *Third-year university students do not have the necessary financial literacy competencies*) can be accepted or not accepted.

A case study is a form of exploratory research or in depth analysis of a single case or multiple cases over a period of time (De Vos *et al*, 2005:273): Thus choosing the appropriate case will aid the study. Mark (1996:219) refers to three types of case study, all who have a different purpose:

- *The intrinsic case study* – is solely focused on the aim of gaining a better understanding of the individual case.
- *The instrumental case study* - is used to elaborate on a theory or to gain a better understanding of a social issue.
- *The collective case study* – furthers the understanding of the researcher about a social issue or population being studied

This research will mostly make use of an intrinsic case study. The reason for this is that this case study is aimed at the understanding of the case being studied and to determine whether the hypothesis (being: *Third year university students do not have the necessary financial competencies*) can be accepted or not accepted.

4.3.1 Purpose of the study

The first part of the *primary objective* of this study is to evaluate the financial literacy competencies of university students.

Therefore, an empirical study in the form of a questionnaire will be used to evaluate the financial literacy competencies of third-year university students at the North-West University's Potchefstroom Campus.

4.3.2 Data collection techniques

According to Wisker (2001:137), there are two methods when collecting data, namely qualitative and quantitative.

Hoinville *et al.* (1978:9) describe qualitative research as being an unstructured and flexible approach. Hoinville *et al.* (1978:9) also state that qualitative research allows for the widest possible exploration of views and behavioural patterns. According to Hoinville *et al.* (1978:9), the two main methods for conducting qualitative research are:

- Individual in-depth interviews – unstructured or structured; and
- Group discussions.

Wisker (2001:138) describes qualitative research as research that is carried out to understand meanings, or look at, describe and understand experiences, ideas, beliefs and values.

Wisker (2001:137) describes quantitative research as the collection of data in order to measure variables and to verify existing theories or hypotheses or questioning them. According to Wisker (2001:137), quantitative research data will often be used to generate new hypotheses based on data collected from different variables. Wisker (2001:137) also states that people tend to feel more comfortable with numbers, but that number crunching is not always the answer. Also to be considered is that quantitative research data is collected in accordance with certain research vehicles and certain underlying research questions (Wisker, 2001:137).

It was decided that this study would use numbers, graphs and tables to present its data. Therefore, this study will use the quantitative approach for data collection. One of the most common quantitative data collection methods is a questionnaire. Questionnaires are a logic and easy way of collecting information from people (Wisker, 2001:137). Rea and Richard (2005:30) state that no questionnaire can be regarded as being the ideal questionnaire, since most questionnaires have both advantages and inherent flaws. Rea and Richard (2005:30) state that a questionnaire

should be designed so that the questions maximise the advantages and minimise the disadvantages.

Since this study will make use of a questionnaire, the above should be kept in mind when designing and conducting the questionnaire. The reasons for choosing a questionnaire are the following:

- It is practical – a large number of students form part of this study;
- It is easy to pilot the questionnaire before use;
- Results from the questionnaire can easily be transformed as data, tables and graphs; and
- Other studies in 4.2 also used questionnaires in their research.

4.3.3 Designing the questionnaire

According to Wisker (2001:147), information gathering by means of questionnaires usually takes place by asking respondents direct questions and using data for analysis. Questionnaires are used to gather the following information (Wisker, 2001:147):

- Attitudes;
- Behaviour;
- Activities; and
- Response to events.

Questionnaires usually consist of a list of written questions and can be completed in timed circumstances (Wisker 2001:146). Wisker (2001:147) also notes that questionnaires should be piloted thoroughly and then used on the sample.

When designing a questionnaire, the following should be ensured (Wisker, 2001:147):

- The questionnaire should be kept confidential;
- The questionnaire should be piloted, trailed and refined;
- The questionnaire should be able to really ask the questions you want it to;
- The questionnaire should try and avoid ambiguities and multiple questions; and
- The questionnaire should have entirely clear questions.

Rea and Richard (2005:30) add the following to consider:

- *Questionnaire clarity*: Will the questionnaire be understood by respondents?;
- *Questionnaire comprehensiveness*: Will the questions asked by the questionnaire cover a reasonably complete range of alternatives?; and
- *Questionnaire acceptability*: Does the questionnaire consider the respondents' privacy as well as ethical or moral standards.

Hoinville *et al.* (1978:28-29) also add the following:

- Questionnaires should be easy for researchers to administer;
- The questionnaire should be constructed so that the recorded answers can easily be edited, coded and transferred onto a computer file for statistical analysis.
- The questionnaire length must be so that it encourages the respondents and keep their interest.

Wisker (2001:148-149) provides the following practical tips when designing a questionnaire:

- Number each question as well as each page;
- A coding box should be used to code your question;
- Explain what the purpose of the questionnaire is and also explain that confidentiality is guaranteed; and
- Thank the respondents after they have completed their questionnaire.

4.3.3.1 Purpose of the questionnaire

The purpose of the questionnaire was determined by referring to both the specific objectives and general objectives to be met by the empirical research, namely:

- General objective

- *The primary aim of this research is to evaluate the financial literacy competencies of university students, and to make recommendations on improving their competencies, if necessary.*
- Specific objective no. 8 (paragraph 1.3.2 page 9)
- *Suggest a means to measure the level of financial literacy of university students.*

- Specific objective no. 9 (paragraph 1.3.2 page 9)
- *Study the financial literacy levels of university students to evaluate the financial competencies of university students.*
- Specific objective no. 10 (paragraph 1.3.2 page 9)
- *To make a comparison between the different faculties in terms of financial literacy competencies.*

In order to achieve these objectives, the questionnaire was therefore divided into five main sections:

- Biographical information (section 1);
- Evaluation of information regarding personal finance (section2);
- Evaluation of the importance of personal financial literacy (section 3);
- Evaluation of the respondents' personal financial literacy knowledge (section 4).

The questions were based on the findings of the literature study in Chapters 2, 3 and 4.2.

4.3.3.2 Types of questions

According to Rea and Richard (2005:35-36&42), the types of questions that can be included in a questionnaire are the following:

- Introductory questions;
- Sensitive questions;
- Related questions; and
- Open- and close-ended questions.

The first or introductory questions should be relatively easy to answer and the questions should be rather straightforward and uncomplicated (Rea and Richard, 2005:35).

Rea and Richard (2005:36) suggest that sensitive questions such as religious affiliation, ethnicity and income should be included at the end of the questionnaire. The reason for this is that most respondents react negatively to such questions if they are asked the sensitive questions first, and this can influence the rest of the questionnaire.

Rea and Richard (2005:39) also add that a questionnaire should be in a clear and logical order; a timeline should also be followed in the questionnaire. The questionnaire length should be as concise as possible, but should still be able to measure the research questions (Rea & Richard, 2005:46).

According to Rea and Richard (2005:60-61), there are three levels of measurement:

- Nominal scale – places data into categories and counts data with regard to frequency of occurrence.
- Ordinal scale – ranks categories of the variable in terms of the extent to which they possess the characteristic of the variable.
- Interval scale – gives the greatest amount of information about the variable.

There are also measurements that are more specialised (Neuman, 2000:175). Scales are used to capture the intensity, direction, level or potency of a variable, which in most cases are ordinal. The types of scales according to Neuman (2000:183-191), and Rea and Richard (2005:68-72):

- 1. Likert – This scale usually asks people whether they agree or disagree. For example, strongly agree, agree, disagree or strongly disagree with a statement or question.
- 2. Thurstone – A numeric value is assigned to the level of a person's agreement or disagreement. For example, 4 = strongly agree, 3 = agree, 2 = disagree and 1 = strongly disagree.
- 3. Semantic differential – A subject's feeling towards a certain concept is measured by letting them choose between a certain adjective. For example, good or poor, never or always.
- 4. Guttman – This scale is used to measure the relationship between items after data is collected. Thus, every researcher must design the research with this scale in mind.

Another scale that is used for a more specialised measurement is an index. An index is used to measure the combination of several distinct indicators of a construct into a single score:

- Indexes can be weighted (some items carry different values) or not weighted (all the items carry the same value);

- Indexes are sometimes standardised to compare units around a base or norm (Neuman, 2000:177-178).

When using these methods of measurement, the following concepts should be remembered:

- Mutually exclusive – an individual case must fit into only one category;
- Mutually exhaustive – all cases must fit into at least one of the categories.

It was decided that this study will make use of 'n questionnaire with close-ended questions due to the difficulty of coding open-ended questions for large sample sizes. These close-ended questions should provide multiple solutions that can be used in the Likert, Thurstone and Semantic scales. In the questionnaire, the index used will mostly be weighted.

4.3.3.3 Content of the questions

The biographical section (section 1) of the questionnaire (questions 1 to 5 of the questionnaire, annexure 1, page 213) contained questions on gender, mother tongue, province where respondents attended school, the current faculty where the respondent is enrolled and whether the student had any previous financial literacy education. These are easy introductory questions.

Section 2 of the questionnaire contained closed-ended questions where respondents of the study were asked several questions (questions 6 to 15) about their personal financial behaviour. The respondents could answer only "yes" or "no" to these questions.

Section 3 of the questionnaire (questions 16 to 39) used a Thurstone scale to measure the responses. Respondents were asked how strongly they agreed/disagreed about the importance of learning more about certain financial literacy education subjects or areas at this point in their lives. The subject/area was identified in Chapters 3 and 4 of this study.

The last section of the questionnaire (section 4) also used closed-ended questions to measure the respondents' financial literacy competencies. These questions were set up in a test format where there were correct answers and incorrect answers.

Respondents were also given the option to answer that they do not know the correct answer. The questions (40 to 81) were designed to test the respondents' knowledge/competency about financial literacy. Referring back to Chapters 3 and 4, a number of topics were identified and the questionnaire contained questions about these topics. The researcher took note of questions used in previous studies, but is of the opinion (as indicated by the topics identified in the literature) that these questions on their own were not comprehensive enough in testing financial literacy.

As noted above, the questions of a questionnaire can also be used to capture respondents' attitudes towards a certain area or subject. This study did not contain any of these questions, since the main focus of this study was to determine the financial literacy competencies.

4.3.4 Defining the population

The population was identified as third-year students at the Potchefstroom Campus of the North-West University. These students were then divided into their different faculties. The subject in each faculty that the most students studied was then purposefully used to identify the sub-population.

4.3.4.1 Pilot study

Before the questionnaire was distributed to each sub-population, a pilot run was done to evaluate the validity of the questionnaire. It was decided to target a first-year class of approximately 20 students for the pilot test, since they have no knowledge about the questionnaire. Another reason for choosing first year students for the pilot study is that the sample group of third year university students would not be affected. The questionnaires were distributed among these respondents during October 2008. The respondents were required to complete the questionnaire on a multiple-choice answer sheet. The answer sheets were taken to the Information Technology department of the North-West University (Potchefstroom Campus) for electronic data capturing.

The data was analysed by the Statistical Consultation Service of the North-West University (Potchefstroom Campus) using SAS (SAS Institute Inc., 2003-2005)

computer software. It should be noted that the pilot study was not analysed by means of factor analysis. After consultation with the Statistical Consultation Service of the North-West University (Potchefstroom Campus) about the results, the following changes were made to the questionnaire:

- The original questions 19 to 42 were left out, as the questionnaire took too much time to complete. The original questionnaire took between 15 to 25 minutes, depending on the speed the respondents answered the questionnaire. Thus, questions 19 to 42 were left out. These were all questions about how the respondents agreed/disagreed about the ability or knowledge they had towards certain financial literacy areas or subjects.
- Questions 3 and 4 were put together to form one question, namely question 3, since the respondents did not fill in the questions correctly.
- Questions 5 and 6 were put together to form one question, namely question 4, since the respondents did not fill in the questions correctly.
- Question 8 was modified since it was too vague. "According to the minimum requirement" was added to make the question clearer for respondents.
- Question 13 was edited to read "Do you keep track of your daily spending?"
- Question 24 of the questionnaire used in the pilot study was moved to section 2 of the final questionnaire.
- Question 53 was modified since it was too vague. "Effectively use" was added to the question.
- Question 82 was modified since the respondents did not answer the questions correctly. The words "does not" were left out in the final questionnaire.
- Question 91 was modified since the sentence did not read correctly. The word "no" was replaced by the word "a".

4.3.4.2 Defining the sample

Greenfield (2002:185-186) states three main reasons for choosing a sample:

- Cost – Cost of time, cost of equipments and the budget of the researcher play a role;
- Feasibility – If the result of a survey is needed within in a certain amount of time, there may be insufficient funds to study all units;

- Quality – Focusing on a sample of the population can increase the quality of the research, which can produce more accurate results;

The following step in the research process was to define the sample. Types of probability sampling are (Neuman, 2000:216):

- Simple random – Using a purely random process to select data from a sampling frame;
- Stratified – Creating a sampling frame and drawing a sample out of each of the categories, then combining the random samples you drew.
- Systematic – Creating a sampling frame, starting at a random place and taking the calculated sampling interval.
- Clusters – A sampling frame is created for larger cluster units. A random sample is selected from the clusters and then a sample from each cluster is selected.

For this study, stratified sampling was the procedure that was chosen. The aim of the study was to measure the financial literacy competencies of third-year students, which was then used as a framework for the sample. As mentioned in 4.3.4, the population was third-year university students at the North-West University (Potchefstroom Campus). These students were divided into groups based on their respective faculties. These included the following faculties: Arts, Theology, Economic and Management Sciences, Educational Sciences, Engineering, Health Sciences and Natural Sciences (some smaller faculties were combined). A subject from each faculty was then taken that represented most of the students. The questionnaire was then completed by students from this subject. This was done to ensure that most of the population, namely third-year university students from the North-West University (Potchefstroom Campus), were represented by the sample.

4.3.5 Conducting the empirical study

As mentioned, the population was divided into the faculties of the North-West University (Potchefstroom Campus); thus every dean of each faculty was sent an email requesting permission to see the students in class time in order to complete the questionnaire. On response of the dean of the faculty, the lecturer responsible for the specified subject was contacted. The questionnaires were then given to the lecturer, who handed out the questionnaires to the students in class time.

The processes after permission from the specified dean took approximately one month. During this month, most of the questionnaires were collected from the above specified lecturer. The questionnaires collected from the different faculties were then scanned into a computer using a computerised system to form a summary of the questionnaire answers, which can be used by the SAS computer software (SAS Institute Inc., 2003-2005) for further data analysis. The questionnaires were then given to the Statistical Consultation Service of the North-West University (Potchefstroom Campus), where further data analysis was done.

4.3.6 Ethical considerations

All students present in the classes had the opportunity to complete the questionnaire. The completion of the questionnaire was each student's own decision and no student was forced to complete the questionnaire; therefore all students completed the questionnaire on a voluntary basis. Students also did not receive any compensation. Since the questionnaire did not contain any personal information, no student could be linked to a particular questionnaire; this ensured the confidentiality of each student. The questionnaire also did not require any sensitive information to be disclosed by the participants. When the study was conducted, it was not yet a requirement to obtain any further ethical clearance from the University.

4.4 Summary

It was decided that this research will make use mostly of descriptive and exploratory research. The reason for this is that this study is aimed at finding out more about the topic and to test whether the hypothesis (being: *Third-year university students do not have the necessary financial literacy*) can be accepted or rejected.

It was decided that the research results would take the form of numbers, tables and graphs, and therefore quantitative data collection was selected. It was also decided that a survey would be the most effective data collection technique for this study.

The purpose of the questionnaire was determined by referring to the specific objectives to be met by the empirical research. Due to the difficulty that can be encountered in coding and analysing the results of open-ended questions, it was

decided to use closed-ended questions. These questions would provide multiple solutions (Likert and Semantic differential scales) and required the respondents to select the alternative that best applies to him/her.

To ensure the validity of the questionnaire, several steps were taken:

- Firstly, before pilot testing, the questionnaire was taken to the Statistical Consultation Service of the North-West University (Potchefstroom Campus) to ensure that the questionnaire met the required statistical standards;
- A pilot test was then done on a selected number of respondents who were not part of the studied sample;
- The results from the pilot test and the questionnaire were then taken back to the Statistical Consultation Service of the North-West University (Potchefstroom Campus) where after certain changes were made to the questionnaire to ensure its effectiveness;
- Finally, the questionnaire was completed by the sample group defined in paragraph 4.3.4.2 (page 116) and was taken back to the Statistical Consultation Service of the North-West University (Potchefstroom Campus), where reliability tests were performed on questions 40 – 81 of the questionnaire.

This process should ensure the validity of the study since the reliability tests performed by the Statistical Consultation Service of the North-West University (Potchefstroom Campus) showed a Cronbach alpha larger than 0.5 (0.738), which provides an indication of the reliability of the questionnaire.

This chapter suggested a means to measure the level of financial literacy of university students. In the next chapter, the evaluation of third-year university students will be discussed, as well as the results from the evaluation. Also in the next chapter, the different faculties will be compared in terms of financial literacy competencies.

CHAPTER 5 - RESULTS FROM THE MEASURING OF FINANCIAL LITERACY OF THIRD-YEAR STUDENTS

5.1 Introduction

In the previous chapters, knowledge was gained by doing a literature study on various aspects of financial literacy. The following elements were addressed:

- The need for financial literacy (Chapter 1);
- A definition of financial literacy (Chapter 2);
- The advantages of financial literacy and the disadvantages of being financially illiterate (Chapter 2);
- The financial literacy competency levels identified in different countries (Chapter 2);
- The success of financial literacy education (Chapter 3);
- The proposed content of a personal financial curriculum (Chapter 3); and
- A means to measure the level of financial literacy of university students (addressed in Chapter 4).

The development of a means to measure financial literacy according to the knowledge gained in Chapters 2 to 4 in the literature study, is fundamental to this study.

The results of the empirical study will also be discussed in this chapter under the following headings:

- Survey validity (paragraph 5.2.1, page 121); and
- Analysis of results (paragraph 5.2.2. page 122)

In the last part of this chapter, a summary will be provided to highlight the most important information regarding the knowledge gained about the *financial literacy competencies of third-year university students* (paragraph 5.3, page 175).

5.2 Survey results

The survey results are discussed under the following headings:

- Survey validity (paragraph 5.2.1. page 121); and

- Analysing the results (paragraph 5.2.2, page 122)

5.2.1 Survey validity

To ensure the validity of the questionnaire, several steps were taken:

- Firstly, before pilot testing, the questionnaire was taken to the Statistical Consultation Service of the North-West University (Potchefstroom Campus) to ensure that the questionnaire met the required statistical standards;
- A pilot test was then performed on a selected number of respondents who were not part of the studied sample;
- It was decided that since most students are Afrikaans speaking, certain terms that are not familiar to these students would be translated from English to Afrikaans. These translations would be shown in brackets;
- The results from the pilot test and the questionnaire were then taken back to the Statistical Consultation Service of the North-West University (Potchefstroom Campus) where after certain changes were made to the questionnaire to ensure its effectiveness (refer to paragraph 4.3.4.1);
- Finally, the questionnaires were completed by the sample group defined in paragraph 4.3.4.2 (page 116) and were taken back to the Statistical Consultation Service of the North-West University (Potchefstroom Campus) where reliability tests were performed by analysing the data (questions 40 - 81 of the questionnaire) using the SAS computer software (SAS Institute Inc., 2003-2005). All the Cronbach alphas for questions 40, 41, 42, 47, 48, 49, 50, 51, 55, 57, 59, 60, 62, 63, 64, 71, 78, 79 and 81 were above 0.7. The following questions had a Cronbach alpha of less than 0.7: Questions 43, 52, 53, 56, 61, 65, 66 and 68.
- From the above it seems that questions 40 - 81 were still reliable, as their Cronbach alphas were mostly more than 0.7. Therefore, overall there exists construct validity.

This process should ensure the validity of the study, since the reliability test done by the Statistical Consultation Service of the North-West University (Potchefstroom Campus), analysing the data by using the SAS computer software (SAS Institute Inc., 2003-2005), showed a Cronbach alpha¹ larger than 0.7 for questions 40 – 81, which shows the reliability of the questionnaire.

5.2.2 Analysis of results

In the next section, the results are provided and an analysis is given of the results. The analysis is done under the following headings:

- Frequencies (paragraph 5.2.2.1, page 122);
- Cluster groups (paragraph 5.2.2.2, page 149);
- T-test (paragraph 5.2.2.3, page 153); and
- ANOVA (two-way test) (paragraph 5.2.2.4, page 155)

5.2.2.1 Frequencies

The frequencies will be discussed under the following headings:

- A – Biographical detail;
- B – Financial matter present in the participant's life;
- C – Personal finance training needs of third-year students; and
- D – Testing financial literacy competencies.

A - Biographical detail

The following number of students actually participated in the research design:

- 23 participants in the pilot test; and
- 424 participants in the main study questionnaire (This constitutes 13% of the third-year students of the University).

Tables 5.1 (page 122) to 5.5 (page 124) provide the participants' biographical background. It would be important to take this into consideration in analysing the data. It is also important should this research be compared to other research findings.

Table 5.1: Gender of respondents

	Male	Female	Total
Gender – number	157	267	424
Gender – %	37.03	62.97	100

From Table 5.1, it is seen that gender-wise 62.67% of participants were female.

Table 5.2: Mother tongue of respondents

	English	Afrikaans	Other African	Other	Total ¹
Mother tongue – number	19	387	15	2	423
Mother tongue – %	4.49	91.49	3.55	2	100

¹ Not all respondents completed the question

As the official language of instruction at the Potchefstroom Campus is Afrikaans, it is understandable that the majority (91.49%) of participants would be Afrikaans speaking (Table 5.2 above).

Table 5.3: Province of origin of respondents (hometown)

	Province – number	Province – %
North West	150	35.63
Free State	61	14.49
Gauteng	103	24.47
KwaZulu Natal	17	4.04
Eastern Cape/ Western Cape	23	5.46
Mpumalanga/ Limpopo	52	12.35
Northern Cape	15	3.56
Total ¹	423	100

¹ Not all respondents completed the question

As the Potchefstroom Campus of the North-University is situated in the North West Province, it is understandable that most of the participants' hometowns would be in the North West Province (Table 5.3 above). The results do, however, show that there was representation from throughout South Africa.

Table 5.4: Faculty of respondents

	Faculty – number	Faculty – %
Arts or Theology	101	24.16
Economic and Management Sciences	249	59.57
Educational Sciences ²	1	0.24
Engineering	27	6.46
Health Sciences	20	4.78
Natural Sciences	20	4.78
Total ¹	418	100

¹ Not all respondents completed the question

²The faculty Educational Sciences did not reply to the study. The single participant may have been attending a class in another faculty.

One of the largest faculties at the North-West University's Potchefstroom Campus is the Economic and Management Sciences; it is therefore understandable that most of the respondents (59.57%) would come from this faculty.

Table 5.5: Respondents' previous financial literacy education

	Financial literacy education – number	Financial literacy education – %
None	43	10.34
EKNP 312	142	34.13
Short course	29	6.97
At school	78	18.75
Other	124	29.81
Total ¹	416	100

¹ Not all respondents completed the question

What is important to notice from Table 5.5 is that only 10.34% of participants did not have any previous financial literacy education in any form. Most of the respondents, 34.13%, had their financial education by taking the subject EKNP312 (Personal Financial Management). The reason for this may be that most of the third-year students of the North-West University's Potchefstroom Campus have to take EKNP 312 as part of their syllabus, or can take it as a choice subject.

B – Financial literacy matters present in the participants' lives

Tables 5.6 (page 125) to 5.7 (page 125) constitute section 2 of the questionnaire. In section 2, respondents were asked to answer certain informative questions about financial matters in their lives. The respondents could either choose "yes" or "no" as their answers to these questions.

The following table (5.6) will show the number of respondents who answered "yes" or "no" to the questions asked in section 2.

Table 5.6: Section 2 – Number of respondents

Question No	Question	Number of respondents "Yes"	Number of respondents "No"	Number of respondents Total
6	Do you have loans or any other debt (skuld)?	167	257	424
7	Do you know how you will be earning a living next year?	253	170	423
8	Are you able to prepare your own will (testament) according to the minimum legal requirements?	113	311	424
9	Do you have any investments (beleggings)?	157	266	423
10	Do you budget (begroot) for your day-to-day finances?	236	189	425
11	Do you think that retirement (aftrede) is too far away to think about it right now?	152	270	422
12	Do you keep track of your daily spending (uitgaves)?	283	140	423
13	Do you have a credit (krediet) card or store card?	137	285	422
14	Do you have a part-time job?	103	318	421
15	Do your parents still support you financially?	381	35	416

The following table (5.7) will show the number of respondents who answered “yes” or “no” to the questions asked in section 2.

Table 5.7: Section 2 – Percentage of respondents

Question No	Question	Percentage of Respondents "Yes"	Percentage of Respondents "No"	Percentage of Respondents Total
6	Do you have loans or any other debt (skuld)?	39.39	60.61	100
7	Do you know how you will be earning a living next year?	59.81	40.19	100
8	Are you able to prepare your own will (testament) according to the minimum legal requirements?	26.65	73.35	100
9	Do you have any investments (beleggings)?	37.12	62.88	100
10	Do you budget (begroot) for your day-to-day finances?	55.53	44.47	100
11	Do you think that retirement (aftrede) is too far away to think about it right now?	35.85	63.68	100
12	Do you keep track of your daily spending (uitgaves)?	66.75	33.02	100
13	Do you have a credit (krediet) card or store card?	32.39	67.38	100
14	Do you have a part-time job?	24.41	75.36	100

15	Do your parents still support you financially?	90.07	8.27	100
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From Tables 5.6 and 5.7 (page 125), the following summary can be made:

- Most of the respondents (60.61%) in the study did not have any loans or any other debt;
- The majority of the students (59.81%) in the study did know how they will be earning an income once they have completed their studies;
- Respondents (73.35%) in the survey did not know how to prepare their own legal will according to the minimum legal requirements;
- The majority of respondents (62.88%) did not have any investments;
- Slightly more than half of the respondents (55.53%) of this survey claimed that they budgeted for their day-to-day finances;
- Respondents (63.68%) in this survey did not view retirement as too far away to start thinking about it right now;
- The majority of respondents (67.75%) in this survey stated that they kept a record of their daily expenses;
- Most of the respondents (67.38%) in this study stated that they did not own a credit or store card;
- The majority (75.36%) of students stated that they did not have a part-time job; and
- Almost all of the respondents (90.07%) stated that their parents still supported them financially.

Therefore, it can be concluded that the following trends appear when looking at the above statistics:

- More than a third of respondents in this study seemed to have debt (39% have loans and 32% have credit cards);
- Respondents did not plan for their financial future;
- Respondents in this study tend to be in control of their daily expenses; and
- It seems as if respondents do not have a part-time job, since most of the responds are still financially supported by their parents.

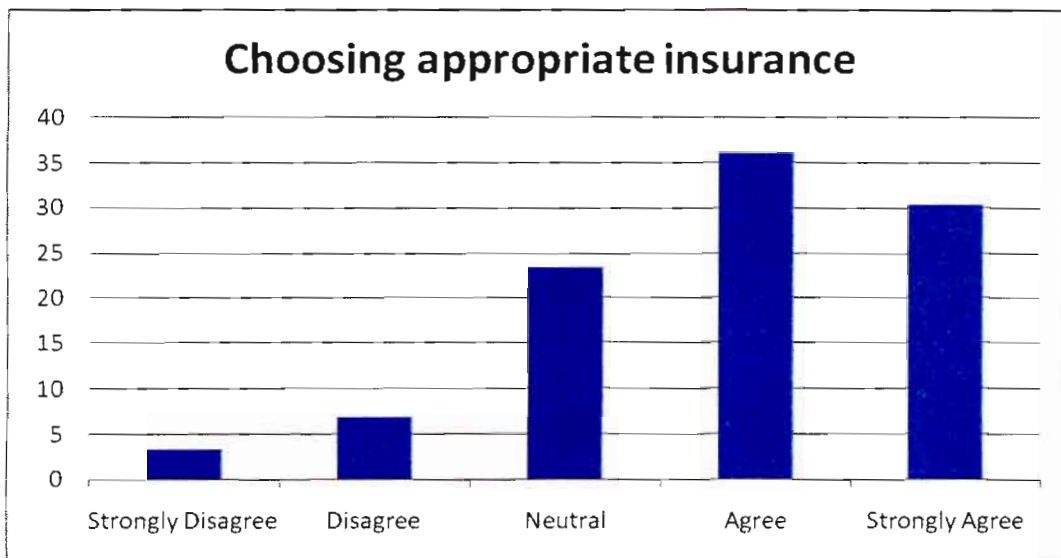
C – Personal finance training needs of third-year students

Chart 5.1 (page 127) to 5.24 (page 139) constitute section 3 of the questionnaire. In section 3, respondents were asked to answer questions about how important it is to

learn more about certain financial topics, at this point in their lives. The respondents could either choose from strongly disagree (1) to strongly agree (5) on a Likert scale from 1 to 5.

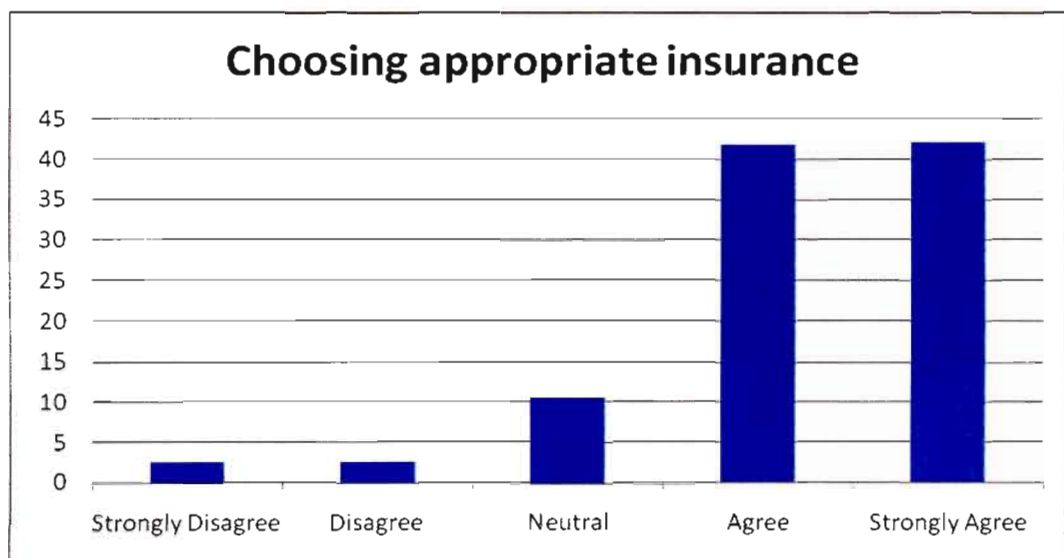
The following charts (5.1 - 5.24) will show the percentage of respondents who answered the questions asked in section 3 (how important it is to learn more about certain financial topics, at this point in their lives).

Chart 5.1: Choosing appropriate insurance



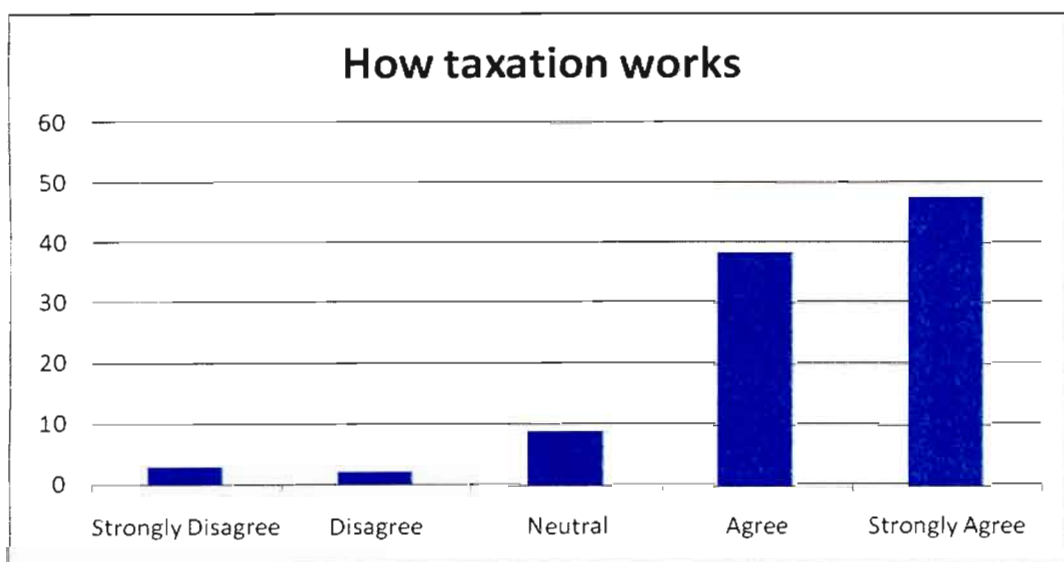
- 66.35 % of respondents either agreed or strongly agreed that choosing appropriate insurance is a relevant topic to learn more about at this point in their lives.

Chart 5.2: The financial impact on my career planning



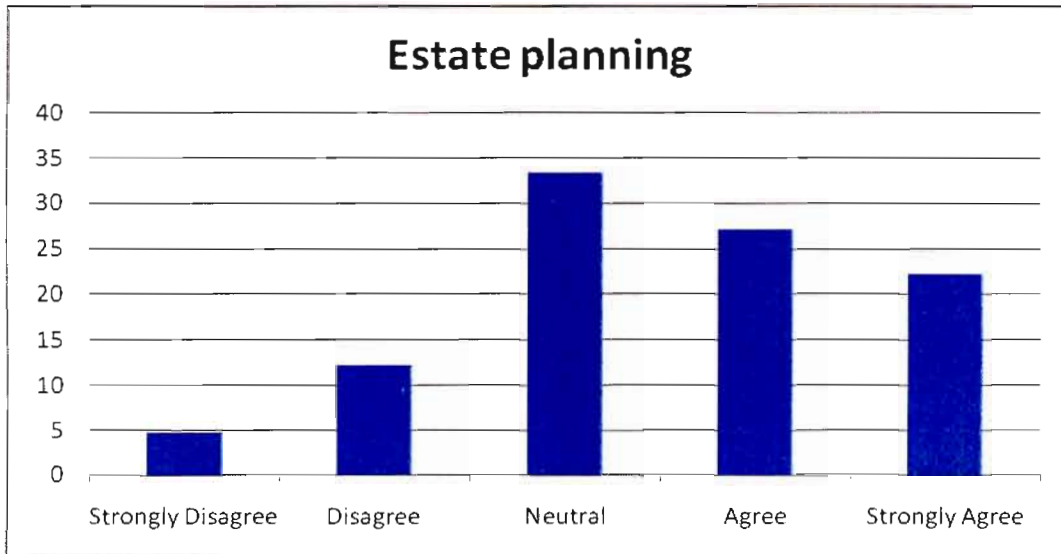
- 84% of respondents either agreed or strongly agreed that the financial impact on his/her career planning is a relevant topic to learn more about at this point in their lives.

Chart 5.3: How taxation works



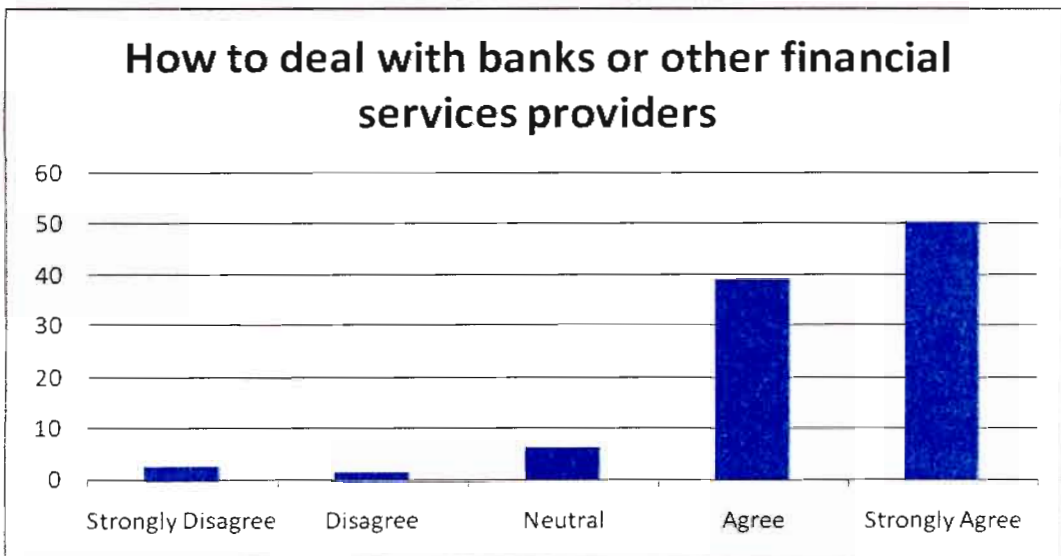
- 86% of respondents either agreed or strongly agreed that how taxation works is a relevant topic to learn more about at this point in their lives.

Chart 5.4: Estate planning



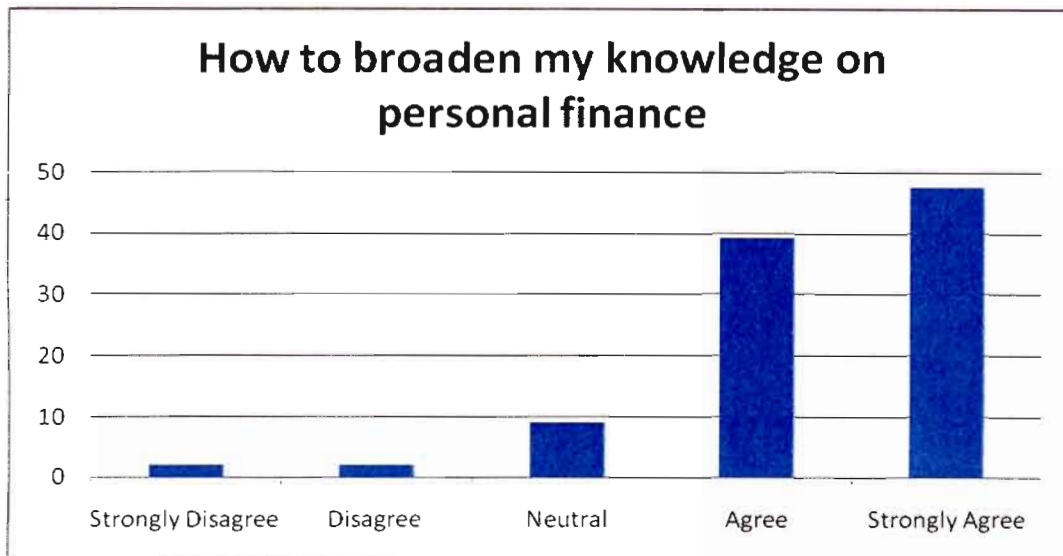
- Almost half of the respondents either agreed or strongly agreed that estate planning is a relevant topic to learn more about at this point in their lives.

Chart 5.5: How to deal with banks or other financial service providers



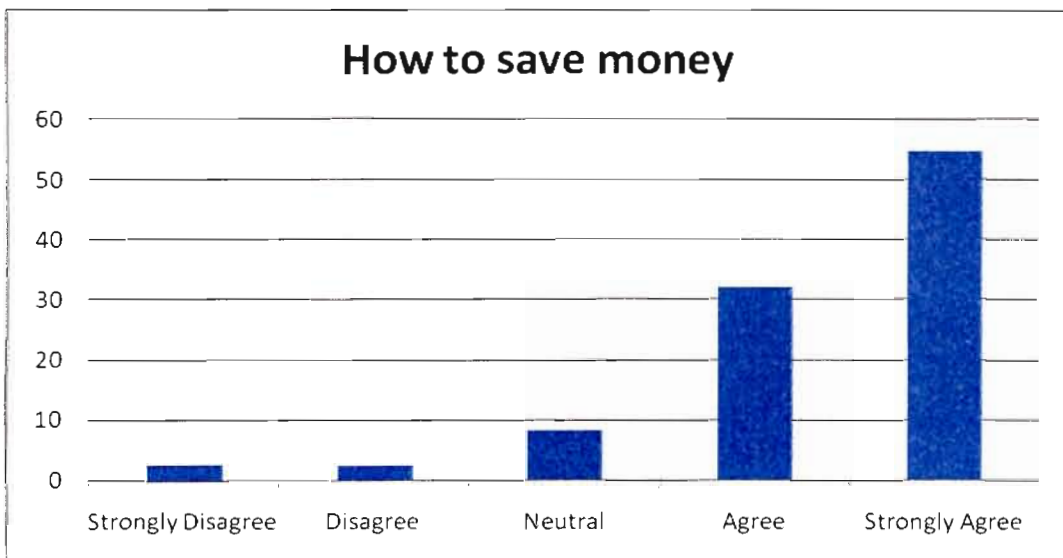
- 90% of respondents either agreed or strongly agreed that how to deal with banks or other financial service providers is a relevant topic to learn more about at this point in their lives.

Chart 5.6: How to broaden my knowledge on personal finance



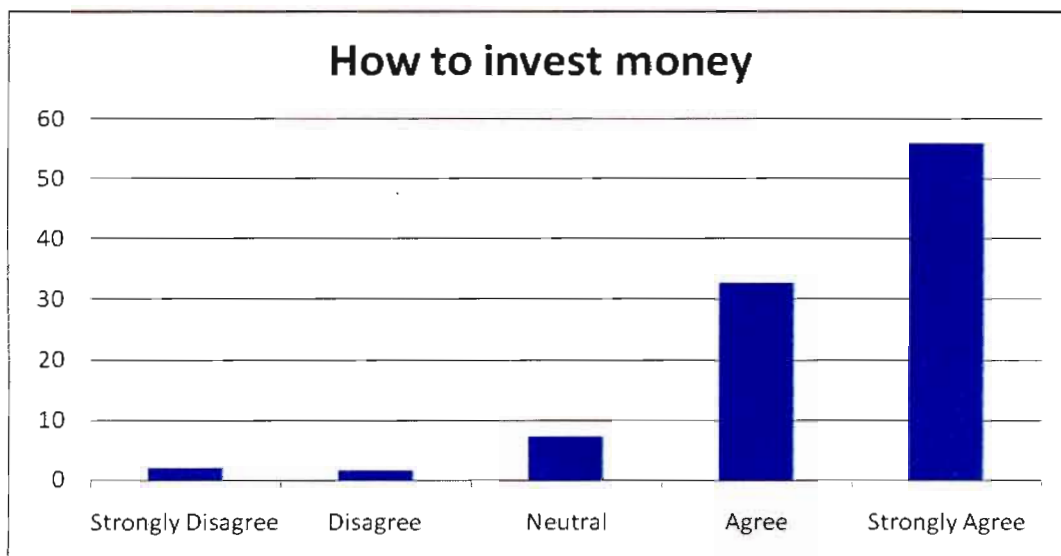
- 87% of respondents either agreed or strongly agreed that to broaden his/her knowledge on personal finance is a relevant topic to learn more about at this point in their lives.

Chart 5.7: How to save money



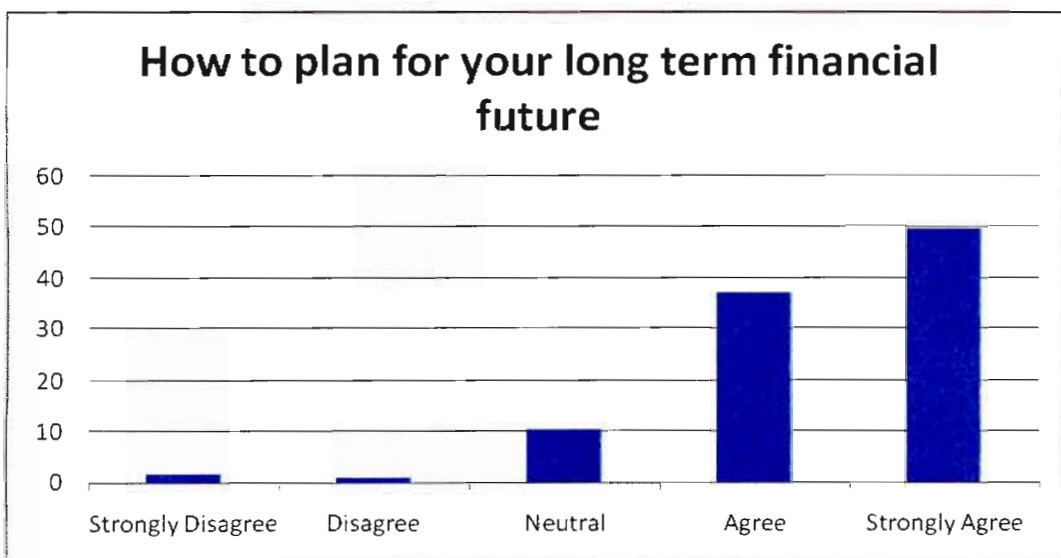
- 87% of respondents either agreed or strongly agreed that how to save money is a relevant topic to learn more about at this point in their lives.

Chart 5.8: How to invest money



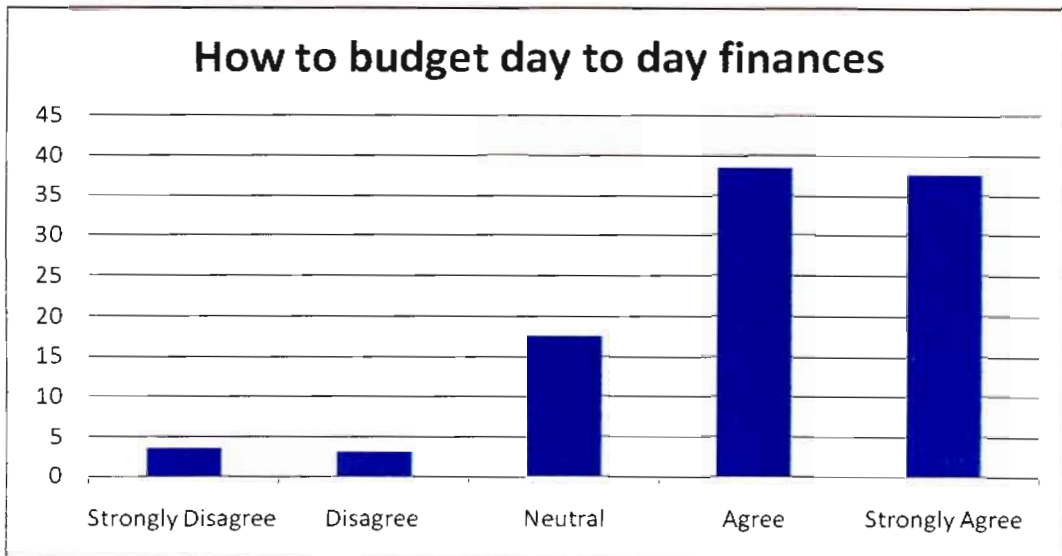
- 89% of respondents either agreed or strongly agreed that how to invest money is a relevant topic to learn more about at this point in their lives.

Chart 5.9: How to plan for your long-term financial future



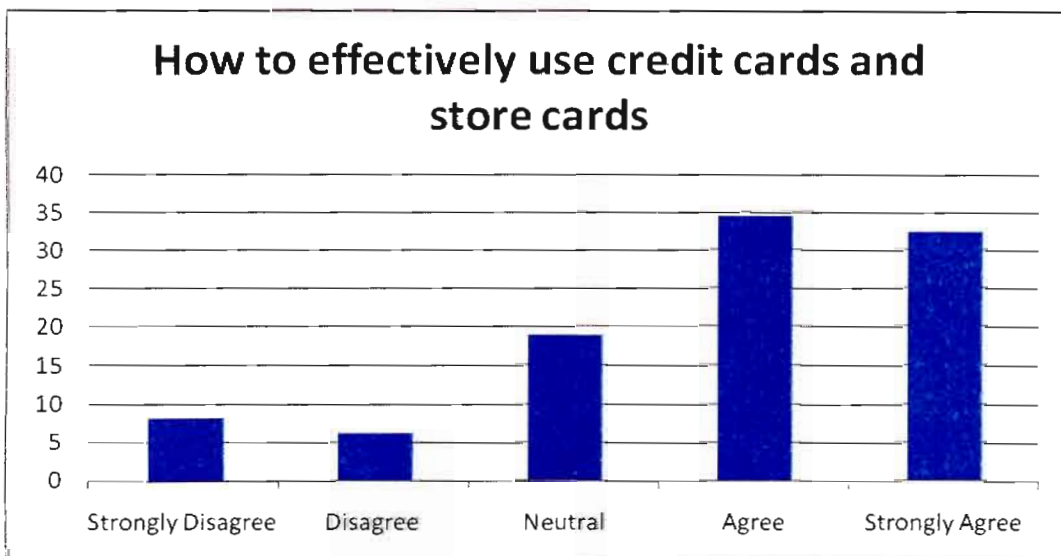
- 87% of respondents either agreed or strongly agreed that how to plan for his/her long-term financial future is a relevant topic to learn more about at this point in their lives.

Chart 5.10: How to budget day-to-day finances



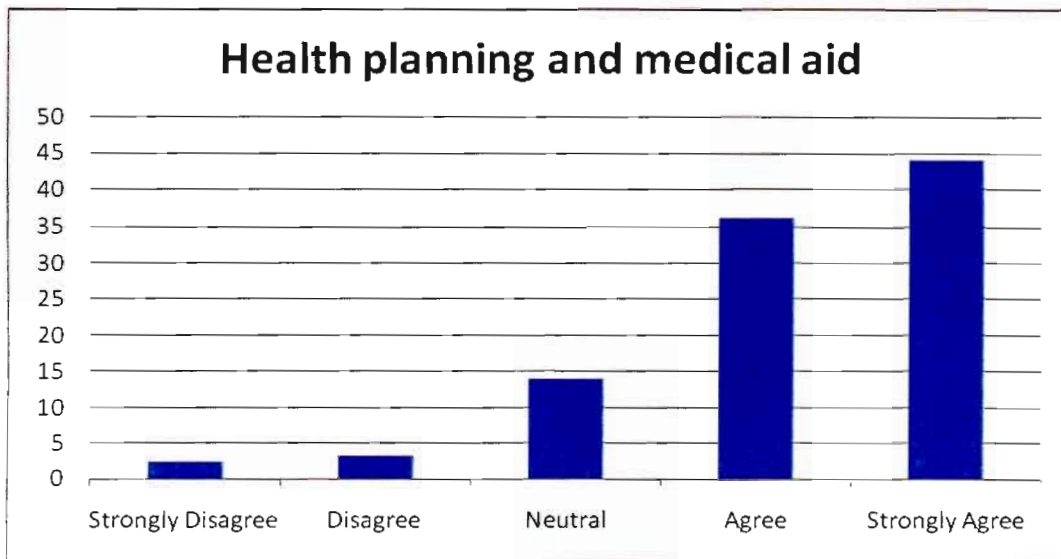
- 76% of respondents agreed or strongly agreed that how to budget day-to-day finances is a relevant topic to learn more about at this point in their lives.

Chart 5.11: How to effectively use credit cards and store cards



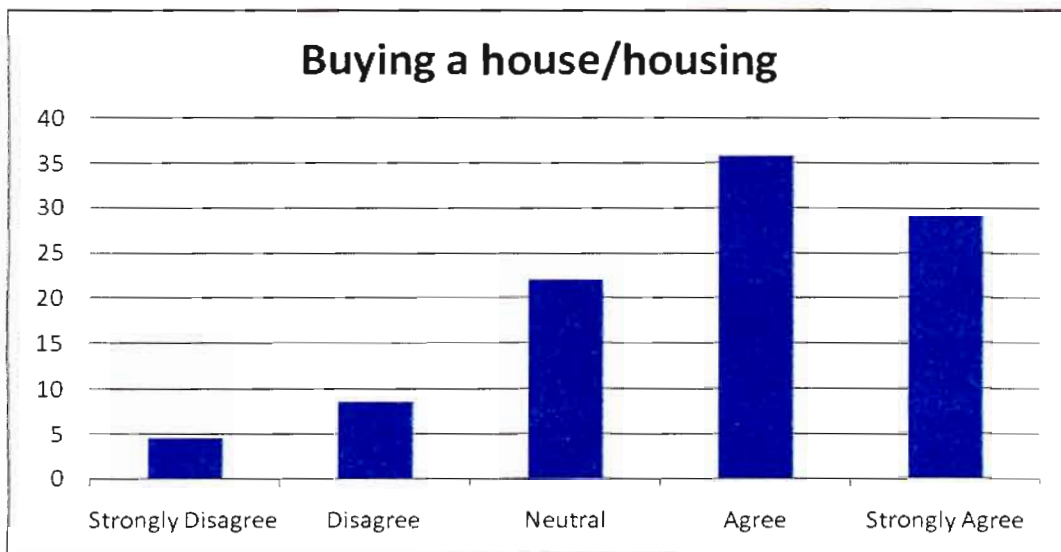
- 67% of respondents either agreed or strongly agreed that how to effectively use credit cards and store cards is a relevant topic to learn more about at this point in their lives.

Chart 5.12: Health planning and medical aid



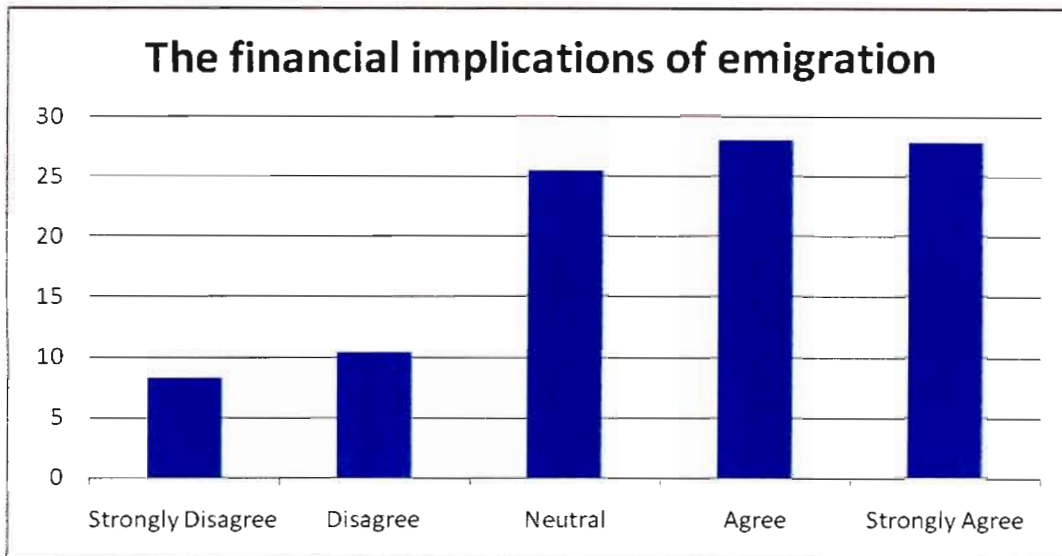
- 80% of respondents either agreed or strongly agreed that health planning and medical aid are relevant topics to learn more about at this point in their lives.

Chart 5.13: Buying a house/housing



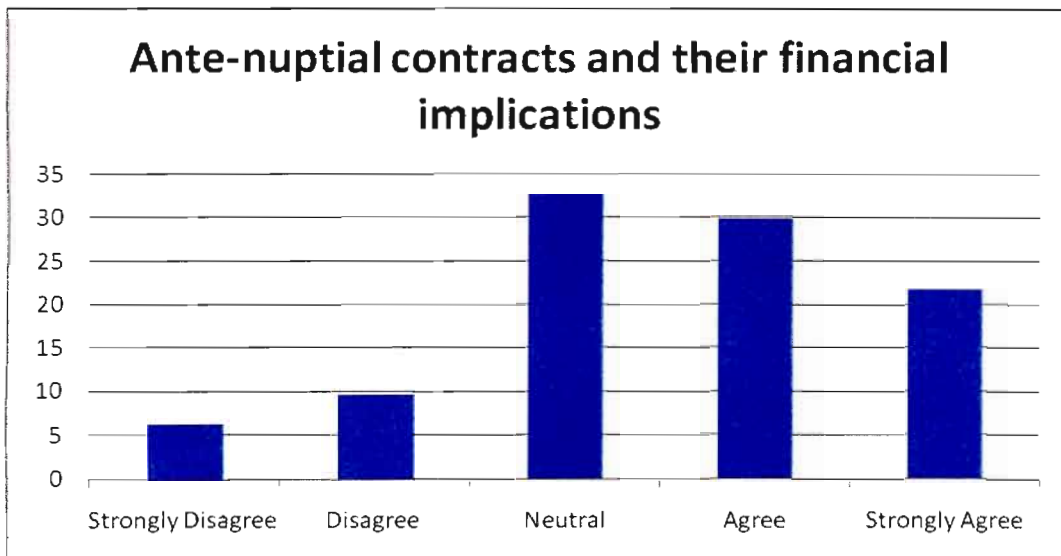
- 65% of respondents either agreed or strongly agreed that buying a house is a relevant topic to learn more about at this point in their lives.

Chart 5.14: The financial implications of emigration



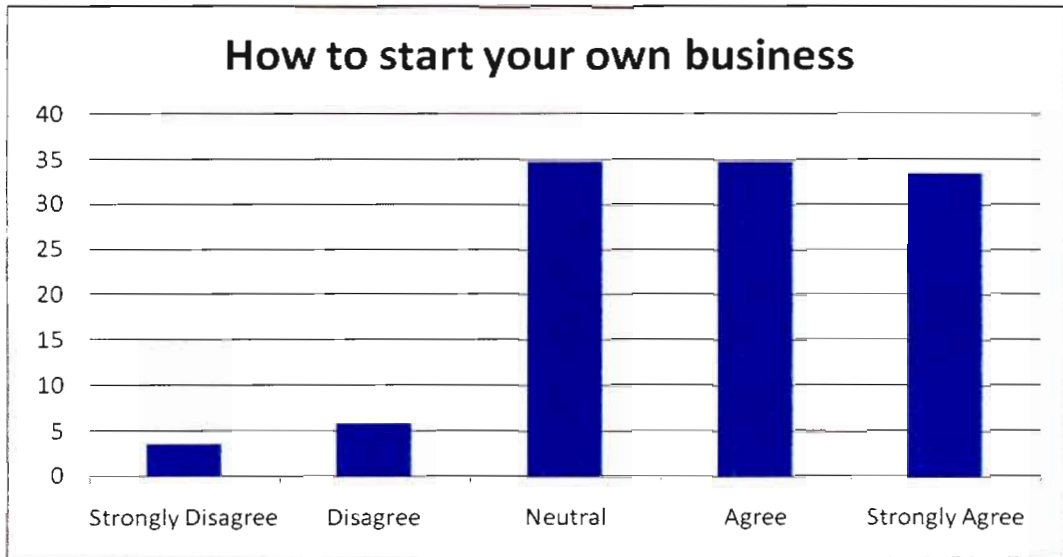
- 56% of respondents either agreed or strongly agreed that the financial implications of emigration are a relevant topic to learn more about at this point in their lives.

Chart 5.15: Ante-nuptial contracts and their financial implications



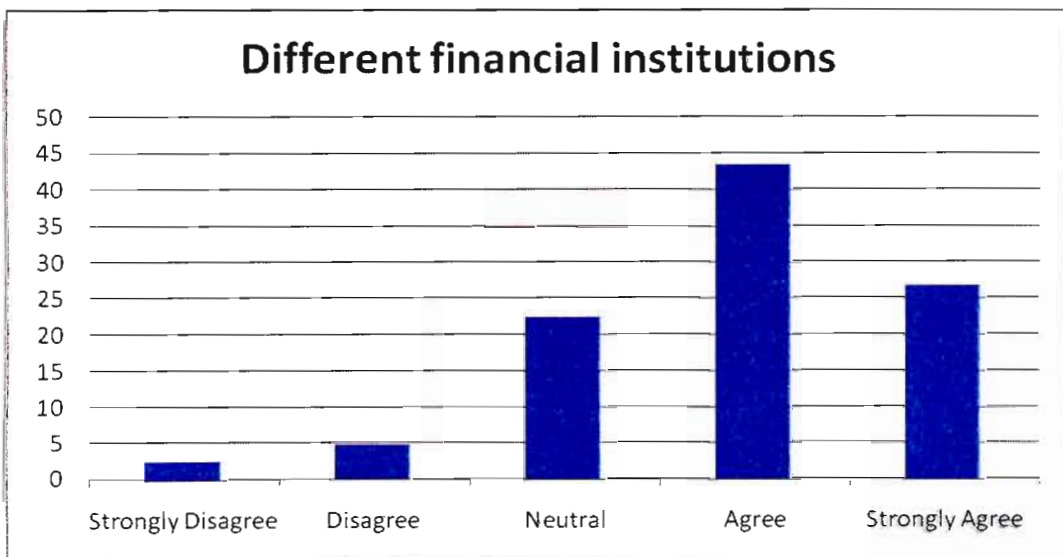
- 52% of respondents either agreed or strongly agreed that ante-nuptial contracts and their financial implications are relevant topics to learn more about at this point in their lives.

Chart 5.16: How to start your own business



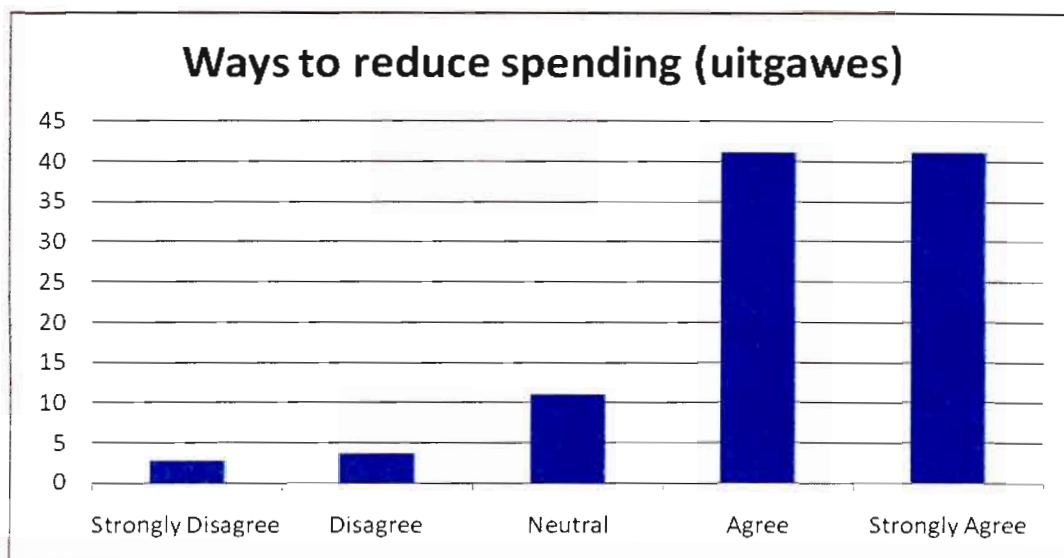
- 68% of respondents either agreed or strongly agreed that how to start your business is a relevant topic to learn more about at this point in their lives.

Chart 5.17: Different financial institutions



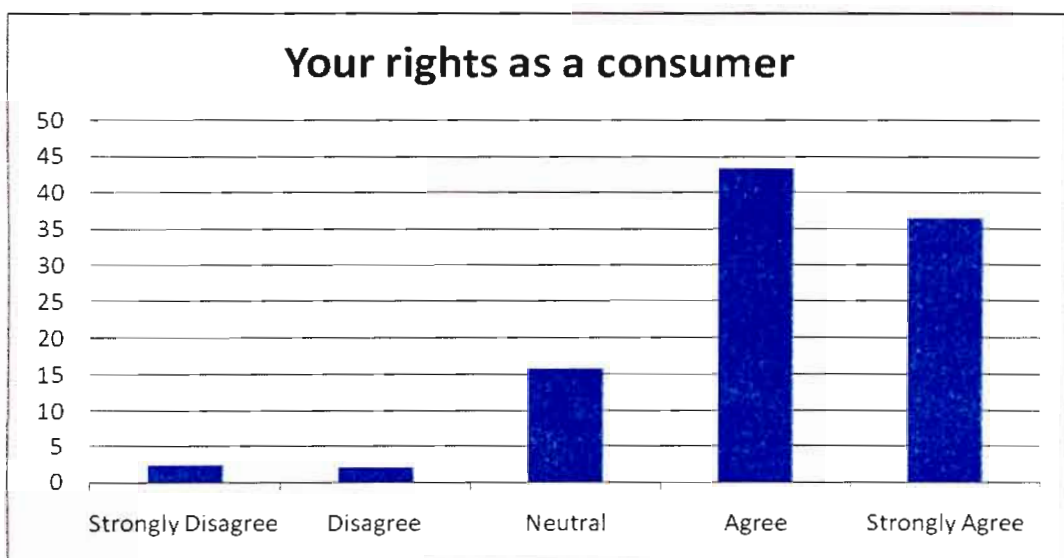
- 70% of respondents either agreed or strongly agreed that different financial institutions are a relevant topic to learn more about at this point in their lives.

Chart 5.18: Ways to reduce spending



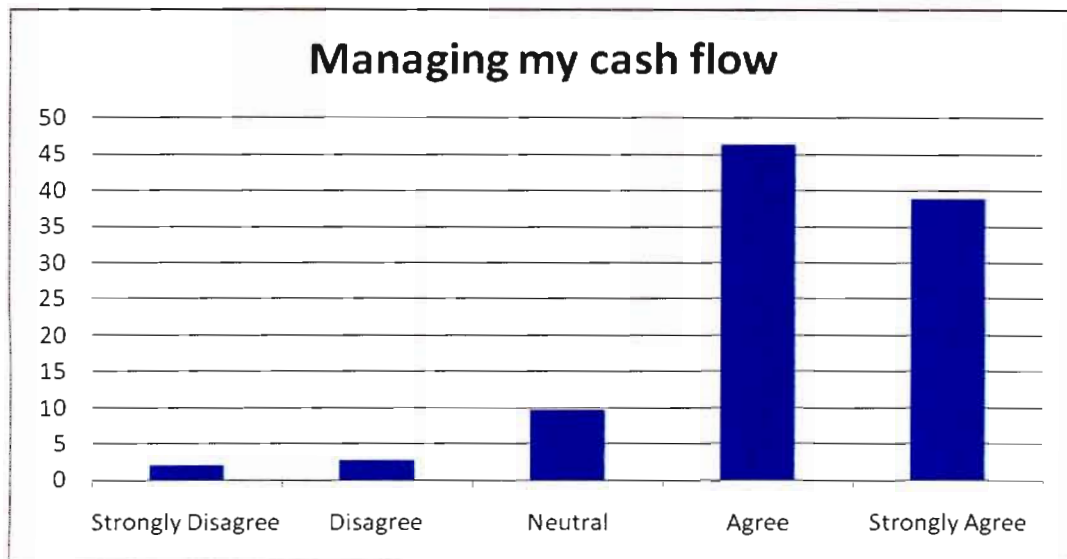
- 82% of respondents agreed or strongly agreed that ways to reduce spending are a relevant topic to learn more about at this point in their lives.

Chart 5.19: Your rights as a consumer



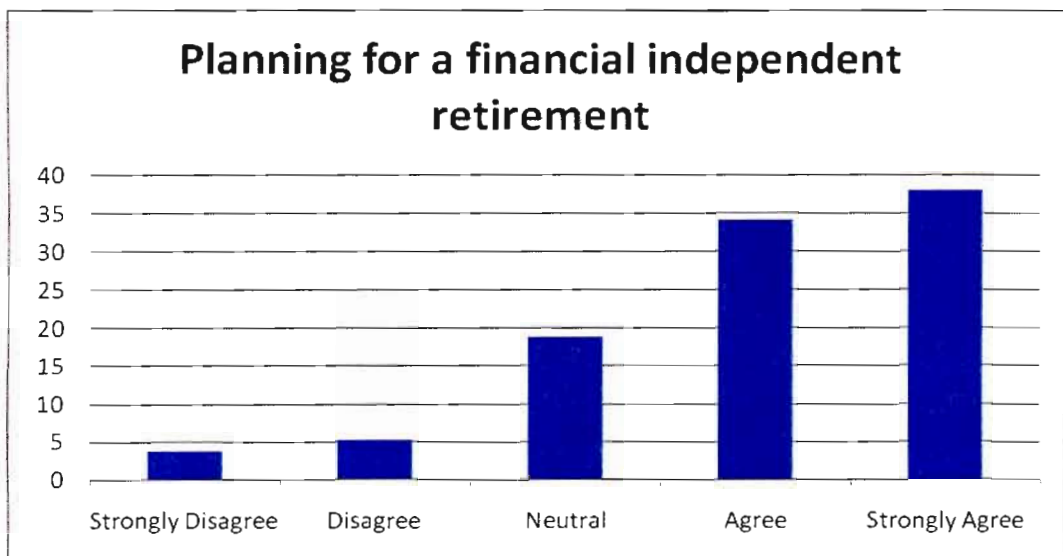
- 80% of respondents either agreed or strongly agreed that your rights as a consumer are a relevant topic to learn more about at this point in their lives.

Chart 5.20: Managing my cash flow



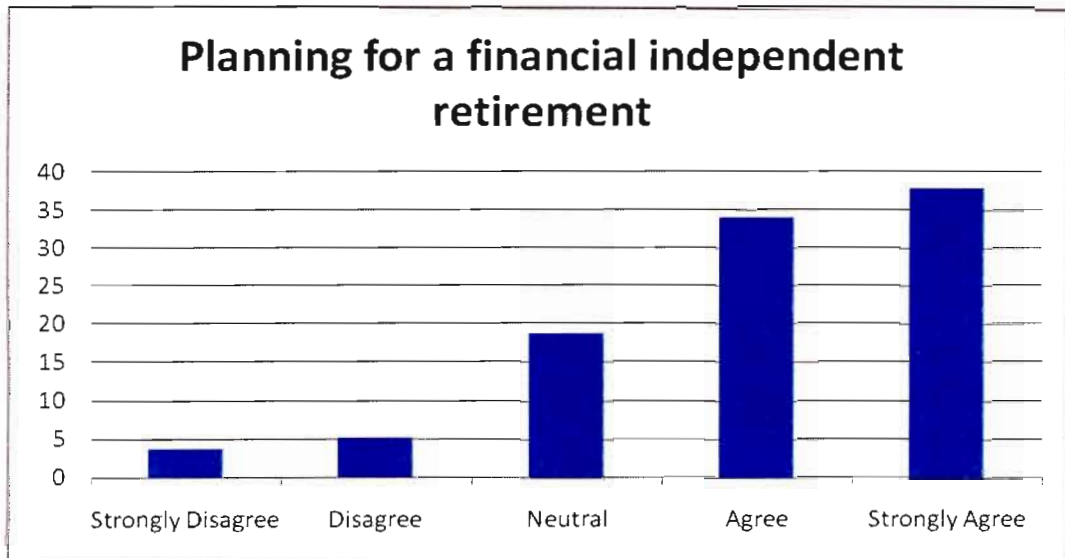
- 85% of respondents either agreed or strongly agreed that managing his/her cash flow is a relevant topic to learn more about at this point in their lives.

Chart 5.21: Planning for a financially independent retirement



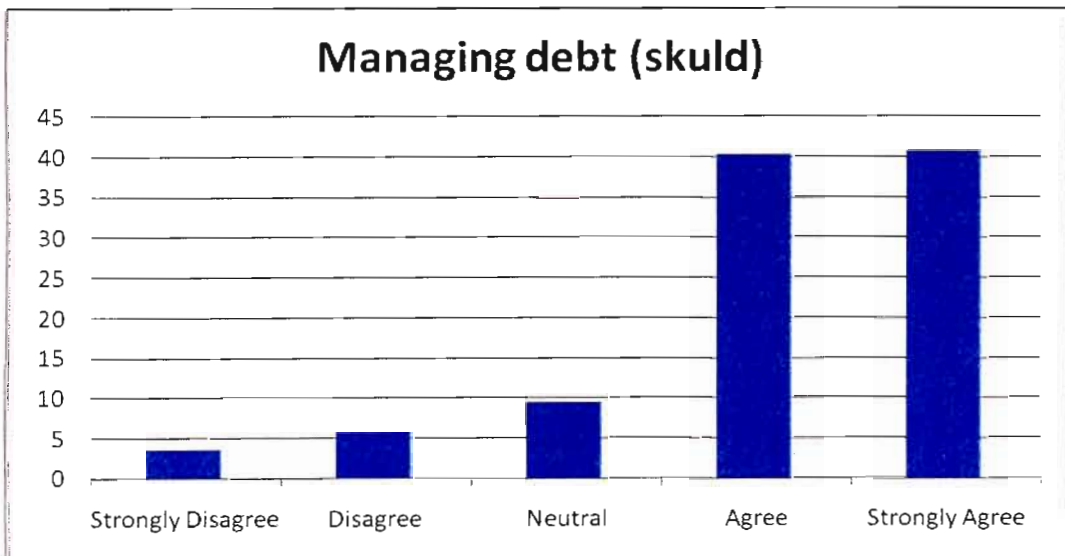
- 72% of respondents either agreed or strongly agreed that planning for a financially independent retirement is a relevant topic to learn more about at this point in their lives.

Chart 5.22: Which financial records to keep and how to keep them



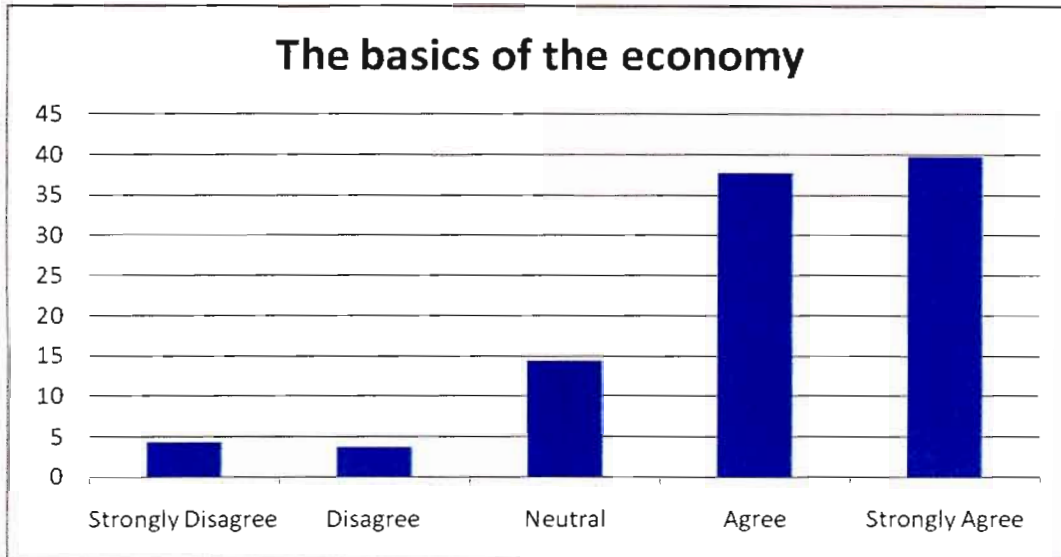
- 83% of respondents either agreed or strongly agreed that which financial records to keep and how to keep them are relevant topics to learn more about at this point in their lives.

Chart 5.23: Managing debt



- 81% of respondents either agreed or strongly agreed that managing debt is a relevant topic to learn more about at this point in their lives.

Chart 5.24: The basic of the economy



- 76% of respondents either agreed or strongly agreed that the basics of the economy is a relevant topic to learn more about at this point in their lives.

From Chart 5.1 – 5.24 (page 127-139) the following summary can be made:

- The views of the respondents in this study were mostly *neutral* regarding certain financial topics and learning more about them. These topics were:
 - Estate planning; and
 - How to start your own business.
- The respondents in this study *agreed* that certain financial topics were important to learn more about at this stage in their lives. These topics were:
 - Insurance;
 - Budgeting day-to-day finances;
 - Effectively using a credit card;
 - Buying a house;
 - Financial implications of emigration;
 - Ante-nuptial contracts and their financial implications;
 - How to start your own business;
 - Different financial institutions;
 - Reducing spending;
 - Rights as a consumer;

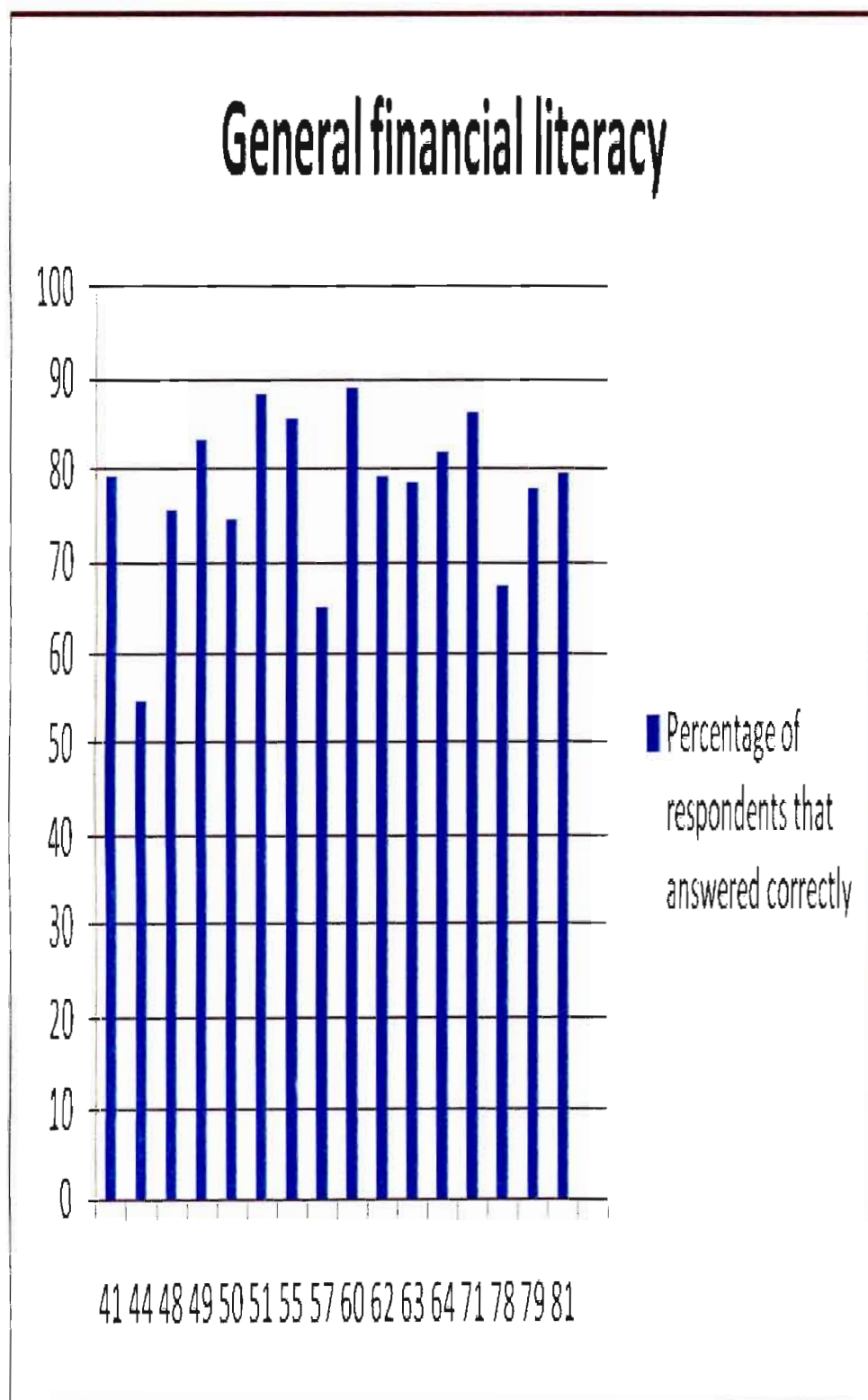
- Managing cash flow;
 - Planning for a financially independent retirement; and
 - Keeping financial records.
- The respondents in this study *strongly agreed* that certain financial topics were important to learn more about at this stage in their lives. These topics were:
 - The financial impact on my career planning;
 - Taxation;
 - Dealing with bank and other financial service providers;
 - Broadening their own personal finance knowledge;
 - Saving money;
 - Investing money;
 - Planning for your long-term financial future;
 - Health planning and medical aid;
 - Planning for a financially independent retirement;
 - Managing debt; and
 - The basics of economy.

D – Testing financial literacy competencies

General financial literacy

Chart 5.25 (page 141) shows the percentage of respondents who answered “yes”, “no” or “do not know” to the questions asked in section 4 about general financial literacy.

Chart 5.25: General financial literacy



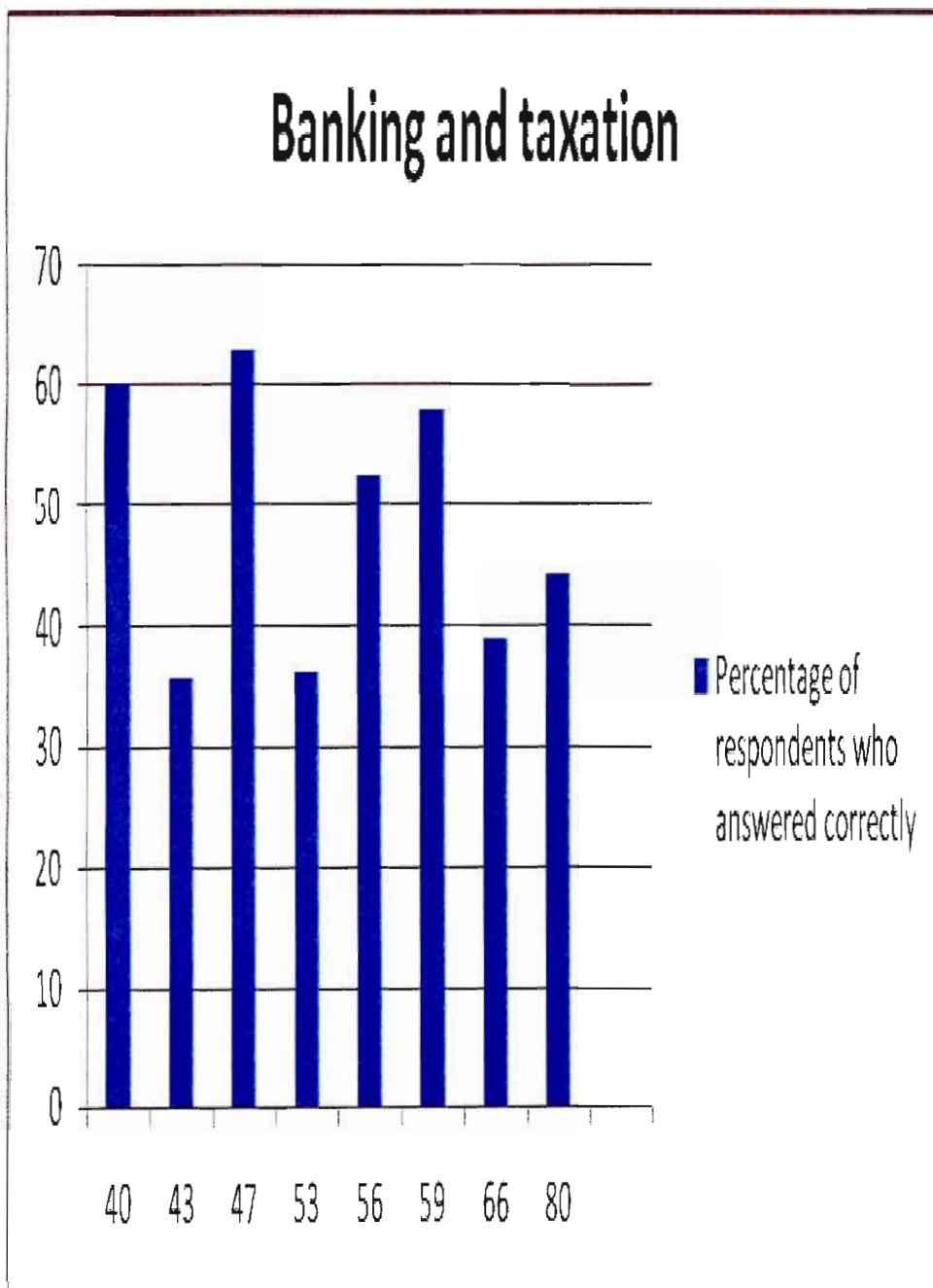
- 79.25% of respondents knew that long-term financial goals should be changed as new information becomes available (question 41);
- Most of the respondents (91%) correctly answered the question about budgeted and actual expenses that need not be equal (question 42);
- Three quarters of the respondents (75.89%) knew that an investment that has the same risk associated as another investment, but has a higher level of return, is preferred (question 48);
- Almost all the respondents (83.41%) knew that a budget is a monetary expression of your financial priorities (question 49);
- Almost three quarters of respondents (75%) knew that tax records should be kept for five years (question 50);
- Almost all of the respondents (88.39%) knew that invoices should be kept for warrantee purposes (question 51);
- Most of the respondents (85.51%) in this study knew that inflation has an impact on savings (question 55);
- Nearly two thirds (65.08%) of respondents understood that debt is not always a bad idea, while 30.17% of respondents said that debt is always a bad idea (question 57);
- Most of the respondents (89.07%) in this study knew that not all job openings are advertised in newspapers (question 60);
- A large number of respondents (79.29%) knew that a financial year does not always stretch from 1 January to 31 December in the same year (question 62);
- Most of the respondents (78.62%) knew that a valid will does not have to meet legal requirements (question 63);
- Almost four fifths (81.9%) knew that age plays a role in determining a person's car insurance premium (question 64);
- Almost all the respondents (86.33%) knew that not all banks charge the same service fees on cheque accounts (question 71);
- More than two thirds of respondents (67.15%) knew that both spouses need to sign the document when buying a fixed property if they are married in community of property (question 78);
- Almost three quarters of respondents (77.78%) knew that a statement of financial position shows your assets, liabilities and net worth at a given date (question 79); and

- Almost all of the respondents (79.68%) knew that certain medical aid plans only pay for hospital expenses (question 81).

Banking and taxation

Chart 5.26 (page 143) shows the percentage of respondents who answered “yes”, “no” or “do not know” to the questions asked in section 4 about banking and taxation.

Chart 5.26: Banking and taxation

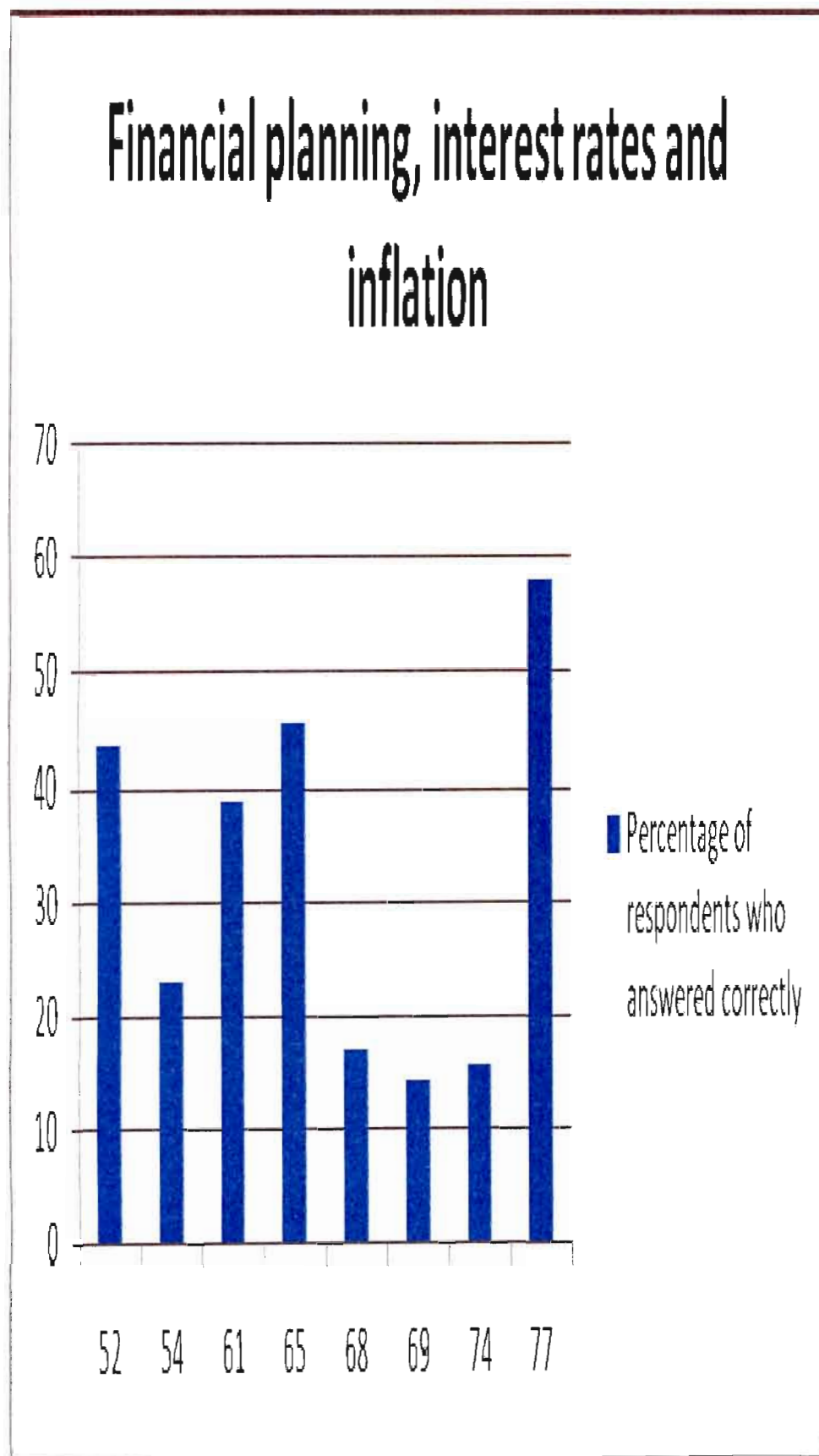


- 60.14% of respondents knew that financial planning is affected by inflation (question 40);
- Half of the respondents (50%) could not correctly answer the question about fixed expenses staying fixed for many years. 14.22% also stated that they did not know what the answer should be (question 43);
- Most of the respondents (63.12%) knew that returns on investment are not guaranteed (question 47);
- More than half of the respondents (54.05%) in this study did not know that a deposit slip is not used to transfer money between accounts, while 9.52% of respondents also stated that they did not know the answer (question 53);
- More than half of the respondents (52.49%) understood that a savings account is not the best way to save money (question 56);
- More than half of the respondents (58.06%) knew that if you have an accident, it increases your car insurance premium (question 59);
- A small number of respondents (39.14%) knew that cash is not a high earning asset, while 32.22% of respondents claimed that they did not know the correct answer (question 66); and
- Most of the respondents (44.34%) knew that consumer credit and credit cards are generally regarded as the most expensive form of credit, while (27.95%) did not have an answer to the questions (question 80).

Financial planning, interest rates and inflation

Chart 5.27 (page 145) shows the percentage of respondents who answered “yes”, “no” or “do not know” to the questions asked in section 4 about financial planning, interest rates and inflation.

Chart 5.27: Financial planning interest rates and inflation

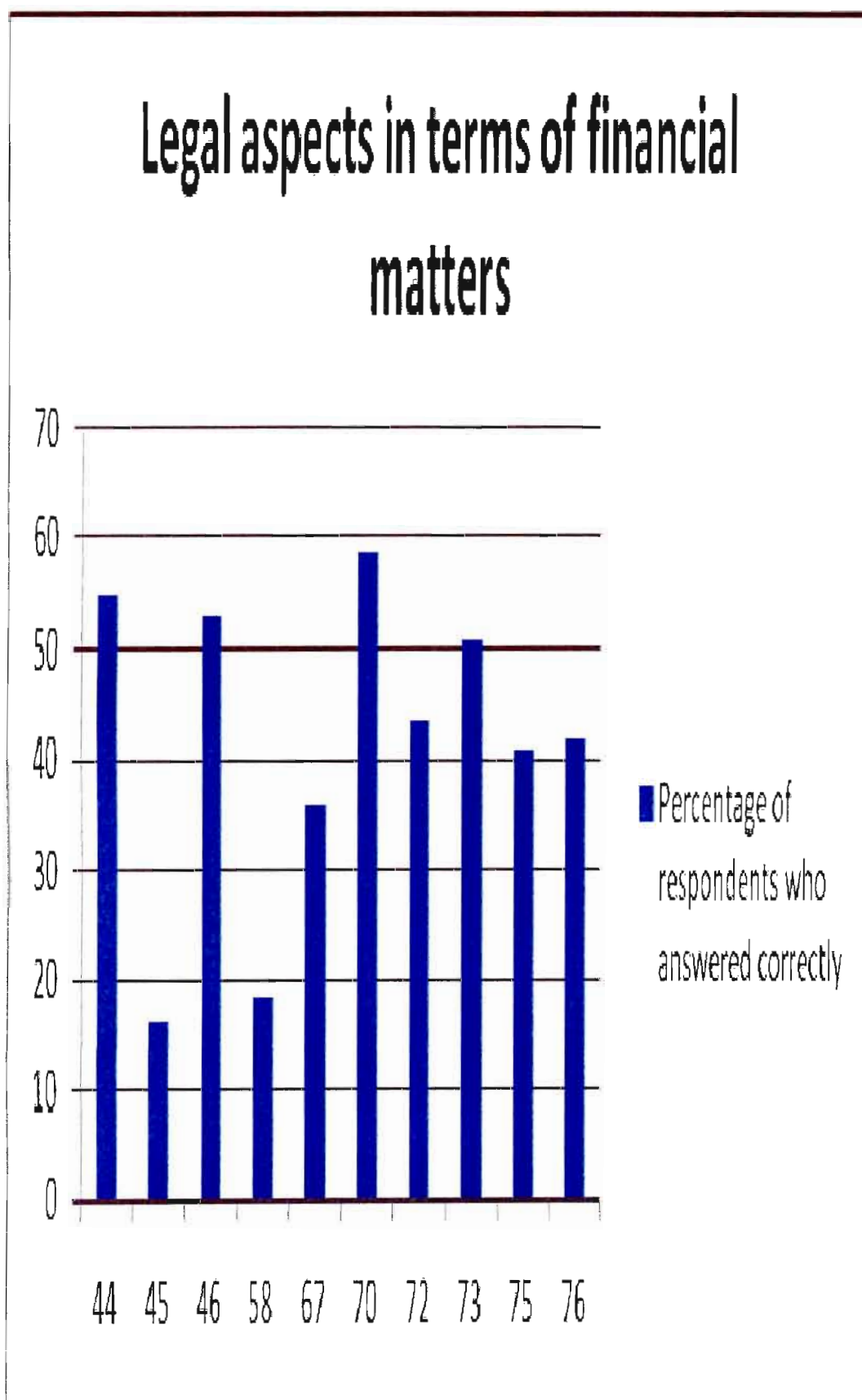


- Almost half of the respondents (48.1%) did not know that a debit balance on your bank statement represents a negative balance, while 43% of the respondents knew the answer (question 52);
- Almost two thirds (63.95%) of respondents could not calculate a person's net worth, while 12.83% of respondents stated that they did not know the answer (question 54);
- More than half of the respondents (56.53%) stated that all businesses should be registered for VAT, which is incorrect; while 4.28% of respondents did not know the answer at all (question 61);
- Less than half (45.69%) of respondents knew that renting a house provides more financial flexibility than buying a house; but 22.25% of respondents claimed that they did not know the answer (question 65);
- Most of the respondents did not correctly answer the question about the calculation of taxation for individuals; only 16.99% of respondents answered it correctly, while 32.22% did not know what the answer should be (question 68);
- Only 15% of respondents knew that the current prime lending rate is not 15% (question 69);
- Only 16% of respondents knew that renting a house at the moment is less expensive than buying a house (question 74); and
- Most of the respondents (57.97%) knew that a contribution to a retirement annuity fund is tax deductible (question 77).

Legal aspects in term of financial matters

Chart 5.28 (page 147) shows the percentage of respondents who answered "yes", "no" or "do not know" to the questions asked in section 4 about legal aspects in terms of financial matters.

Chart 5.28: Legal aspects in terms of financial matters



- Most of the respondents (91.27%) correctly answered the question that short-term goals help to control living expenses (question 44);
- A very small percentage of the respondents (16.31%) knew that you do not have to register at the Department of Trade and Industry before you can start a business (question 45);
- Over half of the respondents (53.07%) incorrectly answered the question that the use of a credit card can help in periods of high inflation, while 23.35% of the respondents stated that they did not know the answer (question 46);
- A large number of respondents (60.66%) did not know that a medical aid fund cannot turn you down if you apply to become a member (question 58);
- Although a large number of respondents (40.81%) correctly answered the question about the current inflation rate, what was worrying is that 44.39% of respondents did not know the answer and 14.56% of respondents answered incorrectly (question 67);
- More than half of the respondents (58.61%) knew that if you feel that you have been mistreated during a loan application you can take it to the National Credit Regulator, but 33.25% of respondents did not know what the answer should be (question 70);
- Most of the respondents (43.41%) knew that you have to have an ante-nuptial contract if you are married out of community of property; while 39.81% did not have an answer to the question (question 72);
- More than half of the respondents (50.72%) knew that if you emigrate, there is a limit to the amount of money an individual can take out of the country, while 30.62% of respondents did not have an answer to the question (question 73);
- A large number of respondents (41.01%) knew that the general rule of thumb is that you will need 10 times your annual salary in savings at retirement to be able to retire financially independent, but a large number (48.68%) of respondents did not know the answer to this question (question 75) ; and
- Slightly less than half of the respondents (47.84%) did not know that you can take complaints about your banking institution to the Banking Ombudsman, but a large number of respondents (41.83%) knew that they can take a complaint about their banking institution to the Banking Ombudsman (question 76).

5.2.2.2 Cluster groups

Effect sizes

The data from the questionnaire was taken to the Statistical Consultation Service of the North-West University (Potchefstroom Campus), who analysed the data by using the SAS computer software (SAS Institute Inc., 2003-2005). The data from questions 41-81 were marked as "correct" and "incorrect". Firstly, a factor analysis was carried out on the data, but because the data had "right" and "wrong" answers, the factor analysis did not show any significant similarities. A complete linkage clustering analysis on variable binary data was then done on the data using a Sokal and Sneath distance measure one for the variable binary data. The variable binary data was then divided into four clusters according to the cluster analysis by using a horizontal hierarchical tree plot. The maximum distance of the horizontal hierarchical tree plot was 25 and the clusters were formed by cutting at a distance of 13. It was decided to cut at a distance of 13 since answers were grouped in clusters that made most practical sense and cutting a greater distance meant that there were too many clusters to make practical sense. Also cutting at a distance of 13 meant that there were more or less the same amount of variables in each cluster group, the cluster groups made sense and were more easily interpreted. The grouping of answers in four clusters was not decided beforehand. There was no validity test done on the cluster analysis since this was an exploratory study.

Diagram 5.1 shows the horizontal hierarchical tree plot which was used in forming the clusters.

Diagram 5.1 - Rescaled distance cluster

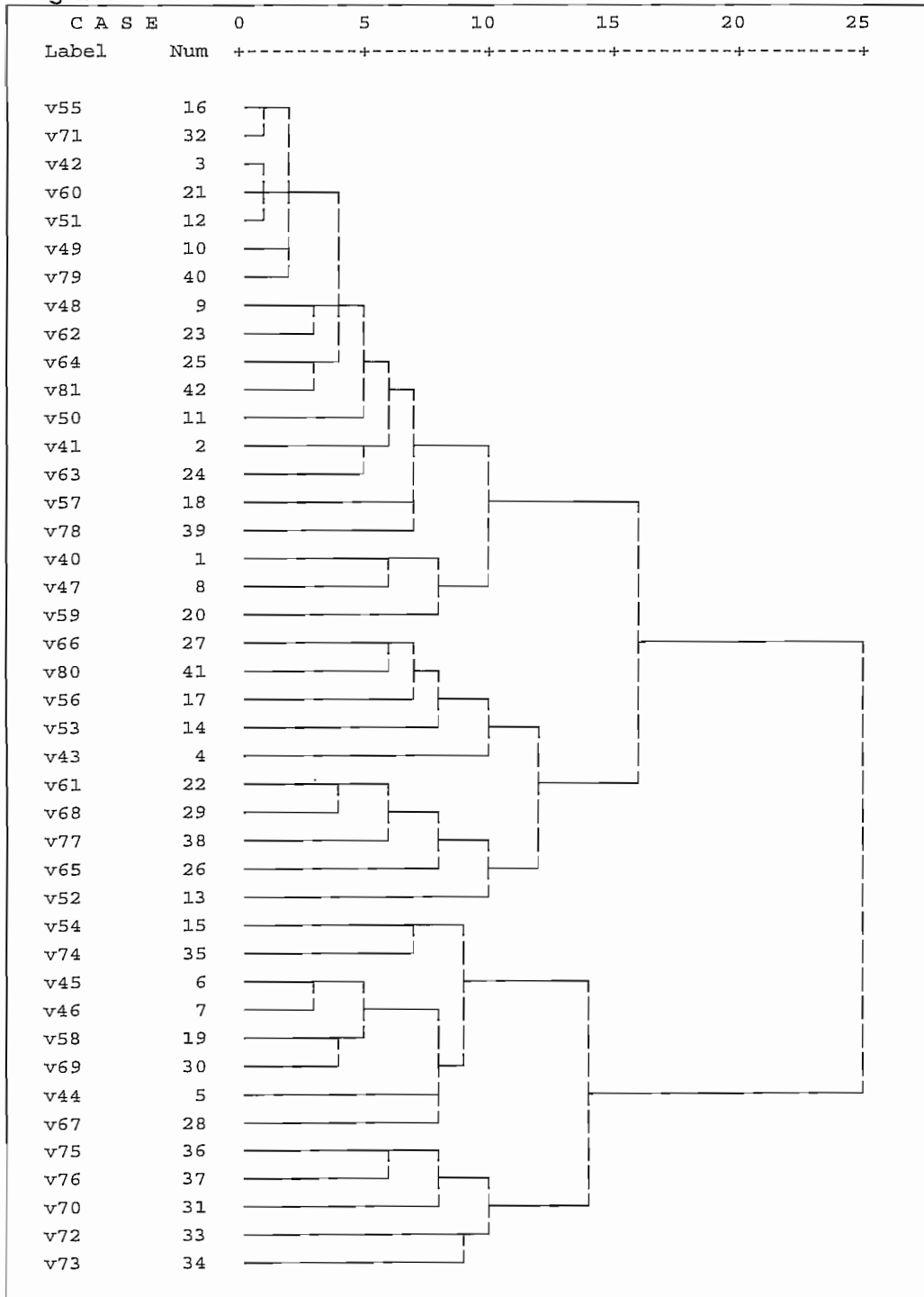


Table 5.8 shows the different cluster groups.

Table 5.8: Cluster groups

Question	Cluster 1	Cluster 2	Cluster 3	Cluster 4
40		x		
41	x			
42	x			
43		x		
44				x
45				x
46				x
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
74			x	
75				x
76				x
77			x	
78	x			
79	x			

80		X		
81	x			

When comparing the cluster groups with the questions from the questionnaire, the following similarities can be seen:

- Cluster 1 represents questions about – General financial literacy questions;
- Cluster 2 represents questions about – Banking and taxation;
- Cluster 3 represents questions about – Financial planning, interest rates and inflation; and
- Cluster 4 represents question about – legal aspects in terms of financial matters.

Reliability tests were also done on these questions to ensure the validity of these clusters. The following tables will show the Cronbach alphas of each of the clusters.

Table 5.9: Cronbach alpha – Cluster 1

Cronbach alpha	Cronbach alpha based on standardised items	N of Items
.738	.746	19

Table 5.10: Cronbach alpha – Cluster 2

Cronbach alpha	Cronbach alpha based on standardised items	N of Items
.688	.688	10

Table 5.11: Cronbach alpha – Cluster 3

Cronbach alpha	Cronbach alpha based on standardised items	N of Items
.298	.292	8

Table 5.12: Cronbach alpha – Cluster 4

Cronbach alpha	Cronbach alpha based on standardised items	N of Items
.538	.539	5

Tables 5.9 to 5.12 show that cluster groups 1,2 and 4 are reliable, since their Cronbach alphas are larger than 0.5, while cluster group 3's Cronbach alpha is smaller than 0.5 and thus less reliable.

5.2.2.3 T-test

Effect sizes

After compiling the different clusters, an average score was determined for each of these ANOVA's and T-tests performed on the data, by using the SAS computer software (SAS Institute Inc., 2003-2005) to determine if biographical groups in their mean scores. As this was not a random sample from a population, hypothesis testing is not relevant. Also statistical significance test have a tendency to yield small p-values (indicating significance) as the size of the data sets increase (Ellis & Steyn, 2003:51-53). The effect sizes is dependent of sample size and is a measure of practical significance (Ellis & Steyn, 2003:51-53). It can be understood as a large enough effect to be important in practice and is used in the research for differences in means (Ellis & Steyn 2003:51-53). Ellis and Steyn (2003:51-53) state that an effect size of approximately 0.2 has a small effect, but an effect size of approximately 0.5, has a medium effect, and an effect size of approximately 0.8 has a large effect.

Table 5.13 indicates the average of the clusters for all the data.

Table 5.13: Average of cluster groups

Variable	Valid N	Mean
Cluster 1	425	0.76
Cluster 2	425	0.46
Cluster 3	425	0.25
Cluster 4	420	0.47

From table 5.13, the following summaries can be made:

- Respondents correctly answered 76% of the questions about general financial literacy (cluster 1);

- Respondents correctly answered 46% of the questions about banking and taxation (cluster 2);
- Only a small number of respondents (25%) could correctly answer the question about financial planning, interest rates and inflation (cluster 3); and
- Almost half of the respondents (47%) could not correctly answer the questions about legal aspects in terms of financial matters (cluster 4).

Table 5.14 shows the T-test carried out on question 1 of the questionnaire, grouping the males versus females in terms of the different clusters:

Table 5.14: T-test question 1

Variable	Mean 1 ¹ (Male)	Mean 2 (Female)	<i>p-value</i>
Cluster 1	0.80	0.75	0.0025
Cluster 2	0.55	0.41	0.0000
Cluster 3	0.27	0.23	0.0603
Cluster 4	0.47	0.47	0.9983

From Table 5.14, the following summary can be made:

- In this study, male respondents tended to know more than female respondents about questions pertaining to banking and taxation (cluster 2).

Table 5.15 shows the T-test carried out on question 7 of the questionnaire grouping yes versus no answers in terms of the different clusters:

Table 5.15: T-test question 7

Variable	Mean 1 ¹	Mean 2 ²	<i>p-value</i>
Cluster 1	0.79	0.73	0.0022
Cluster 2	0.51	0.38	0.0000
Cluster 3	0.26	0.22	0.0253
Cluster 4	0.46	0.5	0.1923

¹ Respondents who answered "yes" to question 7 of the questionnaire

² Respondents who answered "no" to question 7 of the questionnaire

When looking at Table 5.15 it appears that respondents who answered that they knew how they will be making a living next year correctly answered questions about banking and taxation (cluster 2), as opposed to respondents who did not know how they will be making a living the following year.

Table 5.16 shows the T-test carried out on question 9 of the questionnaire grouping the yes versus no answers in terms of the different clusters:

Table 5.16: T-test question 9

Variable	Mean 1 ¹	Mean 2 ²	<i>P-value</i>
Cluster 1	0.80	0.74	0.0004
Cluster 2	0.53	0.42	0.0000
Cluster 3	0.27	0.23	0.0087
Cluster 4	0.46	0.48	0.4954

¹ Respondents who answered “yes” to question 9 of the questionnaire

² Respondents who answered “no” to question 9 of the questionnaire

The above table shows that respondents who had investments tended to answer more of the questions on taxation and banking correctly (cluster 2) than respondents who did not have any investments at the time of the study.

Other T-tests were carried out, but none of them were significant since their *p-values* were larger than 0.005 and their effect sizes did not make it practically significant.

5.2.2.4 ANOVA (two-way test)

Effect sizes

After compiling the different clusters, an average score was determined for each of these ANOVA's and T-tests performed on the data, by using the SAS computer software (SAS Institute Inc., 2003-2005) to determine if biographical groups in their mean scores. As this was not a random sample from a population, hypothesis testing is not relevant. Also statistical significance test have a tendency to yield small *p-values* (indicating significance) as the size of the data sets increase (Ellis & Steyn, 2003:51-53). The effect sizes is dependent of sample size and is a measure of practical significance (Ellis & Steyn, 2003:51-53). It can be understood as a large enough effect to be important in practice and is used in the research for differences in means (Ellis & Steyn 2003:51-53). Ellis and Steyn (2003:51-53) state that an effect size of approximately 0.2 has a small effect, but an effect size of approximately 0.5, has a medium effect, and an effect size of approximately 0.8 has a large effect.

In research, we use effect sizes to introduce a measure, which makes the difference independent of units and sample sizes in order to relate with the spread of data (Ellis & Steyn, 2003:51-53)

Table 5.18 shows the results of the ANOVA (two-way) tests carried out when the different clusters were grouped against the number of respondents according to their answers of question 3.

**Question 3 = I live in the following province (hometown)*

Firstly one must look at the *p-value*. If the *p-value* is smaller than .05, it implies that the results are practically significant. This can be seen in Table 5.17.

Table 5.17: P-values question 3

Variable	<i>p-value</i>
Cluster 1	0.33
Cluster 2	0.93
Cluster 3	0.06
Cluster 4	0.02

Therefore, only cluster group 4 can be taken into consideration, since its *p-value* is smaller than 0.05.

Table 5.18: Two-way test question 3

	Cluster 1	Cluster 1	Cluster 2	Cluster 2	Cluster 3	Cluster 3	Cluster 4	Cluster 4	All clusters
	Means	Std. Dev	Means	Std.Dev	Means	Std.dev	Means	Std.dev	N
Answer 1	0.78	0.17	0.46	0.26	0.27	0.16	0.46	0.27	150.00
Answer 2	0.77	0.17	0.48	0.29	0.24	0.17	0.43	0.29	60.00
Answer 3	0.78	0.18	0.45	0.23	0.26	0.20	0.51	0.31	100.00
Answer 4	0.74	0.15	0.44	0.25	0.24	0.17	0.51	0.30	17.00
Answer 5	0.74	0.17	0.41	0.21	0.22	0.15	0.39	0.27	23.00
Answer 6	0.76	0.20	0.47	0.26	0.20	0.18	0.56	0.30	51.00
Answer 7	0.67	0.27	0.43	0.31	0.15	0.14	0.31	0.26	15.00

**The answers to question 3 of the questionnaire were as follows:*

**Answer 1 = North West Province;*

**Answer 2 = Free State Province;*

**Answer 3 = Gauteng;*

**Answer 4 = KwaZulu Natal;*

**Answer 5 = Eastern Cape or Western Cape Province;*

**Answer 6 = Mpumalanga or Limpopo; and*

**Answer 7 = Northern Cape Province.*

Table 5.18 can be used to determine which Province performed best in each cluster by using the means. If the latter is taken into consideration, the following can be summarised:

- The North West Province and Gauteng performed best in the question pertaining to general financial literacy (cluster 1);
- The Northern Cape Province performed poorest pertaining to the question about general financial literacy (cluster 1);
- The Free State Province performed best in the question pertaining to banking and taxation, while the Eastern Cape or Western Cape Provinces performed poorest in those questions (cluster 2);
- The North West Province performed best in the question pertaining to financial planning, interest rates and inflation, while North performed poorest in those questions (cluster 3); and
- In the question pertaining to legal aspects in terms of financial matters, the students from Mpumalanga or Limpopo seem to have answered these questions the best, while the Northern Cape Province seems to have answered this section the worst (cluster 4).

Therefore, to conclude, it seems that no province particularly stood out in all four sections of the questionnaire.

When using Table 5.18 to calculate the effect sizes for cluster 4 – seeing as it is the only practically significant cluster – the answers can be seen in Table 5.19

Table 5.19: Effect sizes question 3

	Answer 1	Answer 2	Answer 3	Answer 4	Answer 5	Answer 6
Answer 1						
Answer 2	0.13					
Answer 3	-0.14	-0.26				
Answer 4	-0.14	-0.26	0.01			
Answer 5	0.27	0.12	0.38	0.38		
Answer 6	-0.33	-0.46	-0.18	-0.19	-0.57	
Answer 7	0.58	0.41	0.66	0.66	0.31	0.86

*The answer to question-3 of the questionnaire was the following:

*Answer 1 = North West Province;

*Answer 2 = Free State Province;

*Answer 3 = Gauteng;

*Answer 4 = KwaZulu Natal;

*Answer 5 = Eastern Cape or Western Cape Province;

*Answer 6 = Mpumalanga or Limpopo; and

*Answer 7 = Northern Cape Province.

Table 5.19 can therefore be summarised as follows:

- There was a difference in the answers of the respondents from the North West Province and the Northern Cape Province pertaining to the question on legal aspects in terms of financial matters (cluster 4);
- There was a difference in the answers of the respondents from the Free State Province and the Northern Cape Province pertaining to the question on legal aspects in terms of financial matters (cluster 4);
- There was a difference in the answers of the respondents from Gauteng and the Northern Cape Province pertaining to the question on legal aspects in terms of financial matters (cluster 4);
- There was a difference in the answers of the respondents from KwaZulu Natal and the Northern Cape Province pertaining to the question on legal aspects in terms of financial matters (cluster 4);
- There was a difference in the answers of the respondents from KwaZulu Natal and the Northern Cape Province pertaining to the question on legal aspects in terms of financial matters (cluster 4);
- There was a difference in the answers of the respondents from the Eastern Cape or Western Cape Province and the Northern Cape Province pertaining to the question on legal aspects in terms of financial matters (cluster 4);
- There was a difference in the answers of the respondents from Mpumalanga or Limpopo and the Northern Cape Province pertaining to the question on legal aspects in terms of financial matters (cluster 4);
- There was a difference in the answers of the respondents from the Free State Province and Mpumalanga or Limpopo pertaining to the question on legal aspects in terms of financial matters (cluster 4);

Considering the above summary, it seems that the students from the Northern Cape Province differ in their answers from all the other provinces.

Table 5.21 shows the results of the ANOVA (two-way) test carried out when the different clusters were grouped against the number of respondents according to their answers of question 5.

**Question 5 = I have had the following financial literacy education.*

One must consider the *p-value*. If the *p-value* is smaller than .05, it implies that the results are practically significant. This can be seen in Table 5.20

Table 5.20: P-values question 5

Variable	<i>p-value</i>
Cluster 1	0.00
Cluster 2	0.00
Cluster 3	0.00
Cluster 4	0.07

When looking at the above table, the following clusters can be seen as practically significant, since their *p-values* are smaller than .05:

- Cluster 1;
- Cluster 2; and
- Cluster 3.

Table 5.21: 2 way test question 5

		Cluster 1	Cluster 1	Cluster 2	Cluster 2	Cluster 3	Cluster 3	Cluster 4	Cluster 4	All clusters
		Means	Std. Dev	Means	Std.Dev	Means	Std.dev	Means	Std.dev	N
Answer 1		0.72	0.18	0.38	0.26	0.23	0.20	0.46	0.29	43
Answer 2		0.75	0.18	0.39	0.21	0.25	0.17	0.53	0.30	142
Answer 3		0.77	0.17	0.50	0.22	0.22	0.17	0.45	0.28	29
Answer 4		0.70	0.23	0.37	0.26	0.19	0.17	0.42	0.30	78
Answer 5		0.84	0.13	0.62	0.22	0.29	0.17	0.45	0.29	124

*The answers to question 5 of the questionnaire were as follows:

- *Answer 1 = None;
- *Answer 2 = EKNP312 (the subject);
- *Answer 3 = Short course;
- *Answer 4 = At school; and
- *Answer 5 = Other.

Table 5.21 can be used to determine which, if any, type of financial literacy education helped the respondents do the best in each cluster by means of the means. If the latter is taken into consideration, the following can be summarised:

- It seems that respondents who completed a short course in financial literacy education performed the best in the question pertaining to general financial literacy, while respondents who received financial literacy education at school level, scored lowest in this section (cluster 1);

- It seems that respondents who completed a short course in financial literacy education performed the best in the question pertaining to banking and taxation, while respondents who received financial literacy education at school level, scored lowest in this section (cluster 2);
- It seems that respondents who completed the subject *EKNP312*, performed the best in the question pertaining to financial planning, interest rates and inflation, while respondents who received financial literacy education at school level, scored lowest in this section (cluster 3);
- It seems that respondents who completed the subject *EKNP312*, performed the best in the question pertaining to legal aspects in terms of financial matter, while respondents who received a financial literacy education at school level, scored lowest in this section (cluster 4);

Therefore, it can be seen that in all four of the clusters people who received financial literacy education at school level scored lowest in all of the sections, being general financial literacy, banking, taxation, financial planning, interest rates, inflation and legal aspects in terms of financial matters. Students who completed a short course in financial literacy performed the best in three of the four sections, namely general financial literacy, banking, taxation, financial planning, interest rates and inflation.

When using Table 5.21 to calculate the effect sizes for clusters 1, 2 and 3 – seeing as they are the only practically significant clusters – the answers can be seen in Tables 5.22-5.23

Table 5.22: Cluster 1 effect sizes (question 5)

	Answer 1	Answer 2	Answer 3	Answer 4
Answer 1				
Answer 2	-0.17			
Answer 3	-0.26	-0.09		
Answer 4	0.10	0.24	0.31	
Answer 5	-0.64	-0.49	-0.41	0.38

Table 5.23: Cluster 2 effect sizes (question 5)

	Answer 1	Answer 2	Answer 3	Answer 4
Answer 1				
Answer 2	-0.04			

Answer 3	-0.46	-0.49		
Answer 4	0.03	0.06	0.48	
Answer 5	-0.95	-1.06	-0.55	-0.95

Table 5.24: Cluster 3 effect sizes (question 5)

	Answer 1	Answer 2	Answer 3	Answer 4
Answer 1				
Answer 2	-0.08			
Answer 3	0.07	0.19		
Answer 4	0.20	0.34	0.16	
Answer 5	-0.29	-0.24	-0.43	-0.58

*The answers to question 5 of the questionnaire were as follows:

*Answer 1 = None;

*Answer 2 = EKNP312 (the subject);

*Answer 3 = Short course;

*Answer 4 = At school; and

*Answer 5 = Other.

Tables 5.22 to 5.24 can therefore be summarised as follows:

- There was a difference in the answers of respondents who have had no financial literacy education and respondents who claimed to have had “other” financial literacy education pertaining to the question about general financial literacy (cluster 1);
- There was a difference in the answers of respondents who have had financial literacy education at school level and respondents who claimed to have had “other” financial literacy education pertaining to the question about general financial literacy (cluster 1);
- There was a difference in the answers of respondents who have had no financial literacy education and respondents who claimed to have had the subject *EKNP 312* pertaining to the question about banking and taxation (cluster 2);
- There was a difference in the answers of respondents who have had no financial literacy education and respondents who claimed to have had “other” financial literacy education pertaining to the question about banking and taxation (cluster 2);
- There was a difference in the answers of respondents who have had the subject *EKNP312* and respondents who claimed to have had a short course

on financial literacy education pertaining to the question about banking and taxation (cluster 2);

- There was a difference in the answers of respondents who have had the subject *EKNP312* and respondents who claimed to have had “other” financial literacy education pertaining to the question about banking and taxation (cluster 2);
- There was a difference in answers of respondents who have had a short course on financial literacy and respondents who claimed to have had “other” financial literacy education pertaining to the question about banking and taxation (cluster 2);
- There was a difference in the answers of respondents who have had financial literacy education at school and respondents who claimed to have had “other” financial literacy education pertaining to the question about banking and taxation (cluster 2);
- There was a difference in the answers of respondents who have had a short course on financial literacy and respondents who claimed to have had “other” financial literacy education pertaining to the question about financial planning, interest rates and inflation (cluster 3); and
- There was a difference in the answers between respondents who have had financial literacy education at school and respondents who claimed to have had “other” financial literacy education pertaining to the question about financial planning, interest rates and inflation (cluster 3).

Therefore, it would seem when looking at the above summary that there are communalities when it comes to certain clusters. Pertaining to the question on general financial matters, it would seem that respondents who have had “other” financial literacy education differ from the rest of the respondents in terms of answers to all three clusters. Thus, respondents who have had “other” financial literacy education did differ from the rest pertaining to the question about general financial matters, banking, taxation, financial planning, interest rate and inflation.

Table 5.26 shows the results of the ANOVA (two-way) test carried out when the different clusters were grouped against the number of respondents according to their answers of question 4 of the questionnaire.

**Question 4 = I am a student in the following faculty.*

Firstly, one must look at the *p-value*. If the *p-value* is smaller than .05, it implies that the results are practically significant. This can be seen in Table 5.25

Table 5.25: P-values question 4

Variable	<i>p-value</i>
Cluster 1	0.00
Cluster 2	0.00
Cluster 3	0.00
Cluster 4	0.57

When looking at the above table, the following cluster can be seen as practically significant since their *p-values* are smaller than .05:

- Cluster 1;
- Cluster 2; and
- Cluster 3.

Table 5.26: Two-way test question 4

	Cluster 1	Cluster 1	Cluster 2	Cluster 2	Cluster 3	Cluster 3	Cluster 4	Cluster 4	All clusters
	Means	Std. Dev	Means	Std.Dev	Means	Std.dev	Means	Std.dev	N
Answer 1	0.69	0.19	0.32	0.20	0.19	0.17	0.45	0.32	98
Answer 2	0.82	0.14	0.55	0.24	0.28	0.17	0.48	0.28	248
Answer 4	0.69	0.21	0.39	0.20	0.20	0.14	0.48	0.29	26
Answer 6	0.54	0.21	0.20	0.14	0.22	0.18	0.38	0.27	20
Answer 7	0.74	0.20	0.35	0.21	0.17	0.14	0.43	0.30	20

*The answers to question 4 of the questionnaire were as follows:

- *Answer 1 = Arts and Theology;
- *Answer 2 = Economic and Management Sciences;
- *Answer 4 = Engineering;
- *Answer 6 = Health Sciences; and
- *Answer 7 = Natural Sciences.

Table 5.26 can be used to determine which Faculties did the best in each cluster by using the means. If the latter is taken into consideration, the following can be summarised:

- It would seem from Table 5.26 that students from the Faculty Economic and Management Sciences performed best in the question about general financial literacy, while the Faculty of Health Sciences performed worst in this section (cluster 1);

- It would seem from Table 5.26, that students from the Faculty Economic and Management Sciences performed best in the question about taxation and banking, while the Faculty of Health Sciences performed worst in this section (cluster 2);
- It would seem from Table 5.26, that students from the Faculty Economic and Management Sciences performed best in the question about financial planning, interest rates and inflation, while the Faculty of Natural Sciences performed worst in this section (cluster 3);
- It would seem from Table 5.26, that students from the Faculty Economic and Management Sciences as well as Engineering performed best in the question about legal aspects in terms of financial matters, while the Faculty of Health Sciences performed worst in this section (cluster 4);

Therefore, to conclude, the Faculty of Economic and Management Sciences performed best in all four sections. These sections are general financial literacy, banking, taxation, financial planning, interest rates, inflation and legal aspects in terms of financial matters.

When looking at the above conclusion, it would seem that the Faculty of Health Sciences performed worst in three of the four sections. These sections are general financial literacy, taxation, banking and legal aspects in terms of financial matters.

When using Table 5.26 to calculate the effect sizes for clusters 1, 2 and 3 – since they are the only practically significant clusters – the answers can be seen in Tables 5.27 - 5.29.

Table 5.27: Cluster 1 effect sizes (question 4)

	Answer 1	Answer 2	Answer 4	Answer 6
Answer 1				
Answer 2	-0.72			
Answer 4	0.00	0.66		
Answer 6	0.70	1.36	0.71	
Answer 7	-0.24	0.44	-0.23	-0.94

Table 5.28: Cluster 2 effect sizes (question 4)

	Answer 1	Answer 2	Answer 4	Answer 6
Answer 1				
Answer 2	-0.93			
Answer 4	-0.31	0.68		
Answer 6	0.66	1.46	0.96	
Answer 7	-0.10	0.85	0.20	-0.73

Table 5.29: Cluster 3 effect sizes (question 4)

	Answer 1	Answer 2	Answer 4	Answer 6
Answer 1				
Answer 2	-0.55			
Answer 4	-0.08	0.47		
Answer 6	-0.18	0.36	-0.10	
Answer 7	0.11	0.66	0.23	0.28

*The answers to question 4 of the questionnaire were as follows:

- *Answer 1 = Arts and Theology; ...
- *Answer 2 = Economic and Management Sciences;
- *Answer 4 = Engineering;
- *Answer 6 = Health Sciences; and
- *Answer 7 = Natural Sciences.

Tables 5.27 to 5.29 can thus be summarised as follows:

- There was a difference in the answers between respondents who are from the Faculty of Arts and Theology and respondents who are from the Faculty of Economic and Management Sciences pertaining to the question on general financial literacy (cluster 1);
- There was a difference in the answers between respondents who are from the Faculty of Arts and Theology and respondents who are from the Faculty of Health Sciences pertaining to the question on general financial literacy (cluster 1);
- There was a difference in the answers between respondents who are from the Faculty of Economic and Management Sciences and respondents who are from the Faculty of Engineering pertaining to the question on general financial literacy (cluster 1);
- There was a difference in the answers between respondents who are from the Faculty of Economic and Management Sciences and respondents who

are from the Faculty of Natural Sciences pertaining to the question on general financial literacy (cluster 1);

- There was a difference in the answers between respondents who are from the Faculty of Engineering and respondents who are from the Faculty of Natural Sciences pertaining to the question on general financial literacy (cluster 1);
- There was a difference in the answers between respondents who are from the Faculty of Health Sciences and respondents who are from the Faculty of Natural Sciences pertaining to the question on general financial literacy (cluster 1);
- There was a difference in the answers between respondents who are from the Faculty of Art or Theology and respondents who are from the Faculty of Economic and Management Sciences pertaining to the question on banking and taxation (cluster 2);
- There was a difference in the answers between respondents who are from the Faculty of Art or Theology and respondents who are from the Faculty of Health Sciences pertaining to the question on banking and taxation (cluster 2);
- There was a difference in the answers between respondents who are from the Faculty of Economic and Management Sciences and respondents who are from the Faculty of Engineering pertaining to the question on banking and taxation (cluster 2);
- There was a difference in the answers between respondents who are from the Faculty of Economic and Management Sciences and respondents who are from the Faculty of Health Sciences pertaining to the question on banking and taxation (cluster 2);
- There was a difference in the answers between respondents who are from the Faculty of Economic and Management Sciences and respondents who are from the Faculty of Natural Sciences pertaining to the question on banking and taxation (Cluster 2);
- There was a difference in the answers between respondents who are from the Faculty of Engineering and respondents who are from the Faculty of Health Sciences pertaining to the question on banking and taxation (cluster 2);
- There was a difference in the answers between respondents who are from the Faculty of Natural Sciences and respondents who are from the Faculty of

Health Sciences pertaining to the question on banking and taxation (cluster 2);

- There was a difference in the answers between respondents who are from the Faculty of Arts and Theology and respondents who are from the Faculty of Economic and Management Sciences pertaining to the question on financial planning, interest rates and inflation (cluster 3);
- There was a difference in the answers between respondents who are from the Faculty of Economic and Management Sciences and respondents who are from the Faculty of Health Sciences pertaining to the question on financial planning, interest rates and inflation (cluster 3);

Therefore, it would seem, when looking at the above summary, that there are communalities when it comes to certain clusters. On the question pertaining to general financial matters, it would seem that respondents who are from the Faculty of Health Sciences differ from the rest of the respondents in terms of their answers in clusters 1 and 2. Thus, respondents who are from the Faculty of Health did differ from the rest based on the question about general financial matters, banking and taxation.

5.3 Summary

In this chapter the build-up to and results of the empirical research were discussed. It could be concluded that the questionnaire was valid (paragraph 5.2.1, page 121). The results from the questionnaire are summarised in the paragraphs to follow.

The following summary can be made on the demographics of the learners involved in the survey:

- The sample was gender representative (Table 5.1, page 122);
- The learners were generally Afrikaans speaking (Table 5.2, page 123);
- Although most of the students resided in the North West Province and Gauteng, the whole of South Africa was represented (Table 5.3, page 123);
- The sample of students represented all the faculties except Educational Sciences and the biggest faculty that was represented was Economic and Management Sciences (Table 5.4, page 123); and
- The sample of students all claimed to have received some form of financial literacy education, either at school or university level (Table 5.5, page 124).

From Tables 5.6 and 5.7 (page 125), the following summary can be made:

- Most of the respondents in the study did not have any loans or any other debt;
- The majority of the students in the study did know how they will be earning an income once they completed their studies;
- Respondents in the survey did not know how to prepare their own legal will according to the minimum legal requirements;
- The majority of respondents did not have any investments;
- Slightly more than half of the respondents of this survey claimed that they budgeted for their day-to-day finances;
- Respondents in this survey did not view retirement too far away to start thinking about;
- The majority of respondents in this survey stated that they kept records of their daily expenses;
- Most of the respondents in this study stated that they did not own a credit or store card, but 39% did have a credit card and 32% did have a store card;
- The majority of students stated that they did not have a part-time job; and
- Almost all of the respondents stated that their parents still supported them financially.

From Chart 5.1 to 5.24 (page 127 – page 139), the following summary can be made:

- The views of respondents in this study were *neutral* regarding certain financial topics at this point in their lives and learning more about them. These topics were:
 - Estate planning; and
 - How to start your own business.
- The respondents in this study *agreed* that certain financial topics were important to learn about more at this stage in their lives. These topics were:
 - Insurance;
 - Budgeting day-to-day finances;
 - Effectively using a credit card;
 - Buying a house;
 - Financial implications of emigration;
 - Ante-nuptial contracts and their financial implications;

- How to start your own business;
 - Different financial institutions;
 - Reducing spending;
 - Rights as a consumer;
 - Managing cash flow;
 - Planning for a financially independent retirement; and
 - Keeping financial records.
- The respondents in this study *strongly agreed* that certain financial topics were important to learn more about at this stage in their lives. These topics were:
 - The financial impact on my career planning;
 - Taxation;
 - Dealing with bank and other financial services providers;
 - Broadening their own personal finance knowledge;
 - Saving money;
 - Investing money;
 - Planning for your long-term financial future;
 - Health planning and medical aid;
 - Planning for a financially independent retirement;
 - Managing debt; and
 - The basics of economy.

From Chart 5.25 to 5.28 (page 141 - 147), the following summary can be made:

General financial literacy

- 79.25% of respondents knew that long-term financial goals should be changed as new information becomes available (question 41);
- Most of the respondents (91%) answered the question correctly about budgeted and actual expenses that need not be equal (question 42);
- Three quarters of the respondents (75.89%) knew that an investment that has the same associated risk as another investment, but a higher level of return, is preferred (question 48);
- Almost all the respondents (83.41%) knew that a budget is a monetary expression of your financial priorities (question 49);

- Almost three quarters of respondents (75%) knew that tax records should be kept for five years (question 50);
- Almost all of the respondents (88.39%) knew that invoices should be kept for warrantee purposes (question 51);
- Most of the respondents (85.51%) in this study knew that inflation has an impact on savings (question 55);
- Nearly two thirds (65.08%) of respondents understood that debt is not always a bad idea, while 30.17% of respondents said that debt is always a bad idea (question 57);
- Most of the respondents (89.07%) in this study knew that not all job openings are advertised in newspapers (question 60);
- A large number of respondents (79.29%) knew that a financial year does not always stretch from 1 January to 31 December in the same year (question 62);
- Most of the respondents (78.62%) in this study knew that a valid will does not have to meet legal requirements (question 63);
- Almost four fifths (81.9%) knew that age plays a role in determining a person's car insurance premium (question 64);
- Almost all the respondents (86.33%) in this study knew that not all banks charge the same service fees on cheque accounts (question 71);
- More than two thirds of respondents (67.15%) knew that both spouses need to sign the document when buying a fixed property if they are married in community of property (question 78);
- Almost three quarters of respondents (77.78%) knew that a statement of financial position shows your assets, liabilities and net worth at a given date (question 79); and
- Almost all of the respondents (79.68%) knew that certain medical aid plans only pay for hospital expenses (question 81).

Banking and taxation

- 60.14% of respondents knew that financial planning is affected by inflation (question 40);
- Half of the respondents (50%) could not answer the question correctly about fixed expenses staying fixed for many years. 14.22% also stated that they did not know what the answer should be (question 43);

- Most of the respondents (63.12%) knew that returns on investment are not guaranteed (question 47);
- More than half of the respondents (54.05%) did not know that a deposit slip is not used to transfer money between accounts, while 9.52% of respondents also stated that they did not know the answer (question 53);
- More than half of the respondents (52.49%) in this study understood that a savings account is not the best way to save money (question 56);
- More than half of the respondents (58.06%) knew that if you have an accident it increases your car insurance premium (question 59);
- A small number of respondents (39.14%) knew that cash is not a high earning asset, while 32.22% of respondents claimed that they did not know the answer (question 66); and
- Most of the respondents (44.34%) in this study knew that consumer credit and credit cards are generally regarded as the most expensive form of credit, while (27.95%) did not have an answer to the questions (question 80).

Financial planning, interest rates and inflation

- Almost half of the respondents (48.1%) did not know that a debit balance on your bank statement represents a negative balance, while 43% of the respondents knew the answer (question 52);
- Almost two thirds (63.95%) of respondents could not calculate a person's net worth, while 12.83% of respondents stated that they did not know the answer (question 54);
- More than half of the respondents (56.53%) stated that all businesses should be registered for VAT, which is incorrect, while 4.28% of respondents did not know the answer at all (question 61);
- Less than half (45.69%) of the respondents knew that renting a house provides more financial flexibility than buying a house; but 22.25% of the respondents claimed that they did not know the answer (question 65);
- Most of the respondents did not answer the question correctly about the calculation of taxation for individuals, only 16.99% of respondents answered it correctly, while 32.22% did not know what the answer should be (question 68);
- Only 15% of respondents knew that the current prime lending rate is 15% (question 69);

- Only 16% of respondents knew that renting a house at the moment is less expensive than buying a house (question 74); and
- Most of the respondents (57.97%) knew that a contribution to a retirement annuity fund is tax deductible (question 77).

Legal aspects in terms of financial matters

- Most of the respondents (91.27%) answered the question correctly that short-term goals help controlling living expenses (question 44);
- A very small percentage of the respondents (16.31%) knew that you do not have to register at the Department of Trade and Industry before you can start a business (question 45);
- Over half of the respondents (53.07%) answered the question incorrectly that the use of a credit card can help in periods of high inflation, while 23.35% of the respondents stated that they did not know the answer (question 46);
- A large number of respondents (60.66%) did not know that a medical aid fund cannot turn you down if you apply to become a member (question 58);
- Although a large number of respondents (40.81%) got the question correct about the current inflation rate, what was worrying is that 44.39% of respondents did not know the answer and 14.56% of respondents answered incorrectly (question 67);
- More than half of the respondents (58.61%) knew that if you feel that you have been mistreated during a loan application you can take it up with the National Credit Regulator, but 33.25% of respondents did not know what the answer should be (question 70);
- Most of the respondents (43.41%) in this study knew that you have to have a ante-nuptial contract if you are married out of community of property; while 39.81% did not have an answer to the question (question 72);
- More than half of the respondents (50.72%) knew that if you emigrate, there is a limit to the amount of money an individual can take out of the country, while 30.62% of respondents did not have an answer to the question (question 73);
- A large number of respondents (41.01%) knew that the general rule of thumb is that you will need 10 times your annual salary in savings at retirement, to be able to retire financially independent, but a large number (48.68%) of respondents did also not know the answer to this question (question 75) ; and

- Slightly less than half of the respondents (47.84%) did not know that you can take a complaint about your banking institution to the Banking Ombudsman, but a large number of respondents (41.83%) also knew that they can take a complaint about their banking institution to the Banking Ombudsman (question 76).

It seemed that no province stood out in terms of their score in all four sections of the questionnaire when comparing provinces against each other according to statistical means.

If looking at the above summary, it seemed that respondents from the Northern Cape Province differ in their answers to all the other provinces pertaining to questions about legal aspects in terms of financial matters. The Northern Cape Province fared worst in the following sections: general financial literacy, banking, taxation, financial planning, interest rates, inflation and legal aspects in terms of financial matters.

Therefore, it can be seen that people who only received financial literacy at school level performed worst in the sections general financial literacy, banking, taxation and legal aspects in terms of financial matters. Students who did a short course in financial literacy performed the best in the following sections: general financial literacy, banking, taxation, financial planning, interest rates and inflation.

It would seem that there are communalities when it comes to certain sections of the questionnaire. Pertaining to the question on general financial matters, it would seem that respondents who have had "other" financial literacy education differ from the rest of the respondents in terms of answers on the following sections: general financial matters, banking, taxation, financial planning, interest rate and inflation.

Students from the Faculty of Economic and Management Sciences performed the best in all four sections of the questionnaire; these sections are general financial literacy, banking, taxation, financial planning, interest rates, inflation and legal aspects in terms of financial matters. The students from the Faculty Health Sciences performed the worst in terms of general financial literacy, taxation, banking and legal aspects in terms of financial matters.

Therefore, it would seem, when looking at the above summary, that there are communalities when it comes to certain areas of the questionnaire. Pertaining to the

question on general financial matters, it would seem that respondents who are from the Faculty of Health Sciences differ from the rest of the respondents in terms of answers on general financial literacy, banking and taxation.

This chapter addressed the measurement of third-year university students' financial literacy competencies. Students from different faculties were also compared. In the next chapter the research findings will be concluded and recommendations made.

CHAPTER 6 - CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

According Kempson *et al.* (2006:43) financial capability is a relatively new concept and there should be a strong established consensus about what it should entail. Although this is a new concept it is becoming more important for households to acquire and manage economic know-how (Lusardi & Mitchell, 2007:35). As this is the case, there is a need for more financially capable people. In practice there is, however, a widespread financial illiteracy (Lusardi & Mitchell, 2007:35). The implication of this widespread financial illiteracy can have a number of implications (Lusardi & Mitchell, 2007:35).

In building up to the matter of addressing and researching the above and other statements, in the previous chapters a basis was formed for the need for individuals being financially literate by means of a literature study (Chapter 2 - Chapter 3). These chapters addressed specific objectives 1 to 7 (paragraph 1.3.2, page 9). The chapters (Chapter 4 - Chapter 5) that followed the literature study were an empirical study used to address specific objectives 8 to 10. This chapter will be mostly aimed at addressing specific objective 11 (paragraph 1.3.2, page 9), to make conclusions and recommendations on how universities can contribute to help students become financially literate or improve students' financial literacy competencies.

This chapter focuses on:

- Emphasising the motivation for the study;
- Highlighting the findings regarding the objectives of the study and draw conclusions;
- Commenting on the hypotheses and the reaching of the primary objective;
- Making recommendations;
- Discussing future research opportunities; and
- Providing a final summary.

This chapter will thus provide the conclusions and recommendations on the study and will also indicate the contribution that this study has made to the personal finance field.

6.2 Motivation for the study

Several statements were identified in Chapter 1 (paragraph 1.1.1, page 1) in the build-up to the problem statement that (according to the researcher) summarises the need for research into the financial literacy competencies of third-year university students. An overview on the main statements identified in paragraph 1.1.1 starting on page 1 of the study is provided below.

6.2.1 Uncertain financial future

In paragraph 1.1.1, page 1, it was noted that individuals did not possess the necessary knowledge about their financial future or the ability to make informed decisions about their financial future. Therefore, individuals face the danger of not having enough money or resources when it comes to retirement and unforeseen circumstances.

6.2.2 Lack of knowledge on personal finance

In paragraph 1.1.1, page 1, it seemed that most students have a lack of knowledge regarding personal finance. It seemed that the students did not have adequate knowledge about the following areas: general knowledge about personal finance, savings, borrowing, insurance and investments. Chen and Volpe's (1998:122) conclusion was that college students do not have adequate knowledge about personal finance, and that these students are likely to make mistakes in the real world.

6.2.3 Over-confidence mindset about personal finance

In paragraph 1.1.1, page 1, most individuals believe that they possess a good understanding when it comes to personal finance and economics. However, when a study was done in the USA on topics such as money, interest rates and inflation, and personal finance, the adults in the study had an average score of C and the high school population fared worse scoring an F on average. The troubling factor was the

low scores of adults in this study, since most young people consult their parents for guidance when it comes to personal finance.

6.2.4 Lack of improving financial literacy level

In paragraph 1.1.1, page 1, Mandell (2005:1) states that financial literacy levels are low and not improving for most of the studies done on financial literacy. Mandell (2005:1) also adds that although financial literacy levels are low, not much is being done to improve these levels. While this might be the case, Cohen and Sebstad (2003:3) state that the solution to improving financial literacy is educational programmes. Cohen and Sebstad (2003:3) state that even a once-off financial educational programme can have long-term financial results, even permanent in some cases.

6.2.5 The educational system does not support financial literacy education

In paragraph 1.1.1, page 1, it was noted that a problem that arose was that most of the primary and secondary schools have no policy on personal finance education (Federal Services Authority, 2002:4). Swart (2005:49) also states that South African tertiary institutions are not equipping their students with knowledge to face the financial challenges that await them. This is also sustained when the content of the school syllabus was reviewed. If this is the case, there is a lot of work that needs to be done by universities in South Africa as well as the current secondary and primary school system, especially if looking at the above-mentioned paragraph.

6.2.6 South African context

In paragraph 1.1.1, page 1, it would seem that most studies found that financial literacy is low in most countries (Mandell, 2005:1). However, according to the FinMark Trust (2005:3) the FinScope survey, in 2004, South Africans on average have a low level of financial literacy and most people living in South Africa are financially illiterate.

6.2.7 Problem statement

Flowing from the above motivation, it is clear that there is a lack of financial literacy among young people resulting in numerous financial problems associated with being financially illiterate. The lack of financial literacy seems to be from a lack of knowledge.

6.3 Objectives

In this study the research objectives were divided into general and specific objectives.

The *general objective* of the study was to evaluate the financial literacy competencies of university students, and to make recommendations on improving their competencies, if necessary.

The *specific objectives* required to achieve the general objective of this study were to:

1. determine the need for financial literacy (see Chapter 1)
2. define financial literacy (see Chapter 2)
3. determine the advantages of being financially literate (see Chapter 2)
4. determine the implication of being financially illiterate (see Chapter 2)
5. see what other countries are doing in terms of equipping young people to be financially literate and to apply it to our systems if they are not adequate (see Chapter 3)
6. determine whether financial education has made a difference in the past (see Chapter 3)
7. establish what the content of a personal finance curriculum should be (see Chapter 4).
8. suggest a means to measure the level of financial literacy of university students (see Chapter 4).
9. study the financial literacy levels of university students to evaluate the financial competencies of university students (see Chapter 5).
10. make a comparison between the different faculties in terms of financial literacy competencies (Addressed in Chapter 5).

11. make recommendations on how universities can contribute to help students become financially literate or improve students' financial literacy competencies (Addressed in Chapter 6).

The next paragraph provide the conclusion to the different research objectives.

6.4 Conclusion

6.4.1 Conclusions regarding the need for financial literacy

Specific objective one (paragraph 1.1.1, page 1) was to determine the need for financial literacy. It was addressed in Chapter 1 and parts of Chapter 2.

From the literature study in Chapter 1, paragraph 1.1.1, page 1, and paragraph 1.1.2, page 3, it can be concluded that there exists a need for financial literacy because of the following reasons:

Debt

- Individuals tend to fall into debt as a result of being financially illiterate;

Financial future

- Individuals are unable to plan for their financial future because they do not have the adequate knowledge to do so;

College students

- Individuals, especially college students, have inadequate knowledge about personal finance – especially in the following areas: general knowledge, savings, borrowing, insurance and investments;
- Individuals, especially college students, are financially illiterate and are likely to make mistakes in the real world as a result of their inadequate knowledge;

Inadequate knowledge

- Most people believe that they possess adequate knowledge about personal finance; however, when tested, most individuals scored less than what they

perceived their knowledge to be, particularly in the areas of money, interest rates, inflation, government and trade and personal finance;

- Adults do not necessary have the adequate knowledge to equip their children with the necessary knowledge about personal finance;
- People in South African tend to be confused about financial matters;
- Most studies show that many individuals are illiterate, and that their levels of financial literacy are not improving and not much is being done to improve their financial levels; and
- Individuals do not comprehend financial numeracy and literacy scales. Mortgages and interest rates are of the areas most individuals are not familiar with.

School system

- The educational system does not have an adequate policy regarding personal finance as part of their curriculum.

Wide spread

- Financial illiteracy is a wide-spread problem and is not limited to a specific country.

Confronted from early age

- Financial illiteracy has a number of influences on individuals, which can turn into problems if not dealt with; and
- Individuals are confronted from an early age to make financial decisions.

From the above-mentioned points it can be concluded that there is a need for financial literacy and further education in this regard.

6.4.2 Defining financial literacy

Specific objective 2 (paragraph 1.3.2, page 9) was to define financial literacy. This was addressed in Chapter 2.

Regarding the defining of financial literacy, the following can be concluded:

It would seem from the literature that there are numerous definitions, levels and domains when it comes to financial literacy. What financial literacy is, may even differ between individuals.

Simply put, financial literacy can be defined as follows: *“a financially literate individual should have a positive attitude towards his/her finances and learning, the understanding to take control of his/her own finances, the ability to discern good from bad financial decisions, and the skills to make them practical.”*

6.4.3 The advantages of being financially literate

Specific objective three (paragraph 1.3.2, page 9) was to identify the advantages of being financially literate. Objective 3 was addressed in Chapter 2 (starting from page 27).

From the literature study done on the advantages of being financially literate, the following main points can be made:

- Broad guideline of the advantages of being financially literate; and
- Prominent advantages of being financially literate.

The conclusion of the advantages of being financially literate will be discussed under these two main points.

6.4.3.1 Broad guideline of being financial literate

From the literature the following broad guidelines can be postulated pertaining to the advantages of being financially literate or capable.

Financially literate individuals tend to have the following attributes or qualities:

- financial advantages over others;
- self-confidence;
- can take personal responsibility for their financial future;
- have the ability to understand household finances;
- they can compile a budget ;
- are financially informed;

- have a better chance in succeeding in business;
- can plan their debt;
- have the ability to do personal financial planning;
- can set objectives;
- should be financially independent at retirement;
- have better gains in employment and earnings;
- achieve their personal goals; and
- have the ability to continue their financial education.

It can thus be concluded that being financially literate has a number of broad advantages for an individual.

6.4.3.2 Prominent advantages of being financial literate

From the literature, the following prominent advantages can be postulated pertaining to the advantages of being financially literate or capable and can be divided into the following main points:

- Planning ahead

From the literature it seems that there exists a strong correlation between individuals who are financially literate and people who plan ahead for their financial future. It was also noted in the literature that individuals who are savings-orientated are also planning ahead for their financial future.

- Financial independence at retirement

Financial independence at retirement seems to be one of the most prominent advantages, since most people struggle to achieve this goal. From the literature it would seem that there is a strong correlation between being financially literate and financially independent at retirement. It can be concluded from the literature study that individuals who are financially literate plan ahead and therefore experience a satisfying retirement.

- Investment and saving

It can be concluded from the literature that being financially literate helps individuals make better informed decisions when it comes to investments and

saving. Also from the literature study it can be noted that individuals who are financially literate have more investments and savings than people who are not financially literate.

- Other sound financial behaviour

Individuals who are financially literate do not only benefit from being financially literate, but it would seem from the literature that individuals' behaviour also favours from being financially literate. Individuals' behaviour benefits in that they can make informed decisions and can take advantage of opportunities that come their way. It would also seem that society would benefit from individuals being financial literate, since individuals make informed and wise decisions regarding their finances. It can thus be concluded that if individuals are financially literate, their attitude and behaviour towards their personal finances become more positive.

6.4.4 The implications of being financially illiterate

Specific objective 4 (paragraph 1.3.2 page 9) was to conclude from the literature study the possible implications of being financially illiterate. These were addressed in Chapter 2 (from page 31).

Regarding the implications of being financially illiterate, it can be concluded that:

- being financially illiterate can have minor effects in individuals' lives, but it can also have enormous effects in individuals' lives, such as bankruptcy.
- being financially illiterate has the following consequences:
 - Losing money;
 - Lack of understanding or meeting needs;
 - Effort for financial service providers on reactive problem-solving services; and
 - Feeling of helplessness of individuals.
- Being financially incapable also had the following effects on individuals on the financial services industry:
 - Lack of consumer confidence in markets and in firms;
 - Increased cost; and
 - Stronger regulatory intervention.

- It can also be concluded from the literature that there are prominent disadvantages. The prominent disadvantages can be divided into the following categories:
 - Being unable to interpreting financial information;
 - Being over-confident;
 - Over-indebtedness and not understanding the effects of compound interest;
 - Having a lack of planning for the future; and
 - Becoming bankrupt.

It can therefore be concluded that being financially incapable has negative consequences, effects and prominent disadvantages on an individual's life. It can also be concluded that apart from the individuals, firms and financial service providers also suffer as a result of individuals not being financially capable.

6.4.5 International comparison of financial literacy competencies and financial capabilities

Specific objective 5 (paragraph 1.3.2, page 9) was to make an international comparison of financial literacy competencies and financial capabilities. These were addressed in Chapter 2 (from page 39).

Regarding the international comparison of financial literacy competencies and financial capabilities the following can be concluded:

- Very little research has been done – apart from countries like the United States, Australia, New Zealand and the United Kingdom – specifically to measure the financial literacy level of individuals.
- When comparing financial literacy levels of individuals internationally, it can be broadly divided into the following categories:
 - Keeping record;
 - Credit;
 - Planning ahead and financial planning;
 - Retirement planning;
 - Financial products;
 - Investments and saving; and
 - Financial literature.

It is necessary to address these categories in order to draw an appropriate conclusion.

6.4.5.1 Keeping record/ track

The studies used in the literature show that respondents lack the necessary knowledge when it comes to checking bank and credit card statements. When looking at how respondents from different studies kept track of the money available, most studies show a low percentage of respondents actually doing this, but in the United States it seem respondents are above average when it comes to checking money available.

6.4.5.2 Credit

It would seem when looking at all the studies in the literature review that most of the respondents of these studies viewed debt with caution. While this is true, many respondents could not answer the question about debt correctly and also bought on credit even if they cannot afford it. There appears to be a positive relationship between higher education and the understanding of the negative effects of loans.

6.4.5.3 Planning ahead and financial planning

From the literature it would seem that respondents in some of the studies had made no provision when facing financial crises or did not know how to, while in other studies in the literature, respondents understood the importance of planning ahead. From the literature it would seem that people tend to live for the moment and struggle to plan for their financial future. It can also be noted that most people find it more satisfying to spend money than to save money, thus showing that people are not planning for their financial futures. Individuals tend to choose luxury for the moment rather than to think about their retirement. Also from the literature study it seemed that individuals struggle to plan to put money away for major financial expenses.

6.4.5.4 Retirement planning

In all of the studies, from the literature study, most of the respondents stated that they viewed retirement as important, but many did not have any retirement plan, and many stated that they would not have enough money once retired. Most of the studies show that retirement in general is misunderstood by most of the respondents.

6.4.5.5 Financial products

It would seem from these studies that most of the respondents held general financial products like savings accounts, credit cards and insurances. However, it would seem that people in general do not shop around when it comes to financial products.

6.4.5.6 Investments and savings

When looking at investments, most of the studies show that people do not understand risk diversification or other terms associated with investments. It also would seem that most people do not understand fluctuation in the market associated with investments. When turning to look at saving, studies used in the literature show that most respondents had inadequate savings rates, although most of these respondents tried to save.

6.4.5.7 Financial literature

The reading and using of bank statements were understood by most of the respondents in the studies used in the literature. Only a small percentage of respondents stated that they did not understand banking. Inflation and compound interest were mostly misunderstood by most of the respondents in studies used in the literature. It would seem that most of the respondents in the studies used in the literature had a good understanding about basic arithmetic, percentages and subtraction, but a small percentage could not apply it in a practical manner.

6.4.6 Financial education

Specific objective 6 (paragraph 1.3.2, page 9) was to determine whether financial education has made a difference in the past. This objective was addressed in Chapter 3 (starting from page 61)

When determining whether financial education makes a difference, the following two headings can be postulated:

1. Remedies for financial illiteracy and financial incapacities and the effects thereof; and
2. Matters to consider in personal financial education.

It is necessary to address these two headings in order to draw an appropriate conclusion.

6.4.6.1 Remedies for financial illiteracy and financial incapacities and the effects thereof

In the literature study, the following three categories that provide remedies for financial illiteracy and financial incapacities were identified:

- Financial literacy education at schools;
- Financial literacy training by employers; and
- Other financial literacy training.

In the literature study, the following delivery methods were identified:

- Information seminars;
- Information pamphlets/booklets;
- Newspaper/radio/television/video; and
- Web pages/Internet.

From these three headings it can be concluded that, in literature, it can be seen that financial education or training has an influence on a person's financial literacy. It would seem that individuals who received financial education had gained an advantage when it comes to planning ahead, retirement, investment and money managing. Also to be concluded from the literature study is that financial education in schools provides a solid platform from which to build. It can also be concluded from

the literature study that the best time to provide financial literacy education seems to be before a person starts employment.

6.4.6.2 Matters to consider in personal financial education

From the literature study, it can be concluded that there is a definite need for financial education among all age groups, but especially young people. There appears to be programmes aimed at making people financially literate. From the literature it can also be concluded that when financial literacy education is implemented at a young age, it gives a good base to build on later in life, for the individual as well as other educators. People differ and no programme can be the ultimate programme when delivering financial education training. Certain topics are more difficult to master than others – for example budgeting versus risk diversification – and should be considered when delivering a personal financial education. From the literature it can be noted that it is therefore important when delivering financial education to identify the specific needs of the individual receiving the training. The literature also suggests that when delivering a personal financial education course or training one should use a framework or principles identified by people who have tried and tested their training. It can therefore be concluded that financial literacy education does make a difference.

6.4.7 The content of a personal finance curriculum

Specific objective 7 (paragraph 1.3.2, page 9) was to establish what the content of a personal finance curriculum should be. The idea of this literature study was to establish what the overall content and topics content of a personal financial curriculum or course should be. Objective 7 was addressed in Chapter 3 (starting from page 82).

It can thus be concluded from the literature study that any course in personal finance management should include at least the following subjects:

- Financial planning;
- Budgeting;
- Credit;
- Investment; and
- Retirement.

These subjects were found to be the most common among all three sources that were used in comparing subjects on personal finance. Therefore, when it comes to educating an individual about personal finance, these subjects should be included. There were subjects that were not common to all three sources, but scored two out of three (66 percent) when it came to comparing the subjects. These subjects can be included to personalise education about personal finances according to the needs of the participants, since most of the subjects are still highly relevant. What has to be kept in mind is that personal finance education will vary for each individual or group. Therefore, other factors such as age, gender, income, and goals should be kept in mind. Educating an individual about personal finance should thus be a mixture of the right subject, other factors and the personal needs of individuals or groups.

Although the above are all core subjects that need to be taken into consideration, it should be remembered that financial literacy differs from individual to individual and from country to country. It was thus decided when compiling the questionnaire that a few other subjects should be added. These subjects were the following:

- Banking;
- Taxation;
- General financial literacy;
- Legal aspects in terms of financial matters;
- Interest rates; and
- Inflation.

This was done to ensure that a complete assessment could be made of the financial competencies of the respondents in the study.

6.4.8 Suggesting a means to measure the level of financial literacy of university students

Specific objective 8 (paragraph 1.3.2, page 9) was to establish a means to measure the level of financial literacy of university students. The empirical evaluation of the level of financial literacy of students was discussed in Chapter 4, starting on page 99.

In order to measure the level of financial literacy competencies of university students, several steps were taken in order to achieve this objective.

Firstly, in Chapter 3, the content of a financial literacy curriculum was researched and several key subjects were identified that needed to be part of a personal finance curriculum. Several other subjects were added to ensure that a complete assessment can be made as discussed from paragraph 4.3.3 (page 110). These subjects were then all used to form a framework for the questionnaire and the questions used in the questionnaire.

- In Chapter 4, from page 100 (paragraph 4.2), two international models were discussed as a potential model to be used in this study.
- When choosing a model, one should preferably choose a model that is similar to the research being done. A mixed method approach can also be adopted when choosing a model, thus taking the best components from every model to best suite one's needs. A suggested model to measure South African students would preferable be a mixed method approach, thus taking the best and most relevant questions related to these students.

The rest of this paragraph will be used to discuss the methodology that was used for this study.

It was decided that this research will mostly make use of descriptive and exploratory research. The reason for this is that this study is aimed at finding out more about the topic and to determine if the hypothesis (being: *Third-year university students do not have the necessary financial literacy*) can be accepted or rejected.

It was decided that the research results would take the form of numbers, tables and graphs and therefore quantitative data collection was selected. It was also decided that a survey would be the most effective data collection technique for this study.

The purpose of the questionnaire was determined by referring to the specific objectives to be met by the empirical research. Due to the difficulty that can be encountered in coding and analysing the results of open-ended questions, it was decided to use closed-ended questions. These questions would provide multiple solutions (Likert and Semantic differential scales) and required the respondents to select the alternative that best applies to them.

6.4.8.1 Validity

To ensure the validity of the questionnaire, several steps were taken:

- Firstly, the questionnaire, before pilot testing, was taken to the Statistical Consultation Service of the North-West University (Potchefstroom Campus) to ensure that the questionnaire met the required statistical standards;
- A pilot test was then done on a selected number of respondents who were not part of the studied sample;
- The results from the pilot test and the questionnaire were then taken back to the Statistical Consultation Service of the North-West University (Potchefstroom Campus) where, after consultation, certain changes were made to the questionnaire to ensure its effectiveness;
- Finally, the questionnaire was completed by the sample group defined in paragraph 4.3.4.2 (page 116) and was taken back to the Statistical Consultation Service of the North-West University (Potchefstroom Campus) where reliability tests were done on questions 40 to 81 of the questionnaire.
- "Interrelated items may be summed to obtain an overall score for each participant. Cronbach's coefficient alpha estimates the reliability of this type of scale by determining the internal consistency of the test or the average correlation of items within the test." (Nunnally & Brenstein, 1994:295).

This process should ensure the validity of the study since the reliability test done by the Statistical Consultation Service of the North-West University (Potchefstroom Campus) showed a Cronbach alpha larger than 0.5 (0.738), which indicates the reliability of the questionnaire.

6.4.9 The financial literacy levels of third-year university students

Specific objective 9 (paragraph 1.3.2, page 9) was to study the financial literacy levels of university students and to evaluate the financial competencies of university students. The results of the empirical research done on the financial literacy levels of third-year university students were discussed in Chapter 5, starting on page 122.

The following conclusions can be drawn on the demographics of the learners involved in the survey:

- The sample was gender representative (Table 5.1, page 122);
- The learners were generally Afrikaans speaking (Table 5.2, page 123);
- Although most of the students resided in the North West Province and Gauteng, the whole of South Africa was represented (Table 5.3, page 123);
- The sample of students represented all the faculties except Educational Sciences and the biggest faculty that was represented was Economic and Management Sciences (Table 5.4, page 123); and
- The sample of students all claimed to have received some form of financial literacy education, either at school or university level (Table 5.5, page 124).

Therefore, the population of this study represented both genders equally. Most students from the population were Afrikaans speaking and this can be expected, since the language of instruction of the North-West University, Potchefstroom Campus, is Afrikaans. All the faculties except the Faculty of Educational Sciences were included in the population. It also appears that the populations received some form of financial literacy training before completing the questionnaire.

From Tables 5.6 to 5.7 (page 125) the following conclusions can be drawn:

- Most of the respondents (60.61%) in the study did not have any loans or any other debt;
- The majority of the students (59.81%) in the study did know how they will be earning an income once they completed their studies;
- Respondents (73.35%) in the survey did not know how to prepare their own legal will according to the minimum legal requirements;
- The majority of respondents (62.88%) did not have any investments;
- Slightly more than half of the respondents (55.53%) of this survey claimed that they budgeted for their day-to-day finances;
- Respondents (63.68%) in this survey did not view retirement too far away to start thinking about right now;
- The majority of respondents (67.75%) in this survey stated that they kept records of their daily expenses;
- Most of the respondents (67.38%) in this study stated that they did not own a credit or store card;

- The majority (75.36%) of students stated that they did not have a part-time job; and
- Almost all of the respondents (90.07%) stated that their parents still supported them financially.

Therefore, it can be concluded that the following trends appear when looking at the above statistics and have the following implications when combining them with the literature study:

Students stay away from debt, either because of a lack of knowledge, the fear of debt or parents provided for them, as identified in the literature study. The implication can be troublesome, since most respondents tend to stay away from debt because they do not realise the implication of debt once they are in debt, as identified in the literature study.

As seen throughout the literature study, individuals do not plan for their financial futures or do not have the knowledge to plan for their financial futures. The implication for individuals is that they do not have enough money when it comes to unforeseen circumstances and retirement. As identified in the literature study most individuals underestimate for their retirement as they do not think about their finances in the long run. Also for the literature study, it can be seen that respondents who tend not to think about their financial futures tend to save less. Not only is this bad for the individuals, but also for the economy as a whole.

Contrary to what was found in overseas studies in the literature study, respondents in this study stated that they stay in control of their day-to-day finances. This can be seen a positive sign when individuals know what they are doing with their money.

It appears that respondents do not have the need for a part-time job since most of their parents support them financially. This can be seen as a negative sign since the respondents do not have to account for their own money. Also, the sense of responsibility that comes from having a job is lost and may be a negative sign when stepping into society after the completion of their studies.

From Chart 5.1 to 5.24 (page 127 – 139) the following conclusions can be drawn:

- The views of the respondents in this study were *neutral* regarding certain financial topics at this point in their lives and learning more about them. These topics were:
 - Estate planning; and
 - How to start your own business.

- The respondents in this study *agreed* that certain financial topics were important to learn more about at this stage in their lives. These topics were:
 - Insurance;
 - Budgeting day-to-day finances;
 - Effectively using a credit card;
 - Buying a house;
 - Financial implications of emigration;
 - Ante-nuptial contracts and their financial implications;
 - How to start your own business;
 - Different financial institutions;
 - Reducing spending;
 - Rights as a consumer;
 - Managing cash flow;
 - Planning for a financially independent retirement; and
 - Keeping financial records.

- The respondents in this study *strongly agreed* that certain financial topics were important to learn about more at this stage in their lives. These topics were:
 - The financial impact on my career planning;
 - Taxation;
 - Dealing with bank and other financial services providers;
 - Broadening their own personal finance knowledge;
 - Saving money;
 - Investing money;
 - Planning for your long-term financial future;
 - Health planning and medical aid;
 - Planning for a financially independent retirement;
 - Managing debt; and

- The basics of economy.

It can thus be concluded when looking at the above mentioned that the respondents in this study viewed learning more about certain financial topics as important. It can thus be concluded that respondents *agreed* or *strongly agreed* that most of the subjects were worth learning more about at this stage in their lives. The fact that most of the respondents *agreed* or *strongly agreed* shows the need for financial literacy as was also found in the literature study. This can be viewed as very important since most individuals usually tend to have a need to learn something if they are not comfortable with the subject or topic. It should be remembered that the respondents in this study were all third-year university students who would possibly enter the job sector the next year. Therefore, for universities it should be noted that there exists a need for financial literacy training in almost all the topics mentioned above from third-year university students. Also to be noted, is that in the previous paragraph respondents stated that they were in charge of their day-to-day expenses, but looking at the above paragraph, respondents in this study still viewed it important to learn more about this topic.

General financial literacy

- 79.25% of respondents knew that long-term financial goals should be changed as new information becomes available;
- Most of the respondents (91.27%) answered the question correctly that short-term goals help to control living expenses;
- Three quarters of the respondents (75.89%) knew that an investment that has the same risk associated as another investment, but has a higher level of return, is preferred;
- Almost all the respondents (83.41%) knew that a budget is a monetary expression of your financial priorities;
- Almost three quarters of respondents (75%) knew that tax records should be kept for five years;
- Almost all of the respondents (88.39%) knew that invoices should be kept for warrantee purposes;
- Most of the respondents (85.51%) knew that inflation has an impact on savings;
- Nearly two thirds (65.08%) of respondents understood that debt is not always a bad idea, while 30.17% of respondents said that debt is always a bad idea;

- Most of the respondents (89.07%) knew that not all job openings are advertised in newspapers;
- A large number of respondents (79.29%) knew that a financial year does not always stretch from 1 January to 31 December in the same year;
- Most of the respondents (78.62%) in this study knew that a valid will does not have to meet legal requirements;
- Almost four fifths (81.9%) knew that age plays a role in determining a person's car insurance premium;
- Almost all the respondents (86.33%) in this study knew that not all banks charge the same services fees on cheque accounts;
- More than two thirds of respondents (67.15%) knew that both spouses need to sign the document when buying a fixed property if they are married in community of property;
- Almost three quarters of respondents (77.78%) knew that a statement of financial position shows your assets, liabilities and net worth at a given date; and
- Almost all of the respondents (79.68%) knew that certain medical aid plans only pay for hospital expenses.

The students did well on the questions pertaining to general financial topics. Only two questions posed some concern, namely the question about debt and the question about marriage contracts in terms of assets.

Banking and taxation

- 60.14% of respondents knew that financial planning is affected by inflation;
- Half of the respondents (50%) could not answer the question about fixed expenses staying fixed for many years correctly. 14.22% also stated that they did not know what the answer should be;
- Most of the respondents (63.12%) knew that returns on investment are not guaranteed;
- More than half of the respondents (54.05%) did not know that a deposit slip is not used to transfer money between accounts, while 9.52% of respondents also stated that they did not know the answer;
- More than half of the respondents (52.49%) understood that a savings account is not the best way to save money;

- More than half of the respondents (58.06%) knew that if you have an accident it increases your car insurance premium;
- A small number of respondents (39.14%) knew that cash is not a high-earning asset, while 32.22% of respondents claimed that they did not know the answer; and
- Most of the respondents (44.34%) knew that consumer credit and credit cards are generally regarded as the most expensive form of credit, while (27.95%) did not have an answer to the questions.

Overall, students did not do well in this cluster. They performed worst on questions pertaining to the transfer of money between accounts and that cash is a high-earning asset.

Financial planning, interest rates and inflation

- Almost half of the respondents (48.1%) did not know that a debit balance on your bank statement represents a negative balance, while 8.1% of the respondents said that they did not know the answer;
- Almost two thirds (63.95%) of respondents could not calculate a person's net worth, while 12.83% of respondents stated that they did not know the answer;
- More than half of the respondents (56.53%) stated that all businesses should be registered for VAT, which is incorrect, while 4.28% of respondents did not know the answer at all;
- Less than half (45.69%) of the respondents knew that renting a house provides more financial flexibility than buying a house; but 22.25% of respondents claimed that they did not know the answer;
- Most of the respondents in the study did not answer the question about the calculation for taxation for individuals correctly, only 16.99% of respondents answered it correctly, while 32.22% did not know what the answer should be;
- Most of the respondents (45.56%) knew that currently it is less expensive to rent a property than a bond payment on the same property, while 38.85% did not know the answer to this question; and
- Most of the respondents (57.97%) knew that contributions to a retirement annuity fund are tax deductible.

Also in this cluster it can be seen that respondents answered most of the questions incorrectly. The questions where respondents performed worst were questions about registering a business for VAT and the correct balance on a bank statement.

Legal aspects in term of financial matters

- Just over half of the respondents (54.85%) answered the question about budgeted and actual expenses that need not be equal correctly;
- A very small percentage of the respondents (16.31%) knew that you do not have to register at the Department of Trade and Industry before you can start a business;
- Over half of the respondents (53.07%) answered the question about the use of a credit card that can help in periods of high inflation incorrectly, while 23.35% of the respondents stated that they did not know the answer;
- A large number of respondents (60.66%) did not know that a medical aid fund cannot turn you down if you apply to become a member;
- Only a small number of respondents (35.87%) knew what the current inflation rate is, while 29.22% of respondents answered incorrectly and 34.68% did not know;
- Although a large number of respondents (40.81%) correctly answered the question about the current inflation rate, what was worrying, is that 44.39% of respondents did not know the answer and 14.56% of the respondents answered incorrectly;
- More than half of the respondents (58.61%) knew that if you feel that you have been mistreated during a loan application you can take it up with the National Credit Regulator, but 33.25% of respondents did not know what the answer should be;
- Most of the respondents (43.41%) knew that you have to have an ante-nuptial contract if you are married out of community of property; while 39.81% did not have an answer to the question;
- More than half of the respondents (50.72%) knew that if you emigrate there is a limit to the amount of money an individual can take out of the country, while 30.62% of respondents did not have an answer to the question;
- A large number of respondents (41.01%) knew that the general rule of thumb is that you will need 10 times your annual salary in savings at retirement, to be able to retire financially independent, but a large number (48.68%) of respondents did also not know the answer to this question; and

- Slightly less than half of the respondents (47.84%) did not know that you can take a complaint about your banking institution to the Banking Ombudsman, but a large number of respondents (41.83%) also knew that they can take a complaint about their banking institution to the Banking Ombudsman.

Again, it can be noted that respondents answered most of the questions on legal matters in terms of financial matters incorrectly. The two questions respondents could not answer correctly were questions about the Banking Ombudsman and questions about retirement planning.

From Table 5.13, the following summary can be made:

- Respondents answered 76% of the questions about general financial literacy questions correctly;
- Respondents answered 46% of the questions about banking and taxation correctly;
- Only a small number of respondents (25%) could answer the question about financial planning, interest rates and inflation correctly; and
- Almost half of the respondents (47%) could not answer questions about legal aspects in terms of financial matters correctly.

It would seem that respondents in this study knew a great deal about general financial literacy and thus it seems that no further educational need exists to educate respondents about this subject.

While respondents did exceptionally well in questions about general financial literacy, they did poorly in the following subjects: banking, taxation, financial planning, interest rates, inflation, and legal aspects in terms of financial matters. This proves what was found in the literature study, that respondents do not have adequate financial literacy competencies. What is troublesome is the fact that respondents knew very little about financial planning, interest rates and inflation. This is consistent with what was concluded in paragraph 5.4.9, that respondents tend not to think or plan for their financial futures. The above results are also consistent with the fact that there exists a need for financial literacy as shown in the previous paragraph. The fact that the respondents were third-year university students should be noted by universities. It thus proves with what was concluded in the previous paragraph that there is a need among respondents for financial literacy education, and that their test scores prove it.

This also proves with what was concluded in the literature study that low levels of financial education correlate with low levels of financial management behaviours.

From Table 5.14 it was seen that:

- Male respondents tend to know more than female respondents about questions pertaining to banking and taxation. Special attention should therefore be given to female students.

It appears that when it comes to banking and taxation that male respondents tend to know more than female respondents. This may have a negative impact for female respondents, since females also enter the working environment after the completion of their studies. As seen from the literature study, there is a lack of financial education or knowledge that has negative effects on individuals. Therefore, these female respondents may face some of the negative effects from not being financially literate.

When looking at Table 5.15, it appears that respondents who answered that they knew how they will be making a living next year answered questions correctly about banking and taxation (cluster 2), as opposed to respondents who did not know how they will be making a living the following year.

It can thus be concluded that respondents who tend to think about their financial careers tend to know more about banking and taxation. This is consistent to what was found in the literature study, in that individuals who think about their financial futures tend to know more about financial literacy topics. It can thus also be noted that respondents who tend not to think about their financial careers are also not clued up about banking and taxation. The impact of respondents not thinking about their financial careers not only affects the university students negatively, but also affects the banking institutions and government agencies. Once again, the university can play a vital role here and help respond to plan for their careers.

The above table (Table 5.16) shows that respondents in this study who have investments, tended to answer more of the questions on taxation and banking correctly (cluster 2) than respondents who did not have any investments at the time of the study.

To conclude, it would seem that respondents who already have investments and thus are already either saving for retirement or have an investment to make profit from their investment tend to know more about taxation and banking. Therefore, respondents who did not have investments or knowledge about investments also did not have adequate knowledge about taxation and banking. The impact is not only bad for universities, since their students do not have adequate knowledge about banking and taxation, but is also of concern for banking institutions and the government agencies. This should be noted not only by the universities but also by banking institutions and a collaborated approach to educate respondents about investment and to encourage respondents to make investments from an early age.

Table 5.8 can be used to determine which province performed the best in each cluster by using the means. If the latter is taken into consideration, the following can be summarised:

- North West Province and Gauteng performed the best in the questions about general financial literacy (cluster 1);
- Northern Cape Province performed the worst in the questions about general financial literacy (cluster 1);
- The Free State Province performed the best in the questions about banking and taxation, while the Eastern Cape or Western Cape Provinces performed the worst in those questions (cluster 2);
- The North West Province performed the best in the questions about financial planning, interest rates and inflation, while Mpumalanga or Limpopo performed the worst in those questions (cluster 3); and
- In the questions about legal aspects in terms of financial matters, Mpumalanga or Limpopo seem to have answered these questions the best, while the Northern Cape Province seems to have answered this section the worst (cluster 4).

Therefore, to conclude, it seems that no province stood out in all four sections of the questionnaire.

It can thus be concluded that when it comes to general financial literacy as a subject, that the North West Province may have succeeded in training their students at school level, while the Northern Cape failed in doing so. The effect is that the Northern Cape

should evaluate their current financial literacy education towards students, especially in the area of general finances.

Also from the above summary it seems that the Free State Province succeeded in training their scholars when it comes to areas of banking and taxation, while the Eastern or the Western Cape Provinces failed to do so. The impact of this is that the Eastern or the Western Cape Provinces should evaluate their current financial literacy education towards students, especially in the area of banking and taxation.

Also from the above summary it seems that the North West Province succeeded in training their scholars when it comes to areas of financial planning, interest rate and inflation, while Mpumalanga and Limpopo failed to do so. The impact of this is that Mpumalanga and Limpopo should evaluate their current financial literacy education towards students, especially in the area of banking and taxation.

Also to be concluded from the above when it comes to legal aspects in terms of financial matters as a subject, is that Mpumalanga or Limpopo succeeded in training their students at school level, while the Northern Cape failed in doing so. The effect is that the Northern Cape should evaluate their current financial literacy education towards students, especially in the area of legal aspects in terms of financial matters.

Comparison between the different financial literacy competencies in terms of financial literacy education

Table 5.11 can be used to determine which form, if any, of financial literacy education helped the respondents do the best in each cluster by using the means. If the latter is taken into consideration, the following can be summarised:

- It seems that respondents who attended a short course in financial literacy education performed the best in questions about general financial literacy, while respondents who received financial literacy education at school level performed the worst in this section (cluster 1);
- It seems that respondents who attended a short course in financial literacy education performed the best in questions about banking and taxation, while respondents who received a short course in financial literacy education performed the worst in this section (cluster 2);
- It seems that respondents who attended a short course in financial literacy education performed the best in questions about financial planning, interest

rates and inflation, while respondents who received financial literacy education at school level performed the worst in this section (cluster 3);

- It seems that respondents who took the subject *EKNP312* performed the best in questions about legal aspects in terms of financial matters, while respondents who received financial literacy education at school level performed the worst in this section (cluster 4);

Therefore, it can be seen that in three of the four clusters, people who only received financial literacy at school level performed worst in three of these four sections, namely general financial literacy, banking, taxation and the legal aspects of financial matters. It would thus seem that respondents who received financial literacy training in a short-course format tend to be better educated in terms of financial matter as opposed the other means of receiving financial literacy education. The implication is that other financial training education techniques, apart from short courses, tend to be less effective. As concluded from literature, most subjects on financial literacy tend to focus on a macro-level, but should rather focus on principles to manage personal finance. This might also be a reason as to why subjects such as *EKNP 312* did not fair so well in comparison to other courses. It is also evident that the current exposure children receive at school is not sufficient.

6.4.10 Comparison between the different faculties in terms of financial literacy competencies

Specific objective 10 (paragraph 1.3.2, page 9) was to compare the different faculties in terms of financial literacy competencies. The results of the empirical research done on the comparison of different faculties in terms of financial literacy competencies were discussed in Chapter 5, starting on page 163.

Table 5.11 can be used to determine which faculties performed the best in each cluster by using the means. If the latter is taken into consideration, the following can be summarised:

- It would seem from Table 5.11 that students from the Faculty of Economic and Management Sciences performed the best in questions about general financial literacy, while the Faculty of Health Sciences performed the worst in this section (cluster 1);

- It would seem from Table 5.11 that students from the Faculty of Economic and Management Sciences performed the best in questions about taxation and banking, while the Faculty of Health Sciences performed the worst in this section (cluster 2);
- It would seem from Table 5.11 that students from the Faculty of Economic and Management Sciences performed the best in questions about financial planning, interest rates and inflation, while the Faculty of Natural Sciences performed the worst in this section (cluster 3);
- It would seem from Table 5.11 that students from the Faculty of Economic and Management Sciences as well as Engineering performed the best in questions about legal aspects in terms of financial matters, while the Faculty of Health Sciences performed the worst in this section (cluster 4);

Therefore, to conclude, the Faculty of Economic and Management Sciences performed the best in all four sections. These sections are general financial literacy, banking, taxation, financial planning, interest rates, inflation and legal aspects in terms of financial matters. This is to be expected, since students in this faculty may have a better general knowledge on the subject. It also shows that the other faculties are either not doing enough to educate their students in terms of financial literacy competencies, or that the current education the students from the other faculties is receiving, is not sufficient. This is especially true for the Faculty of Health Sciences. The implication is that the faculties that did not fair well should start to work towards a plan to improve their students' financial literacy competencies. It is disappointing that the Faculty of Education did not participate, as these students are the future educators.

6.4.11 Conclusion on the first part of the primary objective

In reaching the first part of the primary objective, namely *to evaluate the financial competencies of university students*, the following specific objectives were reached as addressed in paragraphs 5.1 - 5.2.2.2, page 120 to 149:

- Determining the need for financial literacy;
- Defining financial literacy;
- The advantages of being financially literate;
- The implications of being financially illiterate;

- Seeing what other countries are doing in terms of equipping young people to be financially literate and applying it to our systems, if it is not adequate;
- Determine whether financial literacy has made a difference in the past ;
- Establish what the content of a personal finance curriculum should be;
- Suggest a means to measure the level of university students to evaluate the financial literacy competencies;
- Study the financial literacy levels of university students to evaluate the financial competencies of university students; and
- Make a comparison between the different faculties in terms of financial literacy competencies.

From Table 5.13 (page 153), it would seem that the study did evaluate the financial competencies of university students. It was further noted that the participants had adequate financial knowledge regarding certain topics, but the participants also had inadequate financial knowledge about the following:

- Banking and taxation (46% average score);
- Financial planning, interest rates and inflation (25% average score); and
- Legal aspects in terms of financial matters (47% average score).

The participants in the study mostly viewed further education about most of the financial topics as important. These topics included the following the following:

- Insurance;
- Budgeting;
- Credit cards;
- Housing;
- Emigration;
- Ante-nuptial contracts;
- Start your own business;
- Financial institutions;
- Reducing spending;
- Consumer rights;
- Cash flow;
- Retirement;
- Financial records;
- Career planning;
- Taxation;

- Personal finance knowledge;
- Saving;
- Investing;
- Financial planning;
- Health planning and medical aid;
- Debt; and
- The basics of economics.

It could thus be said that the primary objective of the study was reached.

6.5 Testing the hypothesis

The H_0 hypothesis in this study was as follows:

Third-year university students do not have the necessary financial literacy competencies

After the evaluation it can be noted that this part of the hypothesis is accepted because (Chart 5.25 – 5.28, pages 141-147):

When looking at the questionnaire which measured the financial competencies of third-year university students, it can be seen that the participants in this study answered many questions incorrectly.

General financial literacy

- Only two thirds of respondents (67.15%) knew that both spouses need to sign the document when buying a fixed property if they are married in community of property;

Banking and taxation

- Only 60.14% of respondents knew that financial planning is affected by inflation;
- Half of the respondents (50%) could not answer the question about fixed expenses staying fixed for many years correctly. 14.22% also stated that they did not know what the answer should be;

- Only (63.12%) of respondents knew that returns on investment are not guaranteed;
- More than half of the respondents (54.05%) did not know that a deposit slip is not used to transfer money between accounts, while 9.52% of the respondents also stated that they did not know the answer;
- Only half of the respondents (52.49%) understood that a savings account is not the best way to save money;
- Just more than half of the respondents (58.06%) knew that if you have an accident it increases your car insurance premium;
- A small number of respondents (39.14%) knew that cash is not a high-earning asset, while 32.22% of respondents claimed that they did not know the answer; and
- Less than half of the respondents (44.34%) in this study knew that consumer credit and credit cards are generally regarded as the most expensive form of credit, while (27.95%) did not have an answer to the questions.

Financial planning, interest rates and inflation

- Almost half of the respondents (48.1%) did not know that a debit balance on your bank statement represents a negative balance, while 8.1% of the respondents said that they did not know the answer;
- Almost two thirds (63.95%) of respondents could not calculate a person's net worth, while 12.83% of respondents stated that they did not know the answer;
- More than half of the respondents (56.53%) stated that all businesses should be registered for VAT, which is incorrect, while 4.28% of the respondents did not know the answer at all;
- Less than half (45.69%) of the respondents knew that renting a house provides more financial flexibility than buying a house; but 22.25% of the respondents claimed that they did not know the answer;
- Most of the respondents did not answer the question about the calculation for taxation for individuals correctly, only 16.99% of the respondents answered it correctly, while 32.22% did not know what the answer should be;
- Most of the respondents (38.85%) know that it is currently more expensive to rent a property than a bond payment on the same property, while 45.56% did not know the answer to this question; and
- Just more than half of the respondents (57.97%) knew that contributions to a retirement annuity fund are tax deductible.

Legal aspects in term of financial matters

- Just over half of the respondents (54.85) answered the question correctly about budgeted and actual expenses that need not be equal;
- A very small percentage of the respondents (16.31%) knew that you do not have to register at the Department of Trade and Industry before you can start a business;
- Over half of the respondents (53.07%) answered the question about the use of a credit card that can help in periods of high inflation incorrectly, while 23.35% of the respondents stated that they did not know the answer;
- A large number of respondents (60.66%) in this study did not know that a medical aid fund cannot turn you down if you apply to become a member;
- Only a small number of respondents (35.87%) knew what the current inflation rate is, while 29.22% of respondents answered incorrectly and 34.68% did not know;
- Less than half of the respondents (40.81%) answered the question about the current inflation rate correctly; what was worrying, is that 44.39% of respondents did not know the answer and 14.56% of respondents answered incorrectly;
- Just more than half of the respondents (58.61%) knew that if you feel that you have been mistreated during a loan application, you can take it up with the National Credit Regulator. 33.25% of the respondents did not know what the answer should be;
- Less than half of the respondents (43.41%) knew that you have to have a ante-nuptial contract if you are married out of community of property, while 39.81% did not have an answer to the question;
- More than half of the respondents (50.72%) knew that if you emigrate there is a limit to the amount of money an individual can take out of the country, while 30.62% of the respondents did not have any answer to the question;
- A large number of respondents (41.01%) knew that the general rule of thumb is that you will need 10 times your annual salary in savings at retirement, to be able to retire financially independent, but a large number (48.68%) of respondents did also not know the answer to this question; and
- Slightly less then half of the respondents (47.84%) did not know that you can take a complaint about your banking institution to the Banking Ombudsman,

but a large number of respondents (41.83%) also knew that they can take a complaint about their banking institution to the Banking Ombudsman.

- *The percentage resembles the number of respondents that could answer the question incorrectly or did not know the answer at all.*

From Table 5.13, the following summary can also be made:

- Respondents answered 76% of the questions about general financial literacy questions correctly;
- Respondents answered only 46% of the questions about banking and taxation correctly;
- Only a small number of respondents could answer the question about financial planning, interest rates and inflation correctly, namely 25%; and
- Almost half of the respondents could not answer the question about legal aspects in terms of financial matters correctly, namely 47%.

It can thus be concluded that third-year university students have adequate financial knowledge of general financial literacy, but third-year university students also do not have adequate financial knowledge pertaining to banking, taxation, financial planning, inflation and legal aspects in terms of financial matters.

If looking at the above conclusion it can be concluded that third-year university students are likely to make sound decisions when it comes to general financial literacy topics, but third-year university students are likely to make bad financial decisions when it comes to banking, taxation, financial planning, and interest rates. Therefore, in general, third-year university students are likely to make bad financial decisions. Therefore the second part of the hypothesis can be accepted.

6.6 Recommendations

The last part of the primary objective is to make recommendations on improving the financial literacy competencies of third-year university students, if necessary. The last part of the primary objective is addressed by specific objective 11 (paragraph 1.3.2, page 9). The next few paragraphs state recommendations based on the conclusions.

The following recommendations can be made:

- There is a definite need by students for further financial literacy training in almost all of the topics listed in the questionnaire, therefore it is recommended that universities should take note of these needs and address them;
- To address the above needs of students, the North-West University is currently providing financial literacy education by means of the subject *EKNP 312 (Personal financial management)*, but it is recommended that a short course should be used to educate university students, since from the study it shows that short courses tend to provide better results. The short course should also not be too broad, but should have more detailed topics;
- From the results of the study, it would seem that students are not competent in the following areas: banking, taxation, financial planning, interest rates, inflation and legal aspects in terms of financial matters; therefore it would be recommended that when developing a personal finance curriculum, universities should include these topics as part of their short courses;
- It would also be suggested that universities should pay special attention to female students when it comes to financial literacy education, since the results from this study show that female respondents performed worst than male respondents;
- Also to be recommended based on the findings from this study is that it should be investigated what schools can do better in terms of educating their students in terms of financial literacy;
- To be linked to the previous point, it would be recommended that government should develop a specific financial literacy education programme that is consistent for all provinces;
- Students tend to be short-term minded and it affects their abilities when it comes to banking and taxation, as shown by this study's results. It is recommended that universities, banking institutions, and government agencies (SARS) should collaborate in assisting students in career planning;
- Also, students who do not have any investments tend not to have adequate knowledge about banking and taxation, therefore it is suggested that banking institutions, together with universities, should collaborate in educating their students about investments and encourage them to make investments from an early age; and
- It is also recommended, based on the findings, that the faculties Natural Sciences and Health Sciences should especially make an effort in educating their students about financial matters, since they were the faculties that performed the worst in terms of financial matters.

6.7 Further research possibilities and improvements

Various further research opportunities exist. A further set of future research possibilities exist and can be noted as follow:

- Determine what the current school system is doing in terms of educating school students in terms of financial literacy and what the effect thereof is, since this study showed that respondents who received financial literacy education only at school level did not perform well when tested on financial literacy competencies;
- Make a comparison between different generations in terms of financial literacy;
- Develop a trial course for financial literacy and test it on sample groups and evaluate the findings;
- Compare the financial literacy levels from different South African universities' students;
- Developing a questionnaire where students can test individuals' financial literacy abilities online;
- Develop and evaluate an online financial literacy course that would enable learners from everywhere to get a financial literacy education; and
- Investigate whether financial literacy is correlated to financial wealth.

6.8 Final concluding remarks

There seems to be a definite need for financial literacy education and training. Financial literacy seems rather difficult to define, but there are certain elements that form a framework when compiling a definition. The advantages of being financially literate seem to be overwhelming. A lack in personal financial skills seems to be an international problem. Financial education or training seems to have a positive effect on individuals. The timing of financial literacy education, what and how to provide financial literacy education about, seems to play a vital role. It seems to have a positive impact if this training is provided early in life. There seems to be certain topics that form a vital part when compiling a personal finance curriculum. Respondents in this study indicated that they viewed learning more about personal

finance as important. Also the respondents in this study would seem to be not financially competent. They lacked knowledge in the fields of banking, taxation, financial planning, interest rates, inflation and legal matters in terms of financial matters. Students from the Faculty of Economic and Management Sciences performed best and students from the Faculty of Health Sciences performed worst. Students who did a short course in personal finance had an advantage and students who were only exposed to this at school level performed worst. The challenge to educate scholars and students to be responsible economic participants is large and a call is made to role players to attend to this as soon as possible.

One last thought to remember is the statement of Cohen and Sebstad (2003:3) stating that once an individual has acquired financial literacy skills it cannot be taken away.

Annexures

Annexure – 1 – Questionnaire

Dear student

"A number of research projects have been done on financial literacy in the international arena but only a small amount of research have been done in South Africa. Internationally, the level of financial literacy that was found was alarmingly low, even in countries like the United States of America and the United Kingdom. In many more specific studies it is noted that the financial literacy competencies of university students are not adequate at all."

The following questionnaire is part of enhancing the financial literacy skill of students. You are therefore requested to complete it honestly and to the best of your ability. All the information obtained from this questionnaire will remain confidential.

Your participation is appreciated

*You have received a answer sheet on which the answers must be recorded in pencil/pen by colouring the appropriate choice for the specific question. An example of the correct recording is given on the answer sheet.
You must also complete your student number to enable cross-referencing.*

SECTION 1 - BIOGRAPHICAL INFORMATION

1	My gender is:	Male	1	Female	2
2	My mother tongue is:	English	1	Afrikaans	2
		Other African languages	3	Other	4
3	I live in the following province (hometown):	North West	1	Free State	2
		Gauteng	3	KwaZulu Natal	4
		Eastern Cape or Western Cape	5	Mpumala nga or Limpopo	6
		Northern Cape	7		
4	I am a student in the following faculty:	Arts or Theology	1	Economic and Management Sciences	2
		Education Sciences	3	Engineering	4
		Engineering	5	Health Sciences	6
		Natural Sciences	7		

5	<i>I have had the following financial literacy education (if more than one, only pick the one that you found most useful):</i>	None	1	EKNP312	2
		Short course	3	At school	4
		Other	5		

SECTION 2

	<i>Answer "yes" or "no" to the following questions.</i>	YES	NO
6	Do you have loans or any other debt (skuld)?	1	2
7	Do you know how you will be earning a living next year?	1	2
8	Are you able to prepare your own will (testament) according to the minimum legal requirements?	1	2
9	Do you have any investments (beleggings)?	1	2
10	Do you budget (begroot) for your day-to-day finances?	1	2
11	Do you think that retirement (aftrede) is too far away to think about it right now?	1	2
12	Do you keep track of your daily spending (uitgaves)?	1	2
13	Do you have a credit (krediet) card or store card?	1	2
14	Do you have a part-time job?	1	2
15	Do your parents still support you financially?	1	2

SECTION 3

	<i>At this point in your life, is it important for you to learn more about:</i>	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly agree</i>
16	Choosing appropriate insurance (versekering)	1	2	3	4	5
17	The financial impact on my career planning	1	2	3	4	5
18	How taxation (belasting) works	1	2	3	4	5
19	Estate (boedel) planning	1	2	3	4	5
20	How to deal with banks or other financial services providers (finansiële diensverskaffers)	1	2	3	4	5
21	How to broaden my knowledge on personal finance	1	2	3	4	5
22	How to save money	1	2	3	4	5
23	How to invest money	1	2	3	4	5
24	How to plan for your long-term financial future	1	2	3	4	5
25	How to budget (begroting) day-to-day finances	1	2	3	4	5
26	How to effectively use credit (krediet) cards and store cards	1	2	3	4	5
27	Health planning and medical aid	1	2	3	4	5
28	Buying a house/housing	1	2	3	4	5
29	The financial implications of emigration	1	2	3	4	5
30	Ante-nuptial contracts and their financial implications	1	2	3	4	5
31	How to start your own business	1	2	3	4	5
32	Different financial institutions	1	2	3	4	5
33	Ways to reduce spending (uitgaves)	1	2	3	4	5
34	Your rights as a consumer	1	2	3	4	5

35	Managing my cash flow	1	2	3	4	5
36	Planning for a financially independent retirement (afrede)	1	2	3	4	5
37	Which financial records to keep and how to keep them	1	2	3	4	5
38	Managing debt (skuld)	1	2	3	4	5
39	The basics of the economy (inflation (inflasie), interest etc)	1	2	3	4	5

SECTION 4

	<i>Answer the following questions to the best of your ability:</i>	YES	NO	Don't Know
40	Financial planning should not be affected by inflation (inflasie).	1	2	3
41	Long-term financial goals should be changed as new information becomes available.	1	2	3
42	Setting short-term goals helps us to control our living expenses.	1	2	3
43	Fixed expenses remain fixed for many years.	1	2	3
44	It is not necessary for budgeted (begrote) and actual expenses to be equal.	1	2	3
45	You must register at the department of Trade and Industry before you can start your own business.	1	2	3
46	The use of credit (skuld) can help during periods of high inflation (inflasie).	1	2	3
47	Return on most investments (beleggings) is guaranteed.	1	2	3
48	Two investments (beleggings) 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 (belegging) choice.	1	2	3
49	A budget (begroting) is a monetary expression of your financial priorities.	1	2	3
50	Tax (belasting) records should be kept for five years.	1	2	3
51	Invoices of assets purchased should be kept for warrantee purposes.	1	2	3
52	If you have a debit balance on your bank statement you have a positive balance on your account.	1	2	3
53	A deposit slip is the document used to transfer money between accounts.	1	2	3
54	If a person's net worth is R9000 and the person owes R8000, the person has total assets of R17000.	1	2	3
55	Inflation (inflasie) has an impact on savings.	1	2	3
56	The best way to save money is to save money in a savings account.	1	2	3
57	Debt (skuld) is always a bad idea.	1	2	3
58	A medical fund (mediese fonds) can turn you down if you applied to become a member of the medical fund (mediese fonds).	1	2	3
59	If you have car insurance (versekering) and you have an accident your premium should stay the same.	1	2	3
60	All job openings are advertised in newspapers.	1	2	3
61	Every owner of a business must register for VAT (BTW).	1	2	3
62	The "tax (belasting) year" normally stretches from 1 January until the last day in December (the same year).	1	2	3
63	A valid will (testament) does not have to meet legal requirements.	1	2	3
64	Age plays a role in determining a person's car insurance (versekering).	1	2	3

65	Compared to buying, renting a house provides more financial flexibility.	1	2	3
66	Cash is a high-return earning asset category.	1	2	3
67	The current inflation (inflasje) rate is between 10% and 11%.	1	2	3
68	The current maximum (marginal) tax (belasting) rate for individuals is 40%.	1	2	3
69	The current prime lending rate is 15%.	1	2	3
70	If you feel that you have been mistreated during a loan application you can take the matter to the National Credit (skuld) Regulator.	1	2	3
71	All banks charge the same service fees on cheque accounts.	1	2	3
72	You need to have an ante-nuptial contract if you are married out of community of property.	1	2	3
73	If you emigrate there is a limit to the amount of money you can take out of the country.	1	2	3
74	At the moment, a bond payment is generally more expensive than renting the same property.	1	2	3
75	A general rule of thumb is that you will need 10 times your annual salary in savings at retirement (afrede), to be able to retire financially independent.	1	2	3
76	If you have a complaint about your banking institution you can take the matter to the Banking Ombudsman.	1	2	3
77	Retirement (afrede) annuity fund contributions are tax (belasting) deductible.	1	2	3
78	If you are married in community of property both spouses must sign the documents if you purchase a fixed property.	1	2	3
79	A statement of financial position shows your assets, liabilities and net worth at a given date.	1	2	3
80	Consumer credit (skuld) and credit (krediet) cards are generally regarded as the least expensive form of credit (skuld).	1	2	3
81	Certain healthcare/medical aid plans (mediese fondse) only pay for hospital expenses.	1	2	3

BIBLIOGRAPHY

- American Bankruptcy Institute. 2001. US bankruptcy filings 1980-2001.
<http://www.abiworld.org/stats/1980annaul.html> Date of access: 26 Jun. 2007.
- ANZ Banking group: see Australia and New Zealand Banking Group. 2003. ANZ survey of adult financial literacy in Australia. Melbourne, Australia.
- Agnew, J. & Szykman, L. 2005. Asset allocation and information overload: The influences on information display, asset choices and investors experience.
<http://web.ebscohost.com/ehost/pdf?vid=1&hid=117&sid=64452f31-d80e-4f3d-b2bb-c7f96511670b%40sessionmgr106> Date of access: 25 Jul. 2007.
- Atkinson, A., McKay, S., Collard, S. & Kempson, E. 2007. Levels of financial capability in the UK. *Public Money and Management*: 29-36, February.
- Basic Skills Agency. 2003. Adults financial capability framework.
<http://www.basicsskills.co.uk/resources/resourcessearchresults/detail.php?ResourceID=2124886057> Date of access: 26 Jun. 2007.
- Baek, E. & DeVaney, S.A. 2004. Assessing the baby boomers' financial wellness using financial ratios and a subjective measure. *Family and consumer sciences research journal*, 32(4):321-348, June.
<http://fcs.sagepub.com/cgi/reprint/32/4/321.pdf> Date of access: 8 Jul: 2007.
- Beder, H. 1999. The outcome and impacts of adult literacy education in the United States.
<http://www.ncsall.net/fileadmin/resources/research/report6.pdf> Date of access: 8 Jul. 2007.
- Bernheim, B.D., Garrett, D.M. & Maki, D.M. 2001. Education and savings: The long term effect of high school financial curriculum mandates. *Journal of public economics*: 80(2001):436-465, 2001.
http://www.sciencedirect.com/science?_ob=MIimg&_imagekey=B6V76-42VM8HM-5-6&_cdi=5834&_user=4050432&_orig=search&_coverDate=06%2F30%2F2001&_sk=999199996&view=c&wchp=dGLzVzz-

SkWb&md5=71f5ca9cdcc60a6c5e967ed4871a19bb&ie=/sdarticle.pdf Date of access: 7 May. 2007.

Bernheim, B.D & Garrett, D.M. 2003. The effects of financial education in the workplace: Evidence from a survey of households. *Journal of Public Economics*:1-33, September.

Boyce, L. & Danes, S.M. 1998. Evaluation of the NEFE high school financial planning program, 1997-1998.
<http://hsfpp.nefe.org/loadFile.cfm?contentid=646> Date of access: 26 Jun 2007.

Braunstein, S. & Welch, C. 2002. Financial literacy: An overview of practice, research, and policy. *Federal Reserve Bulletin*:445-457, November.
<http://web.ebscohost.com/ehost/pdf?vid=2&hid=15&sid=85965943-2cef-42b9-8ea7-8aa867bf3ee1%40sessionmgr108> Date of access: 8 Jun. 2007.

Bristol, K., Fehr, D. & Tripp, G. 2003. Using an academic trading room to enhance economics literacy training.
<http://www.snhu.edu/files/pdfs/EconomicsLiteracy.pdf> Date of access: 7 Jun. 2007

Calvet, L., Campbell, J. & Sodini, P. 2006. Down or out: Assessing the welfare cost of household investment mistakes.
<http://www.wiwi.uni-frankfurt.de/profs/krueger/kolloquium/ws0607/calvet.pdf> Date of access: 8 Jun. 2007.

Caskey, P. 2006. Can personal financial management education promote asset accumulation by the poor?
http://networksfinancialinstitute.biz/Lists/Publication%20Library/Attachments/32/2006-PB-06_Caskey.pdf Date of access: 7 Jun. 2007.

Champbell, J.Y. 2006. Household finance. *Journal of Finance*, 61(4):1553-1604, Augustus.

Chen, H. & Volpe, R.P. 1998. An analysis of personal financial literacy among college students. *Financial Services Review*, 7(2):107-128.

Christelis, D. & Jappelli, T. & Padula, M. 2005. Health risk, financial information and social interaction: The portfolio choice of European elderly households. University of Salerno.

http://www.csef.it/1st_C6/cjp_June16.pdf Date of access: 7 June. 2007.

Clark, R.L., D'Ambrosio, M.B. & McDermid, A.A. 2003. Financial education and retirement savings.

<http://www.jumpstartcoalition.org/upload/Mandell%20Paper%20April%202005.doc>

Date of access: 8 Jun. 2007.

Cohen, M. & Sebstad, J. 2003. Financial education for the poor.

http://globalfinancialeducation.org/documents/WP1_FinEd4Poor.pdf Date of access: 7 Jun. 2007.

Danes, S.M., Huddleston-Casas, C. & Boyce, L. 1999. Financial planning curriculum for teens: Impact evaluation.

<http://www.afcpe.org/doc/Vol1013.pdf> Date of access: 8 Jun. 2007.

Department of Education. 2002. Revised national curriculum statement grade R – 9 (Schools) – Economics and management sciences.

<http://www.education.gov.za/Curriculum/Get/doc/economic.pdf> Date of access: 13 Oct. 2009.

Department of Education. 2003a. National curriculum statement grades 10 – 12 (general) – Accounting.

<http://www.education.gov.za/Curriculum/SUBSTATEMENTS/Accounting.pdf> Date of access: 13 Oct. 2009.

Department of Education. 2003b. National curriculum statement grades 10 – 12 (general) – Business studies.

<http://www.education.gov.za/Curriculum/SUBSTATEMENTS/Business%20studies.pdf> Date of access: 13 Oct 2009.

Department of Education. 2003c. National curriculum statements grades 10 – 12 (general) – Economics.

<http://www.education.gov.za/Curriculum/SUBSTATMENTS/Economics.pdf> Date of access: 13 Oct. 2009.

Department of Education. 2003d. National curriculum statement grades 10 – 12 (general) – Mathematical literacy.
<http://www.education.gov.za/Curriculum/SUBSTATMENTS/Mathematical%20Literacy.pdf> Date of access: 13 Oct. 2009.

De Vos, A.S., Strydom, H., Fouché, C.B., & Delport, C.S.L. 2005. Research at grass roots: For the social science and human service professions. 3rd ed. Pretoria: Van Schaik.

Ellis, S.M. & Steyn, H.S. 2003. Practical significance (effect sizes) versus or in combination with statistical significance (p-values), *Management Dynamics*, 12(4): 51-53. 471p.

Feeny, T. 2006. Beyond budgeting to financial literacy: An evaluation of the Smith Family's MoneyMinded program. Sydney: The Smith Family. 23p.
http://www.thesmithfamily.com.au/webdata/resources/files/MoneyMinded_Report_301006.pdf Date of access: 12 Jun. 2007.

Federal Reserve Bulletin. 2002. Financial literacy, An overview of Practice, Research and Policy. [www.federalreserve.gov]

Fleming, C. 2005. CUs invest in financial literacy. *Credit Union magazine*:118, October.

FSA: see Financial Services Authority: United Kingdom. 2002. Personal finance teaching in schools. 54p.
<http://www.fsa.gov.uk/consumer-research/crpr11.pdf> Date of access: 16 Apr. 2007.

FSA: see Financial Services Authority, United Kingdom. 2003. Towards a national strategy for financial capability. 17p.
http://www.fsa.gov.uk/pubs/other/financial_capability.pdf Date of access: 25 Jul, 2007.

FSA: see Financial Services Authority: United Kingdom. 2004a. Young people and their financial matters. 106 p.

<http://www.fsa.gov.uk/pubs/consumer-research/CRPR25.pdf> Date of access: 25 Jul. 2007.

FSA: see Financial Services Authority, United Kingdom. 2004b. Young people (18-24) and their financial information needs. 103p.

<http://www.fsa.gov.uk/consumer-research/crpr44.pdf> Date of access: 16 Apr. 2007.

FSA: see Financial Services Authority, United Kingdom. 2006. Levels of financial capability in the UK: Results of a baseline survey. 144p.

<http://www.fsa.gov.uk/consumer-research/crpr47.pdf> Date of access: 16 Apr. 2007.

Finmark Trust. 2005. Preliminary principles for expanding consumer financial literacy in SA. November 2005.

http://www.finmarktrust.org.za/documents/2006/FEBRUARY/C_CFinLit.pdf Date of access: 12 Jun. 2007.

FinScope. 2004. Survey Highlights.

<http://www.finscope.co.za/documents/2004/SA2004Brochure.pdf> Date of access: 12 Sep. 2007.

Fox, J., Bartholomae, S. & Lee, J. 2005. Building the case of financial education. *The Journal of Consumer Affairs*: 39(1):195-214, Summer.

Garman, E.T., Kim, K., Kratzer, C.Y., Bruson, B.H. & Joo, S. 1999. Workplace financial education improves personal financial wellness. *Financial Counseling and Planning Journal*, 10(1):79:99, 1999.

<http://www.faircreditfoundation.org/files/52.pdf> Date of access: 7 Jul. 2007

GAO (Government Accountability Office, United States). 2006. Financial literacy and education commission. <http://gao.gov/cgi.bin/getrpt?GOA-07-100> Date of access: 11 Apr. 2007.

Greenfield, T. 2002. Research for postgraduates. 2nd ed. London: Arnold & New York: Oxford University Press. 370p.

Hogarth, J.M. 2006. Financial education and economic development. (*In Improving financial literacy: International conference hosted by Russian G8 Presidency in Cooperation with the OECD. 29-30 November 2006. p. 1-33.*)

Hoinville, G., Jowel, R. & Airey, C. 1978. Survey research practise. London: Heinemann Educational. 228p.

Hilgert, M.A., Hogarth, J.M. & Beverly, S.G. 2003. Household financial management: The connection between knowledge and behaviour.
<http://www.federalreserve.gov/pubs/bulletin/2003/0703lead.pdf> Date of access: 8 Jun. 2007.

Hurley, G.E. 1976. Personal money management: A consumer guide. New Jersey: Prentice-Hall. 464p.

Kapoor, J.R., Dlabay, L.R. & Hughes, R.J. 1991. Personal finance. Boston: Irwin. 676p.

Kempson, E., Collard, S. & Moore, N. 2006. Measuring financial capability: An exploratory study for the Financial Services Authority. (*In Consumer Financial Capability: Empowering European Consumers., eds. European Credit Research Institute, Brussels. p. 39-107.*)
http://www.ecri.eu/new/system/files/FinCap_Workshop_I_papers_0.pdf#page=44
Date of access: 7 Jun. 2007.

Kim, J., Kratzer, C.Y. & Leech, I.E. 2001. Impacts of workplace financial education on retirement plans. (*In Jeanne M. Hogarth., eds., Proceedings of the 2001 Annual Conference of the Association for Financial Counseling and Planning Education. p. 28.*)

Leskinen, J. & Raijas, A. 2006. Consumer financial capability: An economic and sociological approach. (*In Consumer financial capability: Empowering European consumers., eds. European Credit Research Institute, Brussels. P. 1-21.*)
http://www.ecri.be/ecri/public/FinCap_Workshop_I_papers.pdf Date of access: 7 Jun. 2007.

Leyes, M. 2006. Failing grade on financial literacy. *Advisory today*: 36, Jul.

- Lusardi, A. 2006. Planning and financial literacy: How do women fare?
<http://deepblue.lib.umich.edu/handle/2027.42/49388> Date of access: 7 Jul. 2007.
- Lusardi, A. & Mitchell, O.S. 2006. Financial literacy and planning: Implications for retirement wellbeing.
<http://www.dartmouth.edu/~alusardi/Papers/FinancialLiteracy.pdf> Date of access: 7 Jun 2007.
- Lusardi, A. & Mitchell, O.S. 2007. Financial literacy and retirement preparedness: Evidence and implications for financial education. *Business Economics*: 35-44, January. Jan2007, Vol. 42 Issue 1, p35-44, 10p.
- Mandell, L. 2005. Financial literacy: Does it matter?
gwbweb.wustl.edu/csd/Publications/2006/WP06-11.pdf Date of access: 8 Jun 2007.
- Mark, R. 1996. Research made simple: a hand book for social worker. London: Sage.
- Mason, L.J. & Wilson, M.S. 2000. Conceptualising Financial Literacy.
<https://dspace.lboro.ac.uk/dspace-jspui/bitstream/2134/2016/3/2000-7.pdf> Date of access: 7 Jul. 2007.
- Mathur, I. 1989. Personal finance. 2nd ed. Cincinnati: South-Western. 726p.
- Mazur, M. 2006. Helping kids learn the ABC's of financial literacy. *Community Banker*: 64-68, July. Jul2006, Vol. 15 Issue 7, p64-68, 3p
- McRae, T.W. 1997. Managing your own finances. London: Thomson. 404p.
- Miles, D. 2004. The UK mortgage market: Taking a longer term view.
[www.hm-treasury.gov.uk/media/3/c/miles04-470\[1\].pdf](http://www.hm-treasury.gov.uk/media/3/c/miles04-470[1].pdf) Date of access: 15 Nov. 2007.
- Mittra, S. 1977. Personal finance: Lifetime management by objectives. New York: Harper&Row. 689p.

Moore, D. 2003. Survey on financial literacy in Washington State: Knowledge, behaviour, attitudes and experiences.

<http://www.dfi.wa.gov/news/finlitsurvey.pdf> Date of access: 25 Jul. 2007

National Council on Economic Education. 2005. What American teens & adults know about economics.

http://207.124.141.218/WhatAmericansKnowAboutEconomics_042605-3.pdf Date of access: 15 Oct. 2009.

Neuman, W.L. 2000. Social research methods. Needham Heights: Allyn & Bacon. 558 p.

Nunnally J & Bernstein IH. 1994. Psychometric theory, Third Edition, New York, McGraw-Hill Inc.

NWU: see North-West University. 2007. Persoonlike finansiële bestuur.

<http://www.puk.ac.za/opencms/export/PUK/html/fakulteite/ekon/Vakke/keus.html>

Date of access: 5 Nov. 2007.

OECD: see Organization for Economic Co-operation and Development. 2005. Improving financial literacy: analysis of issues and policies. OECD Publishing. 178p.

PFEG: see Personal Finance Education Group. 2007. Teens in debt – over half of today's school children have owed some money. 3 p.

<http://www.pfeg.org/documents/learningmoneymatters/National%20LMM%20release.doc> Date of access: 16 Apr. 2007.

Philips, E.B. & Lane, E. 1963. Personal finance. New York: Wiley. 511p.

Rea, L.M. & Richard, A.P. 2005. Designing and conducting survey research: a comprehensive guide. 3rd ed. San Francisco: Jossey-Bass. 283p.

Rhine, S.L.W. & Toussaint-Comeau, M. 2000. Delivery of financial literacy programs.

<http://chicagofed.org/publications/publicpolicystudies/ccapolicystudy/pdf/cca-2000-7.pdf> Date of access: 7 Jun. 2007.

SAS Institute Inc. 2003. The SAS System for Windows Release 9.1 TS Level 1M3
Copyright© by SAS Institute Inc., Cary, NC, USA

SAS Institute Inc., 2005. SAS Institute Inc., SAS OnlineDoc®, Version 9.1, Cary, NC
Segelken, R. 2005. Cornell cooperative extensions team shoes the way to financial literacy. *Human Ecology*, 33(2):15, August.

Statistics South Africa. 2001. Statistics of liquidation and insolvencies.
<http://www.statssa.gov.za/publication/P0043/P0043February2001.pdf> Date of access: 7 Oct. 2009.

Swart, N. 1996. Personal financial management. Cape Town: Juta. 642p.

Swart, N. 2005. Why financial literacy is a complete failure. *Management Today*: 48-50, May.

Taylor, M. 2006. Financial literacy: Ignorance is not bliss. *Money Management*:14-15, July.

Thaler, R.H. & Benartzi, S. 2004. Save more tomorrow: Using behavioural economics to increase employee savings. *Journal of Political Economy*, 112(1):164-187.
<http://faculty.chicagobooth.edu/richard.thaler/research/SMarTJPE.pdf> Date of access: 7 Jun. 2007.

Tyson-Chan, D. 2006. Advisors key to lifting the level of financial literacy. *Money Management*:4, Augustus.

UNISA: see University of South Africa. 2007a. Short course in basic financial skills.
<http://www.unisa.ac.za/default.asp?Cmd=ViewContent&ContentID=15020> Date of access: 7 Nov. 2007.

UNISA: see University of South Africa. 2007b. Course in personal financial management.
<http://www.unisa.ac.za/default.asp?Cmd=ViewContent&ContentID=3216> Date of access: 7 Nov. 2007.

Vitt, L.A., Reichbach, G.M. & Siegenthaler, J.K. 2005. Goodbye to complacency – Financial literacy education in the U.S 2000 – 2005.

<http://www.isfs.org/GoodbyetoComplacency-nocover.pdf> Date of access: 8 Jun. 2007.

Winger, B.J. & Frasca, R.R. 1993. Personal finance: An integrated planning approach. 3rd ed. New York: Macmillan. 609p.

Wisker, G. 2001. The postgraduate research handbook: succeed with your MA, Mphil, EdD and PhD. 2nd ed. New York: Palgrave Macmillan. 428p.

Wright, K.M. 2005. Minnesota credit unions collaborate on financial literacy. *Savingteen*: 15, April.