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A STUDY OF THE CORRELATION BETWEEN THREE INSTRUCTIONAL
METHODS AND SHORT-TERM KNOWLEDGE GAIN OF
CREDIT CARD DEBT AMONG COLLEGE STUDENTS

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Abstract

Consumer education, specifically information focusing on credit cards, is needed at all levels of society including students attending college campuses. Because financial decisions made can impact students' progression to obtaining college degrees, delivery of information to these students is both timely and important. Several instructional delivery strategies are available to faculty teaching consumer education.

Three instructional methods available to disseminate this information include the traditional classroom lecture, use of multimedia clips, and the use of case studies. With the use of Bloom's Taxonomy of Educational Objectives and a combination of Tiers designed to track gain in short-term cognitive knowledge involving the most basic concepts up to the most complex issues relating to personal credit card debt, a quantitative study was conducted to see which teaching strategy was most effective in helping students gain that short-term knowledge.

Overall, students gained knowledge after exposure to credit card information. No single teaching strategy when analyzed individually was significant however in providing that knowledge. When looking at co-variants such as exposure to consumer education in high school or motivation to apply for a credit card in the future, the lecture method did provide significance within certain tiers. The findings drawn from this study reveal that the specific instructional delivery method in providing consumer education to students is not the key factor but the fact that somehow making that learning opportunity available to college students is the critically important component. Implications from this study impact not only students, but their parents, consumer

education instructors, credit card companies, and policy makers as the next generation of fiscally responsibly community members are educated.

Chapter I

Introduction

Each semester students enroll in classes with a goal of earning an undergraduate degree. During the course of any given semester, students encounter a number of obstacles that could potentially intrude upon completion of that goal. These difficulties could broadly fall in the areas of academic, social, mental, or financial categories. Brock (2010) largely defined those obstacles as a precondition for possible expanded areas of remedial education, student support services, and adequate financial aid to pay for a college education to be potential catalysts that could prevent students from graduating. In narrowing down these topics, only the financial pieces of this complex puzzle are discussed. Financial aid can be provided to qualified students in the form of government grants, guaranteed student loans, university and private scholarships, or on-campus work opportunities. Not all students qualify for financial aid or scholarships. For those who qualify, there may not be enough financial resources provided to pay all educational related expenses. Lacking adequate financial means to pay for college can often times force students to look at alternative methods in which to pay for their educational undertaking. This shortage of money stems from a lack of personal savings or not receiving enough financial aid or scholarships necessary to cover all college expenses. Unfortunately, in some instances students may be forced to withdraw from colleges where there are not enough financial resources available to meet their needs.

For students who persist and work toward a college degree, finding sufficient financial resources to meet all their needs can occasionally be frustrating. Students and their families sometimes make financial decisions without a complete understanding of

the impact that a poor choice can have on the final outcome. Students and parents may ask what could have been done to help avoid costly financial mistakes. Consumer education is one available option to provide financial information to college students and parents. It is the hope that this knowledge may lead to students becoming better financial consumers. Information and understanding of consumer credit and available options for using credit is a complex subject that contains many elements.

In an effort to narrow the broad field of consumer education down to one timely and critical facet, this study focuses on credit card education for college students. Through the use of an experiment, credit card information was taught to students enrolled in a first year student orientation class called Ranger Connection or a personal finance class. Knowing that students enter college with a wide range of background knowledge and experiences, the educational intervention attempted to increase the knowledge of the students at all levels. By so doing, this study focused on determining if short-term knowledge could be gained by college students in the course after exposure to credit card education. This study looked at three methods of teaching consumer education focusing on credit cards in an effort to determine the most effective technique in helping students gain that short-term knowledge. The anticipated outcome is for students to mature into financially responsible, productive citizens as they complete their education and enter the work force.

Background to the Problem

For decades, higher education professionals have been analyzing why students make the decision to drop out of college. Pascarella and Terenzini (1979, 2005) identified lack of integration, both socially and academically into the college

environment, as perhaps the most important predictor of student withdrawal. They cite this reason based on insufficient contact with faculty and staff members of the academic institution. They also discuss sense of identity at the institution and psychological changes in students' self-systems and relational systems as other possible factors impacting persistence. Lack of adequate financial resources is typically not the primary reason cited for students not completing their college education. Obtaining and managing money does play an important factor, even though not the only factor, for students working on completing a college degree (Brock, 2010; Ross, Niebling, & Heckert, 1999). Even though a variety of factors or barriers may influence the decision for students to drop out of college, finances occasionally play a role and can compound other variables in that final decision (Eitel & Martin, 2009). However, each year many students make the decision to stay in college and complete their education using whatever financial means they have available such as savings, student loans, or working while in college.

As students make the decision to attend college, paying for college expenses is one question that must be addressed. Over the years, prices have increased for tuition and fees at most public universities. Baum and Ma (2011) reported that over the decades from 2001-02 to 2011-12, published tuition and fees for in-state students at public four-year colleges and universities increased at an average rate of 5.6% per year beyond the rate of general inflation. This rate of increase compares to 4.5% per year in the 1980s and 3.2% per year in the 1990s. Published in-state tuition and fees at public four-year institutions averaged \$8,244 in 2011-12, \$631 (8.3%) higher than in 2010-11. Average total charges, including tuition and fees and room and board, are \$17,131, up

6.0% from 2010-11. In 2011-12, full-time undergraduates received an estimated average of about \$5,750 in grant aid from all sources for public four-year institutions.

The cost of paying for educational expenses must be taken from the students' and/or family savings, educational grants, scholarships, student loans, wages earned while working during the semester, or by charging expenses to credit cards. Baun and Payea (2011) reported that in 2010-11, undergraduate students received an average of \$12,455 per full-time equivalent (FTE) student in financial aid. This total was comprised of \$6,539 in grant aid, \$4,907 in federal loans, and \$1,009 in a combination of tax credits/deductions and Federal Work Study. When looking at just student borrowing, they reported that for the same period 34% of undergraduate students took out federal student loans. Approximately 55% of public four-year college students who graduated from the institution at which they began their studies graduated with loan debt. These students borrowed an average of \$22,000. The above statistics revealed that in most instances university and government provided scholarships and financial aid do not cover all of the educational costs.

As students and families review all possible options to pay for college expenses, using a credit card to cover some of the costs is one available option. Using a credit card to cover expenses may be the result of not having adequate financial aid or scholarship eligibility or simply not saving sufficient financial resources prior to starting college. Consumers, in general, have a history of putting charges on their credit cards. A report published by the United States Joint Economic Committee listed the revolving consumer debt at a staggering \$950 billion (Vicious Cycle, 2009). This total was almost entirely comprised of credit card debt. The number accounted for roughly

13.9% of consumers' disposable income being used to service this debt load. The Federal Reserve (2011) reported that the average interest rate on credit cards with a balance was 13.08%. These alarming figures represent all consumers who hold and use credit cards on a regular basis.

Foster, Meijer, Schuh, and Zabek (2011) reported there were 176.8 million credit card holders in the United States. The average card holder held in his or her possession a total of 3.5 credit cards. When analyzing a 12-month time period, 56% of credit card consumers carried an unpaid balance forward from the current billing cycle to the next. The average credit card debt held by consumers was \$15,799. These numbers and averages include students who hold and use credit cards along with other consumers.

In a survey by Sallie Mae (2009), 84% of undergraduates had at least one credit card with a median debt of \$1,645. This compared to a similar study conducted by Sallie Mae in 2004 that reported only 76% of undergraduate students holding one credit card. With the percentage of students holding credit cards increasing, the question can be asked if higher education is doing enough to educate students about the dangers of overextending credit card debt. While using a credit card for necessary purchases is not always a bad decision if managed responsibly, occasionally students make poor choices by overextending purchases that could result in repayment difficulties.

As mentioned earlier, financial aid resources and family savings do not always provide adequate means to cover all college related expenses. Sallie Mae (2009) reported that 92% of undergraduate credit card holders charged textbooks, school supplies, and other direct educational expenses to those cards. Thirty percent of students

reported charging tuition and fee expenses. The average charge for those direct educational expenses averaged \$2,200 per student. In many instances, using a credit card is the only means available to students to pay for direct educational expenses.

The heartland of the United States is not immune from students relying on credit cards to help pay for educational expenses. Tan (2003), in a survey of college students in Oklahoma, found a similar regional pattern but more importantly credit card debt use and the management of it had an impact on their higher education experience. Among the collegiate experiences most affected were their concentration on academic work, participation in extracurricular activities, decision to reduce course load and get a job in order to pay off debt, decision to remain in class, and sense of priority about academic work. This same study reported that for students with difficulty repaying their credit card debt, 57% reported their concentration on academic work was affected and 49% reported it affected their decision to remain in school. Research findings such as this show how worries about credit card debt need to be addressed through consumer education.

Pleskac, Keeney, Merritt, Schmitt, and Oswald (2010) studied 1,234 student participants at ten different colleges and universities near the completion of their first semester of college. For students considering not returning to their current institution, the responses for making that decision included being recruited for a job, planned to attend another university, expected bad grades for the semester, experienced roommate conflicts, concerned about losing financial aid, showed signs of being clinically depressed, or determined that tuition and living costs were too expensive. Even though the researcher did not elaborate on the top six reasons for the students to leave the

university, evidence clearly shows that financial aid loss and increases in tuition/living expenses constitute two of the reasons. Findings such as this may provide evidence that financial concerns and the means to pay for expenses may have an impact on persistence of college students. Credit card use and potential debt falls into this category.

Wirth and Padilla (2008) concluded that obstacles to completing college fell into six categories consisting of personal, financial, coursework, learning, institutional, and student support barriers. These factors directly impact both the academic performance and persistence of students. In looking at the financial aspect surrounding these barriers, students may elect to pay expenses by using credit cards. For many students, obtaining one or more credit cards can be a positive process allowing for a means to bridge the expenses necessary to completing their degrees. For some students, however, using that credit card to live beyond their financial means can often distract attention from academics and ultimately interrupt completion of a college degree. In looking at the various financial aspects of obtaining a college education and the myriad of financial resources and options, this study focused only on credit cards.

Often students make the decision to charge items they need or want on a credit card as the method of payment. Not all charges to a credit card are necessarily deemed as a bad decision. Direct college expenses such as tuition, fees, room, board, and books may be charged to credit cards. These necessary expenses are needed to allow students to achieve desired learning outcomes, including the ultimate completion of their degrees. Therefore, these charges may be viewed by some as an essential expense and an investment toward the future, assuming that students earn their degrees. Other

expenses may be charged on a credit card that do not directly benefit the students' education or are not necessary expenses for completing their degrees, resulting in an unfavorable financial decision. These purchases would be described as general consumer expenses and have no direct bearing on the completion of a college degree. One option to help educate college students about credit card choices is to offer consumer education during a time when that knowledge is important and can have cumulative, long-lasting impressions. Knowledge acquired by students through this means can serve as a guide for making financial choices.

As students begin their higher education journey, some are suddenly faced for the first time with having to make financial decisions related to their college expenses. The ability to make wise, educated choices relies on the prior knowledge that students bring with them to college. Not all students have been exposed to consumer financial education during their high school experience. As some students may consider using a credit card to pay expenses while in college, do they possess the knowledge necessary to make an informed decision in those instances? This question, in part, suggests there exists a need for research into consumer education for college students with an emphasis on credit cards.

Research has focused on whether there exists a need for consumer financial education at the collegiate level. Lusardi, Mitchell, and Curto (2010) determined that financial literacy was severely lacking among young adults with only 27% knowing about inflation and risk diversification or being able to perform a simple interest rate calculation. Chen and Volpe (1998) surveyed 924 college students on the subject of financial literacy and found that participants answered about 53% of the questions

correctly. Their study concluded that college students are not knowledgeable about personal finance. Norvilitis and Phillip (2002) noted that society has demanded education in areas such as sexual activity and drug and alcohol use, but very little discussion has occurred supporting education in the area of personal finance. These studies help reinforce the critical need for more focus on consumer education. Even if teaching consumer education to college students allows those students to think twice about using credit cards, abuse can hopefully be reduced.

When students charge more to their credit cards than they can pay off in full each month, they must evaluate options more carefully. For example Jenn, a sophomore at the University of Texas, charged more than \$12,000 on 18 different credit cards. She had to make several adjustments to her lifestyle, including getting a part-time job, eating in her apartment rather than at restaurants, and avoiding going to social clubs and bars in order to start paying down her credit card debt (Shenk, 1997). A Buffalo State University student had to declare bankruptcy after running up over \$16,000 on various credit cards while trying to pay for college expenses (Volke, 2002). Examples such as these suggest that financial literacy education could have helped these students avoid costly mistakes.

With credit card use becoming commonplace among the general population, college students are not exempt from their vulnerability to this practice. Studies have confirmed that students entering their freshman year of college are lacking a solid background in consumer education (Eitel & Martin, 2009; Jones, 2005; McCormick, 2009). Part of the consumer education curriculum consists of providing instruction to students concerning the advantages and disadvantages of using a credit card.

The terms financial literacy, financial knowledge, and financial education often are used interchangeably in the literature and popular media (Huston, 2010). For the purpose of this study, distinction was clarified among the terms. First, financial literacy involves the terms and definitions used when discussing and referencing consumer education. Next, financial knowledge was the information gained by students after exposure to financial literacy. Last, financial education can be the organized forum, such as a classroom setting, used to transfer knowledge to students with the desired outcome being that students use that knowledge to make informed financial decisions while in college and beyond into the workforce.

An exhaustive review of the literature on financial literacy shows a void exists in determining if short-term knowledge about financial issues can be acquired following exposure to credit card education. Astin (1977, 1993) throughout his research described short-term as the time that students were enrolled in college and long-term as the period after college. Applying this definition in a narrower way, short-term knowledge is defined as the period of time immediately following the exposure to credit card information. This study did not seek to determine if knowledge can be retained for the long-term, or at any future period in time. Even though long-term knowledge is important and one can hope that knowledge gained through this intervention process can be carried forward with all students, long-term knowledge was not in the scope of this study. A correlation between short-term knowledge gained and the long-term effects of such knowledge was not explored in this study. The dependent variable for this study was short-term learning. A survey was administered following the students' exposure to credit card education to determine what knowledge has been gained and

some potential explanations. This study also determined which instructional method was most effective in helping deliver that knowledge.

Based on the void in the literature described above, the research for this study occurred at Northwestern Oklahoma State University, a four-year regional university located in rural Oklahoma. For the purpose of this study, students enrolled in the Ranger Connection class, a required semester long orientation class for all incoming first year students as well as students enrolled in personal finance classes participated in the project. Both of these classes are general education requirements for graduation. Northwestern Oklahoma State University was selected as the site for the research project because the researcher works at this institution. Because both of these required classes have the opportunity to provide consumer education to students, the findings from this research study can be beneficial to the faculty who teach these classes.

Following a review of the literature directed toward consumer education, several common topics emerged. Based on this literature analysis, the researcher grouped these topics into three categories. For ease of understanding and to help provide a clear direction for this research, the three categories or themes consist of the credit card application selection process and ownership choices; interest rate charges and cost of carrying a debt balance; and living beyond one's financial means and financial stresses associated with credit card debt. Each of these topics plays a critical role in the overall sense of studying credit cards and the individual debts potentially associated with such cards. Based on these conclusions, this study focuses on the various aspects surrounding these three core subject areas.

These topics were taught using three different teaching strategies. The three teaching methods used in this study are described in detail in Chapter 2. They consist of the traditional classroom lecture, viewing of multimedia clips, and the discussion of case studies. At the end of the intervention experiment, a survey was administered to see what level of short-term cognitive knowledge was gained by the students. A detailed summary of the experiment is described in Chapter 3.

Statement of the Problem

In an effort to provide learning opportunities for students, many higher education institutions have developed educational programs designed to assist students with learning focused on a variety of consumer education topics, including credit card debt. The literature review explores several examples of the need for consumer education. Part of the discussion of consumer education focused on the subject of credit cards. This study seeks to determine if college students' short-term knowledge of credit card debt changed after exposure to consumer education. As students enter college, they arrive with a varied background covering financial literacy. Students participate in an orientation session that makes available educational materials specifically related to credit cards and potential credit card debt. If student knowledge is gained, evaluation takes place to see which one of the three teaching methods was most effective.

Purpose of the Study

The primary purpose of this study was to determine which of three instructional methods was better at fostering an increase in short-term cognitive knowledge as measured by the levels of learning outcomes based on Bloom's Taxonomy of Educational Objectives. Three groups of students were exposed to a different teaching

method and then surveyed to determine how cognitive learning changed their short-term knowledge concerning credit card use and debt. Questions dealing with credit card use as well as demographic questions were asked in an attempt to define what short-term knowledge was gained by the students. Due to the limited time exposure of the intervention, only Astin's cognitive-psychological aspect of his model was focused on in this study. Findings from this study can provide students, educators, parents, credit card companies, and policy makers with information that can be used in determining educational and policy decisions concerning credit card education.

Research Questions

The following research questions were examined in this study in order to help shed information on teaching strategies and consumer information focusing on credit cards.

1. Which teaching method was most beneficial at increasing short-term knowledge of college students following exposure to credit card education as reflected through Bloom's Taxonomy of learning outcomes?
2. What aspects of the instructional delivery process were most beneficial in fostering that short-term knowledge when certain intervening variables are taken into consideration?

Significance of the Study

The results of this study could help faculty and administrators at higher education institutions determine if students gain knowledge of consumer information, specifically relating to credit cards, following consumer education. The findings from this study provided evidence as to whether an intervention can provide a change in the

student's knowledge base as it relates to credit card debt. This study determined which of three teaching methods was more beneficial in delivering credit card information to students. The conclusions to this study may guide higher education institutions in the design of orientation and curricular program for students.

Other parties that can benefit from the finding of this study may include parents of college students, credit card companies, and policy makers. Parents of college students can obtain and share valuable information concerning the possible consequences of abusing credit cards. Credit card companies can use the findings to improve their consumer information available on web sites and enhance their print and media campaigns to address the costs of using credit. Policy makers can take the information gained and use it when reviewing future legislation concerning consumer rights related to credit cards.

As a result of this experiment, students should carry knowledge gained forward as they persist toward graduation. The knowledge gained can also be applied in their adult lives following college. Because so few higher education institutions require a program specifically geared toward credit card education as part of an orientation program or general education requirement, the results of this study can be used to determine if student knowledge changes following exposure to consumer education, specifically toward credit card debt allowing for future program changes. A significant benefit from the knowledge gained by students was that they can spend less time worrying about financial issues and spend more time focusing on academics despite the nation's current economic conditions.

Definitions

Listed below are several definitions of terms that appear in this study. These definitions serve as a guide for the reader.

At-Risk Students: For this study, the researcher is defining at-risk students to be credit card holders who choose to pay only the minimum balance due each month or a card holder that missed at least one payment during the past 12 months.

Safe Credit Card Users: Individuals who pay their balance in full each month.

Personal Finance Literacy: This is defined as 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 (Anderson et al., 2000). For this study, this definition was applied to students who attend a higher education institution.

Revolvers: Credit card industry term for individuals that do not pay the monthly credit card balance in full each cycle.

Limitations

There were three limitations noted for the current study. An explanation and discussion of each limitation is detailed in Chapter 3. The first limitation to the current study limits the research to only short-term knowledge gained by participants. Since no long-term effects were studied, no assumptions or conclusions could be made as to the behavior decisions that may have changed in the students' credit card decision making process involving future choices.

A second limitation focuses on the survey used at the conclusion of this experiment. Participants were given one survey instrument at the end of the seminar. This single document contained both pre-test and post-test questions. Responses to the questions may have been different if the participants had been given two different survey documents, one prior to the start of the intervention and a second at the conclusion of the evening. The third limitation looked at the method of instruction participants were assigned to attend. By not being able to choose their method of instruction, the participants may have been less motivated to focus on the materials being presented.

Summary

Each year students enter college with the goal of completing and earning a degree. The cost of obtaining that education is increasing and families are faced with decisions on how to pay for not only the core, direct cost of education such as tuition/fees and books, but the other living and personal expenses associated with attending a higher education institution. Choices have to be made in order to pay for these expenses. In many cases financial aid and scholarship resources do not cover the full cost required to attend college. If other family resources such as savings or part-time work do not help bridge that gap, students turn to credit cards as one means to pay remaining expenses.

The question can be asked if students understand how credit cards work and the consequences of taking on debt. In some instances, institutions of higher education may not provide a mechanism to help educate students on the proper uses of credit. In this study, the researcher coordinated an experiment following exposure of credit card

education to undergraduate students. This experiment determined that short-term cognitive knowledge was gained following exposure to credit card education. The students surveyed were enrolled in a Ranger Connection class that is part of a mandatory first year student orientation program or a personal finance class.

This chapter provided an overview of the study and statement of the problem, the two research questions being studied, significance of the study, listing of terms and definitions, and limitations. Chapter 2 summarizes the results of the literature review. This chapter breaks down the five primary areas of this research study consisting of financial literacy, orientation programs, learning and teaching methods, interventions, and credit card uses. Chapter 3 outlines the research methodology utilized for this study. Chapter 4 details the results of the study, and Chapter 5 reveals the researcher's analysis and interpretation of the findings.

Chapter II Review of the Literature

Introduction

This chapter covers five general areas. The first is an overview of financial literacy at the collegiate level. The second section describes several orientation programs currently being offered to college first year students. The third area covers an analysis of teaching and learning strategies focusing on the traditional classroom lecture method, teaching by the use of multimedia clips, and teaching by the use of case studies. The next area covered includes a review of intervention techniques. The final section of this chapter summarizes the impact of students credit card use by reviewing the application selection process and ownership choices; interest rate charges and cost of carrying a debt balance; and living beyond one's financial means and financial stresses associated with credit card debt.

Financial Literacy

Consumer knowledge is a topic that impacts all individuals. This is often observed through alarming rates of bankruptcy, high consumer debt levels, low savings rates, and other negative outcomes that may be the result of poor or personal family financial management or low financial literacy levels (Fox, Bartholomae, & Lee, 2005). Even though the exact number cannot be confirmed, some American households can be described as spending more money than they earn for reasons that include easy access to consumer credit, inadequate savings for emergencies, and lack of self control (Xiao et al., 2004).

Kevin Glendening, Deputy Commissioner for the Consumer and Mortgage Lending Division Office of the State Bank Commissioner, testified before the

Committee on House Financial Service on August 24, 2010. During that testimony Glendening reported through the oversight of his office he has witnessed the often devastating consequences that the absence of financial literacy can have on consumers. These consequences, including unmanageable debt levels, poor credit, repossessions, and foreclosures, can have severe effects on both the personal and family lives. Families losing their homes are forced to relocate and temporarily forgo the American dream of home ownership. Excessive debt causes changes in lifestyle and everyday living. These occurrences are frequently the result of a lack of understanding of basic financial, credit, and borrowing issues (Financial Literacy FDCH, 2010).

Former President George W. Bush signed an Executive Order creating a President's Advisory Council on Financial Literacy on July 22, 2008. This 16-member committee was charged with one simple task: to improve financial literacy among all Americans. Their first annual report stated that far too many Americans do not have the basic financial knowledge necessary to develop and maintain a budget, to understand credit, to understand investment vehicles, or to efficiently use the services of the banking system.

The Council made fifteen recommendations for the President in its first report. Even though all of the recommendations were important, one stood out as having a major impact on higher education. Recommendation Number Four states that the United States Department of the Treasury and the United States Department of Education should take the necessary steps to require college students to take a more comprehensive course in financial literacy (or pass a competency test) than the present entrance and exit counseling requirements, as a condition of receiving Federally funded

or guaranteed student loans (President's Advisory Council on Financial Literacy, 2008). Even though the Council continues to meet and review policy under President Obama's Administration, there does not appear to be any recent publications or postings on the status or progress of the original recommendations outlined in the report.

Lack of financial education is not limited to just working individuals. Research focusing on financial literacy of college students can be traced back to the 1980s. Danes and Hira (1987) sought to examine the money management knowledge of college students. Their study included 323 undergraduate students that focused on the areas of credit cards, insurance, personal loans, record keeping, and overall financial management. Findings showed the lowest level of knowledge existed in the areas of insurance, credit cards, and overall financial management. These were the topics deemed most appropriate for inclusion in money management lectures, workshops, and seminars that need to be offered to college students. The authors recommended that more studies be conducted at the college level in the areas of financial literacy.

The Hartford Financial Services Group, Inc., (2007) surveyed 2,000 college students and parents concerning a number of financial concerns. In asking how a majority of the students' financial knowledge was gained, 70% cited their parents as the primary source of information. If this study were used as a base for all college students, at a minimum 30% could be classified into a category needing consumer education. This is a direct result of students not receiving any financial education from their parents. Based on this research, higher education leaders should recognize that some entering students do not have the basic financial education knowledge necessary to manage their day-to-day transactions.

Researchers have asked whether there exists a need for consumer financial education. Lusardi et al. (2010) determined that financial literacy was severely lacking among young adults. Only 27% knew about inflation and risk diversification or could perform a simple interest rate calculation. This research was conducted using a data set from the National Longitudinal Survey of Youth collected in 2007-2008. Chen and Volpe (1998) surveyed 924 college students on the subject of financial literacy and found that participants answered about 53% of the questions correctly. Their study concluded that college students were not knowledgeable about personal finance. These findings do not necessarily mean that all youth are financially illiterate, but could strongly indicate a need for consumer education.

As stated earlier, consumer education is comprised of several topics. One area of consumer education focuses on credit card use, which continues to grow in popularity as a means of purchasing goods and services. The knowledge gained from learning about credit cards can assist users in avoiding costly mistakes due to an unclear understanding of the implications of credit card debt. Several studies conducted on college campuses focused on the level of knowledge students have concerning credit cards. Rothstein and Rouse (2011) found that college students' decision making process includes making choices involving financing their education as borrowing against their future work earnings. In some instances, debt can contribute to graduates choosing substantially higher-salary jobs and reduces the probability that students choose low-paid "public interest" jobs. This could be described as graduates taking jobs in fields unrelated to their degree simply to enter a career that pays higher wages.

Public interest or public servant jobs typically have lower beginning wages when compared to the private sector.

A study conducted of students attending colleges in 15 southern states concluded that most students considered themselves to be credit card wise. Even though students reported this status on a survey, the findings confirmed that students were willing to pay high interest rates on credit card balances. One of the recommendations of this study concluded that colleges should consider offering a financial course to college students that would explore the costs involved with credit card interest rates (Bradshaw & Evers-Lush, 1993). Muir (2005) recommended that financial literacy training for college students should begin during their freshmen year in order to help students anticipate and overcome many of the economic pressures they face in college and afterwards, including decisions on credit card use.

Jones (2005) conducted a survey of 216 incoming freshmen students who participated in a required college orientation program. A number of questions were asked of the students concerning knowledge of financial literacy. Respondents scored the highest when asked about advantages and disadvantages of credit. The students scored the lowest on questions related to late payments and the effects these would have on the calculation of a credit score. The findings from the study recommended credit education is needed for students surveyed at the incoming freshman level.

Besides assisting students in gaining knowledge about consumer information essentials, financial literacy can provide another benefit. Susswein (1995) wrote to warn college graduates that future employers have the right to examine their credit history before employment. This is an important incentive for college students to make

timely debt payments. Job applicants could be judged an undesirable job candidate based on a poor credit payment history established in college. Such action suggests that financial literacy knowledge plays an important role in helping prepare students to enter the job market.

Hayhoe (2002) originally surveyed a group of college students asking questions related to their knowledge about using credit. She surveyed the same group of students two years later and compared the results looking for changes. To draw her conclusions, Hayhoe used an affective credit attitude score, a measure of how students feel about using credit. Findings showed that students who graduated with lower scores had misused credit and were having to manage the consequences of their actions. These former students also reported they did not feel positive about using credit on a regular basis. Such findings reinforce the need for consumer education to be offered to college students.

Demographic characteristics could provide a glimpse into common characteristics showing levels of credit card debt of students. Wang (2011) conducted an on-line survey of 906 students from both public and private universities to determine if ethnicity and gender had an effect on college students' credit card debt. The findings revealed that both ethnicity and gender did influence the amount of college students' credit card debt. Male students accumulated more debt than female students. Hispanic and African-American students accumulated higher levels of credit card debt than Caucasian, Asian, Pacific-Islander, and other students. For female students, Hispanics had the highest level of credit card debt compared to Caucasian, African-American,

Asian and other students. The current study looked at ethnicity and gender to see if any relationship could be found in relationship to credit card debt.

The same study by Wang (2011) also looked at income from students working to see if this variable had any impact on credit card debt incurred. The findings revealed that students with higher levels of income earned from work had lower amounts of credit card debt. Specifically looking at gender, both African-American males and Hispanic females, both having income earned from work, tended to exhibit over-spending behaviors with credit cards. The current study looked at income levels of students and parents in an effort to see if these variables had an impact on credit card debt.

Some students have been exposed to various forms of consumer education during high school. These classes may have been some combination of economics or basic personal finance. A study by Walstad, Rebeck, and MacDonald (2010) investigated the effects of a financial education program on high school students' knowledge of personal finance. Fifteen different high school instructors in four different states exposed 913 students to five different segments of consumer education. The areas included savings and money management followed by financial decision making and earning an income. The third section focused on banking and checking practices. Next was the topic of credit cards dealing with annual percentage rates and credit scores. The final segment consisted of financial budgeting, savings, investing, and risk tolerance. Each of these five parts was presented through use of a video module shown to the high school students. Findings from this study showed that net gain scores from pre-test and post-test scores indicated learning took place in all five

categories. The most gain was in Group 4 focusing on credit card information. The least gain was in Group 3 looking at banking relationships. This study is important as the current experiment looks at pre-test and post-test scores to see if gains were found in short-term knowledge concerning credit card education. Multimedia clips were one of the teaching strategies utilized in the current study.

A study was conducted by Eitel and Martin (2009) of 204 first-generation female students attending a university in Texas. Their sample consisted of 35.6% freshmen, 20.3% sophomores, 22.3% juniors and 21.8% seniors. Ethnicity was also captured resulting in 51.5% Caucasian, 21.3% African American, 19.3% Hispanic Americans, 4.5% Asian Americans and 3.4% reporting other. Both quantitative and qualitative analyses were performed in this study in an effort to see if financial literacy impacted persistence and degree completion. By using 2006 JumpStart survey data (a survey that has been used since 1997 as a standard measure of financial literacy of high school students) results showed that the students were not financially literate. Through focus groups with 39 of the participants, conclusions revealed that increased financial literacy alone would most likely not cure the barriers to degree completion. Two other leading factors also contributing were the lack of financial aid support and excessive outside work during school. The current study focused on financial literacy education of college students, many first-year students.

McCormick (2009) took a slightly different approach to her research study. Through a comprehensive review of literature, she explored the current state of youth financial education in the United States. Not only did her findings conclude that students graduating high school lacked a general understanding of financial literacy, she

noted that in many instances the public schools lacked qualified, trained teachers who could include financial education at the high school level. More emphasis has been placed on financial education of adults than youth. Even though the current study does not look at high school students, some students participating in this experiment had just graduated from high school.

Robb and Sharpe (2009) were surprised by the findings of their study. They surveyed 3,844 college students to find out a number of characteristics about financial knowledge. Their sample revealed that 66% owed at least one credit card, 38% reported having a revolving balance from one month to the next, and 29% had taken a personal finance class in high school. Contrary to expectations, their study revealed that higher levels of financial knowledge, meaning those exposed to consumer education in high school, were not significantly related to the decision to carry a debt balance on credit cards. Furthermore, those reporting prior exposure to personal finance revealed they carried a larger balance than students not taking a high school course. The current study looked at both numbers of credit cards held by college students as well as any debt balances held on those cards.

The research findings referenced so far in this study show strong evidence that some form of consumer education should be offered to students attending college. One could argue that consumer education is no more important in the overall design of educational requirements than English, math, or social sciences. Granted, these courses are an important element in preparing future graduates to be well-rounded citizens of society. As the above research indicates, consumer education is a tool that can be used by all students not only as they finish their education, but every day of their lives. As

mentioned earlier, credit card debt is one element of personal finance education. This study seeks to determine if students' knowledge about credit card debt changes after exposure to consumer education. The next section of the literature review discusses orientation programs that are used at a number of higher education institutions.

Orientation Programs

In an effort to help educate students about the positive and negative effects of credit cards, a number of higher education institutions have developed various mechanisms to address this topic. Many colleges and universities host first year student orientation sessions prior to the start of the first semester. This program is not new to higher education. Drake (1966) described this process where students engaged in activities, which included placement testing, registration procedures, various assemblies, small-group meetings, tours, dances, picnics, receptions, lectures, convocations, and discussions. The orientation programs of today include many of the same subjects and activities as Drake described, but also include topics related to consumer education and credit card debt. Higher education institutions have begun to address some of these consumer education topics in orientation programs held at the beginning of each academic year.

At Ohio Wesleyan University, a four-day mandatory program addresses numerous topics including a 45-minute classroom session on personal finance (Ohio Wesleyan University, 2011). Hampton University sets aside five days for its orientation program, including the topic of personal finance (Hampton University, 2011). Bethune-Cookman University includes a block of time to cover personal financial management

as part of its core orientation program (Bethune-Cookman University, 2011). These programs provide a starting point in exposing students to consumer education.

Other higher education institutions make information that presents consumer literacy available on their web site. The University of Wisconsin-Milwaukee encourages students to enroll in a course designed to teach them personal finance (University of Wisconsin-Milwaukee, 2011). The optional class is available for one hour of credit. Often consumer financial information is available through the university's financial aid web site. Duke University explores financial topics such as money management, budgeting, credit, savings, and identity theft (Duke University, 2011). At the University of Oregon, the financial aid office web site is linked to materials prepared by the National Endowment for Financial Education as one tool to help students become aware of consumer education ("Student Financial Aid," 2011). While these web sites do not provide the face to face interaction as a class or lecture setting, the material presented on the web sites can help students understand basic financial management concepts.

Very little assessment information is available concerning the effectiveness of orientation programs as they relate to personal finance on college campuses. Porter and Swing (2006) surveyed 45 different higher education institutions and concluded that first-year financial seminar programs had both a statistically and substantively significant impact on college freshmen's intent to persist to the second year of college. Their findings conclude by showing that seminars prepare students for making future collegiate decisions by providing basic university information at the beginning of their first year. Jamelske (2009) reported a positive yield on both retention and grade point

averages following coordinated activities designed for first-year experience students. A search of the literature did not yield any evidence that a college or university was conducting an orientation program that dealt exclusively with credit card education.

One required area of financial education at all higher education institutions involves student loans. For students receiving guaranteed student loans at colleges and universities, the college must provide a comprehensive entrance and exit counseling program. At a minimum, higher education institutions must provide entrance counseling to first-time loan borrowers before the first disbursement of a loan can be made to students. Loan exit counseling is also a mandatory requirement before students exit a university where loan funds were borrowed (United States Department of Education, 2010). Even though this required counseling covers student loans, there is no mandatory requirement for credit card education. The next section of the literature review discusses various teaching and learning methods.

Teaching and Learning

For faculty assigned to teach consumer education, as well as any university course or seminar, being able to deliver the required content in a meaningful fashion is critical to help facilitate learning by students. This study seeks to determine the amount of student short-term knowledge gained after exposure to credit card education. There are several theories that focus on teaching and learning of adult students. This section discusses several strategies that were be used in the current research study.

Astin (1984) describes a theory of involvement where students learn and grow while they become actively involved in campus life. The more students are involved in both the academic as well as the social aspects of the collegiate experience, the more

they are likely to learn. The quality and quantity of involvement ultimately determines the level of learning and development. Astin writes that involved students devote considerable energy to academics, spend much time on campus, participate actively in student organizations and activities, and interact often with faculty. Students who work on campus are also more likely to be successful with their academic work because they are becoming involved. Astin concludes that the intended outcome of institutional and pedagogical practices is to achieve maximum learning by students. In order for this to be accomplished, faculty cannot focus solely on teaching techniques but must also be aware of how engaged students are toward learning and how much time and energy they are devoting to the learning process. For students to become engaged in the learning process, they must feel the information being presented by instructors is relevant. As students take responsibility and ownership for becoming involved with the learning process, measurable outcomes result.

A popular model published by Astin (1977) was used in this study. Astin suggested that college outcomes could be conceptualized along three dimensions. These dimensions were type of outcome, type of data, and time span. The first two dimensions can be visualized as a 2 x 2 matrix where type of outcomes tend to be either cognitive or affective and type of data tend to be either psychological or behavioral. Cognitive outcomes have to do with the utilization of higher-order intellectual processes such as knowledge, critical thinking ability, basic skills, special aptitudes, and academic achievement. Affective outcomes are self-concepts, values, attitudes, beliefs, drive for achievement, and satisfaction with college. Astin's 2 x 2 theory of outcomes allows individuals to look at four different types of outcomes based on the intersection of the

two dimensions. These four include cognitive-psychological, cognitive-behavioral, affective-psychological, and affective behavioral.

This study focused on the cognitive outcomes that resulted from student learning through students participating in an experimental intervention focusing on credit card education. Students entered the experiment with a wide range of knowledge and experience in dealing with credit cards. Some students had experience involving spending and payment transactions while others had very little to no knowledge about credit cards. Through the process of providing credit card education, the desired result is that cognitive outcomes showing increased financial knowledge and the ability to think critically about potential purchase and payment options would be gained.

Cognitive behavioral outcomes related to credit card knowledge and uses are long-term desired outcomes for students who participated in the experiment. After exposure to credit card education, students make decisions concerning charges and debt that impact their lives. Wise decisions regarding these choices can lead to a sound, stable financial foundation that can help further individuals goals. Because cognitive-psychological and cognitive-behavioral outcomes are connected, both must be mentioned. The scope of this study was short-term in nature so the primary focus was on cognitive-psychological outcomes.

Astin went on to develop a “time dimension” to his theory which could be described as measuring long-term effects on students. For the present study, the focus was on the cognitive-psychological outcomes which lead to cognitive-behavioral outcomes. The third dimension, time, was not taken into consideration since only short-term knowledge was being studied.

Another leading expert in the field of education is Bloom (1956) who classified learning objectives as having three domains. These consist of cognitive, affective, and psychomotor. His theory is referred to as Bloom's Taxonomy of Educational Objectives and was developed to motivate educators to focus on all three domains, creating a more holistic form of education. For the purpose of this study, only the cognitive domain was discussed. A classification of levels of intellectual behaviors was developed and is depicted visually in ranking for the lowest level up to the highest level. These levels moving from lowest to highest include knowledge, comprehension, application, analysis, synthesis, and evaluation. Each topic introduced to the students in this study began at the most basic level of knowledge, but through the intervention process hopefully moved up the scale.

As Bloom developed these six major categories, they were often ranked by degrees of difficulty. This can be described as having to master or complete the first level before advancing to the next. The first level, knowledge, can briefly be defined as the recall of specifics and universals, the recall of methods and processes, or the recall of a pattern, structure, or setting. This is the most basic form of learning. Comprehension, the second level, refers to a type of understanding or apprehension such that individuals know what is being communicated and can make use of the material without necessarily relating it to other materials or seeing its fullest implications. The third level, application, is described as using abstractions in either a particular or concrete situations. These may be in the form of general ideas, rules of procedures, or generalized methods.

Bloom went on to describe the remaining stages. Category four, analysis, is the breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas is made clear and/or the relationships between the ideas expressed are made explicit. Synthesis, the fifth level, pulls together the elements or parts so as to form a whole. This involves the process of working with various pieces, parts or elements and arranging or combining them in such a way as to constitute a pattern or structure not clearly identified before this point. The final stage, evaluation, provides judgments about the value of material and methods for given purposes.

For this study, Bloom's Taxonomy of Educational Objectives was used as a guide as the instructors teach the material to the students. The scale previously described was broken down and grouped into three categories. Category 1 consists of knowledge and comprehension, Category 2 comprises application and analysis, and Category 3 entails synthesis and evaluation. Since students in this study entered the experiment with different levels of prior knowledge or experiences concerning credit cards, the instructors began the presentation of information at the most basic level which is described as Category 1 on the scale. As the experiment progressed to Category 2 and Category 3, the hope was that the students' short-term knowledge increased as well as the understanding and comprehension of the credit card process. Each topic, as defined by one of three categories, had an impact on students while they are in college as well as following graduation. Even if students only advanced up one or two levels following Bloom's Taxonomy, they were a better informed consumer and should make wiser financial decisions.

The final goal of any instructional strategy or method is to deliver information to students in a method they can understand. During this process some type of engagement hopefully occurred with the students retaining knowledge of the subject materials being presented. Much has been written on the various effective teaching methodologies. This study highlighted just a few of the theories found in the field.

McEwan (2002) broadly defines a highly effective teacher as an instructional virtuoso, further explained as a skilled communicator with a repertoire of essential abilities, behaviors, models, and principles that lead all students to learning. She goes on to say that highly effective teachers don't teach in just one way; they have a repertoire of instructional techniques, teaching behaviors, and essential skills on which to draw, depending on the needs of their students, the nature of the subject, and the complexity of the learning outcomes desired.

Ryan and Cooper (1984) discuss a few characteristics that help to make teachers successful in the classroom. One of the most striking characteristics of excellent teachers is enthusiasm for what is being taught. Bored faculty members convey boredom to the classrooms resulting in very little, if any, engagement from the students. They went on to say teachers must have a "knowledge about knowledge" skill, meaning there is sufficient perspective on a subject to be able to analyze and convey its elements, logic, possible uses, social biases, and relevance to the needs of the students. Both of these are basic core elements for effective instructors.

An observation by Ebel (1988) was made where he noted most studies stress knowledge and organization of subject matter, skill in instruction, and personal qualities and attitudes as being useful in working with students when looking for indicators of

effective teaching. He went on to say that potentially great teachers become great teachers through conditioning mind, acquiring skills, and practicing amidst intense competition. Ebel also stated that faculty members are both learners and teachers; therefore mastery of both subject matter and the skills that go into teaching are essential. These basic, but clearly stated comments, are important elements when looking at the foundation for developing teaching strategies for students. Faculty members developing curriculum and the method of delivery should keep these values in mind.

The present study utilized the lecture method but also incorporated two other teaching strategies into the experiment, those being the use of multimedia clips and the use of a case study. Broadwell (1980) writes that the motivational value of the lecture is one of the most useful teaching methods teachers can use in the classroom. When the lecture is combined with modes requiring students to participate, such as discussion or laboratory, the methods become even more effective. Students can increase their problem-solving and thinking skills because they are actively involved in the learning and teaching process.

Two dimensions were referenced by Lowman (1984) when discussing effective college teaching. The first references the instructor's ability to generate intellectual excitement in the classroom while the second focuses on the instructor's positive interpersonal rapport with students in the classroom. Lowman wrote more specifically that superior teaching involves two distinct skill sets. The first is speaking ability that includes not only giving clear, intellectually exciting lectures but also in leading discussion with students. The second is interpersonal skills that allow for the creation

of the sort of warm, close relationships with one's students that motivate them to work independently. Superb teachers are outstanding in one of these sets of skills and at least competent in the other. He added that exciting teaching is not merely acting or entertaining. Entertainment involves the stimulation of emotions and the creation of pleasure. Stimulation of emotions associated with intellectual activity such as the excitement of considering ideas, understanding abstract concepts, seeing their relevance to one's life, and participating in the process of discovery characterizes outstanding teaching.

Lemke (2010) writes about trying to achieve innovation through technology in the classroom. She summarizes that students engaged in learning that incorporates high-quality multimodal designs outperform, on average, students who learn using traditional approaches with single modes. This was described as instruction delivered to students using text or sound and visuals together such as real-world experiences or simulations. Visualization can be an extraordinary tool in students' repertoire for critical and creative thinking. Lemke went on to write that visual literacy is a critical component of what it means to be literate in the 21st century.

The next section of this chapter describes the use of an intervention process that was used as the foundation for this research project. This is followed by a summary of three instructional strategies that include lecture, multimedia clips, and case studies.

Interventions

Prior research studies indicate that intervention programs can be a useful teaching strategy in helping individuals overcome personal struggles or battles (Baer et

al., 1992; Garvin, Alcorn, & Faulkner, 1990; Lau-Barraco & Dunn, 2008). The American Psychological Association defines an intervention as an action on the part of a therapist to deal with the issues and problems of a client. The selection of an intervention is guided by the nature of the problem, the orientation of the therapist, the setting, and the willingness and ability of the client to proceed with the treatment (VandenBos, 2009). An intervention can take place outside of a therapist's office. The intervention can also be conducted by someone other than a licensed therapist. For the purpose of this study, an intervention was facilitated by the classroom instructors to educate students concerning credit card use. The material presented by the instructors to the students through the intervention process challenged them to build on any knowledge or attitudes they may already have concerning credit cards. The intervention also provided an opportunity to move students' knowledge to higher levels of understanding. The impact of knowledge gained can have an immediate implication on their decisions concerning credit card use as well as attitude and behavior changes toward future choices. For this study, the intervention approach was used to guide the instructors in the delivery of the materials focusing on credit card education.

Literature on intervention strategies reveals two types of successful intervention programs that are associated with individuals who have alcohol or smoking addictions. Research in these two dependency sectors has provided evidence to show successful results are possible following an intervention. Review of successful intervention research focused on studies where the procedures and techniques could be related to learning outcomes similar to those outlined by Bloom. A study of young adults, primarily college age students, revealed a significant reduction in self-reported drinking

at the end of an intervention phase and continued throughout a 2-year follow-up period. The study involved a classroom lecture format with discussion opportunities for the participants, use of a workbook that paralleled with the lecture, and a simulated bar experiment (Baer et al., 1992). The study provides evidence that short-term knowledge acquired during an intervention can be successful and have a long-term result on behavior. This intervention appears to involve all three categories of learning used in this study.

An intervention study of 60 pledges from four fraternity houses showed a significant difference on self-reported measures of alcohol consumption at a post-treatment evaluation as well as a five-month follow-up interval. Fraternity members were divided into four groups. Each group was given a different type of preventative education method as part of the intervention process. There were two methods that showed the greatest outcome of reduction in drinking consumption. The first group was exposed to a trained alcohol professional counselor who guided a lecture and discussion that was followed by actively involving participants in role-play situations. The second group was also provided with a lecture as part of the intervention but they were shown a series of videos highlighting the effects of alcohol consumption. The researchers concluded that the second method was the most effective, possibly in part to a “shock value” response to viewing the videos (Garvin et al., 1990). In following part of this model, the current study involved one group of students being exposed to a lecture by a professional instructor knowledgeable on the topic of credit cards as well as a second group being exposed to multimedia clips focusing on credit card scenarios and facts. Just as the possible “shock value” involved with the alcohol intervention was effective,

the same “shock value” approach was used in this study as students in one group viewed multimedia clips related to individuals who have encountered severe credit card debt. This research provides evidence that these two types of intervention techniques can be successful in providing short-term results in the area of alcohol consumption. The current study determined if short-term knowledge was obtained following exposure to credit card education through the use of an intervention.

Lau-Barraco and Dunn (2008) developed, conducted, and evaluated a single-session experiential expectancy challenge intervention, seeking to reduce alcohol use by changing key positive expectancies among 217 moderate to heavy drinking college male and female students. Students attended a single 90- to 120-minute intervention session. Through the use of a pre-test, post-test, and one-month follow-up session, findings showed that the intervention led to significant decreases in alcohol expectancies and subsequent alcohol consumptions in both genders. One advantage of the single-session intervention as compared to the multi-session, as noted by the researchers, is the requirement of fewer resources required to conduct the study. Resources were defined as the time involved for intervention personnel as well as printed documents distributed during the session. Findings such as these suggest that successful interventions can be structured over a relatively short period of time, use minimal financial resources, but still prove to be effective in providing positive outcomes for the participants. The current study focused on one experimental intervention session where students were asked to evaluate their short-term knowledge gained following exposure to credit card education. Astin’s cognitive-psychological theory can be applied in this research example where students were exposed to one

experimental technique with the hopeful outcome being a change in attitude for the short-term.

In addition to alcohol programs, intervention sessions have successfully been conducted on smokers. One such study was conducted on 426 community college students that were classified as smokers ranging in age from 18 to 27 years old. Researchers administered an intervention consisting of a computer-assisted, counselor-delivered smoking cessation program that addressed personal health risks and readiness to change smoking behavior among community college students. Following a 10-month follow-up assessment date, the intervention showed a reduction in smoking by community college students. This study combined the traditional face-to-face discussion with smokers along with the use of technology, specifically computer software that allowed for individually tailored feedback on various smoking related characteristics, such as respiratory health, presence of carbon monoxide, and cessation strategies (Prokhorov et al., 2007). Research such as this study suggests that by combining the use of traditional face-to-face methods along with computer software, interventions can have positive outcomes. The current study utilized face-to-face instructional method by use of the classroom lecture and case study approach as well as the technology resource through the use of multimedia clips. Three instructional methods were used to conduct an experiment to determine which instructional method was better at enhancing short-term knowledge.

In each of the four successful intervention studies discussed, the goal was to educate the participants through the use of a specific instructional technique. Learning in these instances required students to take part in the process by being engaged in

discussions following the instructor or group leader lecture, simulated bar experiment, role-play activity, reaction to videos, or engagement with a computer software program. These examples are consistent with Astin's (1984) discussion on students being actively involved. The present study seeks to actively engage students in the learning process of credit card education. By referencing the earlier discussion of Bloom's levels of learning, the intervention process involved in this study seeks to advance the students level of knowledge. As learning takes place, Astin's 2 x 2 model became part of the process as cognitive-psychological changes take place. Since only short-term knowledge was being measured, the cognitive-behavioral side of Astin's 2 x 2 model was not evaluated in the present study.

A limited number of research studies appear to have been conducted in the area of interventions related to financial literacy. Shockey and Seiling (2004) conducted one such study where 25 low-income adults progressed through a four-week financial literacy program to see if any subject knowledge changes could be tracked. Participants were exposed to topics dealing with financial goal setting, budgeting and spending, debt reduction, and saving money. Seminar instructors used three methods of presenting the materials. The first consisted of classroom lecture, the second involved the use of case studies where participants were confronted with a series of written events they were asked to analyze and provide possible solutions, and the third method involved simulation or role-playing of structured financial scenario. Each method was utilized over a four-week program. The authors did not elaborate on which method of teaching was most effective. By means of a pre-test and post-test, two significant results did reveal changes in students understanding of financial issues. The percentage of

participants that increased their scores ranged from 19% for reducing debt to 49% for setting aside money for unplanned emergencies. Even though the authors of this study did not analyze why there were increases in these two specific categories, their overall conclusion stated that over the four-week period there had been an increased positive change in participants' money management attitude and behavior. This type of study confirms that short-term knowledge can be gained and long-term behavior patterns changed through the use of an intervention.

Through the use of an intervention experiment, students enrolled in the spring Ranger Connection orientation class and sections of personal finance were exposed to various elements associated with credit cards. After utilizing the classroom lecture method, use of multimedia clips, and the analysis and discussion of case studies, students were surveyed to determine which instructional method was better in delivering that short-term knowledge increase. Details of this experimental design are detailed in Chapter 3. Below is a discussion of the three teaching strategies that were used as part of the intervention.

Intervention Teaching Strategies

This experimental intervention consisted of students enrolled in a Ranger Connection first year student orientation class and personal finance classes at Northwestern Oklahoma State University during the spring 2013 semester. Students participating in this experiment were randomly assigned into three different groups. Each group was exposed to the same content covering credit cards, but the three groups had a different teaching method used to present the materials. Group 1 was exposed to the traditional classroom lecture; Group 2 was subjected to lecture as well as various

multimedia clips, while Group 3 was involved in lecture along with the use of case studies. At the end of the intervention, a survey was conducted to determine which teaching strategy provided the greatest increase in short-term knowledge. Below is a discussion covering each of these three teaching strategies.

The participants in Group 1 consisted of the instructor presenting credit card materials by means of the traditional classroom lecture. The instructor followed an outline detailing the materials covered and students had an opportunity to ask questions. Research shows that this uncomplicated method of teaching can be effective when introductory material needs to be presented and students were asked to recall what they had learned. Active discussion between students and the faculty member can be helpful in absorbing basic knowledge.

The lecture format is the most common delivery method used in the classroom. Broadwell (1980) stated that the lecture format assumes the educator is the expert. He goes on to describe the lecture as an efficient means of imparting information in a scheduled way without interruption, and with less planning than in most other teaching methods. The lecture method is virtually limitless in its application with regard to situation, subject matter, student age, or learning ability.

This is not to say the lecture method of instruction can be delivered without preparation. Eble (1988) writes that the instructor needs time to arrange talking points, develop examples, write out definitions, and solve problems. He states that some faculty prepare their lectures well in advance and revise them during the term taking into account the students' reactions to previous lectures. Another method used by many

faculty is to prepare the next lecture immediately after class, when the experience of what worked and what did not work is still fresh in the mind of the instructor.

There are two other points noteworthy in the writings of Eble (1976, 1988). First is the need to plan the beginning of the lecture carefully. This critical start should focus on stimulating the interest of the audience to gain their attention. A relationship should be established with the students very early in the delivery of the lecture. Instructors should outline the content and structure of the lecture before starting. The second point is for the instructor to be guided by the living audience. Eble stated that the faculty member should keep his/her eyes on the audience and his/her mind on the content being delivered. An occasional pause should be taken in an effort to assess the impact being made on the students. Watch for signs of confusion or puzzlement on the faces of the students and respond to them immediately if discovered. These simple but effective approaches can help make the delivery of the lecture more meaningful to the audience.

Lowman (1984) stated that a first-rate lecture is better than written materials at emphasizing conceptual organization, clarifying uncertain issues, reiterating critical points, and inspiring students to appreciate the importance of key information. He cautioned that most students can only absorb three to four main points during the time span of a typical 50-minute lecture regardless of the subject material being taught. Several studies have been published that focus on successful outcomes of the lecture method of instruction.

One such study was conducted by Lujan and DiCarlo (2006) reporting that students who speak and participate enthusiastically in lectures retain information far

longer than if the materials were simply spoken or presented without interaction. Covill (2011) surveyed students enrolled in an introductory psychology class regarding their perception of the traditional lecture method of instruction received in class. Findings showed that college students perceive they put forth acceptable levels of effort in lecture style classes in order to get a good grade, often studying outside of class to supplement what the instructor covers in the textbook. Both of these studies focus on the lecture method emphasizing that style as being one of the most basic.

In an effort to try to engage students in the learning process, educators utilize multimedia clips in the classroom. These clips can originate from a variety of sources and many are easily accessible through the Internet. This teaching method was utilized by Group 2 in the current study.

When audio-visual presentations are carefully incorporated into a planned system of instruction, they can become highly effective learning tools. The clips can be used to arouse new interest in the subject material, augment lectures, and enrich the understanding and memory of course content. The use of multimedia clips provides a mechanism to help keep students engaged in the learning process by involving both audio and visual elements.

After a brief introduction by the instructor, multimedia clips were used in this experiment showing conversations with financial planning experts that covered the key terms and concepts of applying for and owning credit cards. Students experienced interviews with young consumers that were having difficulties managing their credit card debt as they shared their heart breaking stories. Several research studies show that using multimedia clips can have a positive impact on learning.

The use of media application in the classroom has been used for decades by educators. Frederick (1986) describes using “bells and whistles” to enhance his lecture with the use of cassette recorders and slide carousels. The addition of some technology concepts to supplement the lecture can still be cited as successful media in today’s classroom. Frederick wrote that the use of media was a blatant ploy to hook students’ emotions in order to arouse their interests. This was especially true if the emotional impact of the media was used to conclude the class, allowing the students to leave the classroom with their hearts thumping, their minds engaged, and their motivation to study aroused.

In a study conducted by Roden (2007), the use of film and video in the classroom was researched as an educational tool. From this qualitative study, four themes associated with the use of film were identified to include the aesthetic use of the film, the instructional experience, the experience of awareness, and the shared experience. Within each of these themes, five related learning dimensions were identified. These included emotional, cognitive, personal, social and cultural. The conclusion of the study revealed that the use of film in the classroom provided a meaningful way for educators to connect familiar settings of popular culture with philosophical, theoretical, and educational issues. For the use of film to be successful, the instructor should provide a brief introduction to the media presentation then follow up with discussion once the viewing has taken place with the students. When students connect to the subject through film, their learning experience in the classroom is enhanced. For the purpose of this study, each of the learning dimensions referenced by Roden (2007) was experienced by the students as they watched the multimedia clips.

Since credit cards can have an impact in each of these five areas, incorporating multimedia clips into the classroom setting helped to actively engage students with the learning process as they related to the material being presented. Astin's use of cognitive outcomes was one dimension utilized by Roden and this outcome was used in the current study.

Houston (2000) surveyed faculty members within the University of Kentucky Community College System to determine how many used some type of video technology as a tool to supplement classroom instruction. The findings revealed that 84.6% of faculty used video in their classroom. Faculty commented that the reasons they chose to include videos within their lectures were to stimulate classroom discussion, provide an alternative learning medium, introduce a new topic, show examples, and expose students to real-life applications. In the present study, multimedia clips were used in an effort to help accomplish these same items.

Katz (2008) presented a paper at the United States Association for Small Business & Entrepreneurship (USASBE) conference where he explained the pedagogy of using short multimedia clips (four minutes or less) to enhance classroom lectures. The presentation focused on the positive elements of using video to supplement lecture in business classes. Discussion topics covered legal rights involved with showing multimedia clips, displaying clips on web sites, and underlying technologies for gathering effective and meaningful clips. Presentations such as this provide evidence that multimedia technology can be used as an effective teaching tool in the classroom. Multimedia clips in the current study averaged two to four minutes each in length.

The use of case studies as a teaching tool has been part of the educational environment for decades. When utilized as a discussion topic in the classroom, a case study can actively involve students and expand concepts that the instructor has presented. The instructor plays the role of facilitator while the students engage in the details of a study, working toward a solution. For the current study, Group 3 of the experiment was exposed to case studies relating to credit cards. Following an introduction to credit cards, students were broken into groups and given time to read and analyze a credit card case study. Part of the experimental time period was used for students to discuss their assessment of the study as well as an opportunity for the instructor to provide guidance and feedback.

The case study method can contribute to the educational process. Bligh (2000) wrote that students working in groups are more attentive, display better comprehension, and produce more work than when competing as individuals. Bok (2013) indicated that discussion in small groups allows those with wrong answers to recognize why they erred and to think of better ways to approach the problem. At the same time, students with the right answers deepen their understanding by trying to figure out why their neighbor had erred and how they can be helped to understand why another answer is correct. The present study allowed for interaction within the groups.

Marsick (1990) argues that the case study is an effective educational tool as several variables are drawn into the analysis. The case study approach should draw upon the past experiences of the participants, should be participatory in nature, and should have an action component that is linked to future experiences. The key to a successful case method is the selection of the right problem situation. This situation

must be relevant both to the interests and experience of the learner and to the concepts being taught by the instructor. When used in a group setting, participants should be provided the opportunity to brainstorm their perceptions of the case being studied. The case study method also emphasizes practical thinking and requires learners to make decisions under time pressures. The current study utilized all of these characteristics through the use of a case study problem.

In one research study, management accounting students were exposed to case study problems as part of a group learning activity. After the instructor covered various elements of a chapter, the class was divided into groups and given a management accounting problem to analyze as part of a group effort. The findings following this study concluded that students who were not actively involved in the case study became less engaged in their learning. Those who maintained engagement during group work ranked higher in overall classroom performance (Wynn-Williams, Whiting, & Adler, 2008). This research confirms that active student involvement in case studies can result in improved student learning outcomes.

In another study, Bartz and Miller (1991) describe a “Learning by Doing” method as one effective way of teaching students. Their research showed that this case study method enables students to solve problems and make decisions based on actual happenings or written information describing a situation. Such teaching methods suggest that knowledge could be gained following exposure to simulations and case studies. In the current study, students were exposed to a case study containing various elements of credit card usage. Students analyzed the different aspects of the case scenario. At the end of each intervention period, the instructor led a discussion to

review the various parts of the case and share recommended options to the questions posed before introducing the next segment.

The intervention process described for use in this study involved a classroom lecture, multimedia clips, and the analysis of case studies all focusing on credit cards and credit card debt. These intervention methods are each proven commodities in the educational sector as means of providing instruction to students. The next section of the literature review focuses on the topics that are important factors students need to be aware of concerning credit cards. These topics are covered in each of the three groups described in the prior section of this study.

A review of the literature covering financial literacy can be narrowed down to three main themes that are important educational topics. These three areas include the application selection process and ownership choices; interest rate charges and the cost of carrying debt balances; and living beyond one's financial means and financial stresses associated with credit card debt. Under each of these three categories are a number of sub-topics that have an impact on credit card ownership and use. The following section builds a case as to why these topics are not only important to cover, but why this study was necessary to further the knowledge base of college students.

As discussed earlier, students entering college have varying levels of credit card knowledge. As students were exposed to an intervention dealing with credit card information, they experienced a different interpretation or response to the material covered. For some students the information was new and meaningful. For others, they may be hearing facts and information they already know. The hope, following the intervention process, was that all students were at the same knowledge level and

understanding of credit cards and the many accompanying elements to ownership and use. This study followed Bloom (1956) and his Taxonomy with the hope that all students had cognitive development near the top levels (synthesis and evaluation) but realizing that many students may fall in the middle of the scale. The short-term knowledge gained, even gradual amounts of knowledge, make the students better equipped to evaluate financial decisions involving credit cards following the intervention process.

Credit Card Use

Consumer education covers a vast amount of information including loan interest, home mortgages, financial planning, insurance, investing, and credit cards/debit cards. This study focuses specifically on student credit cards and knowledge gained following exposure to educational materials. This section discusses three overall themes associated with credit cards. These include the application selection process and ownership choices; interest rate charges and cost of carrying debt balances; and living beyond one's financial means and financial stresses associated with credit card debt. As discussed earlier, students entering college arrive with a varied background of knowledge and possible experiences in dealing with credit cards. Within each of the three themes, several topics are broken down for analysis and discussion. It is within these topics that the level of knowledge was explored and hopefully increased. Each of these areas was used in the current study to measure the amount of short-term knowledge gained following the experimental intervention. By referencing Bloom (1956), the goal of the intervention is to move students' awareness from basic knowledge as far up the scale as possible. The resulting gain in short-term knowledge

was measured at the end of the experimental intervention process. Since students had varied background levels prior to the intervention, the level of short-term knowledge gained varied from student to student. By addressing the topics posed in this section of the literature review, the intervention process resulted in a gain of short-term knowledge at some level for all students. Below is a discussion that served as a foundation for the material covered and questions that were asked on the survey concerning credit card knowledge at the end of the experiment.

Credit Card Application and Ownership

In reviewing Bloom's Taxonomy, for this study Category 1 is defined as containing knowledge and comprehension as the first and most basic level of learning. The credit card application and ownership pairing is referred to as Tier 1 for purposes of this study. This tier of topics is the most basic collection of information required when covering the subject of credit cards. This foundation level of knowledge must be understood before the next phase of credit card education can be addressed.

A review of the literature shows a number of studies that attempt to answer questions concerning why college students obtain credit cards and on occasion charge for purchases beyond their financial means. Kidwell and Turrisi (2000) found that the acquisition of credit cards by college students is largely dependent on how they perceive other alternative solutions to obtaining funds for purchases they deem necessary. Some students experience embarrassment at having to borrow money from family or friends or at lacking sufficient funds in a checking account to be able to complete a purchase. Both of these instances often lead to student consumers attempting to acquire a credit card. Jones (2005) reported that just over half (51%) of

the students participating in a mandatory college orientation program survey had some type of credit card debt. The study also found that 62% of the freshman students had their own credit card or access to their parent's or guardian's card. Statistics such as these are important indicators concerning credit card ownership and use. This study not only asked the basic question of how many students currently have a credit card, but asked how many plan to obtain a card in the next twelve months. The findings from this study illustrate whether the educational information provided through the intervention had an impact on the students' choice on future credit card applications.

A study by Blankson, Paswan, and Kwabena (2012) sought to answer what were the compelling reasons for college students to want to own credit cards and how important were the credit cards to college students. Forty students participated in the focus group study resulting in 66% of the respondents claiming that credit cards provided both a sense of security and buying power. Twenty-five percent of the students indicated they used their credit cards seven or more times per month for purchases. The current study looked at motivation to apply for credit cards.

Once decisions are made to apply for credit cards, vendors receiving the requests run credit checks on all applications. Mangla (2010) reports the one piece of information used to determine if a card can be issued and the interest rate assigned to that account is the FICO (Fair Isaac Corporation) credit score of the applicants. There are five factors used to compile the FICO score when looking at all applicants' profiles. These include the past payment history, amounts owed on credit lines and loans, length of credit history, number of new accounts applied for or approved, and type of credit accounts actively open. The highest FICO score individuals can have is 850. Part of

the educational intervention explained the importance of the FICO score and how this affects all applications. Since the FICO score is such an important part of the consumer credit process, the level of understanding for this topic is critical when discussing learning outcomes.

Once the decision to apply for a credit card has been made, consumers need to review the wording on the application to determine what fees may be associated with the card. Banks issuing credit cards make decisions on what yearly fees, if any, will be assessed to the card holders. Reading the terms of the agreement is crucial to the application process. Mangla and Lee (2010) point out that some cards assess a fee unless a minimum amount of new purchases are charged within a 12 month period. Consumer Reports (2010) lists the median annual fee charged to consumers to be \$59 per card. Through the intervention process, this study sought to increase the level of understanding students had when analyzing the yearly fee charged by banks on credit card accounts when a new application occurs.

As consumers apply for credit cards, they have the option of applying for cards that offer various types of rewards or incentives for purchases. Depending on the type of cards and promotional offers from the vendor, incentives can include cash rebates, airline miles, hotel nights, gas, or in-store credit at department stores. Consumers are warned to analyze the options to ensure the rewards offered are items that have benefit or can be used by the customer. Occasionally cards promoting some type of rewards program waive the first year's application fee as an added incentive (Yahalom, 2011). In this study, students reviewed incentive rewards associated with credit card offers.

The learning outcome goal for the students was a better understanding of the pros and cons of credit card reward options.

Hayhoe, Leach, Allen, and Edwards (2005) surveyed 1,293 participants in an effort to examine the frequency of interactions college students reported having with their parents about their own credit card use. Credit attitudes were measured in three areas including affective (emotional, such as using credit makes students feel happy), cognitive (knowledge, such as knowing interest is the cost of using credit), and behavioral (actions, such as applying for credit cards at every opportunity). The authors concluded that students who understand how credit works have fewer credit cards. This study is important as the cognitive aspect of college students understanding of credit card knowledge is measured.

Interest Rate and the Cost of Carrying a Balance Forward on Credit Cards

Category 2 of Bloom's Taxonomy, as defined for this study, consists of application and analysis. Tier 2, in this study, consists of interest rates charged on credit card balances and the cost involved with carrying debt. Just as Bloom requires the learner to master Category 1 before moving to Category 2, the students should have a solid understanding of Tier 1 before moving to Tier 2 during the experimental intervention process.

When credit card holders do not pay their balances in full each month, an interest rate is typically calculated and assessed on the account. Some of the unpaid balances where interest charges are calculated include cards held by college students. Not only do students and consumers need to know how to calculate their APR (annual

percentage rate) each month when a balance is carried forward, card holders also need to be aware of the interest rate amount that is being charged on the transactions.

Through an exploratory study, Warwick and Mansfield (2000) surveyed 381 college students. The researchers concluded, with regard to students' knowledge of their credit cards, that the majority of students did not know the interest rate they were paying. Approximately half reported knowing their credit balance and the credit limit on the cards.

Kara, Kaynak, and Kucukemiroglu (1994) interviewed 229 undergraduate students in south Florida to seek information on consumer purchasing power. Using conjuring analysis the researchers investigated several factors to show what was important to the student consumers. Results showed that credit card interest rate and type of payment method were the most important factors for the college students. Volpe, Chen, and Pavlicko (1996) conducted a study focusing on the financial literacy knowledge of 454 college students. One of the findings suggested that students have inadequate knowledge of the impact of interest rate charges. Such studies show the importance of teaching interest rate calculations to students. Because interest rates can have an impact on the overall cost of using credit cards, one section of this study included a discussion on interest rates and how those charges are calculated. Not only do students need to understand the calculation process, but they also need to use that knowledge to make a decision on what credit card offer worked best for their financial situation. The current study determined if through an intervention process, short-term knowledge changed the understanding level of students when discussing interest rates on credit cards.

Norum (2008) conducted a study of 4,429 undergraduate college students between the ages of 18-27. This study focused on buying behavior of college students. Results showed that students who have parents with higher income levels were less likely to be compulsive buyers than students whose parents made less than \$25,000. The outcome of most compulsive purchases resulted with the charges being placed on students' credit cards and those balances being carried forward month to month. The study confirmed that some type of personal finance education should be provided in college and that higher education counselors should be trained in dealing with students that are compulsive shoppers and incur high levels of credit card debt. The current study looked at income levels for parents and students in relationship to credit card ownership.

Another study explored spending habits of college students and their probability of carrying a debt balance. Sidoti and Devasagayam (2010) surveyed 335 students by means of an on-line survey encompassing 16 states. The results revealed 43% of students had a credit card balance below \$200, but 22% reported carrying a balance over \$1,000 on their cards. Twenty-six percent of the respondents had five or more credit cards they used on a regular basis. When asked about spending patterns, 44% reported they spent between \$500 and \$1,500 on educational related expenses such as textbooks and school supplies during the past year. Over half of the sample reported items such as gasoline, clothing, and dining expenses to be their main credit card purchases. This study also looked at attitude and behavior characteristics of college students making credit card purchases. The study concluded that as students' materialistic attitude increased, so did their credit card misuse. Many students with this

mindset were sometimes bothered by not being able to afford items they desired, resulting in their reliance on credit cards to fill the void. Even though the current research experiment did not look at specific spending characteristics, overall use of credit cards and carrying a debt balance were studied.

When applying for a credit card, the applicant's credit history has an impact on the interest rate assigned to the card. The FICO score is one tool used by credit card companies in determining the APR. Customers with lower scores, as determined by the credit card companies, pay a higher interest rate (Agarwal, Chomisisengphert, & Liu, 2010). Typically a consumer needs to have a FICO score in the mid-700s to get the best interest rate available (Block, 2011). This study also determined what level of understanding students had about factors that impact the APR on credit cards after being exposed to educational materials during the intervention.

As a credit card billing cycle comes due, card holders must make the decision if the bill will be paid in full or if a balance will be carried forward to the following month. For some student credit card holders, this can be a difficult decision to make if funds are not readily available to pay the amount due. In many instances, the cost of carrying a balance forward can be costly.

One study looked at the percentage of students who carried a balance forward on their credit card. Hayhoe (2002) sampled college students by conducting an initial survey then sending a second survey two years later. Her results showed that 95% of the respondents in the survey possessed a credit card compared to only 84% holding a card in the original survey. Sixty-eight percent reported carrying a balance on at least one credit card and 13% carried the maximum balance on at least one credit card. Such

studies confirm that some students carry balances on their credit cards and that education may be necessary to help them understand the cost of credit.

One option that consumers have when they are faced with a balance at the end of the month would be to transfer an existing balance to a different credit card. Bekiaris (2010) cautions that on the surface these transactions may appear to be a great deal, but the consumer should study the details of the agreement. One of the common industry standards on balance transfers is to give the new customer a 0% interest agreement for the first six months. If the balance is not paid by the end of the six months, interest would start being assessed on the balance. For most offers, any new purchases made with the card would not be subject to the 0% interest, but the rate assigned when the card was issued. Goldwasser (2011) reported that in 2010 nearly 2.5 billion credit card solicitations were mailed in the United States and that 71% included a 0% balance-transfer offer. In the current study, students were exposed to information that increased their knowledge concerning the advantages and disadvantages of credit card balance transfers.

Stango and Zinman (2009) analyzed the credit card transactions of 917 customers over a two year period in an effort to determine the fee and interest costs of using those cards. The list of fees included late payment, over-the-limit, cash advance, and annual membership fee. The charges for these fees and average interest paid on a credit card balance ranged from \$10.41 up to a high of \$246.94. In reviewing the detail of all account activity, the authors concluded that almost every fee charge could have been avoided if the card holders were to change their behavior patterns. This research is

important to the present study as each of the fees listed was discussed in the intervention with the hope of increasing short-term knowledge toward fees.

One fee described above that sometimes is confusing to credit card holders is a “late fee” charge. This is simply defined as receipt of a credit card payment after the due date. For most financial institutions, this fee is assessed if the payment is received at any point after the day and time established. For instance, if the due date is on the 20th of the month at 10:00 AM and the payment (either electronic or by check) is received at 10:01 AM, the late fee will be charged. These fees have increased some 150% over the past 10 years (Bigda, Nugent, Rosato, & Weisser, 2007). This important, but costly fee was explained during the intervention process in an effort to make students aware of the consequences of late credit card payments.

Living Beyond One’s Financial Means and Stresses Related to Credit Card Debt

Category 3, the final level of Bloom’s Taxonomy, consists of synthesis and evaluation. This study defined the terminal phase in the credit card educational process as Tier 3. At this point in the intervention experiment, all prior knowledge should be pulled together in hopes of providing students with a clear understanding of the credit card process as well as the pitfalls of abusing credit. The consequences of such harsh actions were explained in the current section. This final stage of the experiment also ties back to Astin’s 2 x 2 model, specifically the cognitive-psychological outcomes, where short-term knowledge gained can be observed.

The use of a credit card can be an effective means of managing the day-to-day living demands of college students. When students charge more on credit than can be paid in full each month when the bill comes due, the students may be living beyond

their financial means. Over extending credit for any group of consumers is an important factor, but for many college students who are strapped financially, living beyond their means is a topic that needs to be explored.

Lyons (2004) surveyed 915 students at the University of Illinois to try to establish a profile of an at-risk student who has a high probability for mismanaging or misusing credit. At-risk was defined as having a credit card balance of \$1,000 or more; being delinquent on credit card payments by at least two months; having reached the credit card limit; or only paying part of a credit card balance each month. The results showed that the students at-risk are those who are financially independent, receive need-based financial aid, hold \$1,000 or more in outstanding debt and who acquired their credit cards by mail, at a retail store, or through a campus display. The study also concluded that the students having difficulty making their credit card payments were more likely to be female, black and/or Hispanic. This study is important as it provides a baseline to look at factors that have been identified to be characteristic of at-risk credit card holders. This study asked various demographic characteristic questions that can be used in combination with the other survey questions to determine if the intervention groups showed any signs of at-risk potential.

Seeking to answer the question of whether college students were living on the verge of financial crisis, Joo, Grable, & Bagwell (2003) surveyed 242 students at a southwestern state university. The survey instrument highlighted questions regarding credit card usage, attitudes toward credit, and financial knowledge. Findings showed that 71% held at least one credit card with 10% possessing five or more cards. Of those holding a credit card, 49% paid their credit card bills in full each month compared to

10% that only paid the minimum balance due each month. The findings from this study show mixed practices of college students' credit use along with a low level of knowledge regarding credit. The current intervention discussed the decision making process involved each month when card holders must make decisions to pay the bill in full, only pay the minimum required by the credit card company, or choose an amount between the two options. The short-term knowledge gained from this experiment hopefully provides students with the background needed to make an informed decision when similar circumstances are present in their life.

When college students make purchases with their credit cards, the question can be asked if all purchases are absolutely necessary. Do the purchases become a critical necessity required to aid with the completion of a college degree or do the purchases fall into the category of a luxury item? Sidoti and Devasagayam (2010) surveyed 335 college students to determine how their purchases would be classified. One finding from the survey revealed that students like to own items that impress others and that some students perceive themselves based on what they own. This group of students indicated that they put these impractical purchases on their credit cards even though they could not afford the transactions. The researchers concluded that these students were placing more emphasis on achieving materialistic status than on what the products are actually costing them. Through the intervention educational process, students were evaluated on the distinction between a purchase deemed a necessity versus a luxury item. When faced with making these types of choices outside of the classroom, the knowledge acquired through this intervention provides a basis for what hopefully is an educated decision.

Makholwa (2009) described three signs that are a “red flag” indicating individuals may be living beyond their financial means. The first item reviews if credit card balances are rising from month to month. This would include not paying the current balance due or adding additional debt to existing balances. Second, bills outside of credit card payments are not being paid in a timely manner. The final sign that individuals may be experiencing difficulty involves a review of credit scores. If tracking the scores over time shows a lowering of the FICO score, indicators reflect that in most instances individuals are living beyond their financial means. These three indicators were used in the current study as a foundation for evaluating signs that consumers are living beyond their financial means. Through the intervention process, students had the opportunity to learn about the “red flags” of living beyond one’s financial means and how to take that information and apply it to their everyday decision making processes.

Financial stress can have a physical as well as a mental impact on the human body. Various factors related to credit card ownership can contribute to stressful situations for card holders. Lange and Byrd (1998) surveyed 237 college students to determine if a relationship existed between students’ levels of daily stress, chronic financial strain, perceived level of understanding and control they feel they have regarding their financial situation, and perceived level of psychological well-being. The results showed that for students who had higher estimates of their current debt levels, they were then associated with higher perceptions of the stresses associated with meeting their daily financial needs. This stress, in turn, was associated with both a higher sense of manageability by the students regarding the problems of their life as

well as a higher sense of an internal locus of control over their finances. Lower feelings of internal financial control seemed to result in both a higher sense of anxiety as well as greater feelings of depression by the students. Students experiencing stress from financial difficulties have become increasingly common on college campuses (Phinney & Haas, 2003). Consequently, financial stress can lead to a downturn in academic performance (Ross et al., 1999) or may cause students to completely withdraw from college (Mohr, Eiche, & Sedlacek, 1998). Findings such as these are important to review when looking at stress factors related to finances. The present study looked at different stress factors surrounding credit card debt. With the ability to recognize the warning signs of financial stress, students hopefully can avoid costly financial mistakes.

While many students attempt to effectively manage their credit card debt payments, at least two students enrolled at Oklahoma's higher education institutions were not able to deal with the stress of credit card debt and ultimately committed suicide. Sean Moyer was a junior at the University of Oklahoma. Struggling with 12 different credit cards totaling over \$10,000 in debt, he hung himself in his bedroom closet. At the University of Central Oklahoma, Mitzi Pool had only three credit cards, but all of them were charged to their maximum limit leaving her with an accumulated debt balance of \$2,500. With her checkbook and credit card bills spread out on her dorm room bed, she also hung herself (Gordon, 1999). While these are extreme examples of credit card debt consequences, the results show that some students cannot manage such stress.

Even though the families of these two students may never know the specific details that led up to their deaths, the assumption was that financial stress revolving

around credit card debt had a significant bearing. One of the beneficial outcomes of consumer education is to explore the positives and negatives of credit card use and the strategies students can use to manage those decisions. Knowledge gained from this education can help guide students' future debt decisions. Research suggests that if these two students had been exposed to consumer education they may not have made the ultimate decision to commit suicide. Higher education institutions should have some obligation to help students better understand credit card options and how to deal with debt. Certainly taking one's own life over financial stress is not an everyday occurrence, but this is discussed in the current study as one horrible outcome.

At the beginning of this "credit card use" section, three overall themes, referred to as tiers, were listed as the foundation for the current study. These areas include the application selection process and ownership choices; interest rate charges and cost of carrying debt balances; and living beyond one's financial means and financial stresses associated with credit card debt. Knowing that each student enters the university and this experimental intervention with a different level of understanding, background knowledge, and consumer experience, the instructors strived to raise the awareness level of each topic for all students. Bloom's Taxonomy of Educational Objectives ranks the levels of understanding from the most basic to complete mastery and understanding. Bloom's theory is critical in the design of this study and has been part of the overall thought process. Through the use of a questionnaire administered at the conclusion of the experiment, questions were asked to see if students felt they had gained short-term knowledge on each of these core areas. Following the analysis of the survey, if the results showed that the overall knowledge level of the class increased, the intervention

and study are deemed successful. Equally important to the design of this study is the work of Astin who has written extensively about student involvement and cognitive outcomes. This section of the literature review incorporates his ideals that were used to measure short-term knowledge gained following the intervention process on credit cards.

Summary

A review and summary of the literature, indicates strong evidence that consumer education is needed at the higher education level. One area covered in financial literacy education is the subject of credit cards. Three teaching methods were discussed in this chapter as they related to consumer education. These styles included classroom lecture, multimedia clips, and analysis of case studies. A number of variables are associated with the decision to own and use one or more credit cards. Areas analyzed in this study include reasons for possessing a credit card; interest rates and balances carried on those cards; and living beyond one's financial means and financial stresses associated with credit card debt. Part of this chapter reviewed studies focusing on types of intervention programs dealing with alcohol and smoking interventions. These interventions provided successful techniques that were used with their participants. As stated earlier, very few intervention studies have been conducted specifically in the area of financial literacy. The studies reviewed in this chapter illustrate how various strategies could be applied to consumer education. Chapter 3 details the methodology for conducting an experiment at Northwestern Oklahoma State University.

Chapter III Research Methodology

Introduction

A review of the literature concerning financial literacy education, orientation programs, intervention programs, teaching and learning strategies, and credit card characteristics was explored in Chapter Two. This chapter describes a research study focusing on an experimental intervention program designed to see if short-term knowledge was gained following exposure to credit card education experienced by students enrolled in a first year student orientation class and personal finance classes at Northwestern Oklahoma State University.

The primary purpose of this study was to determine which of three instructional methods was better at fostering an increase in short-term knowledge as measured by the learning levels based on Bloom's Taxonomy of Educational Objectives. The findings of this study can be used by educators to utilize the most effective method of presenting credit card information to students. Through the use of an experiment, three different groups of students were exposed to an intervention and then surveyed to determine how their cognitive learning changed their short-term knowledge concerning credit card use and debt. Questions dealing with credit card use, instructional teaching methods, and background demographic characteristics were asked in an attempt to examine what short-term knowledge was gained by the students. Several questions focusing on teaching strategies used during the intervention helped determine which instructional method was best in delivering that knowledge. Due to the limited time exposure of the intervention, only Astin's cognitive-psychological aspect of his model were reflected in this study. Findings from this study can provide students, educators, parents, credit card

companies, and policy makers with information that can be used in determining strategic educational decisions concerning credit card education.

Research Questions

The following research questions were examined in this study in order to help shed information on teaching strategies and consumer information focusing on credit cards.

1. Which teaching method was most beneficial at increasing short-term knowledge of college students following exposure to credit card education as reflected through Bloom's Taxonomy of learning outcomes?
2. What aspects of the instructional delivery process were most beneficial in fostering that short-term knowledge when certain intervening variables are taken into consideration?

The following graphic illustrates visually the design and layout of the current study and can be used as a reference in the next section of this chapter detailing the design of the study. Along the left hand column are the six stages of Bloom's Taxonomy of Educational Objectives. For purposes of this study, the six stages were grouped into three categories, starting at the lowest level and working upward toward the most complex. These categories served as the guiding map for this experimental design. The middle column shows three groups that represent the three teaching methods used in this study. At the far right hand side of the page are three tiers that represent the themes of knowledge that were taught during the experiment. The reader should notice that each of the three groups is connected equally to each of the tiers.

This means that each group received the same content material during the experiment, but the delivery mechanism was different.

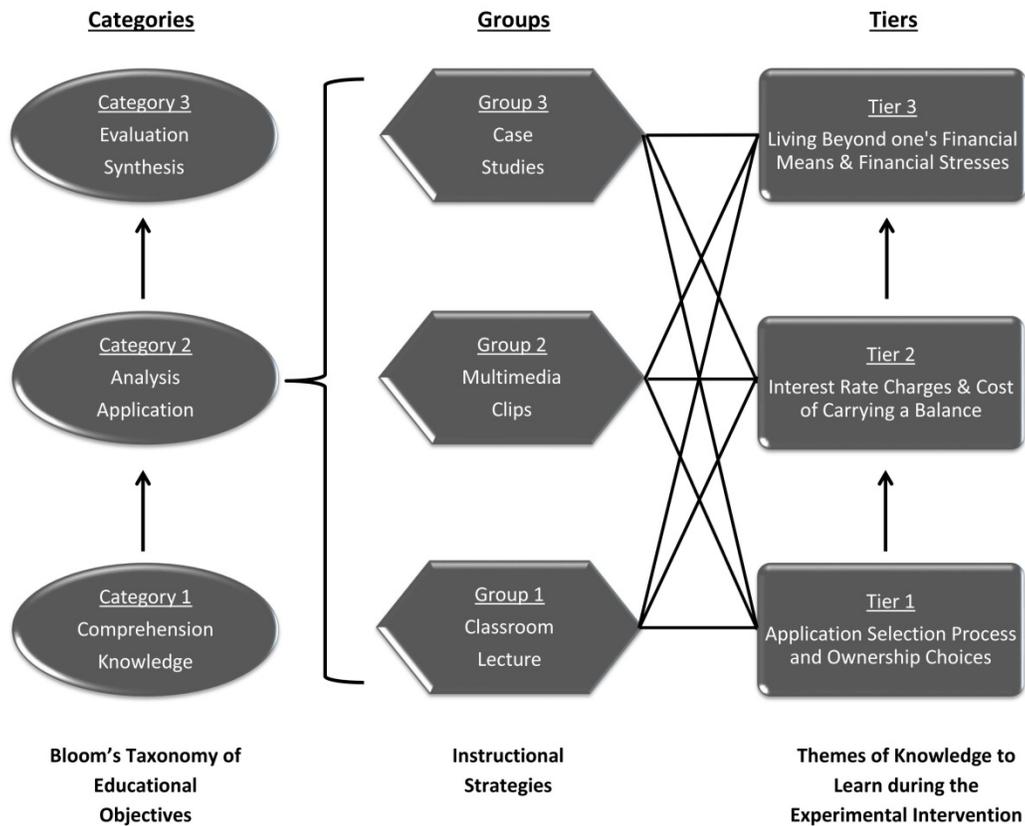


Figure 1. Bloom's Taxonomy of Educational Objectives compared to Tiers of Learning as referenced by Instructional Strategies.

Before discussing the design of the study, it is important to list the four null hypotheses that were tested during this experimental research. The null hypothesis that reflects research question one reads as follows: Instructional teaching strategies have no impact on students' short-term knowledge gained concerning credit card use and debt after exposure to consumer education. Instructional teaching strategies comprise the three different methods used in this experimental intervention consisting of the traditional classroom lecture, use of multimedia clips, and the use of case studies.

The second research question in this study had several possible null hypotheses that can be analyzed. These hypotheses were designed to take into consideration prior knowledge held by the students as measured by holding constant certain co-variants. These hypotheses are stated as follows: Instructional teaching strategies have no impact on students' short-term knowledge gained concerning credit card use and debt after exposure to consumer education while controlling for the average number of credit cards owned. The next null hypothesis is stated as: Instructional teaching strategies have no impact on students' short-term knowledge gained concerning credit card use and debt after exposure to consumer education while controlling for the average credit card debt held by the students participating in the experiment. The final null hypothesis reads: Instructional teaching strategies have no impact on students' short-term knowledge gained concerning credit card use and debt after exposure to consumer education while controlling for the average highest interest rate charged on credit cards held by students participating in the experiment.

In looking at the second research question, the same three instructional teaching methods described during the first null hypothesis discussion were still the same. The second set of null hypotheses questions looked at intervening variables consisting of average credit card debt, average number of credit cards held by students, and average highest interest rate charged on credit cards. These were three areas selected by the researcher as being important characteristics in this study of credit card use and education. The results of this study can be used to help guide educators toward the best methods of preparing curriculum to teach credit card education to students.

Design of the Study

This research project was an experimental study defined as a type of research where the investigator manipulates one or more independent variables and observes the effects on one or more dependent variables (Ary et al., 1996). The researcher immediately conducted a written survey designed to measure short-term cognitive knowledge gained following exposure to credit card education at the conclusion of the experiment.

As detailed in Chapter 2, a guide for designing this research study was modeled after Astin (1977) who developed a 2 x 2 matrix where type of outcomes are either cognitive or affective and the type of data are either psychological or behavioral. The present study focused only on the cognitive-psychological outcomes. Astin also developed a third dimension to his theory where he added “time” to the matrix. Since the current research study focused only on short-term knowledge, this time dimension was not part of the present study.

This study also relied on a theory developed by Bloom (1956) referred to as Bloom’s Taxonomy of Educational Objectives. The part of his theory that was relative to this study centered on the cognitive domain. Bloom listed a classification of levels of intellectual groupings that can be depicted visually in ranking from the lowest up to the highest level. The first domain has to be completed or achieved before moving up to the next. Listed in order, from lowest to highest, these items include knowledge, comprehension, application, analysis, synthesis, and evaluation. Bloom’s levels were paired into three groups and each group is referred to as a “category” for the purpose of

this study. Category 1 includes knowledge and comprehension; Category 2 includes application and analysis; and Category 3 includes synthesis and evaluation.

Three themes were developed based on research of credit card ownership and use in an effort to determine how students' short-term knowledge of credit cards increased. These three themes were grouped into "tiers" for purposes of this experiment. Tier 1 addressed the credit card application selection process and ownership choices. This covers the most basic levels of credit card information and is the starting point for any decision making processes. Tier 2 covered interest rate charges and the cost of carrying credit card balances. The materials covered in this section build on the knowledge gained through Tier 1. Students should have a clear understanding of the materials presented in Tier 1 before being exposed to this new body of information. The goal of the experimental intervention was to expose students to materials related to credit cards in an effort to better educate them in making consumer decisions. During this educational process, information presented in one tier builds on the next. The final tier, Tier 3, is described as being the most complex of the three tiers. This area looked at living beyond one's financial means and various financial stresses associated with credit card debt. To fully understand and comprehend this level of material, students need to pull from all knowledge gained from the first two tiers. Just as Bloom's Taxonomy has been divided into three categories for this study, so have the three areas of credit card information that was presented to the students in this experiment.

The students in this intervention experiment were broken into three experimental sub-groups. Each of the three sub-groups covered the same material content as

described within the three tiers. The methods of delivering the instruction to the students were broken into three groups. Group 1 was provided the information via means of the traditional classroom lecture. Group 2 focused on various multimedia clips as the instructional method. The final group, Group 3, worked with case studies as the method to present the educational materials to the students. Following exposure to credit card education, a post-survey was administered to measure the amount of short-term knowledge gained by the students in the experiment.

Variables

The independent variable for this study consisted of an intervention process where information was presented on the topic of credit cards. The intervention process was comprised of the traditional classroom lecture, education through a series of multimedia clips, and a hands-on application through the use of classroom case studies. The three faculty members conducting the intervention were able to deliver the same content to the students using three different methods. The participants did not change group assignments or instructors during the course of the experiment. This allowed for easier analysis of the three different methods of teaching.

The dependent variables for this study consisted of short-term knowledge gained concerning information and attitude toward credit card usage and debt. These were grouped into three classifications. For the purposes of this study, these classifications were referred to as Tiers. These three tiers consisted of the application selection process and ownership choices; interest rate charges and cost of carrying debt balances; and living beyond one's financial means and stresses associated with credit card debt. From these three main core areas, a number of topics related to each tier were identified

and outlined in Chapter Two. Throughout the experimental intervention, these subject matters were studied and discussed. At the end of the experiment, a survey was administered. For the purpose of this study, only one survey was distributed to the students. Since the experimental intervention was designed to last between an hour-and-a-half to two hours, a pre-test and post-test were not given separately to the students. This eliminated any pre-testing sensitization, an effect of a pre-test on subjects that cause them to respond differently to the treatment than they would without a pre-test (Ary et al., 1996). The one survey document administered to the students contained both a set of pre-test questions and post-test questions that were distributed at the end of the experimental intervention.

The survey was divided into three sections where students were asked to evaluate their level of knowledge on the topics covered prior to the intervention and immediately following the intervention. The purpose of this study was to determine if short-term knowledge could be gained after exposure to credit card education. These questions provided a base for determining if students felt their short-term knowledge changed. A comparison can be made between each of the three groups to see which instructional method, given all things being equal, was most effective in delivering that short-term gain in knowledge.

The research questions in this study focused on analyzing the method where short-term learning took place. As mentioned earlier, students entering the experiment arrived with a wide background of consumer knowledge and experience about credit cards. Some owned credit cards and had a credit history of use while others had very little knowledge about consumer credit. Through the process of conducting the

educational intervention, the students' level of learning hopefully increased beyond their present level. Questions asked on the survey inquired about credit card history, number of cards held, average balances, and expenses charged on the cards. These questions are viewed as co-variants that helped answer the research question pertaining to fostering short-term knowledge gained. As explained in Chapter Two, Bloom's Taxonomy guided the focus of this short-term learning. This Taxonomy describes the various levels of understanding. One level must be met before the student can advance to the next level of understanding. By looking at the results of the survey, the researcher tried to isolate any intervening variables present that could have impacted this learning process.

One such variable could be prior knowledge concerning credit cards that has been consistent throughout this discussion. Part of the unique aspect of this experimental intervention is that the random sample of students consisted of a wide and varied background on credit card knowledge and use. One facet that may need to be taken into consideration is students' false knowledge, or current knowledge that is not accurate or correct by definition. Part of the cognitive learning process for the students is to recognize the false knowledge throughout this experimental process. Another factor that needs to be mentioned is the motivation level of the students entering the educational seminar. Since students were required to attend the experiment as part of the Ranger Connection or personal finance class requirement, some may not feel motivated to learn. Each instructor was faced with trying to involve all students in the educational process regardless of their level of prior knowledge or motivational framework. There was no incentive offered to the participants in this study.

At the conclusion of the experimental intervention, the hope was that students left with a higher level of knowledge that could be used throughout their educational experience and beyond. The learning about consumer credit and the uses and abuses of credit cards cannot stop simply with this experimental seminar. Just as individuals continue to learn and gain new knowledge throughout their lifetime, students were challenged to continue to focus on learning about credit card options and uses. In the future, some of this learning may take place while participants own and use credit cards.

Participants

A convenience sample of students was selected to participate in this experiment, consisting of students enrolled in the first year student orientation class and personal finance classes at Northwestern Oklahoma State University. Mertens (2005) stated that a convenience sample is the most common type of sampling used as the individuals participating in the study are chosen because they are readily available. The students were randomly assigned to one of three “groups” for the experiment. The teaching strategy for each group was as follows. Group 1 was exposed to the classroom lecture. Group 2 involved the use of multimedia clips while Group 3 worked with case studies. Each group had a qualified faculty member presenting the credit card information.

Students enrolled in the spring 2013 Ranger Connection class and several personal finance classes at Northwestern Oklahoma State University were randomly assigned into one of the three groups and notified prior to the experiment the campus classroom they were to report to for the intervention. The students were informed that the session was on the topic of credit card education, but they were not told ahead of time which teaching strategy would be used during their intervention session. When

subjects are randomly assigned to groups, the groups can be considered statistically equivalent. This does not mean that the groups are absolutely equal, but it does mean that any differences between the groups is a function of chance alone and not a function of experimenter bias, subjects' choices, or any other factor (Ary et al., 1996).

This experimental research project focused on three instructional strategies in an effort to help determine which method was most effective in helping students gain short-term knowledge concerning credit cards. These methods included the traditional classroom lecture, use of multimedia clips, and the use of case studies. Chapter 2 cited several studies where these three different methods had been used in the classroom. Below is a brief summary of these three strategies as they relate to this experiment as well as a discussion of any obstacles or issues that may have occurred during the intervention. This experiment consisted of three qualified full-time faculty members who presented the materials from the Division of Business at Northwestern Oklahoma State University. Each faculty member focused on the same content relating to credit card education.

Wile and Shoupe (2011) found that time of day can impact student learning, therefore all three intervention sessions began at 6:30 PM. When students are taught at times matching their learning style preferences, test scores were found to be significantly higher. However, not all students perform best at one particular time-of-the day. The decision was made by the researcher to hold this experiment in the evening. No further analysis was given to time-of-day as a contributing factor in the present study.

The first instructional strategy, referred to as Group 1 in this experiment, was the traditional classroom lecture. This is the most basic form of learning in the classroom environment. The instructor working with this group of students presented the materials through the lecture format and engaged discussion on the topics presented. Group 2 focused on credit card education through the use of multi-media clips that were used to supplement the lecture by the instructor. These clips were taken from the Internet and focused on the subjects outlined for coverage during the experiment. These multimedia clips included experts in the financial field that explained the various credit card terms as well as testimonials from young adults who were credit card users and abusers. These clips also included financial planning professionals who are trained in dealing with financial topics including credit card education. By merging multimedia clips into the lecture as one element of the experimental process, this study tried to determine if multimedia clips provided a more effective means of gaining short-term knowledge concerning credit cards as compared to the two other teaching methods.

In this study, Group 3 consisted of students who were exposed to credit card education with the addition of case studies. In most instances a case study allows students to become actively engaged in the learning process. Students participating in Group 3 of this experimental study were broken into small circles of no more than six students. To supplement the lecture by the instructor, each group was given various case studies relating to the different parts of the credit card education and usage process. The instructor leading this group covered the basics of credit cards then briefly introduced each case study. Time was given for each group to read and work together on the scenarios and problems presented in each case study. This hands-on process was

used as the third instructional strategy in the current experiment. In each of the three groups, the instructors worked to involve all students in the educational process by seeking and encouraging discussion on the topics presented.

Even though these three instructional teaching methods were presented in an uncomplicated, straight-forward way, there was the chance that students participating in the groups were not fully engaged in the process. There was a possibility that some students became disinterested either because they did not care about the subject or in some instances because they may already feel they knew the material being presented. Part of the task of the instructors was to watch for these students not paying attention and strive to renew their interest in the experimental intervention process.

Instrument

At the conclusion of the experiment, a printed survey was administered to the students in the three groups. Each group completed the same survey instrument; however, each of the three groups had the survey printed on a different color paper for tracking purposes by the researcher. The document was distributed to the class by the instructor. The instructions to the students completing the survey referred to the experiment they just participated in as a “credit card seminar.” As mentioned earlier, students had a varied background concerning credit card knowledge and experiences prior to the intervention. This survey collected information that was analyzed to help provide evidence to answer the research questions posed in this study. The survey was broken into three primary sections. These sections allowed the students to respond to questions that were analyzed by the researcher. The first grouping of questions referred to the information covered in the “tiers” where various aspects of credit card education

and use were discussed. The second collection of questions focused on the specific teaching method encountered by the students. The third assemblage of questions focused on items concerning the students' ownership and use of credit cards as well as their demographic information.

The questions contained in the survey used in this experiment were developed by the researcher following a review of the literature on consumer education, specifically research focusing on credit cards. As discussed in Chapter 2, six main themes were isolated as being the most critical elements to cover during any type of credit card training or seminar. These six areas included the application process, ownership choices, interest rate charges, cost of carrying a debt balance, living beyond one's financial means and financial stresses. Within each of these six themes, a number of sub-topics were covered. The survey administered to the students asked questions specific to the material that was covered during the experiment. These questions were designed to help measure the amount of short-term knowledge gained by the students. By reviewing the literature and studies that had been conducted on the subject of financial literacy and credit cards, the survey questions provided an effective tool in measuring the outcomes.

In the current survey, the first four questions focused on the credit card application process and ownership of that card described in the literature review as Tier 1. The first column asked students to respond, by use of a rating scale, to their knowledge prior to the intervention. The answers to these questions created a baseline for the knowledge level prior to the educational intervention process. A second column provided asked students to rank their knowledge level following the intervention. This

provided the post-survey data necessary to proceed with the analysis. This set of questions mirrored the Category 1 description of knowledge and comprehension outlined by Bloom's Taxonomy also discussed in Chapter Two. Both Tier 1 and Category 1 were presented at the most basic levels of teaching and learning. The survey asked students to rate the questions by using a scale of one (little or no knowledge) to five (moderate knowledge) with a three being "substantial knowledge" about the topic. These survey questions helped answer part of the first research question in the current study. Questions five through ten focused on interest rate calculations and the consequences of carrying a credit card balance. As described above, the students had the survey questions presented in the same format of prior knowledge and post-experiment knowledge. Question 11 asked students if any part of their analysis and response to the second set of questions was influenced by the materials presented during the first segment of the experiment. This question helped confirm any concerns about validity from one set of questions to the next as answered by the participants. This second section paralleled Category 2 of Bloom's Taxonomy where application and analysis were described. The concepts explained in Tier 2 are also at the mid-range of difficulty when looking at the overall credit card process.

Three questions were asked that inquired about the final segment of the experimental intervention. These questions focused on living beyond one's financial means and dealing with financial stresses of credit card debt. During the Tier 3 presentation, these items were covered. In following Bloom's Taxonomy, the final depiction, Category 3, is considered the most advanced as it includes synthesis and evaluation. This final portrayal in this process required students to pull together all

aspects of the information presented in the intervention and process the short-term knowledge to make their final conclusions. Question 15 asked students to what extent the first two sessions influenced their answers to survey questions in the final section. This question was designed to gather the same data that was asked by question 11 on the survey. These questions were designed to capture if a prior level of credit card instruction influenced the students responses to later, more comprehensive instructional materials related to credit card knowledge.

The second component in the survey asked questions about the teaching methods used during the experimental intervention. This was accomplished by asking questions 16 through 25. These questions were designed to gather information from each of the three groups allowing for comparison between teaching methods. These methods consisted of the traditional classroom lecture, use of multimedia clips, and use of case studies. The 10 survey questions used helped in answering the research question posed in this study asking what aspects of the intervention process were better in fostering short-term knowledge gained by the students.

These 10 questions were selected by the researcher after visiting with Leah Haines (personal communications, August 28, 2012), Director of Assessment & Institutional Effectiveness at Northwestern Oklahoma State University. A component of her job description is to coordinate the students' evaluation process of faculty members each semester. In reviewing the current evaluation instrument at Northwestern Oklahoma State University, a number of questions were asked of the students pertaining to their perception of the faculty members teaching skills along with the methods of delivery, understanding of the topics presented, and ability to engage

students during the class. The researcher adjusted several of the questions so they directly related to the seminar being presented on credit cards.

The next section of the survey, questions 26 through 31, was answered by students who currently possessed a credit card. These questions provided additional information as to the spending and payment habits of the students involved in the intervention process. This information gives some indication as to the prior credit card spending habits of the students participating in the experimental intervention.

Hopefully, the results showed that an increased awareness has been gained as they consider using their credit cards in the future. Question 22 asked those students who do not presently have a card if they plan to acquire one in the next twelve months. The researcher developed these very general questions after reviewing a number of research studies on credit cards where spending habits and debt were being measured. These questions were designed to gather information reflective of the experimental population.

Questions 33 and 35 on the survey provided information to also help answer the second research question in this study. These questions focused on attitudes and values of the students concerning future use of credit cards. Since the purpose of the experiment was to expose students to the facts and pitfalls of carrying credit card debt, these questions helped determine if a change in short-term knowledge could be attributed to the intervention.

The final section of the survey asked general demographic information questions. These included questions pertaining to gender, educational level, age, ethnicity, marital status, and degree aspirations. This information was helpful in answering the second research question to see if there were common factors involved

concerning the students learning and behavior. These questions were formulated by the researcher in an effort to help identify demographic characteristics of the experimental research population. Question 40 asked if the students had a personal finance class while in high school. Question 41 followed asking if the students were currently enrolled in a personal finance class at Northwestern Oklahoma State University, a mandatory general education requirement for graduation.

Data Analysis

Chapter 4 breaks down the analysis of the data collected in this experimental intervention. The starting point consisted of a descriptive analysis of the sample by looking at the demographic characteristics of the students in this experiment. This demographic information contained such items as average age, gender, ethnicity, marital status along with the highest degree the participants hopes to attain. This information helps to create a baseline for the makeup of the population for the experiment. Chapter 2 presented an overview of credit card education and use in the United States. The overview was followed by a summary of credit card use by college students. The experimental sample surveyed at Northwestern Oklahoma State University represented and showed similar characteristics to the universal research presented.

The first section of the survey asked 13 questions that focused on the subject material presented during the intervention. In this experiment these were broken down into three tiers reflecting the three themes of knowledge to be learned. A summary of each tier was presented for each of the pre-test and post-test groupings. The scale used to collect this information was described in the “instrument” section of this chapter.

The main analysis of this experimental data consisted of a 2 x 3 between within factorial analysis of variance (ANOVA) consisting of looking at the pre-test results and the post-test results compared to the three teaching methods. This analysis allowed for the independent grouping of one factor with repeated measurers on the others. The hope of analyzing this set of questions was to show an increase in short-term knowledge from the pre-test questions to the post-test questions. A visual to this pre-test/post-test comparison is presented in the “results” section of this chapter.

The second group of questions on the survey (16 through 25) focused on evaluation of the instructional teaching methods. Using a one-way ANOVA, a composite score of all 10 questions was determined. The mean score for each group was compared to determine which of the three teaching methods was most beneficial in helping students gain short-term knowledge. These questions were used to answer the first research questions posed in this study which stated: Which teaching method was better at increasing short-term knowledge of college students following exposure to credit card education as reflected through Bloom’s Taxonomy of learning outcomes?

Questions 26 through 32 were descriptive in nature and were used to summarize the population being sampled. Since these questions were asking for a “yes” or “no” response, a simple *t*-test was used to compare each of the teaching methods cited in this research project. This set of questions helped answer the second research question which reads: What aspects of the instructional delivery process were better in fostering that short-term knowledge when certain intervening variables are taken into consideration?

Some follow-up analysis was pulled from questions 26 through 32. Using particular data items as co-variants, such information as number of credit cards held, current debt on those cards, and highest interest rates charged was used to determine these answers. In this instance, analysis of covariance (ANCOVA) was appropriate. This statistical procedure improved the precision of a research design by employing a pre-existing variable that was correlated with the dependent variable (Ary et al., 1996).

Questions 33 through 35 were designed to pull from the total knowledge gained during the seminar and focused on three questions concerning future use of credit cards. These questions were compared to the three teaching methods and by use of a one-way ANOVA, conclusions were drawn if the information presented during the experimental intervention was useful to students as they planned future spending. Question 35 measured the level of motivation gained from students as they answered a question pertaining to future use of credit cards.

The final seven questions (36 through 42) asked demographic information about each student in the experiment. These questions were used in a variety of ways to see if there were any common themes connecting a gain in short-term knowledge between the three teaching styles and a particular demographic element.

Results

After the collection of the survey data, the results were analyzed and summarized. The following is a synopsis of how those results are presented. The starting point was to describe the composition of the sample taking part in the experimental intervention. This demographic information contained such items as average age, gender, ethnicity, marital status along with the highest degree the

participants hopes to attain. Two questions asked on the survey determined if the participants had a personal finance class while in high school or if they were currently enrolled in a personal finance class at Northwestern Oklahoma State University at the time of the experiment. All of these items defined the make-up of the sample to the reader.

The second step in the data evaluation process was to review the data collected in questions 1-14 focused on the three tiers of credit card education. This step in the process revealed the amount of short-term knowledge gained by the students during the experimental intervention. The third logical step was to review the 2 x 3 factorial ANOVA to determine which one of the three teaching methods was most effective in helping students gain short-term knowledge on the topic of credit cards. Table 1 shows visually how the pre-test and post-test answers were used in relationship to the three teaching strategies.

Table 1

Hypothesized 2 X 3 Factorial Statistical Design: ANOVA for Teaching Method by Pre-test – Post-test Knowledge

Tier 1	Lecture	Multimedia Clips	Case Study
Pre-test	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices
Post-test	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices

Table 1 (Continued)

Hypothesized 2 X 3 Factorial Statistical Design: ANOVA for Teaching Method by Pre-test – Post-test Knowledge

Tier 2			
Pre-test	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices
Post-test	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices

Tier 3			
Pre-test	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices
Post-test	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices	Score on Application Selection Process and Ownership Choices

The fourth part of the results analysis focused on one-way *t*-tests to determine which one, if any, of the three teaching methods used in this study was better received

by the students as a means of delivering the credit card information. The final step in the data analysis process was to take at the descriptive pieces of data and compare those elements against both the tiers and groups to see what methods were most effective in the gaining of short-term knowledge.

Institution for the Study

Research for this study occurred at Northwestern Oklahoma State University where, as part of the general education curriculum, a semester long orientation class called Ranger Connection is required of all first year students and a personal finance class is required prior to graduation. Established in 1897, Northwestern Oklahoma State University is a regional state university that offers classes on the main campus in Alva, Oklahoma, as well as branch campuses in Enid and Woodward, Oklahoma. Northwestern offers bachelors' and masters' degrees in over 40 areas of study. Programs with the largest enrollments include agriculture, biology, business administration, criminal justice, education, health and sports science education, mass communication, nursing, and psychology. Enrollment at all three campus sites total approximately 2,300 students. The University employs approximately 85 full-time faculty members and boasts a student to faculty ratio of 17:1. (Northwestern Oklahoma State University, 2012).

Assumptions

Several assumptions were made concerning this research project. Since the Ranger Connection class is a requirement for all entering first year students at Northwestern Oklahoma State University, the student makeup of the class was also assumed to be a general representation of the entire campus community. The personal

finance class is also a graduation requirement and this class is normally taken during the first two years of college. These assumptions were made as a confirmation of the question concerning external validity. These classes were assumed to represent the overall makeup of the entire student population at Northwestern Oklahoma State University.

The assumption was also made that students enrolled in the classes had a varied background concerning prior knowledge of financial literacy. The information used during the intervention process in this study was delivered with the assumption that the students knew nothing or very little about the topic of credit card usage or consequences of credit card debt.

The researcher did not interact with the students nor was present in any of the classrooms during the experiment. The researcher was not present during the completion of the survey following the experiment. There was no need for an allowance of control for bias in the analysis of the data for this study due to this absence.

To help control the internal validity of the material being presented to the students, three faculty members from the Division of Business at Northwestern Oklahoma State University participated in this experimental intervention. Each faculty member has a background in consumer education and the topic of credit cards. The researcher briefed each faculty member on the core, common materials to be presented that was the same for each of the three groups. The differences in each of the groups were the instructional methods used to present the material to the students. The three faculty members were expected to interact with the students during the course of the

experiment. Research referenced earlier in this study confirmed that students who were engaged in the classroom typically learn and retain more of the material being presented.

A final assumption that also relates to the internal validity of the experimental design involves the random assignment of students to one of three groups. This random assignment allowed for the most unbiased grouping of the students, pulling from all demographic and educational backgrounds from the entire student population on an equal basis. This random assignment removed any chance that students could intentionally choose to be with other students they may have known or have made contact with during the course of the semester.

Limitations

There are several limitations to this study. The first limitation concerned only focusing on short-term knowledge gained following the intervention. Short-term knowledge is described as knowledge gained by the students during the experimental intervention. Long-term knowledge, defined as knowledge that would be retained beyond the class and college experience, was not the focus of this study. Prior experience or knowledge about credit cards was not known at the time of the random assignment. Control for this occurred during the data analysis. A second limitation consisted of an assumption that all students responding to the survey following the intervention were honest and sincere in their responses. Since the experiment and survey both took place during the same time block, hopefully the students participating did not feel overwhelmed or exhausted at the conclusion of the experiment and filled out the survey completely and honestly. Since one post-test survey was administered to

the class following the intervention, students were asked to evaluate their pre-intervention level of understanding at the same time they were answering their post-intervention understanding. There could have been a tendency for students to automatically rank their pre-intervention score lower and their post-intervention score higher in an effort to justify their time spent participating in the experiment.

Another limitation to this study involved students not being able to choose which teaching style they felt would be most beneficial to their learning. Since each student was randomly assigned to a group prior to the start of the experiment, the teaching method may or may not have been their preferred style of learning. By limiting this selection process in the manner described, the validity of the experiment was actually strengthened.

History Behind the Ranger Connection Orientation Class at NWOSU

Beginning with the fall 2002 semester at Northwestern Oklahoma State University, a mandatory orientation class was added as a general education requirement for all students enrolling in their first year. The class was designed to be taken their first semester on campus. This class is coordinated through the Student Affairs Office at Northwestern Oklahoma State University and introduces students to the college experience and focuses on assisting students in developing practical techniques to enhance their academic success in college. Topics covered include college resources, support systems, student services, time management, test taking, communication skills, study techniques, career exploration, learning styles, and personal issues that face many college students. Students receive one hour of credit for the class.

The decision to add the mandatory orientation class as a general education requirement at Northwestern Oklahoma State University came after a year-long review and study by the Dean of Student Affairs. The class was added in an effort to help retain first-year students and to provide a resource to help with their success. The committee was chaired by Dr. Steve Lohmann (personal communication, April 16, 2012), who provided this background information during an interview. At the time of the class addition, Dr. Lohmann served as the Dean for Student Affairs. His current position at Northwestern Oklahoma State University is Executive Vice President where he guides the academic affairs of the university.

History Behind the Personal Finance Class at NWOSU

Beginning with the fall 2007 semester at Northwestern Oklahoma State University a mandatory personal finance class was added as a general education requirement for all students seeking a bachelor's degree. This class is offered through the Division of Business and covers an array of topics including interest, home mortgages, financial planning, insurance, investing, and credit card/debit cards.

The decision to add Personal Finance (1113) to the general education requirements at Northwestern Oklahoma State University came after a year and half study by university personnel. The Vice President for Academic Affairs charged the "Task Force on General Education" to review general education curriculum and revise, as needed, to meet the updated University mission statement. This group of 15 was comprised of faculty, students, and two academic deans. The committee started work during the spring of 2005. The committee conducted a number of surveys and focus groups with constituencies both inside and outside of the University community. The

committee was chaired by Dr. Mike Knedler (personal communication, February 11, 2011), who provided background information during an interview.

One of the driving pieces of University research used by the committee was a question asked to 50 business administration and accounting students at Northwestern Oklahoma State University at the conclusion of the spring 2005 semester. The question read as follows: “As a junior or senior business student, do you feel prepared to take care of your own personal finances? If not, please list your number one concern.” The results showed that 90% of the students responded “no” to the first question asked. The committee found this to be a significant result confirming a need for a personal finance class.

Written answers to the “concerns” were grouped into four categories. Investment received 33% of the votes; finances received 29% of the vote; insurance comprised 27%; and budgeting resulted in an 11% response rate. When these results were shared with the committee, the business faculty recommended that the University implement a general education course focusing on personal finance and literacy.

After careful review and consideration, a number of curricular changes were proposed by the Task Force to the University administration. One of those recommendations was to add the personal finance class to the general education curriculum necessary for all students graduating from Northwestern Oklahoma State University. This recommendation was ultimately passed by the Board of Regents for Oklahoma Colleges and the Oklahoma State Regents for Higher Education.

Summary

This study sought to determine if short-term knowledge was gained following exposure to three different types of credit card education. Participants from the Ranger Connection class and personal finance classes at Northwestern Oklahoma State University were surveyed following their exposure to credit card education to see if a measurable outcome could be noticed. A written survey was administered to each student following the intervention. Chapters 4 and 5 explore the details of the survey results and analysis and interpretation of the findings.

Chapter IV Analysis and Discussion of the Data

Input of Data following Experiment

Following the experimental intervention, data were entered from each individual survey form into a database using the IBM SPSS Statistical Version 19 software. After the contents of each survey were entered, the researcher performed a data screening exercise by visually looking at each cell within the SPSS spreadsheet. This allowed for confirmation that no cells in the program were accidentally missed that should contain data during data entry, and provided the researcher an opportunity to check for accuracy of the information entered. A few of the survey questions were not answered by various participants. These non-response answers by participants are explained at appropriate points in Chapter 4. Each of the questions asked on the survey is analyzed and discussed in this chapter.

Summary of Demographic Information for Participants

There were 170 students who participated in the experimental intervention. Descriptive statistics were performed on the data collected during the study. Below is a summary of demographic information reflecting the makeup of the sample that completed the experiment and post-test survey. Demographics did not impact the results of the current study so the following information provides simply a snapshot of the sample make-up as compared to the general population at Northwestern Oklahoma State University, the location of the experiment. Three students did not complete any of the demographic questions on the survey following the experimental intervention. This missing information also did not impact the results of the current study.

Table 2 displays the demographic information for this study. The first frequency shows gender and highlights a rather high percentage of males, 65.3%, who participated in the study. When looking at the entire student body gender breakdown for Northwestern Oklahoma State University, the total campus enrollment shows 42.9% of the students were males compared to 57.1% being females (Northwestern Oklahoma State University, 2013). This information is obtained from a publication reported on the University's web site reflecting the fall 2011 semester enrollment. Other than this number showing a higher than normal percentage of male participants in the study, no significant impact was reported from this gender over-representation.

Next is an age distribution of the participants in the experiment. When looking at the age break down of the students, 92.8% of the participants were between 18 to 23 years of age. At Northwestern Oklahoma State University, 73.2% of the fall 2011 enrollment comprised students between the ages of 18 to 23 (Northwestern Oklahoma State University, 2013). This percentage is slightly more representative with the university population than the above referenced male to female ratio. No observable impact was found from this age distribution as age was not the focal point of the current study.

Table 2 looks at the ethnic background of participants in the study. The numbers reflected in this study are somewhat consistent with the campus population at Northwestern Oklahoma State University. Participants in this study reflected 62.9% being Caucasian; 13.2% African-American; 4.2% Asian American or Pacific Islander; 9.6% Hispanic; 3.0% Native American and 7.2% being reported as other. At Northwestern the ethnicity population percentages reflect 73.1% being Caucasian; 4.9%

African-American; 0.2% Asian American or Pacific Islander; 5.5% Hispanic; 6.1% Native American and 10.1% other (Northwestern Oklahoma State University, 2013). The sample does not exactly match the ethnic backgrounds of the campus community but the assumption of randomization still holds valid for this study.

Table 2 also summarizes the marital status of students participating in the study. A majority of the respondents, 89.8%, have never been married with only 3.0% showing their status as divorced. Northwestern Oklahoma State University does not track marital status of their student population so this comparison cannot be discussed. This question was included on the survey instrument in an effort to help understand the make-up of the sample being studied. Marital status is an important characteristic as income and spending habits and behavior are based on two individuals as compared to a single person's income and spending.

Next, Table 2 summarizes the classification of students in the study. The participants were comprised of students enrolled in the Ranger Connection first year students orientation class or a personal finance class during the spring 2013 semester. Both classes are required general education courses at Northwestern Oklahoma State University in that every student must complete them before graduation. Northwestern's enrollment numbers for the fall 2011 semester confirm 33% freshmen; 17% sophomore; 18% junior; 24% senior and 8% graduate students. In the current study, 76.7% of the participants reported themselves as being either freshmen or sophomores. This seems reasonable since most of the general education requirements are usually taken during the first two years of college. Since a convenience sample was used for this study from two required general education classes, this breakdown of classification did not impact

the overall analysis and conclusions. If a random sample were selected from the entire campus population, the new sample would most likely reflect more closely the general campus classification breakdown.

Finally, Table 2 summarizes a question asked on the survey inquiring as to the highest degree goal that participants hoped to attain upon completion of their college experience. Slightly more than half, 51.5%, responded their goal was to complete a bachelor's degree. When considering the three participants who did not answer this question, 48.5% of the students have a goal at this point in their life of obtaining some type of post-baccalaureate or professional degree. Northwestern Oklahoma State University does not ask, track, or report specific goals beyond graduation at the undergraduate level for students enrolled at the university. This percentage can be viewed as confirmation that students are open to learning and are very educationally minded with the desire to seek additional higher education upon graduation in an effort to be more successful in the workforce.

Table 2

Frequencies and Percentages for Demographic Information

	Frequency	Study Percent	Student Body Percent
Gender			
Female	58	34.7	57.1
Male	109	65.3	42.9
Missing	3		
Age			
17 and Above	N/A	N/A	1.8
18-20	120	71.8	41.3
21-23	35	21.0	31.9
24-26	5	3.0	8.6
27 and Above	7	4.2	16.4
Race			
Caucasian	105	62.9	73.1
African-American	22	13.2	4.9
Asian American or Pacific Islander	7	4.2	0.2
Hispanic	16	9.6	5.5
Native American	5	3.0	6.1
Other	12	7.1	10.1
Marital Status			
Married	9	5.4	N/A
Divorced	5	3.0	N/A
Never Married	150	89.8	N/A
Engaged	3	1.8	N/A
Classification			
Freshman	87	52.1	33.0
Sophomore	41	24.6	17.0
Junior	26	15.6	18.0
Senior	13	7.7	24.0
Graduates	N/A	N/A	8.0
Highest Degree Goal			
Bachelor	86	51.5	N/A
Master	58	34.7	N/A
First-Professional	4	2.4	N/A
Doctoral	19	11.4	N/A

Note. N=167. Three students did not complete the demographic section of survey.

Table 3 reflects a question where participants were asked to indicate their dependent or independent status along with a yearly income range. The instructions on the survey defined “dependent” students as those who would be claimed by parents or legal guardians when filing their 2012 tax return. After the respondents determined their dependent or independent status, choices were given to select their approximate combined annual adjusted income (before taxes) for their parents (dependent students) or themselves (independent students). The “independent” responses seem a bit high, especially in the “less than \$15,000” category. The assumption was made that the nine married students and the 13 students reporting in the age category of “24 and older” both would most likely not be claimed by parents or guardians. There is a possibility that students could fit both categories of being married and over 24 years of age. When looking at these category summaries, it was likely that some students who realistically should have reported themselves as “dependent” students mistakenly marked “independent” on the survey. Another 14 students did not answer the question by leaving the survey income choices blank. This could be due in part to the students not knowing the income level of their parents or guardians or simply not understanding the survey question. In this study, dependency status did not play a role when looking at teaching strategies concerning credit card use and debt to younger students.

Income of parents potentially could be considered a factor in credit card education. For students who grew up in households where they observed parents using credit cards on a regular basis might be more apt to accept credit card use in their own spending decisions. Another implication of these dependency questions might lead to the connection of family income levels for credit card acceptance or use of credit cards

on a regular basis. A final consideration might include the independent or dependent status of participants as related to their acceptance of credit cards and debt. In the present study, these variables were not significant.

Table 3

Dependent/Independent Status as Defined by Income of Students or Parents

Dependent/Independent	Frequency	Percent
D = Less than \$25,000	40	25.6
D = \$25,000 to \$50,000	19	12.2
D = \$50,000 to \$75,000	36	23.1
D = \$75,000 to \$100,000	21	13.4
D = Above \$100,000	16	10.2
I = Less than \$15,000	14	9.0
I = \$15,000 to \$25,000	2	1.3
I = \$25,000 to \$35,000	2	1.3
I = \$35,000 to \$45,000	2	1.3
I = \$45,000 to \$55,000	2	1.3
I = Above \$55,000	2	1.3
Missing	14	
Total	170	100

Scale Description and Reliabilities

Cronbach's alpha reliabilities were computed for all three tiers of pre-test questions and post-test questions as well as questions established to determine the effectiveness of the instructional strategy. A reliability of .90 is the minimum that should be tolerated as an acceptable level when using this scale (Ary et al., 1996). The first step was to combine items from the pre-test and post-test questions. The pre-test and post-test questions were broken into three categories called tiers. These questions were designed to measure any short-term knowledge gained by the experimental intervention participants. The content of the second tier builds on the information presented in the first tier. The third tier builds on the information presented in the

second tier. The next step involved combining survey questions 16 through 25 in order to compile the instructor evaluation scale section of the survey. These questions required each participant to answer questions pertaining to the instructor and the delivery methods used during the intervention. Table 4 shows the results of this analysis.

Table 4

Cronbach's Alpha Reliabilities Results

Description	Cronbach's Alpha	Number of Items
Evaluation of Instructor	.93	10
Tier 1 Pre-Test	.82	4
Tier 1 Post-Test	.82	4
Tier 2 Pre-Test	.90	6
Tier 2 Post-Test	.85	6
Tier 3 Pre-Test	.81	3
Tier 3 Post-Test	.80	3

Table 4 shows a Cronbach's alpha of .93 for the instructor evaluation questions which is the reliability scale used for this study. This was an acceptable value since it was over the recommended level of .90. The evaluation of the instructor scale consisted of 10 questions based on a 5-point Likert-type scale ($M = 39.38$, $SD = 8.05$). These questions included on the survey were developed to help capture and evaluate the student's measure of the instructors who presented the credit card materials during the experimental intervention.

Next the Tier 1 pre-test section consisted of four items that were measured on a 5-point Likert-type scale ($M = 9.30$, $SD = 3.76$). The Tier 1 post-test section consisted of the same four items that consisted of a 5-point Likert-type scale ($M = 14.32$, $SD = 3.27$). Tier 2 comprised six items following the same 5-point Likert-type scale. The

results for Tier 2 were ($M = 14.46$, $SD = 5.62$) for the pre-test section and ($M = 21.86$, $SD = 4.45$) for the post-test questions. The final section in this part of the survey, Tier 3, consisted of three items that followed the same 5-point Likert-type scale used to measure Tier 1 and Tier 2. The results for pre-test Tier 3 are ($M = 7.91$, $SD = 2.97$) and ($M = 11.61$, $SD = 2.47$) for post-test Tier 3. Based on the reliability results of Table 4, all of the pre-test and post-test scales exceeded .80 in Cronbach's alpha internal reliability with .90 being the level of tolerance. Therefore no further modification of the scale was deemed necessary. All of the survey questions contained in the survey instrument remained as part of this study.

Breakdown of the Three Experimental Groups

As described earlier, students participating in this experimental intervention were randomly assigned by the researcher into three groups prior to their exposure to the credit card seminar. Enrollment rosters from the Ranger Connection class and the personal finance classes were used to make random assignments of students into one of three groups. Each of the three experimental groups met in a separate room where a different teaching strategy was used as part of the experiment. The three teaching strategies used in this experiment consisted of the traditional classroom lecture method; use of multimedia clips accompanied with the lecture; and the use of case studies supplemented with the lecture. The distribution of the 170 participants into three classrooms was broken down as follows. The lecture room consisted of 49 (28.8%) students, the multimedia clips room had 59 (34.7%) students, and the case study room had 62 (36.5%) participants. Even though the numbers were not evenly divided, the overall sample size and breakdown were acceptable for this experiment.

The next phase of the data analysis consisted of comparing each of the pre-test groups to determine if the assignment of the students by the researcher produced an equal disbursement across all three groups. A one-way ANOVA across all three methods was carried out in an effort to make sure the three groups were all equivalent before the experiment. Table 5 shows the mean and standard deviation scores for each tier and teaching method for the pre-test scores from the participants. The one-way ANOVA results indicated there was no significant difference between pre-test scores on the three teaching methods for all three tiers. Tier 1 includes four scale items that were combined to show Bloom's level of comprehension and knowledge. Tier 1 reflects comparisons of the pre-test scores across the three teaching methods. The methods being lecture ($M = 9.08, SD = 3.71$); by multimedia clips ($M = 9.37, SD = 3.56$); and by case study ($M = 9.40, SD = 4.02$) indicated no significant differences $F(2,168) = .11, p = .89$. Therefore, the assumption of the participants' prior knowledge of credit card debt at Bloom's first level was evenly distributed. Tier 2 includes six scale items that were combined to show Bloom's second level consisting of analysis and application. Tier 2 analysis compared the lecture pre-test scores ($M = 14.30, SD = 5.50$); by multimedia clips ($M = 15.07, SD = 5.18$); and by case study ($M = 14.46, SD = 5.62$) yielded a non-significant difference $F(2,166) = .57, p = .57$. Therefore the assumption for pre-test acceptance was met. Tier 3 includes three scale items that were combined to show Bloom's third level of synthesis and evaluation. Tier 3 analysis compared the lecture pre-test score ($M = 7.69, SD = 2.83$); by multimedia clips ($M = 8.12, SD = 3.01$); and by case study ($M = 7.87, SD = 3.05$) was non-significant $F(2,168) = .28, p = .75$ meaning the assumption was also met for pre-test knowledge. Therefore any increases

in gain scores that might be seen in short-term knowledge acquired resulted from the experimental intervention.

Table 5

Comparison of Pre-Test Groups for Compatibility

Tier	Teaching Method	N	Mean	Std. Deviation
Tier One	Lecture	48	9.08	3.71
	Multimedia Clips	59	9.37	3.56
	Case Study	62	9.40	4.02
	Total	169	9.30	3.76
Tier Two	Lecture	47	14.30	5.50
	Multimedia Clips	59	15.07	5.18
	Case Study	61	14.46	5.62
	Total	167	14.46	5.62
Tier Three	Lecture	48	7.69	2.83
	Multimedia Clips	59	8.12	3.01
	Case Study	62	7.87	3.05
	Total	169	7.91	2.97

Note. No significant differences were found between pre-test analyses.

The assumption was about differences between the participants who were pre-assigned into the three groups for the experiment. The result of this analysis confirmed no significant differences between the three pre-test groups. This finding means that the random assignment of students from enrollment rosters resulted in an equal distribution, meaning there was no detection of any differential selection issues. Based on this finding, no additional controls or co-variates were included in subsequent data analyses. Prior to the manipulation, the groups were equally disbursed. Any differences found after the experiment had to be accounted for by the teaching methods used in the experiment and not prior knowledge.

Research Question 1

The first research question in this study was stated as: Which teaching method was most beneficial at increasing short-term knowledge of college students following

exposure to credit card education as reflected through Bloom's Taxonomy of learning outcomes? As discussed earlier, Bloom's Taxonomy was divided into three general categories for this study. Questions asked in the survey were divided into three tiers. Tier 1 covered the credit card application process and ownership choices available to the applicant. Tier 2 discussed the interest rate charges that could apply to balances and the cost of carrying a credit card balance. The final tier, Tier 3, looked at living beyond one's financial means and the stresses that could accompany debt.

To begin, the data were transformed by grouping the survey questions into three tiers and netting out the difference in each tier from the post-test and pre-test questions. The paired *t*-test results indicated there was a significant difference in short-term knowledge acquired from the pre-test scores to the post-test scores in each of the three tiers. The results depicting the means are contained in Table 6. The results of this statistical analysis were compared to Bloom's Taxonomy in an effort to answer the first research question in this study addressed in Chapter 5.

From Table 6 the means and standard deviations are presented representing the comparison of pre-test and post-test short-term knowledge of students. The Tier 1 pre-test ($M = 9.30$) was significantly different from the post-test score ($M = 14.33$), $t(164) = -17.08, p = .00$. This indicates there was a significant increase in Tier 1 with short-term knowledge gained by participants.

The Tier 2 pre-test ($M = 14.47$) was significantly different from the post-test score ($M = 21.81$), $t(160) = -18.11, p = .00$. This indicates there was a significant increase in Tier 2 short-term knowledge gained by participants. The Tier 3 pre-test ($M = 7.90$) was also significantly different from the post-test score ($M = 11.61$), $t(164) = -$

15.89, $p = .00$. This again indicates that there was a significant increase in tier 3 short-term knowledge gained by participants.

Table 6

Pairing of Survey Questions into Tiers for Pre-Test and Post-Test Questions

Grouping		N	Mean	St. Dev
Tier 1	Pre-Test	165	9.30	3.76
	Post-Test	165	14.33	3.28
Tier 2	Pre-Test	161	14.47	5.65
	Post-Test	161	21.81	4.42
Tier 3	Pre-Test	165	7.90	2.98
	Post-Test	165	11.61	2.47

The next step was to determine if there was an increase in short-term knowledge in any of the three experimental groups from the pre-test questions compared to the post-test questions. In order to determine if an increase in knowledge had been achieved, the post-test scores were subtracted from the pre-test scores in each tier. The net difference between these two groups would be considered knowledge gained during the experiment.

The net gain was computed to see if there was a difference in knowledge gained from the post-test scores compared to the pre-test scores. This computation removed the pre-test knowledge from the score which provided a more accurate depiction of the dependent variable following the experimental intervention. This gain comparison provided the most effective measure in determining how much short-term knowledge was achieved following the experimental intervention. Figure 2 reflects the gain scores by each of the three tiers for all three teaching methods. Unless otherwise noted, the net gain scores were used for all further analyses for this research project. The hypothesized statistical design described in Chapter 3, dictated the use of gain scores

rather than the pre-test and post-test scores which provided a clearer interpretation of the data for this research project.

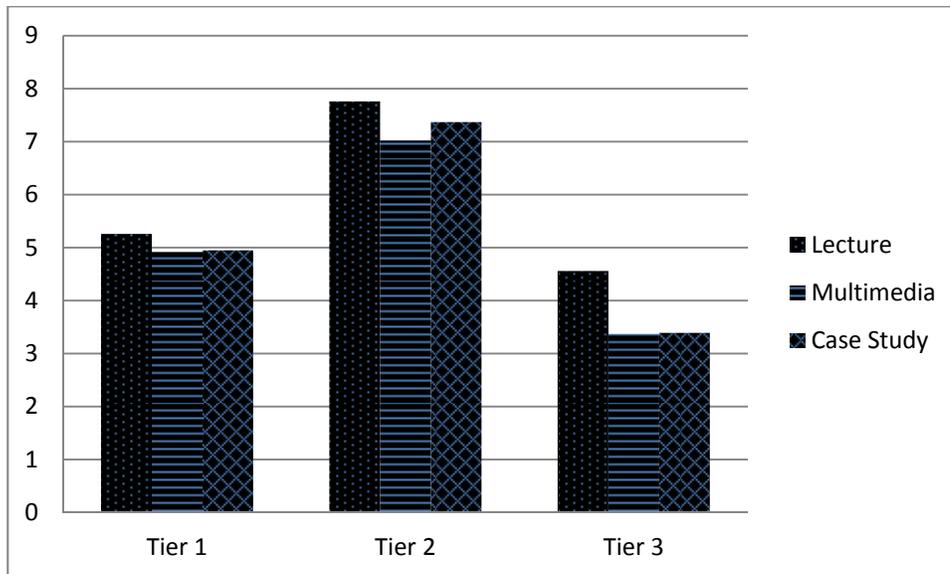


Figure 2. Mean Gain Scores for all Tiers by all Three Methods of Instruction.

The final data being analyzed for Research Question 1 has been converted across the three tiers for both the pre-test questions and post-test questions by the three instructional strategies. A one-way ANOVA was calculated to determine the results. The results showed there was no significant difference in Tier 1 across instructional teaching strategies $F(2,164) = .12, p = .89$. Even though not statistically significant, the lecture method does reflect the highest gain in this analysis ($M = 5.26, SD = 4.09$). The analysis for Tier 2 also shows no significant difference in gain scores by instructional strategy $F(2,160) = .26, p = .77$, with the lecture method showing ($M = 4.92, SD = 3.28$). Tier 3 also revealed no significant increase in gain score $F(2,164) = 2.61, p = .08$, with the lecture method showing ($M = 4.95, S = 4.03$). Note the gain scores were influenced by the number of survey questions contained in each tier. Increasing the

number of participants might influence the outcome of the gain scores by use of a larger sample size.

Table 7

Gain on Pre-test and Post-test Results by Tiers

Gain by Tier	N	Mean	St. Dev
Tier 1	165	5.02	3.78
Tier 2	161	7.35	5.15
Tier 3	165	3.72	3.00

Research Question 2

The second research question in this study was stated as: What aspects of the instructional delivery process were most beneficial in fostering that short-term knowledge when certain intervening variables are taken into consideration?

A correlation comparison was performed focusing on the delivery techniques of the three seminar instructors to determine if one of the three teaching strategies was more effective in increasing short-term knowledge of the participants in the study. The post-test scores of all three groups were compared to see if there was a relationship in learning outcomes. The results show there was a positive correlation between each of the three groups and the methods of instruction. In looking at the correlation between the three tiers, the following information is notable. Tier 1 was significantly correlated with Tier 2 ($r = .72, p = .00$); therefore, the post-test knowledge at the first level of Bloom's Taxonomy was positively related to the knowledge at Bloom's second level. Tier 2 was significantly correlated to Tier 3 ($r = .60, p = .00$) therefore the post-test knowledge at the second level of Bloom's Taxonomy was positively related to the knowledge at Bloom's third level. Tier 1 was significantly correlated with Tier 3 ($r =$

.73, $p = .00$) therefore the post-test knowledge at the first level of Bloom's Taxonomy was positively related to the knowledge at Bloom's third level. Table 8 shows the comparison scores. In order for correlation to exist between the different tiers, learning must take place at the lower tier. This means that Tier 1 must be mastered before learning can take place at Tier 2. Tier 2 must then be mastered before learning can take place at Tier 3 of Bloom's scale.

Table 8

Correlations of Post-test Scores by all Three Teaching Strategies

Correlation		Tier One	Tier Two	Tier Three
Tier 1	Pearson Correlation	1	.72*	.60*
Tier 2	Pearson Correlation	.72*	1	.73*
Tier 3	Pearson Correlation	.60*	.73*	1

* $p < .05$.

There was not a clear significant difference between the three instructional strategies indicating that no one individual group was more effective than another; therefore, a comparison was performed to see if there was a difference in the scale dealing with teacher evaluations. These questions were combined to capture the effectiveness of the three instructional teaching strategies used in this experiment. By running a one-way ANOVA, the teaching questions as a group did not show a significant difference within each of the three teaching methods. This information is shown in Table 9.

Table 9

Teacher Evaluation Questions Compared by Instructional Strategy

Teaching Method	N	Mean	Std. Deviation
Lecture	49	40.12	7.95
Multimedia Clips	59	39.66	6.70
Case Study	61	38.51	9.07
Total	169	39.38	8.05

The 10 instructor evaluation questions asked on the survey were grouped together and compared against each of the three teaching strategies to see if any significance in learning could be determined. These questions pertaining to the delivery methods of the instructors might provide some evidence as to any significant findings. The lecture method revealed $M = 40.12$, $SD = 7.95$ with $N = 49$. This was followed by the multimedia clips method having $N = 59$ ($M = 39.66$, $SD = 6.70$). The case study method showed the lowest relationship with $N = 61$ ($M = 38.51$, $SD = 9.07$). The results of a one-way ANOVA revealed a $F(2,166) = .60$, $p = .55$. Therefore, no significance was found when looking at the instructor evaluation questions in relationship to the three different teaching methods.

A series of analyses was performed individually on each of the 10 teacher evaluation questions. To analyze the teacher evaluation data in greater depth and to determine if there were any individual questions that had an impact on the short-term knowledge gained by the students. Again, a one-way ANOVA was used to perform this analysis. Table 10 shows the frequency and significance of each of the 10 questions. Further analysis of each individual question did not yield any significant results.

Table 10

Individual Teacher Evaluation Questions by Teaching Strategy

Question Number	F-ratio	<i>p</i> -Value
Question 16	2.41	.09
Question 17	1.49	.23
Question 18	.82	.44
Question 19	.52	.60
Question 20	.38	.68
Question 21	1.03	.36
Question 22	.29	.75
Question 23	.07	.94
Question 24	.28	.76
Question 25	.14	.87

As Table 10 indicates, no preference for one teaching strategy over another was determined to exist in the current study when looking at the 10 teaching strategy questions. Additional analysis would have been performed if one of the questions showed significance. Due to this finding, no further analysis was conducted. Students felt that all three teaching strategies were similarly effective in regard to the 10 questions asked in the survey. No one strategy was greater than another in this study.

To continuing the analysis using survey questions as intervening variables, several questions were asked of the participants on the survey concerning current credit card ownership and use. Due to the low number of respondents reporting credit card ownership, no analysis was performed. Thirty-seven students (22.0%) owned a major credit card, such as Visa, MasterCard, American Express, and Discover. Of that number, 14.9% owned one card; 3.6% owned two cards, and 1.2% owned three cards. Debt on those cards ranged from no-debt (53.8%) up to one student (3.8%) holding a balance of \$4,000. Follow-up correlation analysis was conducted on gain scores as they

related to average number of credit cards owned, average credit card debt held by students, and the average highest interest rate charged on credit cards held by the students. No significance was found with this analysis.

Table 11

Credit Card Ownership

Question	Response of		Response of	
	Yes	Percentage	No	Percentage
Do you own a Major Credit Card	37	22.0	131	78.0
Do you own a Retail Card	7	4.2	161	95.8

When asked if participants owned a departmental, retail, or gas card, even fewer students responded with a “yes” answer. Only seven students (4.2%) responded they held one of these types of credit cards. Of that group, five held one card and two held two cards. Table 11 shows these findings. Debt on these cards ranged from no-debt to a total of \$40. Interest rates were reported by the card holders as ranging from 0% up to 21% on the major credit cards and from 0% up to 19% for the retail card holders. For the major credit card holders, this resulted in an average interest rate showing a mean of .10% and a standard deviation of .07. For the retail card holders, their average interest rate showed a mean of .08% with a standard deviation of .09. These findings confirm that most students had little to no interest on their balances. Again, due to the low number of credit card holders in the current study, no further analysis was performed with these variables.

The next series of questions on the survey concerned payment habits or history. A small number of students, nine (5.4%) responded in the past 12 months that they had

been late on making a credit card payment. Thirteen students (7.9%) reported paying only the minimum balance on their credit cards during the past 12 months. When asked if they had obtained a credit card before entering college, 18 students (10.8%) responded yes. Eight students (4.8%) indicated they had experienced financial difficulties with using credit cards. These difficulties included spending more than the students could afford, being late on a payments, or missing one or more payments. The final question in this series addressing payment habits and history asked if students did not currently own a card, how many planned on making a credit card application in the upcoming 12 months. A total of 27 students (17.9%) replied they planned to make a credit card application in the next year. Table 12 reflects the responses to this section of the survey.

Table 12

Payment Habits and History of Experiment Participants

Question	Response	Frequency	Percentage
Late Making Payment	Yes	9	5.4
	No	158	94.6
	Missing	3	
Paid only Minimum Balance	Yes	13	7.9
	No	152	92.1
	Missing	5	
Obtained Card Before College	Yes	18	10.8
	No	45	26.9
	Don't Own Card	104	62.3
	Missing	3	
Experienced Financial Difficulties	Yes	8	4.8
	No	49	29.3
	Don't Own Card	110	65.9
	Missing	3	
Making Application in Next 12 Months	Yes	27	17.9
	No	124	82.1
	Missing	19	

Note. $N = 170$.

The short-term knowledge gained was used to determine if any significant correlations could be discovered between the variables described above and instructional teaching strategies. No relationships could be confirmed with using, as separate variables, average number of credit cards held, average student credit card debt, or average highest interest rate charged on credit cards. One notable factor involves the small number of participants responding that either owned credit cards or carried a balance on those cards.

An ANCOVA was performed to compare instructional strategy for Tier 1 gains while controlling for the average number of credit cards owned. No significance was discovered. The same comparison was performed separately using Tier 2 and Tier 3 gains against instructional strategy controlling for average number of credit cards

owned. No significance was found in either comparison. Tier 3 showed a slightly lower score, but still was not significant. An ANCOVA was performed individually on each of the tier gain scores while controlling first for average credit card debt held then for average highest interest rate charged on the credit cards to continue testing for the original null hypothesis. None of the ANCOVA results showed significance. One should be cautioned that one possible explanation for none of the ANCOVA findings showing significance could be a direct result of low response rates to these specific questions on the survey. Perhaps a higher percentage of participants having these three characteristics would have provided significant results.

Another intervening variable that might have an impact on the short-term knowledge gained by students participating in the experimental intervention involved having a personal finance class in high school. A positive trend from Tier 1 to Tier 2, but not to Tier 3 resulted from looking at the measure of each tier pulling from the knowledge gained in comparison to whether the students had personal finance in high school. Nearly one-third of the students (31.1%) reported they had some type of personal finance class while in high school. No significance was observed; however, higher gain scores were reported in Tiers 1 and 2 for those not having personal finance in high school than were reported in Tier 3. This indicates that the lower two tiers were effective for those students who were not previously exposed to credit card education. Personal finance in high school made no difference in Tier 3. Table 13 reflects the personal finance in high school question by gain scores across all three tiers.

Table 13

Pairing by Tiers to Comparing Students who had Personal Finance in High School

Pairing	Personal Finance in		N	Mean	Std. Deviation
	High School				
Tier 1	Yes		49	4.55	3.97
	No		114	5.24	3.72
Tier 2	Yes		47	6.21	5.47
	No		112	7.88	4.98
Tier 3	Yes		49	3.78	2.78
	No		114	3.71	3.13

Gain levels were used next to compare through the use of an ANCOVA if instructional teaching strategy had any effect with student having personal finance in high school. Each tier gain was looked at individually and no significance was observed at any level. The means were compared for those having personal finance against students' age to find out more information about the students who had personal finance in high school. The mean for those having personal finance in school was 19.37 years old with the average age of those not having personal finance in high school being 21.42 years of age. Since there were several non-traditional students in the experiment, this average age seems reasonable. The assumption could also be made that the older students would not have been exposed to a personal finance class while in high school. The gender, ethnicity, and marital status of students having personal finance in high school are reflected in Table 14.

Table 14

Demographic Characteristics of Students having Personal Finance in High School

Category	Description	Yes	No
Gender	Male	15	43
	Female	37	72
Ethnicity	Caucasian	36	69
	African-American	8	14
	Asian American or Pacific Islander	2	5
	Hispanic	2	14
	Native American	2	3
	Other	2	10
Marital Status	Married	2	7
	Divorced	2	3
	Never Married	46	104
	Engaged	2	1

Note. $N = 167$.

The results indicated that at the lower levels of learning, Tier 1 and Tier 2, there was an increase in knowledge gained. As students progressed to Tier 3, gain increases were lower. This finding follows the expected progression described by Bloom in moving from the most basic levels of learning up to the most complex levels of learning. In other words, at the lower levels of learning, the basic concepts of credit card ownership were discussed and participants yielded an increase in knowledge as measured through the gains scores. As the most complex information was presented in Tier 3, a lower level of learning occurred. Even for participants having some exposure to personal finance in high school, increases in short-term knowledge gained was still limited at the most complex levels across all three teaching strategies.

Several demographic items were used as co-variates in a continued effort to look for significance in the survey results. Results revealed no significance when looking at age, classification, income level of dependent or independent status, or gender of the participants while holding constant those having personal finance in high school. Only

one co-variate, motivation to learn, showed significance in this category. This ANCOVA analysis showed that, for Tier 3 gain scores by instructional strategy controlling for motivation to learn, significance was present in the study. Table 15 shows the descriptive statistics results of that analysis.

Table 15

Tier 3 Gain by Instructional Strategy on Personal Finance in High School When Controlling for Motivation

Instructional Strategy	N	Mean	Std. Deviation
Lecture	38	4.71	2.68
Multimedia Clips	40	3.20	2.74
Case Study	42	3.20	3.42

No interaction effects were present between instructional strategy and personal finance in high school. However, the main effect for instructional strategy on Tier 3 gain was present when controlling for motivation. Specifically, the lecture format yielded the highest gain in Tier 3. $F(2,120) = 3.43, p = .04$. The main effect for personal finance in high school was not significant. Post hoc pairwise comparison yielded significant differences between the lecture method and the multimedia clips method for Tier 3 ($MD = 1.74, p = .03$). For the lecture and case study the results were ($MD = 1.92, p = .02$). No difference between the multimedia clips and case study methods were reported. This result reinforced the earlier findings that revealed significance in the lecture method presented in this study. When motivation was taken out of the equation, the lecture method of instruction produced the higher gain in learning in Tier 3.

Another analysis was performed where each of the demographic items were analyzed as independent variables against the instructional teaching strategies. These variables included gender, age, ethnicity, marital status, classification in college, and highest educational degree desired. Each of these statistical comparisons did not yield a significant result; therefore, resolving the question of treating the variables as independent rather than as co-variates for comparison purposes.

The next step in this research project was to look at the dependent/independent status of the participants asked as the last question on the experimental survey since the demographic information did not yield a clear pattern within knowledge gained. Each dependent category of student responses was analyzed separately. Due to the small number of independent students ($N=24$), analysis was performed with this population of students collectively as one group. None of the income categories showed any correlation to gain scores across all levels. The closest value to being significant was Tier 1 gain with a correlation value of $r=.29$, followed by Tier 3 gain showing $r=.39$ and Tier 2 reporting $r=.40$.

Question number 30 on the experimental survey asked if students owned any type of credit card. If so, they were asked if they obtained that card before starting college. Table 16 shows the descriptive statistics for Tier 1 following a one-way ANOVA resulting in $F(2,159) = 3.68, p = .03$.

Table 16

Tier 1 Gain to Survey Question #30 about owning a Credit Card Before Starting College

Tier 1 Gain	N	Mean	Std. Deviation
Yes	17	4.41	4.42
No	44	3.89	3.49
Do Not Own a Card	101	5.65	3.74

Note. $N = 162$.

The post hoc test analysis showed a significant gain in Tier 1 between students not owning a credit card prior to college (but owning one now) and those who did own a credit card at all. This significance may be due to the subject of recent credit card ownership being new to them and holding their learning interest compared to those students who did have a credit card. Participants in Tier 1 might have gained knowledge as novice students picking up information from the seminar focusing on who might apply for credit cards following the experiment.

Survey question 32 inquired for those participants not currently owning a major credit card, would they plan on making an application in the next 12 months. Through the use of a *t*-test analysis, Tier 2 gain scores revealed a significant finding $t(143) = 2.54, p = .01$. This was the only tier showing any significance in this analysis. This result perhaps sheds some light on the fact that in Tier 2 learning, students were more interested in applying for a credit card following the seminar. Tier 1 focused on the application process and ownership choices while Tier 2 discussed interest rate charges and the cost of carrying a balance. Since earlier findings revealed that knowledge was gained at all three levels, across all three teaching methods, students in Tier 2 were able to rationalize the process involved and make an educated decision concerning future financial decisions. They may have also wanted to learn more about their options and

stayed engaged in the seminar educational process. No significance was observed at Tier 3, the most complex level in this experiment.

The researcher included four questions related to participants' motivation concerning credit card use and ownership on the survey. An ANCOVA analysis was performed using the net knowledge gained by tiers while controlling for each motivation question separately to determine if a relationship existed between these four questions and knowledge gained. The results are shown below.

Based on the ANCOVA results of questions 33, 34, and 35, there was no significant finding for the gain in knowledge when controlling for motivation. These three survey questions focused on attitudes and opinions of the participants related to views on credit card use and ownership. However, question 36 showed a significant gain only in Tier 3. Figure 3 reflects these findings.

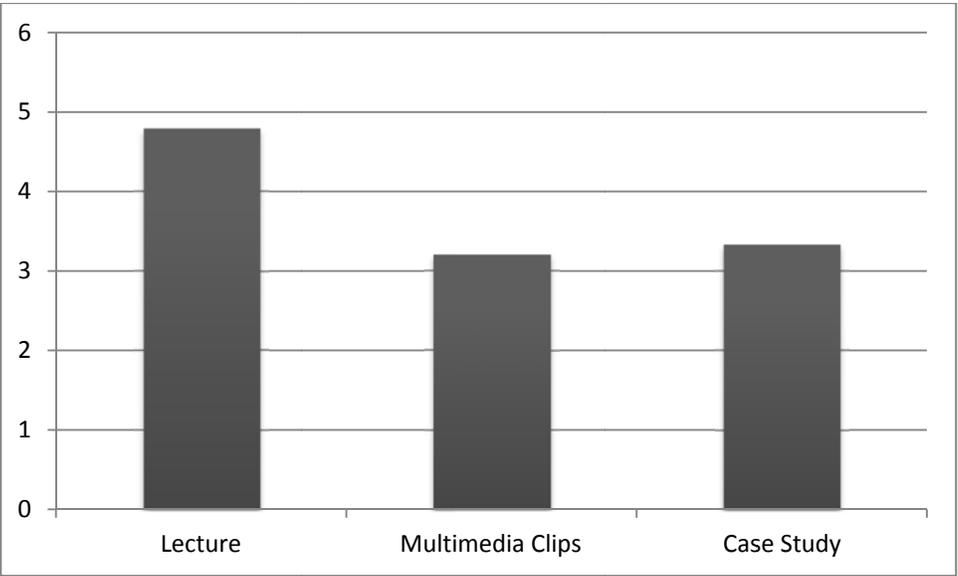


Figure 3. Tier 3 Gain Score Means by Teaching Strategy for Survey Question Number 36.

Question 36 asked participants to rate their level of motivation to learn financial concepts prior to completing the seminar by use of a 5-point Likert-type scale. In looking across all three tiers, there were no significant results except for Tier 3. The lecture style had the most gain of all three teaching methods. This teaching method provided for the greatest gain at the highest level of learning when looking at learning new concepts specifically related to financial concepts. Levene's test of equality of error variances yielded no violation to the homogeneity of variance assumptions.

Table 17

Between-Subject Effects for Tier 3 Gains on Survey Question Number 36

Source	Type III Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Corrected Model	61.69*	3	20.56	2.32	.08
Intercept	142.87	1	142.87	16.11	.00
Question 36	.66	1	.66	.08	.79
Group	61.69	2	30.85	23.48	.03
Error	1037.42	117	8.87		
Total	2721.00	121			

*R Squared = .056 (Adjusted R Squared = .032).

An ANCOVA was conducted to investigate the knowledge gain levels of Tier 3 across all three teaching methods controlling for motivation to learn. Table 17, results indicate there was a significant effect for teaching strategy $F(2,124) = 3.62, p = .03$ when controlling for motivation. The analysis revealed a significant difference between the lecture method and both multimedia clips and case study methods; however, there was no difference detected between the multimedia clip method and the case study method. For this analysis, the findings at Tier 3 provided ($M = 4.71, SD = 2.68$). For the multimedia clips method at Tier 3 the results showed ($M = 3.20, SD = 2.74$). The case study method resulted in ($M = 3.16, SD = 3.39$). These findings indicated that the

lecture style produced the most gain in knowledge at the third tier of learning suggesting that the traditional face-to-face method of presenting information was most effective for dealing with students of varying levels of motivation. In this study, the lecture method had consistently showed the highest gains in knowledge acquired, indicating that the higher levels needed to process information were most conducive to this style of learning.

The next analysis performed from the survey reviewed questions 11 and 15. Question 11 asked participants if their responses to the Tier 2 questions (numbers 5-10) were influenced by the information given during the Tier 1 seminar presentation. Question 15 asked participants if their responses to Tier 3 questions (numbers 12 through 14) were influenced by the information given during the Tier 2 seminar presentations. To determine if any prior exposure to credit card education contributed to a gain in short-term knowledge during a later segment of seminar trainings, an ANCOVA was performed by looking at gain score for Tier 2 and Tier 3 while holding the survey questions 11 and 15 constant for the analysis. Neither tier evaluation produced a significant finding. Question 11 showed no significance at $F(2,120) = 1.08$, $p = .35$ while Question 15 was somewhat closer to significance at $F(2,120) = 2.85$, $p = .06$; however, this result still did not yield significance.

This final analysis consisted of performing a one-way ANOVA to compare questions 11 and 15 against each of the three teaching strategies used in this research project. These two questions were designed to see if the information covered in the immediate prior segment of the intervention had any influence over the material covered in the next portion of the seminar. The results indicated that all three teaching

strategies were somewhat influenced by question 11. The lecture method revealed the highest influence ($M = 3.56, SD = .84$) followed by the multimedia clips method ($M = 3.44, SD = .88$). The case study method resulted in the lowest level of influence ($M = 3.26, SD = .10$). All three teaching methods were somewhat influenced by question 11, but not at a level of significance $F(2,125) = 1.19, p = .31$.

For question 15, the lecture method revealed the highest influence ($M = 3.62, SD = .96$) followed by the multimedia clips method ($M = 3.44, SD = .84$). The case study method resulted in the lowest gain of the three methods ($M = 3.07, SD = .87$). All three teaching methods were significantly influenced by question 15 showing $F(2,126) = 4.27, p = .02$. This suggests that at the highest level of learning, that being Tier 3, knowledge gained from prior segments of the seminar influenced the amount of knowledge gained. The lecture method resulted in the most gain with the case study showing the least. This finding is again consistent with prior findings in this study showing the most gain for participants resulted from the lecture method of instruction.

Analysis was performed using just the post-test scores as one final attempt to look for any significance in the variables and teaching strategies. Since up to this point in the research project no overwhelming findings have been revealed when analyzing the net gain scores, consideration was given to using just the post-test scores. The hope was that perhaps just the post-scores contained evidence that greater learning had taken place. The same sequence of tests were run using only post-test scores as described earlier in Chapter 4 against the three different instructional strategies. Analyses yielded no observable differences in results. Based on this finding, the focus of this study continued with using the net gain results.

In closing, several items are worth noting concerning the findings of this experiment. Of the 170 participants in the study, a very small percentage reported they owned a credit card. From that population reporting ownership of a credit card, an even smaller number reported having debt on those cards. Both of these findings were surprising to the researcher. One might have expected a larger percentage of college students to possess a credit card or convenience card for their day-to-day purchases. In reflection of the information shared during the experiment, one could argue the point that not having credit cards and carrying a balance on those cards is a positive attribute for the students. While this is good for the students who participated in the research experiment, the lack of credit card holders limited the scope of the analysis in the present study.

A majority of the participants in this experiment were freshmen and sophomores enrolled in either a personal finance class or a freshmen orientation class. Both of these classes are mandatory requirements for graduation from Northwestern Oklahoma State University. If a different population were selected for the experiment that possibly contained all seniors, could the findings have changed in relationship to owning credit cards or carrying debt on those cards? These questions were considered in Chapter 5 when recommendations are made concerning future research studies.

Nevertheless, it is noteworthy to point out the significant findings of this study which are described below. Significance was found in short-term knowledge gained by participants in all three tiers, across all three teaching methods when comparing post-test scores to pre-test scores. For students not having personal finance in high school, an increase in knowledge gain was observed in Tiers 1 and 2, but not in Tier 3.

Motivation to learn, a co-variate in the study, showed significance, but only in Tier 3 for the lecture method. Next, a significant gain in Tier 1 was reflected between students not owning a credit card (but owning one now) compared to students not owning a credit card at all.

For participants not currently owning a major credit card but considering making an application during the next 12 months, significance was found in Tier 2. Another significant finding was found in Tier 3 of the lecture method when looking at the level of motivation by students to learn financial concepts following the experiment compared to motivation upon entering the seminar. When looking at the knowledge gain levels of Tier 3 across all three teaching methods while controlling for motivation to learn, a significant difference was found only with the lecture method. Finally, significance was discovered when looking at the influence of knowledge gained from Tier 2 impacting learning in Tier 3. All three teaching methods showed significance, but the lecture method again showed the greatest gain.

Summary of the Results

Northwestern Oklahoma State University was the location for the experimental intervention where 170 students participated in the study. Students were randomly assigned to three different groups, each receiving credit card education via a different teaching strategy. Following the experiment, students completed a single survey containing both pre-test and post-test questions to measure if any short-term cognitive knowledge had been gained.

In looking at the primary focus of this study, there was an increase in short-term knowledge gained by participants following exposure to credit card education by the

use of all three teaching styles. There was not, however, a significant difference between the instructional delivery methods in capturing that short-term knowledge. The net gain scores were used for all of the statistical analysis in the current study.

A very small population of the sample owned credit cards with even fewer participants having debt balances on those cards. Significance was found when looking at students with prior exposure to personal finance in high school. Motivation to learn new concepts was found in Tier 3, the most complex level in the study, within the lecture method of instruction. The lecture method consistently revealed higher gain scores, not always at a significant level, in the present study. Chapter 5 discusses the results and implications for the findings reported in this chapter.

Chapter V

Discussion and Conclusions

This study was designed to look at three different instructional teaching methods in an effort to determine which was best at fostering an increase in short-term cognitive knowledge concerning credit cards. The experimental intervention took place at Northwestern Oklahoma State University where 170 students participated in the research. The three teaching methods used in this experiment were the traditional classroom lecture, lecture with the addition of multimedia clips, and lecture with the implementation of case studies. Bloom's Taxonomy of Educational Objectives (1956) was used as a framework to gauge the complexity of learning outcomes that took place during the study. This chapter provides for discussion of the findings as well as recommendations for future implications in the classroom specifically when teaching consumer education related to credit card use. Recommendations are given for future research opportunities beyond the present study.

Discussion for Research Question 1

The first research question in this study asked: Which teaching method was most beneficial at increasing short-term knowledge of college students following exposure to credit card education as reflected through Bloom's Taxonomy of learning outcomes? To better measure short-term cognitive knowledge that occurred, a gain was determined by netting out the post-test scores from the pre-test scores collected on the survey following the experimental intervention. This net gain resulted in a clear, accurate capture of knowledge gained following the information presented by removing any prior knowledge brought into the seminar by the students.

For this research experiment, Bloom's Taxonomy was used as a framework for breaking down learning outcomes into three categories. The first category contained the most basic levels of knowledge and comprehension. The second category comprised application and analysis. The final category involved the most complex objectives of synthesis and evaluation. In following Bloom's theory, individuals must complete or master one level before movement to the next level can occur. The current experiment developed three tiers of learning used in conjunction with Bloom's theory. The first tier consisted of the credit card application selection process and ownership choices. The second tier involved interest rate charges and the cost of carrying a balance. The final tier focused on living beyond one's financial means and financial stresses. Just as in Bloom's Taxonomy, the first tier must be fulfilled before movement to the second tier and eventually the third tier can take place. It is through this process of gaining cognitive knowledge about credit card use that students hopefully become better consumers.

A significant increase in short-term knowledge occurred across all groups and across all three tiers. This means that at each of the three tiers, students participating in the experiment gained significant knowledge from pre-test to post-test. In looking at each tier individually with just the gain score, there was no significance in any of the three tiers. The first finding implies that as students are exposed to the overall credit card educational learning, they leave the seminar with new information needed to handle their personal finances at least while they are in college and possibly after that as well. Even among students with prior exposure or experience with credit cards, knowledge was gained.

In this study, the lecture method resulted in a slightly higher overall gain among the three teaching methods, even though the gain was not significant. This slight gain might be due to mere chance since no significance could be determined. There is consistent evidence that short-term knowledge was gained by the students as a result of all three teaching methods. Since the goal of providing education to students focusing on credit cards is important both now and in their future educational settings, this initial finding provide the foundation to look deeper into the three teaching methods used in this experimental study.

Throughout this study, the lecture resulted in the greatest gain in short-term knowledge by the participants over the other two teaching methods. Broadwell (1980) emphasized that the lecture format is virtually limitless in application, either to situation, subject matter, student age, or learning ability. The findings of this study are consistent with this theory that students, regardless of age or prior background knowledge of the subject, benefit as they are exposed to new information. Even though the lecture method has been criticized by some in the profession as not being the most exciting or effective instructional delivery method, this study provided some evidence that basic cognitive understanding was gained with the lecture method. The instructor utilizing this method of instruction was able to provide delivery of the content resulting in students gaining short-term cognitive knowledge. Any increases, even small amounts of knowledge gained, should be considered important.

For the first research question in this study, the researcher summarized that exposure to credit card education, at least with the three types of instructional strategies used in this study, was successful in fostering short-term gain in cognitive knowledge.

The fact that one instructional strategy did not result in a conclusive significant outcome of short-term learning begs for a reason. Perhaps the students themselves, at this particular point in their lives, were not ready to learn about consumer education dealing with credit cards or did not feel that it was important to them. The situation that so few students in this study owned a credit card most likely played a part in the survey results. If more students in the study possessed credit cards, or more importantly had accumulated debt on those cards, it is likely that their motivation for learning would be different.

These factors all have a bearing on the results of this study. As described earlier, the lecture method provided the highest gain of the three groups studied in this experiment. A contributing factor to the other instructional methods not being as effective may be that the multimedia clips and the case study were not as effectively developed and organized as originally thought. Possible explanations may be that the multimedia clips were unappealing, boring, or irrelevant to the learners in the experiment. Perhaps the case study was too detailed or the students were not quite ready to relate to the content of the scenarios being portrayed during the experiment. It is possible that the use of different multimedia clips or case studies might produce different findings for this study. All of these factors are related to the students' motivation to learn.

In addition, the students participating in this study may have felt there was no practical need for them to use the knowledge presented in the materials. With the high number of participants in this study having no experience with credit card use and not owning a credit card, they may not have been as engaged in the learning process as

originally expected. At no point during the experiment did the students' interest shift to them wanting to become better informed consumers. For those students who had very little or no financial knowledge upon entering the seminar, perhaps the experiment started "over their heads" and they never felt an understanding or connection to the materials being presented. This certainly could result in the students gaining very little or no new knowledge.

Discussion for Research Question 2

The second research question in this study asked: What aspects of the instructional delivery process were most beneficial in fostering that short-term knowledge when certain intervening variables are taken into consideration? Since there was not a clear response to the first research question pertaining to the individual teaching strategies, the analysis and interpretation of the intervening variables became an even more important element of the second research question for this study.

The first analysis consisted of a correlation comparison between the three tiers and the methods of instruction. Even though this result confirmed all three tiers were significantly related to each other, no single tier was significant on showing an overall effective rate of knowledge gained by the participants. In reference to Bloom, the model is consistent with one level of learning being fully understood before moving to the next level. More detailed analysis was performed using the survey results in an effort to answer the second research question.

The survey instrument used in this study contained 10 questions directly related to the presentation of seminar materials by the instructors. These questions were designed following research into effective teaching strategies (Eble, 1988; Lowman, 1984). Since the delivery method was different for each of the three classrooms in the

experiment, questions were designed to see if the instructor's delivery method had an impact on knowledge gained. As reported in Chapter 4, no significance was found when looking at these questions either as a group or individually. This leads to the initial impression that the method of delivery was not the critical component to the participants gaining short-term knowledge. The implication is that overall delivery of consumer education is important, not necessarily the method used to deliver that knowledge. With no clear results surfacing from the main research question, other survey questions were selected for examination for more insights.

An early assumption was made that some students in the experiment would possess credit cards. The assumption was also made that students would carry a debt balance on their cards (Norum, 2008; Robb & Sharpe, 2009). As reported in Chapter 4, a very small number of students in the study owned a credit card with an even smaller number holding a debt balance on those cards. Despite the numbers being small, analysis was performed to see if any significance could be determined using these variables. None was revealed from the current sample. Also, no significance was found when looking at number of credit cards held, average debt on those cards, or average highest interest rates.

Several observations can be made from these results. First, while the overall low amount of students owning a card in this study is encouraging, one can hope that students retained the knowledge gained in this experiment when looking at making credit card applications at some future point in time. Tier 1 explored the most basic levels of ownership before moving into Tiers 2 and 3. For students who have not yet made a decision to apply for a credit card but are planning to apply in the future, the

knowledge gained from Tiers 2 and 3 can help them make wiser consumer choices. One study revealed that students often times mismanage credit cards (Lyons, 2004). Another study revealed financial difficulties resulting in students taking on extreme levels of unmanageable debt (Joo et al., 2003). From this study, short-term knowledge gained in Tiers 2 and 3 hopefully makes students stop and think before making poor credit card decisions.

Second, for the low number of students in this experiment who held a credit card with debt, the overall numbers and amounts appeared to be manageable. Tier 2 learning materials explored interest rates and the costs of carrying a credit card balance. Elements of the content covered can be used to help manage any debt problems that may result from the outstanding balances on this small segment of the seminar population. A study by Sidoti and Devasagayam (2010) reported students purchased beyond their means to impress others. In this study, participants responded they often purchased items that were not directly associated with educational expenses but were materialistic in nature such as clothes or electronics. These purchase balances often were carried forward from month to month on credit. The current study did not look at materialism as a characteristic of purchasing, but these purchases could be part of students' overall credit card debt totals.

Third, the Tier 3 format of the experimental intervention revealed the warning signs of living beyond one's financial means and dealing with the stresses of debt. As described earlier, one of the hopes of the experimental intervention focused on students gaining knowledge from the seminar, even small amounts of knowledge. If students do, in fact, stop and think about the consequences of applying for and possible spending

beyond their means, then the time invested by them in attending some type of consumer education would have been worthwhile. Findings by Makholwa (2009) revealed that students had “red flag warnings” when their debt balances rose each month as well as delaying paying other household bills. Lange and Byrd (1998) confirmed that many college students do live beyond their financial means resulting in higher stress levels. Both of these studies reinforce that any gains in short-term knowledge is important for students owning credit cards.

One question on the survey inquired how many students not currently owning a credit card would consider making an application sometime over the next 12 months. There were 27 students (17.9%) who responded they would consider making a credit card application over the next year. This number should be viewed as a small percentage of the overall student population involved with the experiment and the low result should be viewed as a positive finding. By not applying for a credit card, individuals do not have the opportunity to accumulate credit card debt or suffer the consequences of unmanageable debt levels and possible stresses.

Another intervening variable analyzed in this study focused on students who had a personal finance class in high school. Prior research indicates that knowledge increased when students were exposed to consumer education at the high school level (Walstad et al., 2010). In the current study, a total of 52 (31.1%) reported having some type of personal finance or consumer education in high school. When comparing the gain scores to those having personal finance in high school, higher scores were reported for Tiers 1 and 2, but not for Tier 3. This finding is not unexpected since the assumption can be made that the basics of credit card education were studied during

their high school course. With Tier 3 containing the most complex elements of the learning cycle, the lower gain scores showed that some level of learning is still possible even for those entering the experiment with varied amounts of prior knowledge. This is also confirmed by Bloom's theory that expounds that the most complex learning takes place at the highest levels.

The method of instructional delivery did not impact the learning outcomes in the present study for students who had a personal finance class in high school. This indicates that no one method was more important in delivering information to the participants in Tiers 1 and 2. Students may have lost interest in the subject matter, especially for those who had been exposed to consumer education in high school; therefore, no gain was measured in Tier 3. These students may have lost interest based on the fact that they already had consumer education and there was no new information to be learned, in their opinions.

Four motivation questions were included on the survey. The first three motivation questions focused on the students' use and ownership of credit cards. Questions included asking their opinions of using credit cards for purchases following the seminar, how likely would the participants think twice before using credit cards for future purchases, and how motivated were the students to re-evaluate their future desire to own or use credit cards. There was no significance discovered indicating that following the seminar, no change in behavior, at least for the short-term, can be anticipated. Prior research indicated that buying power and a sense of security were key motivation factors in students applying for a credit card (Blankson et al., 2012). This

finding should not be considered as unfavorable, but viewed as a possible factor of the students not being motivated to learn at this particular point in their life.

The fourth question, asking the participants to rate their level of motivation to learn financial concepts prior to the seminar, did show a significant gain, but only in Tier 3. With Tier 3 being the highest level on Bloom's scale, the implication can be drawn that for students wanting to understand and be informed about credit cards and their use, they may have entered the seminar more receptive to learning new material. In looking at the three teaching methods, the researcher determined that only the lecture method was significant when analyzing question 36. This survey question asked about the student's level of motivation to learn financial concepts prior to the experimental intervention. Those students not showing any gain most likely lost interest at levels one or two. This may have resulted from the material no longer being of interest to the students. Other possible explanations may be the students felt the material was too complex to understand and they simply stopped engaging in the seminar.

One of the possible concerns with this experimental intervention was developing a survey instrument that captured both the pre-test knowledge as well as the post-test knowledge of the participants. The experimental intervention seminar also had to be conducted in such a way that there was a clear distinction between the three categories of Bloom's Taxonomy. This distinction was accomplished when three different tiers were created to mirror Bloom's levels of learning that had been grouped into three categories. For this experiment, two survey questions were added in an effort to see if exposure to a prior tier's information impacted the answers on the survey in one of the following seminar segments. When viewing the two questions separately in this study,

no significance was found. This result reveals that even though some of the prior tier's knowledge may have impacted a student's thought or learning process, each tier's knowledge gained stood independent upon itself. This is important as each tier of the learning process should be viewed independently without reference to the next level of information to be presented.

Looking further at these two survey questions and comparing them against the three teaching methods, all three instructional delivery systems tested significant. The lecture method revealed the highest significance followed by the multimedia clips method. The case study method showed the least significant gain. This is an important finding in the current research study as it confirms that at the highest level of learning, that being Tier 3 of the seminar materials and Category 3 in Bloom's Taxonomy, knowledge gained from the lower tiers and categories has an influence on the amount of short-term cognitive knowledge gained by participants. In the current study the lecture method provided the highest gain. As discussed earlier, there is a possibility that the multimedia clips and case study used in this experiment were not enticing enough to provide a higher gain score from the participants. The use of alternative multimedia clips or case study could have provided different results.

One of the study's major findings revealed that the lecture method is most effective in short-term cognitive learning when compared to using multimedia clips in the classroom or incorporating a case study with a lecture. The major finding is not always consistent with the literature. Houston (2000) and Katz (2008) both found that using short multimedia clips in the classroom proved to be a successful instructional delivery method. The case study approach by Bartz and Miller (1991) and Wynn-

Williams et al. (2008) was found to be effective when used to deliver educational content to students.

The lecture format—perhaps viewed as old fashioned or not as glamorous—still is an effective method for fostering learning. Eble (1988) wrote that the lecture method allows for face-to-face confrontation with other talking, gesturing, thinking, feeling humans. The lecture style, despite its shortcomings, has reason for its continued use in the classroom. Bligh (2000) wrote that in spite of all the criticisms, the lecture method remains the most common instructional model in higher education. Even though the findings from this study reveal that the lecture method provided the greatest short-term gain in cognitive knowledge, one should not discount the other instructional delivery methods as possible options in delivering consumer education to college students.

Implications

As discussed in Chapter One, consumer education is an important topic that is lacking not only at the college level, but across society (Chen & Volpe, 1998; Lusardi et al., 1999; Xiao et al., 2004). By organizing and executing the experimental intervention used in this study, educators, college administrators, policy makers, and credit card companies looking to understand consumer education can benefit from the findings. All of these groups can play an important role in helping to provide education geared toward responsible credit card use and debt management. In reviewing the findings from this experiment, one can find several items that are notable and merit discussion.

Throughout this study, Bloom's taxonomy of learning objectives was useful for classifying levels of learning. Perhaps Astin's (1977) ideas of separating cognitive from affective outcomes and adding the dimension of psychological and behavioral

aspects to these outcomes may be useful for organizing teaching interventions. The lecture method used in this study focused on the cognitive-psychological dimension of Astin's theory. The multimedia clips and case study methods were more cognitive-behavioral in nature. Since this study was designed to capture only short-term knowledge, the use of three teaching strategies perhaps limited the ability of capturing the desired outcomes of cognitive learning that one might have desired. Even though the use of multimedia clips and case studies was part of this design, these two methods may have limited the outcomes of the students. In order for faculty members to design effective teaching and learning tools, they must understand and taken into consideration these possible outcomes.

The third element of Astin's theory looks at a time-dimension. The hope following exposure to credit card education is that students become better informed consumers both in the immediate future as well as over the course of their lives. Even though the results of this study did not result in an immediate, significant outcome following exposure to credit card education, long-term knowledge may still have been captured. Based on the present study, there is no way to know whether this statement is accurate. As cognitive skills are developed in students they become more productive citizens in an ever changing global society. This allows students, as they mature over time, to make a more informed choice about finances for themselves and their families.

The first research question posed in this study was to determine which teaching method was most beneficial in fostering short-term knowledge gain of college students following exposure to credit card education. Bloom's Taxonomy of Educational Objectives (1956) was used as a guide in determining the levels of learning. Students,

as well as consumers in general, have to learn and understand the most basic information about credit cards before a more complex set of debt management skills can be learned and implemented. For this study three different teaching methods presented by three different faculty members were selected. The teaching methods included the traditional classroom lecture; lecture supplemented by using multimedia clips; and lecture with the use of case studies.

As presented in Chapter 4, the findings showed an increase in short-term knowledge gained from each of the three teaching methods when comparing the post-test questions to the pre-test questions. Even though increases were reflected in each of the methods, no one method was significant. This experiment was designed so that each of the three instructional strategies would occur at the same time in different rooms. Three different faculty members were used to conduct the experiment allowing the question to be raised that perhaps the individual teaching style of the faculty members had an impact on learning outcomes. One alternative method would be to have the same faculty member teach each of the groups using the three different teaching methods, which would change the design of the study to occur on three different nights. Using one faculty member for the experiment as opposed to using three different individuals all who possess different personalities would eliminate the variable of different teaching styles. Human characteristics that were present in the faculty members would be evident while all three teaching strategies were being used in the classroom.

The assumption by each of the faculty members presenting the materials was that students entered the experiment with no prior knowledge and the materials were

presented starting with the most basic concepts. At some point during the experiment, the assumption could be drawn that the final or highest level of learning had been achieved, perhaps before reaching the final tier. Is there a point in the learning process where the instructor can recognize that learning has stopped or that a different instructional method might be beneficial to try to push students to the final phase of learning as reflected by Bloom where synthesis and evaluation have been achieved? The answer might be found in the skill of the instructor presenting the material to recognize when the attention span of students has been reached. At that point an alternative approach should be considered by the instructors in an effort to re-engage the students learning opportunity.

In reviewing the results of the motivation questions on the survey, one can summarize that at some point during the learning process students lose interest and learning stops. The content may be beyond what students are able to comprehend. Information presented beyond that point of learning is not beneficial to the students. The goal of any instructor would be to identify those students and try to engage them in the process to achieve the highest levels of learning. Bligh (2000) summarizes that the best way to generate interest in a subject is to display interest and the only emotion more contagious than enthusiasm is the lack of it. The success of all instructional delivery systems begins with the individuals delivering the materials to the students. The three faculty members participating in the current study, in their opinions, were energetic and enthusiastic throughout the experiment.

Several implications from this study are useful to a variety of constituents. The first group that can benefit from consumer education are college students. As

mentioned earlier, consumer education is needed at all levels of American society, including students enrolled in higher education. Providing consumer education, specifically information on credit cards, can have a long-term impact on students while they are in college as well as beyond graduation. As discussed earlier, students owning credit cards used those tools for a variety of purchases. Some were for educational related expenses such as tuition, fees, books, room or board. Other expenses may not be entirely necessary in order to complete their educational goals. Examples of such expenses include items purchased impulsively that are not necessary. These unnecessary purchases become even more questionable if students cannot pay the balance in full when the credit card bill is due each month. The current study shows that exposure to credit card education, regardless of the method, resulted in a gain in short-term knowledge. This gain, even small amounts, can prove beneficial to students while in college as they face purchasing decisions. The long-term hope is that as these same students enter the work force full-time, they continue to make wise purchasing and payment decisions.

As faculty members are given the opportunity to teach consumer education to college students, several points can be taken from the current study. As just described, exposure to consumer education can result in short-term knowledge gained. The goal of any faculty member should be to try to foster as much knowledge as possible when given the opportunity. In the current study, the lecture method resulted in the greatest gain of short-term knowledge. The use of multimedia clips and case studies, even though overall gains were noted, were not shown to produce significant results. The inventory of multimedia clips should constantly be reviewed and updated by instructors

so only the most current and appealing clips are used in the classroom. These multimedia clips could focus on experimental learning where students learn from the experiences of individuals featured in the videos. Case studies should also be targeted that appeal directly to the interest of students. Realistic situations and purchasing decisions are critical to accomplishing this content goal by instructors.

This leads to the question of how to offer consumer education to higher education populations. Faculty members who have the background and desire to teach this subject become the advocate within the campus community. If the decision is made that personal finance classes should become part of the general education requirement, resources need to be allocated by university administrators for qualified faculty members to teach these courses. As general education focuses on making students academically well rounded upon graduation, certainly adding a required personal finance class merits discussion. The practical information learned from personal finance classes will provide life-long skills for students.

If higher education institutions make the decision to offer consumer education only during orientation sessions to new students, the institutions cannot ignore or take lightly this opportunity. Since the goal of all colleges and universities is to help students progress toward graduation, providing information about responsible credit card choices can help alleviate one stressful factor that could impact retention. Along with presenting the general information, university administrators must also be cognizant of the fact that some students may need one-on-one counseling to help overcome financial barriers that may develop during their college experience. These trained professionals need to have a solid background in consumer education and be

available to provide guidance to students experiencing financial difficulties. Student services counselors need to work hand-in-hand with financial aid staff if impacted students also have student loans. Having both credit card debt and student loan debt can create anxiety and even depression in some students. In the current study, Tier 3 focused on living beyond one's financial means as well as financial stresses associated with having excessive credit card debt. Institutions must have trained and readily available staff to assist in helping individuals cope with these stresses.

Both state and federal governments have a vested interest in students becoming solid, productive citizens of society. As the cost of higher education continues to rise, policy makers are faced with how to help fund public education. With the steady decline in state funding, coupled with financial aid and scholarship dollars not keeping up with the rising percentages of tuition and fees, many students are continuing to face difficulties in paying for their education. In many cases, the use of credit cards is the only alternative for paying for these educational expenses. At what point do state governments provide more dollars to offset the cost of delivering instruction to students? Should state governments provide more scholarship assistance to students? At the federal level, should more funds be put into entitlement programs to help the neediest students? If the answer to all of these questions were yes, students that rely on credit cards to help offset some of their college expenses would be in a better financial position and not saddled with credit card debt.

The balance between what a student should pay for their public education and what resources should be paid by the state or federal government certainly impacts what recourses are available to students and parents. In many instances, parents are faced

with helping their children fund college educational expenses. Many parents simply do not have the resources or savings to offset educational needs. The only remaining option, in many instances, is to put these expenses on credit cards. This raises the larger, more daunting question concerning the amount of higher education costs that should be covered by either the state or federal government in an effort to educate students. By allowing students to complete their education, not only will they become more marketable to prospective employers, but they will generally earn higher salaries compared to students without a college education. Along the way, students hopefully will gain the consumer education skills necessary to make sound financial decisions concerning credit card use.

Next, banks and financial institutions are impacted by students owning credit cards. Few would argue that the objective of both banks and credit card companies is to make a profit. Some would debate, however, the methods used to obtain these profits. Many banks hope to attract new customers at an early age. College students are a prime market for this expansion opportunity. In addition to credit cards, many other banking services are made available to customers such as car loans, home loans, or investment products. These financial institutions hold some stake in helping provide consumer information to customers, specifically customers who are college students. Printed materials distributed to card holders as well as information on their respective web sites can be a starting point. These resources can effectively be used in connection with trained private-sector professionals being used as speakers during orientation sessions or by helping supplement a classroom lecture.

Finally, this study can shed some light on the need for consumer education at all levels of society. Even though this study only utilized three instructional delivery methods, post-test gain scores revealed that some level of short-term knowledge was gained. The general population, by evidence of consumers having excessive credit card debt, not paying their bills in full each month, or purchasing items on credit they simply cannot afford or do not need, should welcome educational opportunities to learn more on this timely topic. Involvement by both state and federal governments can impact how consumers react and behave based on legislation that is passed dealing with credit card ownership and use.

For individuals who are able to make wise consumer choices and do not spend resources on credit card interest payments or penalties, they hopefully can put money into savings or retirement accounts. In most cases, these consumers will exhibit less stress related to financial worries resulting in a better quality of life. These are two goals that hopefully every credit card owner desires to accomplish.

Recommendation for Future Research

Upon review and reflection of the current study, several opportunities appear to be available for future research. Sample size is always a factor when looking at validity of statistical calculations. Certainly adding more students might provide a different result. Another alternative would be to conduct the survey during a fall semester at Northwestern Oklahoma State University and only involve the Ranger Connection orientation class students. This population of students enrolled during the fall term would be larger than students involved with the present study.

The third dimension of Astin's (1977) theory involved a time element. The current study only looked at the immediate gain in short-term knowledge. Conducting a survey with students six months, one year, or longer after participating in a credit card education seminar to see if their attitudes and/or behavior changed as a result of the education might provide results that could be used in future training programs. This behavioral aspect can help shed light on the effectiveness of the educational intervention program. If the results showed that students did, in fact, change their behavioral patterns as it relates to credit card use, this would provide greater evidence that the educational programs are critically important for students.

With the need for consumer education growing, any studies that can shed additional light on meaningful, purposeful, and effective instructional delivery systems are beneficial. These findings can be of value to both higher educational practitioners as well as financial professionals working outside of higher education. Research that deals with why the lecture method is still good at imparting basic knowledge along with how higher level learning can better foster learning outcomes is important. The use of real life experiences through the use of multimedia clips or the use of relevant simulations by using case studies as examples will go a long way toward more meaningful learning, both short-term and long-term. Any educational knowledge that can be gained makes for a stronger, financially sound society.

Conclusions

Chapter 5 completes the discussion for the current study where an intervention was conducted in an effort to see which of three teaching strategies was most effective in fostering short-term cognitive knowledge gained. As determined earlier, the method

of delivery is not the critical element for student participants. The simple fact that exposure to consumer education occurs, regardless of the delivery method, is the important finding from this study.

Every higher education institution should have as part of their orientation process or general education curriculum requirements some type of consumer education program. These programs, when delivered by energetic and enthusiastic faculty or staff, can provide the foundation for students to build a sound financial understanding. Not only does this provide critical knowledge for students enrolled in higher education that allows them to avoid financial pitfalls, but also paves paths for them to make more informed financial choices throughout the remainder of their lives.

As technology changes over time and future research provides evidence of more effective delivery systems, providers of consumer education must stay abreast of these enhancements. The most important point to take from this experimental intervention is that the method of instructional delivery is not the critical factor, but that informing students about consumer education, specifically dealing with credit cards, is vital. Knowledge gained in the short term can be utilized throughout the remainder of students' lives.

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Appendix A: Survey Used Following Experimental Intervention

Survey on Student Credit Card Information and Seminar Instructional Feedback

Instructions to Respondents: The main objective of this survey is to collect information and feedback on the credit card seminar you just participated in this evening. The questions being asked relate to your knowledge levels prior to the seminar compared to your opinions afterwards. The survey will also ask a series of questions relating to the teaching methods you encountered during the seminar. At the end of the survey are several questions asking for your demographic information. The answers you provide will be collected anonymously and compiled as part of a research study focusing on credit card instructional strategies and short-term knowledge. The survey should take approximately 10 minutes to complete. Your honest answers are key to the success of this study.

Please answer the following questions based on the information you just received from this credit card seminar. Indicate by circling the number next to the question to what extent you feel knowledgeable with the statements below using the following scale:

Little or No Knowledge	2	Moderate Knowledge	4	Substantial Knowledge
1		3		5

How would you rate your overall understanding or knowledge level for the following questions concerning credit card application and ownership?

	Prior to Today Seminar	Following Today's Seminar
1. Process involved with applying for a credit card	1 2 3 4 5	1 2 3 4 5
2. The way in which your FICO score will impact a credit card application	1 2 3 4 5	1 2 3 4 5
3. Ways to compare yearly credit card membership fee charges	1 2 3 4 5	1 2 3 4 5
4. The use of incentives such as cash back, airline miles, or hotel points provided for purchases made on credit cards	1 2 3 4 5	1 2 3 4 5

Please answer the following questions based on how the instructor presented the materials on credit cards. You should evaluate the instructor only on this seminar's contents. Use the following scale for your answers:

	Very Poor	Poor	Fair	Good	Excellent
	1	2	3	4	5
16. The instructor explained new ideas by relating them to familiar concepts				1 2 3 4 5	
17. Important topics were clarified with good examples				1 2 3 4 5	
18. The instructor demonstrated the importance and significance of credit card ownership and use				1 2 3 4 5	
19. During the seminar you had the opportunity to ask questions about credit cards				1 2 3 4 5	
20. The teaching method used in this seminar enabled me to learn				1 2 3 4 5	
21. The teaching method used in this seminar was delivered in terms I could understand				1 2 3 4 5	
22. The instructor presented the credit card material in a way that was clear and allowed me to better understand the topic				1 2 3 4 5	
23. The instructor kept my attention during the presentation on credit cards				1 2 3 4 5	
24. I can apply information learned today in the near future				1 2 3 4 5	
25. I feel my overall understanding of credit cards has increased				1 2 3 4 5	

26. Do you currently own a major credit card (Visa, MasterCard, American Express, Discover)?

Yes No

If you own any of these credit cards:

- (a) How many cards do you have? _____
- (b) What is your current debt on these cards? _____
- (c) What is your highest interest rate (APR) on one of your cards? _____
- (d) Is your recurring balance very close to the credit limit on at least one of your cards? _____

27. Do you currently own a department/retail store/gas company credit card?

Yes No

If you own any of these credit cards:

- (a) How many cards do you have? _____
- (b) What is your current debt on these cards? _____
- (c) What is your highest interest rate (APR) on one of your cards? _____
- (d) Is your recurring balance very close to the credit limit on at least one of your cards? _____

28. Have you ever been late on making a credit card payment during the past 12 months?
 Yes No
29. Have you ever paid just the minimum balance due on your card during the past 12 months?
 Yes No
30. If you have any type of credit card, did you obtain your card before starting college?
 Yes No Do not currently own a credit card
31. If you own any type of credit card, have you experienced financial difficulties (spending more than you can afford, being late on a payment, missing a payment, etc.) with using that credit card?
 Yes No Do not currently own a credit card
32. If you do not currently own a credit card, do you plan on making an application in the next 12 months for a credit card?
 Yes No

Use the following scale to answer the next three questions:

	Not at all 1	2	Somewhat 3	4	Very 5			
33. Now that you have studied about how credit cards work, has your opinions changed about using them?				1	2	3	4	5
34. If you have the opportunity to use credit cards in the future, how likely are you to think twice before using a card?				1	2	3	4	5
35. Now that you have completed this seminar, how motivated are you to re-evaluate your future desire to own or use credit cards?				1	2	3	4	5

36. Before you took this seminar, please rate your level of motivation to learn financial concepts.

	Little or No Motivation 1	2	Moderate Motivation 3	4	Substantial Motivation 5
37. Please mark your gender:					

- Female Male

38. What is your current age? _____

39. What is your ethnicity?

- Caucasian
 African-American
 Asian American or Pacific Islander
 Hispanic
 Native American
 Other

40. What is your marital status?
- Married Divorced Never Married Engaged
41. What is your educational classification at Northwestern?
- Freshman
 Sophomore
 Junior
 Senior
42. What is your highest degree goal that you plan to obtain?
- Bachelor's
 Master's
 First-Professional
 Doctoral
43. Did you have a Personal Finance class in high school?
- Yes No

Dependent/Independent Status

44. Your dependent/independent status is determined by the filing of last year's income tax return. You are "dependent" if your parents or legal guardians claimed or will claim you on their 2012 tax return.

Dependent

- (a) If you are dependent, what was the approximate combined annual adjusted gross income (before taxes) of your parents or legal guardians last year?
- Less than \$25,000
 \$25,000 - \$50,000
 \$50,000 - \$75,000
 \$75,000 - \$100,000
 Above \$100,000

Independent

- (b) If you are an independent, what was your annual gross income (before taxes) last year?
- Less than \$15,000
 \$15,000 - \$25,000
 \$25,000 - \$35,000
 \$35,000 - \$45,000
 \$45,000 - \$55,000
 Above \$55,000