

Devising the Comprehensive Teachable Path in Entrepreneurial Finance Curriculum - A Case Study based on Behavioural Teaching Method



ISBN: 978-1-943295-02-9

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This study used two-pronged approach of teaching entrepreneurial finance in the foundation level. Teaching entrepreneurial finance is a non-linear process, and it can be understood from the 'life cycle' of an entrepreneur. Indigenizing financial literacy is a core value in entrepreneurial finance. In this context, this research has been motivated to identify comprehensive teachable paths in learning the entrepreneurial finance. The output of the study is to design an appropriate entrepreneurial finance curriculum design and teaching pedagogy. We conclude that the 'entrepreneurial confidence' activities can be able to 'teach' but not able to 'reach' in rural Indian context. If these constraints are removed, the entrepreneurial values are easily inculcated.

Key words: RTELS, VAM, Self-efficacy

1. Motivation

The literacy rate of India is 74.04%. The Indian labour force is 487.6 million, and it is the second largest labour force, but the financial literacy among Indians is still undetermined. Around 600 million people in India do not have a bank account. Indigenizing financial literacy is a core value in entrepreneurial finance (FT 2013). There are controversial results about the financial literacy in India. ING Consumer Resource fullness survey states that India ranks second among the ten leading nations in the world to have financial literacy level of 55%. According to Master Card's Index report published on June 2013 on financial literacy asserts that India ranks fifteenth position with index points of 59. The report states that for Indians, "the lack of ability to keep up with bills, set money aside for big item purchases and to pay off credit cards fully could be due to a lack of surplus cash, resulting from the fact that income levels are not high enough to cover expenses". The financial literacy scores for Indians aged 30 and above is 59 compared with 61 for those less than 30 years of age. This is due to the financial literacy programmes organised by various organisations such as BSE, NSE, National Institute of Securities Market, Money – wizards, RBI, IRDA, etc. SEWA Bank (India); Al Amana (Morocco); Teba Bank (South Africa); Equity Building Society (Kenya); and Pro Mujer (Bolivia) CARD Bank (Philippines) and the Microfinance Centre (MFC) in Poland are engaging in creating entrepreneurial finance in the form of developing microfinance services among the rural mass. It is the high time to change the system of teaching the entrepreneurial finance subjects in India. Motivating the young minds to fit the subjects needs transformation. Research conducted in India shows that college students are using credit facilities and debt burden of their parent are increasing especially with education loan. Students make use of credit cards, but lack of financial literacy among them do not allow to grasp the knowledge about the maximum or minimum balance on credit card or lag in payments (CGSNET 2012). The lack of knowledge in entrepreneurial finance creates emotional stress in their lifestyles. Teaching entrepreneurial finance is a non-linear process, and it can be understood from the 'life cycle' of an entrepreneur (Glen, 2013). In this context, research is needed to revamp the learning system of entrepreneurial finance in the undergraduate level.

2. AIM

This article aims to bring out the structural changes need to revamp the curriculum in the field of entrepreneurial finance. This study was conducted with an endeavour of identifying teachable and reachable paths in learning the entrepreneurial finance among the undergraduate students. The facilitating objective is to identify the entrepreneurial activity that is to be given more importance while teaching the undergraduate students.

3. Methodology

The curriculum research has been administered in the first-year degree programme in commerce. The curriculum design has been planned by the BSE Institute, Mumbai and undertaken in Coimbatore. The teaching pedagogy has been re-engineered in four stages. In the first stage, the foundation level in entrepreneurial finance has been identified based on past researchers. The awareness level of the students about the financial behaviour has been measured by conducting online research. In the second stage, the teaching pedagogy for each activity involved in entrepreneurial finance has been established with Real Time Experience learning System (RTELS). The next stage of the research was organised after the completion of first term period of three months. The pre and post behavioural changes among the students with respect to entrepreneurial finance has been measured and tested with 't' test. In the final stage, we have established the value-added modelling (VAM) as proposed by Bryan (2010) for teaching the non-reachable factors identified in the previous stage. The standard for VAM has been fixed based on the financial education research undertaken by Citigroup foundation.

4. Analysis : Curriculum Planning and Implementation

4.1 Stage I : Literature Review for Creating Contextual Intelligence

To design the curriculum we have gone through the literature review of entrepreneurial financial curriculum design. Brenheim’s (2008) research contended that the financial education’s ultimate aim is to increase the financial literacy in application side among the undergraduate students. According to Hogarth (2006), the consistent themes running through various definitions of financial education include being knowledgeable on the issues of managing money and assets, banking, insurance credit, insurance, and taxes; understanding the basic concepts underlying the management of money (e.g., the time value of money in investments and the pooling of risks in insurance); and using that knowledge to plan, implement, and evaluate financial decisions. (Hogarth, J. 2006). Worthen’s research suggested that the learning process in finance should increase the knowledge that is aimed at a fuller understanding of the subject and is directed toward practical applications of knowledge or information (Worthen & Sanders, 1987). Based on these research findings, we include the concept of ‘managing money’ as a core value for entrepreneurial finance curriculum.

The business trait for understanding the entrepreneurial finance is learning the sources of finance. We link the source of finance with students’ source of financing for education. In US two-thirds of the college students are educating with loans (Coy, Sep 2012); whereas in India, less than 10% of the students take loan (Dore, August 16, 2011). Hence, to locate the business traits in entrepreneurial finance, we identify the case of education loan to teach sources of finance in the first year of graduate level.

Contextual intelligence is essential while teaching the entrepreneurial finance. It is the ability to understand the limits of our knowledge and to adapt that knowledge to an environment different from the one in which it was developed (Khanna, 2014). To create contextual intelligence, we have identified the financial behaviour of the college students from past researches. Every year \$75 billion was spent by college students (Teen Research Unlimited 2012). Among high school seniors, 35% of them use credit cards; however, 40 % of them incorrectly answered a survey question on how to estimate the savings rate from their budget (Mandell 2008). Almost half of students pursuing undergraduates have about 3-4 credit cards (Sallie Mae 2009), nearly 60 – 70% don’t know the annual interest rate which they are paying for their cards (Joo et al.2003; Warwick and Mansfield 2000). Based on these research findings, we include the ‘marshalling of financial resources’ to design the contextual intelligence for designing the entrepreneurial finance curriculum.

The output of the first stage suggests that the institutional context at the foundation level of entrepreneurial finance include identifying the sources of finance and ‘marshalling the financial resources’.

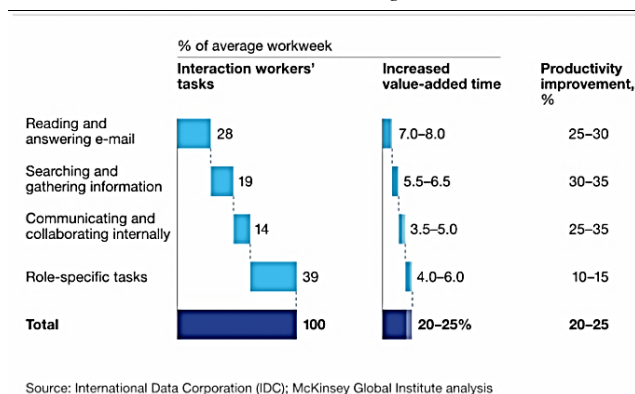
4.2 Stage II: Real Time Pedagogy

In the second stage, we fix the teaching pedagogy for entrepreneurial finance. Case teaching methods are essential in teaching the finance for undergraduate students. The new generation students require classroom learning experiences that model and exercise their work attributes. This requires teaching with cases (Bringham, 1972). The research done by Viscione (1978) discovered that each aspect of the course design from case selection to a classroom atmosphere must be an interactive discussion rather than dominating discussions. Based on these findings, we include the case studies and deliberations through blogs.

The social cognitive of the learners remains on the motivation about the crux of the subject. The provocation should be based on the action plan of the input in teaching basic concepts of finance (Anthony, 1998). Hence, we include motivation as a key factor.

The financial curriculum comes under the inclusive education. Inclusive education is supported by social networking. Social networking tool enables deliberation skills. McKinsey Global Institute (MGI) research discovered that twice as much potential was found by using social tools to augment awareness, team-work and sharing within the establishments. Exhibit 1 shows the advantages of using collaborative work as portrayed by MGI.

Exhibit 1 MGI Learning Network



Students are using blogs and forums for their collaborative discussion. Banks are using community groups to help their customers. Hundreds of community groups have been voiced an interest in being trained to deliver financial literacy to their

low-income clients. For instance, when a person is planning to purchase a home, and such personal goals which need to be succeeded maximize financial learning (Mandell and Klein 2007; Hirad and Zorn 2001; McCormick 2009). Based on these findings, we have included critics, bottom-line discussions through forums in the online platform.

The advancement in internet and usage of open source documents enables easy learning. According to the Online Nation, the students using the internet for learning is increasing at a rate 69% percent. (Allen, 2007). It is essential to teach with user-generated online content in financial services (Kelton 2011). The media content teaching has been enabled in android platforms. This enables 24 X 7 hours of learning. A necessary teaching pedagogy is needed for teaching the finance for undergraduate level can be understood by the financial, real news. A Network of Financial Institute report (2006) states that inclusive financial literacy can be achieved when the core concepts of financial literacy are evaluated and revamped based on the current knowledge in banking/financial/insurance sector. (Godsted & McCormick,). Hence, we have included articles and research relating to finance as the advance learning area in undergraduate level. Table-1 shows the different type of real-time pedagogy we have identified through the literature review.

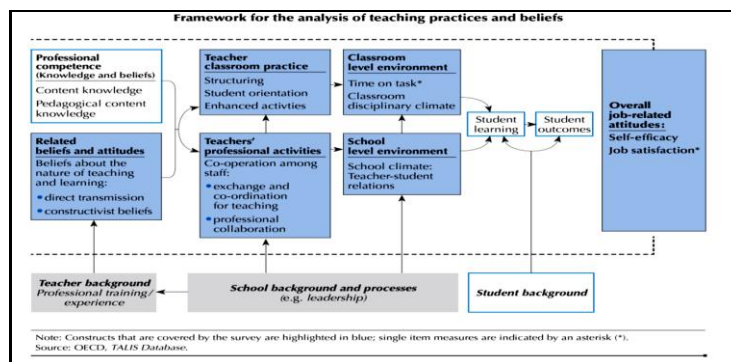
Table 1 On Line Teaching Pedagogy

| Sl.No | Real Time Teaching Pedagogy | Research Citation |
|-------|---------------------------------|--|
| 1 | Motivation | Ricarda 1999, Mandell & Klein, 2007, |
| 2 | Curriculum Design | Hogarth, J. 2006 |
| 3 | Lecture (Sharing the resources) | Viscione (1978) |
| 4 | Case Studies | Bruner 1999, Cooley, 1996, Erickson, 1999, Bricker; Simkins, 1994; |
| 5 | Application | Worthen & Sanders, 1987 |
| 6 | Bottom-line | Joo et al. 2003; Warwick and Mansfield 2000 |
| 7 | Critics | Pettit, 2000 |
| 8 | Forum and Blogs | Hirad and Zorn 2001; McCormick 2009 |
| 9 | Articles Reading | Ardalan, 1998 |
| 10 | Research (Advance Learning) | Escarraz et al 1997 |
| 11 | Quiz- Evaluation at each stage | Godsted & McCormick 2006 |

The teaching pedagogy for each activity involved in entrepreneurial finance has been established with Real Time Experience learning System (RTELS). Based upon the research conducted by Ricarda (1999), Mandell (2007), Hogarth (2006), Viscione (1978), Bruner (1999), Warwick (2000), Pettit, (2000), Hirad (2001) and McCormick (2009), the RTELS elements on ‘teachable paths’ have been identified. It includes motivation for learning, case studies, application of subject, bottom-line of concepts, critics on developmental issues, blogs for discussion and test for evaluation at each stage.

We have worked out a new model of teaching in the first year degree level. To design a model, we have studied the past researches made in education and finance. The OECD model of the framework has been identified as the base of formulating the new learning system

Exhibit 2 OECD Model



We hired the professional competence of teaching basic finance from the BSE Training Institute, Mumbai. The content knowledge has been shared by Sri Krishna Arts and Science College and BSE Training Institute. The related beliefs and attitudes of learning system have been shared with Real time experience learning system platform. The RTELS platform has been constructed by “My Klass room.com” – the service provider. The course structure has been materialised based on the findings of the past research as quoted earlier. We evolved eleven criteria while structuring the RTELS. Apart from classroom deliberations, the course content has been uploaded in android platform. The students can view at any time. In android platform, we use the open source materials. Exhibit 3 shows the template of one topic covered under the course.

Exhibit 3 On-Line Platform Snap Shot



After planning the RTELS, we thought the course to the first year undergraduate programme for four months using the pedagogy as we planned. The ‘teachable paths’ are used with RTELS.

4.3 Stage III - Evaluating the Pedagogy

In the third stage, we evaluate the pre and post behaviour of the participants (students) with the aim of identifying the ‘reachable paths’. The impact of the pedagogy is evaluated after the course on ‘fundamentals of investment’ has been finished. The evaluation system is based by comparing the pre and post course study behavioural pattern. (Linn & Slinde, 1977; Howard et al., 1979; Rockwell & Kohn, 1989; Sprangers & Hoogstraten, 1989). Pre- and post-tests appear to be the most pervasive approach to outcomes measurement about the financial literacy (Lyons, 2006). The evaluation of teaching methods can be measured based on the changes in beliefs and attitudes (Danes, 1993). Cheng and Schrempf (2006) also described retrospective pretests (RPTs), in which participants are asked to answer questions about their level of knowledge and behaviour after the program. They are then asked to think back to their level of knowledge and behaviour prior to the program. Previous research found that there is no significant relationship between high school financial education and investment knowledge; but there was a significant relationship between college-level financial education and investment knowledge (Andrew, 2012; Harter, 2009). Varcoe’s (2005) research on measuring the financial behaviour listed the variables to measure the financial behaviour. It includes savings, ways to decrease insurance costs, comparison of cost and shopping behaviour. Hence, we measure the financial behaviour of the participants of the experiment with the behavioural variables such as spending analysis, sourcing knowledge, and future planning. The variables identified in the first stage have been integrated with these variables.

We collect the behavioural data from the participants in two stages. First stage data were collected during the bridge course. Second stage data were collected after the completion of the course on ‘fundamentals of investment’. The components of the scale include rating based on financial behaviour, financial knowledge and financial self-efficacy. As the participants are same, the problem of shift bias in pre-post designs is minimized (Benjamin, 1982; Howard & Dailey, 1979; Preziosi & Legg, 1983; Rockwell & Kohn, 1989; Sprangers & Hoogstraten, 1989).

We use Likert’s five-point scale to measure the pre and post behavioural aspect. The ratings are coded as, almost never (1), seldom (2), about half the time (3), often (4) and almost always (5). We establish the following hypotheses.

H0: There is no significant improvement between the scores of the students before and after the financial literacy curriculum.

H1: There is a significant improvement between the scores of the students before and after the financial literacy curriculum.

The pre and post test results are displayed in table-2

Table 2 Pre and Post Behaviour Analysis

| Sl. No | Financial Questions | Mean Difference | Correlation | “t” value | Significance |
|-----------------------------|---|-----------------|-------------|-----------|--------------|
| <u>Behaviour</u> | | | | | |
| 1 | I tracked some or all of my expenses | 0.850 | 0.733 | 5.835 | 0.000 |
| 2 | I compared prices when I shopped | 0.850 | 0.661 | 5.369 | 0.000 |
| 3 | I set aside money for future needs/wants | 1.125 | 0.435 | 5.918 | 0.000 |
| 4 | I used a lay out for spending | 1.525 | 0.393 | 8.883 | 0.000 |
| 5 | I repaid the money I owed on time | 0.275 | 0.912 | 1.918 | 0.192 |
| 6 | I wrote goals for managing my money | 0.875 | 0.605 | 5.579 | 0.000 |
| 7 | I generally achieved my money by management of goals | 0.125 | 0.952 | 1.955 | 0.058 |
| <u>Knowledge</u> | | | | | |
| 8 | I knew the cost of buying on credit | 1.075 | 0.778 | 7.002 | 0.000 |
| 9 | I knew questions to ask when shopping for Credit | 1.075 | 0.651 | 6.208 | 0.000 |
| 10 | I knew about investments in securities. | 1.175 | 0.651 | 6.214 | 0.000 |
| <u>Self-Efficacy</u> | | | | | |
| 11 | I believed the way I manage money will affect the future | 0.950 | 0.655 | 5.208 | 0.000 |
| 12 | I felt confident about making decisions that dealt with money | 0.750 | 0.978 | 1.177 | 0.830 |

Differences between the pre and post behavioural changes are tested with a t-test. We analyse the results with 95% confidence limits and degrees of freedom at 39. Even though the mean difference of the scores increased (comparing pre and post behaviour), in three cases there is no significant increase of behaviour over the pre-test. Null hypotheses have been rejected in nine cases, whereas alternative hypotheses have been rejected in three cases. This implies the fact the curriculum provides financial knowledge. There is no change in behaviour of the students with regard to repayment of debt, goal setting and confident level of the students in decision making.

The results suggest that there is a significant improvement in financial behaviour of students in nine out of twelve aspects. The significant factors are identified as 'reachable paths.' It includes tracking the source of finance, cost comparison, forecasting, sequencing the payments, ageing schedule, cost of debt, credit terms, short-term investing and time value of money. There is no significant improvement in the behavioural component such as redemption of debt, debt financing, and risk taking.

4.4 Stage IV Decision Making

The findings of the above stages identified the 'teachable' and 'reachable' paths for tutoring the entrepreneurial finance. We identify the difference between the 'teachable' and 'reachable' paths. The three aspects such as debt financing, redeeming the debt and in risk aversion are essential for 'teachable' but not 'reachable'. Hence, decide to revamp the learning system of entrepreneurial finance. We identified certain changes in course content to achieve the new desired level. The new desired level has been identified based on the past research on financial education undertaken by Citigroup foundation. Table -3 shows the desired changes needed.

Table 3 Change Behaviour Concept

| Thematic Area | Examples of Current Behaviors | Examples of Desired Behaviors |
|--|---|--|
| <ul style="list-style-type: none"> ■ Budgeting | <ul style="list-style-type: none"> ■ Live day to day ■ Reactive financial behavior ■ Lack of forward financial planning | <ul style="list-style-type: none"> ■ Plan ahead for expenditures ■ Make a budget ■ Use a budget to manage money |
| <ul style="list-style-type: none"> ■ Savings | <ul style="list-style-type: none"> ■ Wasteful expenditures ■ Irregular savings ■ Savings not linked to goals | <ul style="list-style-type: none"> ■ Avoid unnecessary spending ■ Have a savings plan ■ Save regularly |
| <ul style="list-style-type: none"> ■ Debt Management | <ul style="list-style-type: none"> ■ Borrow for emergencies ■ Over-indebtedness ■ Borrow with little understanding of terms | <ul style="list-style-type: none"> ■ Maintain an emergency savings account ■ Make a plan to reduce debt ■ Avoid excessive debt ■ Borrow with full understanding of terms |
| <ul style="list-style-type: none"> ■ Financial Negotiations | <ul style="list-style-type: none"> ■ Weak negotiating position in business relationships ■ Limited control by women over own earnings | <ul style="list-style-type: none"> ■ Negotiate for what you want in business transactions ■ Take an active role in decisions over own earnings |
| <ul style="list-style-type: none"> ■ Bank Services | <ul style="list-style-type: none"> ■ Limited knowledge of bank services ■ Limited use of bank services | <ul style="list-style-type: none"> ■ Know about financial options and their terms and conditions ■ Use bank services to support financial goals |

Source: Market Research for Financial Education(Cohen;2006)

We have established the value-added modelling (VAM) as proposed by Bryan (2010) for teaching the non-reachable factors identified in the previous stage. The standard for VAM has been fixed based on the financial education research undertaken by Citigroup foundation.

The marks or the attendance of the students does not have any effect in measuring the performance of the students. Instead of having the traditional grading system, we use "value-added modelling -VAM" to evaluate the student's attributes. VAM has been used by for evaluating the teachers. VAM isolates the teacher's contributions from factors outside the teacher's control that are known to affect student test performance strongly, including the student's general intelligence, poverty, and parental involvement. This research uses the VAM for measuring the students' understanding power and fit in their lifetime values. VAM used by Andrew (2009) has been considered for this research. VAM methods have contributed to stronger analyses of progress and the validity of evaluation methods. (Message Board, 2012) Indigenizing financial literacy allows students to make knowledgeable financial choices, discuss financial problems and plan for the future (FT 2013). Exhibit -4 shows the VAM modelling for the curriculum design.

The modelling of entrepreneurial curriculum consists of three stages, i.e., creating contextual intelligence, establishing pedagogy and rating the students. The teachable paths are identified in the first stage. The reachable paths are identified in the second stage. The remodelling pedagogy is based on the non-reachable paths. In the above exhibit, three variables are unable reach, even though, they can teach. Hence, revamping of pedagogy is essential for these factors before rating. Only if all the teachable paths are reachable, we can rate the students. Entrepreneurial researchers have done previously quoted that psychometric screening is the best fit for rating the candidates (Rao, 2007). The competency mapping has been done for the students based on the psychometric screening. Exhibit-5 shows the correlation based on the mapping of 40 students.

Exhibit 4 VAM Modelling



Exhibit-5 VAM – Competency Mapping

| | | | | | | | | | | | | | | | | | | | |
|------------------|----------|------------|-------------|------------|-----------------|--------------|-----------|------------|------------|------------|--------------|------------|--|--|--|--|--|--|--|
| Tracking | 1.00 | | | | | | | | | | | | | | | | | | |
| Comparison | 0.66 | 1.00 | | | | | | | | | | | | | | | | | |
| Forecasting | -0.21 | 0.40 | 1.00 | | | | | | | | | | | | | | | | |
| Sequencing | -0.42 | 0.60 | 0.63 | 1.00 | | | | | | | | | | | | | | | |
| Ageing Schedule | -0.01 | -0.14 | -0.31 | -0.71 | 1.00 | | | | | | | | | | | | | | |
| Cost of Debt | 0.26 | -0.01 | -0.68 | -0.32 | 0.55 | 1.00 | | | | | | | | | | | | | |
| Credit Awareness | -0.42 | 0.78 | 0.70 | 0.64 | -0.33 | 0.72 | 1.00 | | | | | | | | | | | | |
| Investment | 0.47 | -0.57 | 0.58 | -0.13 | 0.69 | 0.49 | -0.54 | 1.00 | | | | | | | | | | | |
| Time value | 0.78 | 0.62 | -0.12 | -0.27 | 0.54 | 0.63 | 0.22 | -0.51 | 1.00 | | | | | | | | | | |
| Redemption | -0.73 | 0.64 | 0.54 | 0.44 | -0.23 | -0.46 | 0.33 | 0.06 | -0.52 | 1.00 | | | | | | | | | |
| Goal Setting | 0.68 | 0.72 | -0.65 | 0.08 | 0.40 | 0.52 | -0.13 | -0.16 | -0.10 | -0.13 | 1.00 | | | | | | | | |
| Confidence | -0.14 | 0.43 | -0.33 | 0.71 | -0.50 | 0.17 | -0.32 | 0.03 | -0.41 | -0.15 | 0.24 | 1.00 | | | | | | | |
| | Tracking | Comparison | Forecasting | Sequencing | Ageing Schedule | Cost of Debt | Awareness | Investment | Time value | Redemption | Goal Setting | Confidence | | | | | | | |

The competency mapping of the participants of entrepreneurial finance indicates that, the undergraduate students are good in comparing the financial constraints and about the interest rate. However, the confidence level is low as compared with other factors. This may be the one of the reason that the Indian students’ entrepreneurial values are little lower than that of the students of developed countries. The ‘entrepreneurial confidence’ activities are able to ‘teach’ but not able to ‘reach’. If these constraints are taken over by the teaching pedagogy, we can inculcate the entrepreneurial values among the young graduates.

5. Conclusion

A transformation of curriculum design in finance is essential. Finance should be taught intentionally with an aim changing the attitudes of students. The pedagogy can be linked with online networks. The online open source pooled resources can be better utilised to have effective method learning system. An understanding of the concepts will reflect the financial literacy. We conclude that the ‘teachable paths’ of entrepreneurial finance curriculum has to be evaluated with changes in financial behaviour, knowledge, and self-efficacy. If it is done, we can reach the target of inculcating the thematic skills of financial negotiations among the undergraduate students.

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7. Annexure I

Pre and Post Behaviour Pattern

Table1 Behavioural Pattern: "I Tracked Some or All of My Expenses"

| Tracking the Expenses | | Post-Behaviour | | | | | Total |
|-----------------------|---|----------------|---|---|----|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 2 | 1 | 0 | 2 | 0 | 5 |
| | 2 | 0 | 4 | 4 | 3 | 1 | 12 |
| | 3 | 0 | 0 | 1 | 6 | 2 | 9 |
| | 4 | 0 | 0 | 0 | 3 | 4 | 7 |
| | 5 | 0 | 0 | 0 | 0 | 7 | 7 |
| Total | | 2 | 5 | 5 | 14 | 14 | 40 |

Table 2 Behavioural Pattern: "I Compared Prices when I Shopped"

| Price Comparison | | Post- Behaviour | | | | Total |
|------------------|---|-----------------|---|----|----|-------|
| | | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 4 | 2 | 0 | 0 | 6 |
| | 2 | 6 | 2 | 3 | 4 | 15 |
| | 3 | 0 | 2 | 3 | 0 | 5 |
| | 4 | 0 | 0 | 7 | 3 | 10 |
| | 5 | 0 | 0 | 0 | 4 | 4 |
| Total | | 10 | 6 | 13 | 11 | 40 |

Table 3 Behavioural Pattern: "I Set Aside Money for Future Needs/Wants"

| Money for Future | | Post- Behaviour | | | | | Total |
|------------------|---|-----------------|---|---|----|---|-------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 1 | 2 | 1 | 2 | 2 | 8 |
| | 2 | 0 | 5 | 5 | 5 | 2 | 17 |
| | 3 | 0 | 0 | 3 | 2 | 1 | 6 |
| | 4 | 0 | 0 | 0 | 5 | 2 | 7 |
| | 5 | 0 | 0 | 0 | 0 | 2 | 2 |
| Total | | 1 | 7 | 9 | 14 | 9 | 40 |

Table 4 Behavioural Pattern: "I used a Lay Out for Spending"

| Lay out spending | | Post- Behaviour | | | | | Total |
|------------------|---|-----------------|---|---|----|---|-------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 1 | 4 | 1 | 4 | 2 | 12 |
| | 2 | 0 | 2 | 7 | 9 | 1 | 19 |
| | 3 | 0 | 0 | 0 | 2 | 2 | 4 |
| | 4 | 0 | 0 | 0 | 4 | 1 | 5 |
| Total | | 1 | 6 | 8 | 19 | 6 | 40 |

Table 5 Behavioural Pattern: "I Repaid the Money I Owed on Time"

| Repayment of Dues | | Post- Behaviour | | | | | Total |
|-------------------|---|-----------------|----|---|----|---|-------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Pre - Behaviour | 1 | 3 | 1 | 0 | 0 | 0 | 4 |
| | 2 | 0 | 9 | 0 | 0 | 0 | 9 |
| | 3 | 0 | 0 | 2 | 2 | 1 | 5 |
| | 4 | 0 | 0 | 0 | 14 | 0 | 14 |
| | 5 | 0 | 0 | 0 | 0 | 8 | 8 |
| Total | | 3 | 10 | 2 | 16 | 9 | 40 |

Table 6 Behavioural Pattern: "I Wrote Goals for Managing My Money"

| Goals for Managing money | | Post- Behaviour | | | | | Total |
|--------------------------|---|-----------------|---|---|---|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 1 | 1 | 2 | 2 | 2 | 8 |
| | 2 | 0 | 3 | 1 | 2 | 1 | 7 |
| | 3 | 0 | 0 | 1 | 1 | 0 | 2 |
| | 4 | 0 | 0 | 0 | 3 | 10 | 13 |
| | 5 | 0 | 0 | 0 | 0 | 10 | 10 |
| Total | | 1 | 4 | 4 | 8 | 23 | 40 |

Table 7 Behavioural Pattern: "I Generally Achieved my Money by Management of Goals"

| Money Management | | Post- Behaviour | | | | | Total |
|------------------|---|-----------------|---|---|---|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 1 | 0 | 1 | 0 | 0 | 2 |
| | 2 | 0 | 1 | 2 | 2 | 4 | 9 |
| | 3 | 0 | 0 | 2 | 3 | 1 | 6 |
| | 4 | 0 | 0 | 1 | 3 | 11 | 15 |
| | 5 | 0 | 0 | 0 | 0 | 8 | 8 |
| Total | | 1 | 1 | 6 | 8 | 24 | 40 |

Table 8 Knowledge Pattern: "I Knew the Cost of buying on Credit"

| Buying on Credits | | Post- Behaviour | | | | Total |
|-------------------|---|-----------------|---|----|----|-------|
| | | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 1 | 1 | 1 | 2 | 5 |
| | 2 | 3 | 1 | 7 | 2 | 13 |
| | 3 | 0 | 3 | 3 | 2 | 8 |
| | 4 | 0 | 0 | 2 | 6 | 8 |
| | 5 | 0 | 0 | 0 | 6 | 6 |
| Total | | 4 | 5 | 13 | 18 | 40 |

Table 9 Knowledge Pattern: “I Knew Questions to Ask when Shopping for Credit”

| Shopping for Credit | | Post- Behaviour | | | | Total |
|---------------------|---|-----------------|---|----|----|-------|
| | | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 3 | 3 | 2 | 0 | 8 |
| | 2 | 0 | 2 | 4 | 2 | 8 |
| | 3 | 0 | 1 | 7 | 1 | 9 |
| | 4 | 0 | 0 | 1 | 3 | 4 |
| | 5 | 0 | 0 | 0 | 11 | 11 |
| Total | | 3 | 6 | 14 | 17 | 40 |

Table 10 Knowledge Pattern: “I Knew about Investments in Securities”

| Investment in securities | | Post- Behaviour | | | | | Total |
|--------------------------|---|-----------------|---|---|----|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 1 | 5 | 0 | 1 | 2 | 9 |
| | 2 | 0 | 1 | 7 | 3 | 2 | 13 |
| | 3 | 0 | 0 | 2 | 4 | 1 | 7 |
| | 4 | 0 | 0 | 0 | 2 | 2 | 4 |
| | 5 | 0 | 0 | 0 | 0 | 7 | 7 |
| Total | | 1 | 6 | 9 | 10 | 14 | 40 |

Table 11 Self Efficacy Pattern: “I believed the way I Manage Money will Affect the Future”

| Manage money in future | | Post- Behaviour | | | | | Total |
|------------------------|---|-----------------|---|---|---|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 1 | 3 | 2 | 2 | 2 | 10 |
| | 2 | 0 | 2 | 4 | 5 | 2 | 13 |
| | 3 | 0 | 0 | 1 | 1 | 1 | 3 |
| | 4 | 0 | 0 | 0 | 1 | 3 | 4 |
| | 5 | 0 | 0 | 0 | 0 | 10 | 10 |
| Total | | 1 | 5 | 7 | 9 | 18 | 40 |

Table 12 Self Efficacy: “I Felt Confident about Making Decisions that Dealt with Money”

| Confident in making Decision | | Post- Behaviour | | | | | Total |
|------------------------------|---|-----------------|----|---|---|---|-------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Pre- Behaviour | 1 | 5 | 0 | 0 | 0 | 0 | 5 |
| | 2 | 0 | 11 | 2 | 0 | 0 | 13 |
| | 3 | 0 | 0 | 7 | 1 | 0 | 8 |
| | 4 | 0 | 0 | 0 | 8 | 0 | 8 |
| | 5 | 0 | 0 | 0 | 0 | 6 | 6 |
| Total | | 5 | 11 | 9 | 9 | 6 | 40 |