Financial Planning Curriculum For Teens: Impact Evaluation

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The purpose of the study is to assess the impact of a high school financial planning curriculum on the financial knowledge, behavior, and self-efficacy of 4,107 teens nationally. Statistically significant changes were found in financial knowledge, behavior, and self-efficacy both immediately after studying the curriculum and three months after completing the curriculum. About half the teens had gains in knowledge, a third had gains in behavior, and 40% increased their confidence in managing their money.

Key Words*: Financial curriculum, Financial literacy, Teen finances, Program evaluation*

Introduction

Although studying the financial knowledge of teens is not a new phenomenon in the academic literature, it has received increasing attention recently in the public arena, especially in the mass media (Consumer Federation of America, 1991; Jumpstart Coalition, 1996; National Coalition for Consumer Education, Inc. 1991; Wang, 1993). Whether the studies evolve from the academic or the public arena or they are historic or recent, they all conclude that teens lack knowledge about personal finance.

In both the academic and mass media arenas, there has been a call for financial education to increase the financial literacy of teens. Personal finance is not taught systematically in high schools. Only 26 states in the U.S. mandate consumer education and only 14 require a personal finance component (Bernheim, Garrett & Maki, 1997; Stanger, 1997). Little is known about the effectiveness of this education or the curricula used within these educational efforts. The purpose of this study is to assess the impact of a high school financial planning curriculum on the financial knowledge, behavior, and self-efficacy of teens.

Program Evaluation Defined

Evaluation means many different things to people. Furthermore, the concepts of evaluation and research are often used interchangeably. Some people believe that evaluation is no more than a political activity (Worthen & Sanders, 1987). Evaluation experts such as Patton (1997), however, emphasize that a critical social issue lies in the **usefulness** of an evaluation. Patton argues that, regardless of method and rigor, an evaluation that does not identify potential users of the evaluation findings and strive to meet the needs of those users is not an evaluation worth doing. In applying his categorization of the ways evaluations can be useful, a program evaluation can be useful in three potential ways:

1. To judge the merit or worth of a program.
2. To improve a program.
3. To generate knowledge about what is needed.

Taking this utilization-focused evaluation approach proposed by Patton, it is first essential to differentiate evaluation from basic and applied research. Basic research is directed toward an increase in knowledge or information which is aimed at a fuller understanding of the subject under study where as applied research is directed toward practical applications of knowledge or information (Worthen & Sanders, 1987). The distinction between applied research and evaluation is a distinction between general and specific knowledge. The aim of applied research is to produce generalizable knowledge to solve a general problem while evaluation focuses on collecting specific information relevant to a particular problem, program, or product.

The definition of evaluation used within this study is that of Worthen & Sanders (1987); they define evaluation as "the formal determination of the quality, effectiveness, or value of a program, product, project, process, objective, or curriculum" (p. 22). The focus in this study is a program with a specified, detailed curriculum. The evaluation process

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was initiated in order to determine the impact of the curriculum in increasing teen financial literacy as defined by knowledge increase, behavioral change, and an assessment of financial self-efficacy.

Conceptual Framework

The conceptual framework guiding the current study is provided by the five-tiered approach to evaluation proposed by Francine Jacobs (1988). This five-tiered approach organizes evaluation activities at five levels: the pre-implementation tier, the accountability tier, the program clarification tier, the progress toward objectives tier, and the program impact tier. It is a hierarchical approach because as the levels increase, so do the efforts at data collection and tabulation, the precision in program definition, and the commitment to including the evaluation process in programming. Programs are able to engage in several levels of evaluation at the same time and can return to previous levels when appropriate.

The pre-implementation tier creates the conditions for all subsequent evaluation efforts. The activities carried out in the pre-implementation tier have been referred to as the needs assessment stage as well as the planning period (Jacobs, 1988). At this stage, program administrators are encouraged to think through their definitions of the problems to be addressed by the program, what their organizational structure should be, and their chances of success in dealing with the identified problems. The purpose of evaluation conducted at the pre-implementation tier is to document the need for a particular program, to demonstrate the fit between the participant needs and the proposed program, and to provide data which will serve as the groundwork of further efforts. The audience for such information consists of potential funders as well as citizen groups.

The accountability tier is characterized by a systematic collection of participant-specific and utilization data in order to serve a program monitoring function. The purpose of evaluation conducted at the accountability tier is to document a program's utilization, entrenchment, and penetration into the target population, to justify current program expenditures and requests for increased expenditures, and to build a constituency. The audience for evaluation conducted at the accountability tier are funders, donors, community leaders, and the media.

The program clarification tier consists of evaluations designed to help programs make use of the information generated in previous stages while encouraging them to draw on staff and participant feedback to monitor and improve program operation. At this stage, program material from the pre-implementation tier is reviewed critically, integrating the lessons learned during implementation. At this tier, program goals and objectives are scrutinized to identify what a program hopes for its clients to achieve and the intervention strategies for achieving these ends. The audience for such evaluation efforts includes program staff and program participants.

The progress toward the objectives tier focuses on program effectiveness while incorporating the fuller evaluation activities of the previous tiers. Evaluation conducted at the fourth tier pushes programs to articulate short-term objectives with behavioral indicators of their attainment. Further, evaluation at this tier seeks to understand why participants may have differentially achieved program objectives. The purpose of evaluation conducted at the progress toward objectives tier is to provide information to staff to improve the program and to document the program's effectiveness. The audience for fourth tier evaluation consists of staff members, program participants, funding agencies, and other programs.

The program impact tier is characterized by a commitment of the program and its evaluator to a more stringent methodology to identify and measure long- and/or short-term impacts on members of the target population using complex procedures such as random sampling or longitudinal data collection. Fifth tier evaluations meet the criteria of reflecting the goals and objectives of their programs, inclusion of program process and implementation data, inclusion of direct participant feedback, an identified audience for evaluation findings, and the identification of strengths and limitations of the evaluation design.

The target of the program evaluation for this study was tier four (progress toward objectives) and tier five (program impact). This target infers dual purposes and multiple audiences for the evaluation. The evaluation strove to document program effectiveness, develop an evaluation process and instrument that could be used repeatedly, and contribute to knowledge development about the effectiveness of financial literacy education to teens. The multiple audiences include program participants (primarily teachers and students) and program collaborators, policy makers and funders (federal, state, and local), financial management practitioners working with teen audiences, and the academic and research

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communities. The task for this fifth tier evaluation according to Jacob (1988) is to assess enduring changes among participants.

Teens Financial Knowledge and Behavior

Recent studies about the financial knowledge of teens have indicated that they are transitioning into the adult financial world ill-prepared to function efficiently. The Consumer Federation of America and the American Express Company tested high school seniors nationally; they found that teens answered correctly only 42% of 52 questions about banking, auto insurance, housing, cars, credit and food (Consumer Federation of America, 1991). The Jumpstart Coalition for Personal Financial Literacy conducted a national survey of teens who answered questions correctly 57% of the time; questions covered topics such as taxes, retirement, insurance, credit use, inflation and budgeting (Jumpstart Coalition, 1997). Danes and Hira's (1987) teen respondents answered questions correctly within a range of 30 to 90%, depending on the content the question; those questions on credit cards, insurance, investments, and personal loans received the lowest correct answers.

Marketers have recently discovered the potential purchasing power of teens. Zollo (1995) estimated that teens spent $100 billion in 1994 which he indicated climbed to $103 billion in 1996 (Teenage Research Unlimited, 1997). Teens have three primary sources of income: (1) allowance, (2) employment, (3) gifts as other funds received from parent and relatives. Much of this money is discretionary income, especially if the teen lives at home with their parents (McNeal, 1990; Doss, Marlowe & Godwin, 1995). In this type of environment, the teen experiences "premature affluence" since there are few expense demands placed on the teen's disposable income (Koehler, Lawroski & Bischoff, 1995). In fact, motivations for teen employment have been driven not by economic need but by a desire for luxuries (O'Neill, 1992). Bailey (1992) reported that 82% of teen's employment income was spent on entertainment, clothing, cosmetics, and transportation. Zollo (Teenage Research Unlimited, 1997) indicated that 68% of teens had savings accounts. Female teens save more than their male peers (Alhabeeb, 1996).

Financial Education: How Much Occurs Within Families?

When children are young, the family is a primary socialization unit for them and serves as a filtering unit for information from the outside. By the time children reach school, they have the foundations of their values, beliefs, attitudes, expectations, and motivations about money already established (Moschis, 1987). But, children learn by observation, practice, and intentional teaching. Many of their values, beliefs and attitudes about money are established through observation and example (Danes, 1994). However, the behaviors of quite a number of their parents have led to these statistics according to Wall Street financial analyst, Michael Sivy (Sivy, 1997):

1. Bankruptcies are running more than 1 million a year for the first time ever in 1997. Personal bankruptcies are increasing at a 27% annual pace and that adds up to the bankruptcy rate doubling in the past decade.
2. The typical American has 9 credit cards and average balances amounting to almost $4,000. Only one in three Americans pay off balances every month.
3. The cost of debt hit a record high in 1996, as Americans spent 11.3% of their after tax-income repaying consumer loans. This means that principal and interest payments on consumer debt eat up 11 cents of every dollar Americans earn after taxes.
4. Of the industrialized countries, the United States has the lowest savings rate.

This information is particularly important because researchers Moschis, Moore, and Smith (1984) and Moore and Stephens (1975) have indicated that limited attempts are made by parents to teach their children financial skills. Rettig and Mortenson (1986) have further stated that when parents lack competence or motivation, they will probably be less effective in assisting their children's learning. Furthermore, these researchers have suggested that positive reinforcement, characterized by providing compliments when children perform a desired behavior such as saving part of money earned without parental encouragement, might encourage the development of effective financial behaviors. On the other hand negative reinforcement, characterized by comparing one sibling to another in reference to spending habits, might constrain the development of financial knowledge.

Marshall and Magruder (1960) found that children are more knowledgeable about the use of money when their parents handle family income wisely. Danes (1994) researched parents to determine if they thought it was appropriate to teach

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children about money. The findings of that research indicate that the age at which parents believe children are ready to perform various financial behaviors almost exactly mirrors when children are capable of learning those behaviors. However, parental assistance in money management practices changes as the child grows older (Danes, 1994; Danes & Dunrud, 1993). Reinforcement mechanisms such as giving an allowance are likely to be more frequent in early childhood than in later years (Danes, 1994; Ward, Klees & Wackman, 1990).

Beyond focusing on financial education within the family, it is critical to take a systemic approach to teaching financial literacy. The approach involves teaching personal finance in schools to complement what is taught within families. This systemic approach also incorporates community professionals from the financial industry into the classroom; these professionals would also provide financial literacy messages for teens through the use of mass media.

There is at least some initial evidence that indicates that teaching personal finance in schools does make an impact. The Economic Research Institute did a study that indicated that those adults who grew up in states where personal finance education was mandated in high school are saving 5% more money than their peers; their net worth is also higher by roughly a year's worth of earnings (Bernheim et al., 1997). Pritchard and Myers (1992) suggest that consumer education become a partnership between schools and families; they found that in families whose teens had completed a consumer education curriculum, teens and parents had remarkably similar economic value orientations.

Description of the Curriculum

The High School Financial Planning Program® (HSFPP) Curriculum is a collaborative effort between the National Endowment for Financial Education® (NEFE) and the Cooperative State Research, Education, and Extension Service within USDA (United States Department of Agriculture). It includes an extensive instructor's manual, student workbook, and student personal financial portfolio. It is designed to be completed in as few as ten classroom hours or over a longer period of time. It can be presented in classrooms within several potential timeframes such as over a two or three week period, over a four to six week period, or over a quarter or semester.

The curriculum acquaints students with basic financial planning concepts and illustrates how these concepts apply to everyday life. The goal of the curriculum is to increase the financial planning literacy of teens. The curriculum is divided into seven units with units building on each other from one unit to the next. The topics of the seven units include:

1. Providing an introduction to the financial planning process.
2. Explaining the relationship between career/work factors and earning potential.
3. Developing a personal spending/savings plan.
4. Using and managing credit effectively.
5. Describing risk management techniques and explaining the importance of protecting their assets.
6. Explaining the importance of saving and investing and the benefits of using the time value of money with their savings plans.
7. Completing a personal financial plan.

Each unit provides an overview of the section, a goal statement which identifies the main focus of the unit, and learning objectives which indicate the degree of mastery students are expected to demonstrate.

Methods

Evaluation Procedures

Actual measures of behavioral change would be preferred to less objective measures in almost every case if resources were unlimited; however, measures of actual behavioral change are almost always more difficult and costly (sometimes prohibitively) to obtain (Howard & Dailey, 1979), especially when the scope of assessment is nationwide. Less costly alternatives include traditional pretest-posttest designs or retrospective pretest designs. When comparing these two alternatives, it was found that self-reported measures of change that used retrospective pretests to remove response-shift bias demonstrated significantly greater validity than measures of change that used traditional self-report pretests (Howard & Dailey, 1979; Howard, Ralph, Gulanick, Maxwell, Nance & Gerber, 1979; Linn & Slinde, 1977; Rockwell & Kohn, 1989).

The traditional pretest-posttest comparison results have been found to be a source of internal invalidity because

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participants may have limited knowledge at the beginning of a program that prevents them from accurately assessing baseline behaviors. By the end of the program, their new understanding of the program content may have an impact on the responses on their self-assessment. If a pretest was used at the beginning of the program, participants have no way to correct an answer at the end of the program if they made an inaccurate assessment in the baseline data rendering the pre- and post-test results incompatible (Linn & Slinde, 1977; Howard et al., 1979; Rockwell & Kohn, 1989; Sprangers & Hoogstraten, 1989).

The retrospective pretest design known as the post-then-pre design corrects this problem (Rockwell & Kohn, 1989). The problem is handled by not giving a pretest at the beginning of the program. Then, at the end of the program, the participant answers two questions. The first question asks about behavior after program completion. This is the posttest question. Then the participant is asked to report what the behavior had been before the program. This second question is really the pretest question, but it is asked after the program when the participant has sufficient knowledge to answer the question validly (Linn & Slinde, 1977; Howard et al., 1979; Rockwell & Kohn, 1989). That is why this approach is called the post-then-pre.

The post-then-pre design accounts for changes in learners' knowledge and behavior by allowing participants of a program to first report present behaviors (post), and then rate how they perceived these same behaviors just before taking the course (then pre). The retrospective pretest at the end of the program is more accurate because it is answered in the same frame of reference as the posttest. Thus, the problem of response shift bias in self-report, pre-post designs is minimized (Benjamin, 1982; Howard & Dailey, 1979; Preziosi & Legg, 1983; Rockwell & Kohn, 1989; Sprangers & Hoogstraten, 1989).

Sampling Procedures

Although students were the end target for this impact evaluation effort, the actual sampling unit was the school represented by the teachers of the curriculum in those schools. As a result, the sampling procedures were executed in three phases.

Phase I The data base of teachers included all those who requested a copy of the curriculum; it was not known whether the teacher actually taught the curriculum, however. Thus, in Phase I, all teachers (1,213) who had requested the HSFPP curriculum from NEFE at the beginning of the 1997-98 school year were sent a one-page questionnaire in order to determine if they would use the curriculum between September 1997 and January 1998, and if they were willing to participate in the evaluation. The teachers were asked also about class size and the approximate ending date of their use of the curriculum. One follow-up mailing was sent to teachers who did not respond to the initial mailing.

Approximately 61% (738 out of 1,213) surveys were returned. Of those 738 schools, 434 schools would be teaching the curriculum during the identified time frame and were willing to participate in the curriculum. Twenty-six percent (194 out of 738 schools) of the schools were not using the curriculum and 110 of the 738 schools indicated that they would be completing the program outside the time window of the evaluation.

Phase II In total, 434 teachers and 13,119 students were sent questionnaires in Phase II of the evaluation process. The teacher and student surveys were to be completed at the end of curriculum use. The objective was to have the respondents receive the evaluation questionnaires as close to the end of this period as possible. Thus, the evaluation questionnaires were sent out in three waves—November, December, and January. The student questionnaires were bundled together for the teacher to distribute and collect in class at the end of the curriculum. Forty-four percent (188 out of 434) of the schools returned the evaluation questionnaires and 4,107 students in those schools completed the questionnaires immediately following the completion of the curriculum. The Phase II sample consisted of 188 schools (teachers) and 4,107 students.

Phase III For the three-month follow-up phase (Phase III) of the study, questionnaires and parental consent forms were sent to all those students who provided home addresses on the evaluation forms at Phase II (1,857 out of 4,107). Two follow-up mailings were sent to students to obtain as many returns as possible. Four hundred and eighty questionnaires (26%—480 out of 1,857) were returned, although only 418 were usable due to the fact that 62 returned surveys were not accompanied by parental consent forms.

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Parental Consent

Issues of parental consent are also critical in an evaluation project such as this one. The Joint Committee on Standards for evaluation require that evaluations have four features: utility, feasibility, propriety, and accuracy (Patton, 1997). The propriety standards are intended to ensure that an evaluation will be conducted legally, ethically, and with due regard for the welfare of those involved in the evaluation, as well as those affected by its results. Propriety is of utmost concern when evaluation participants are minors. In compliance with legal obligations and ethical guidelines, parental consent was required for respondents who participated in the current study.

Sample Characteristics

Almost all of the students who participated in the program were in high school (97%); 52% were high school seniors. Males comprised 45% of the sample and females the remainder (55%).

About 16% of the students originated from urban areas (population over 100,000), while 28% were from communities with populations between 25,000 and 100,000. Approximately 36% were from towns with less than 25,000 population. Twenty-one percent lived in rural areas or on farms.

Approximately 58% of the teachers who participated in the evaluation had previously taught the curriculum. Forty-nine percent were family and consumer sciences teachers, 29% were business teachers, 7% economics teachers, 5% personal finance teachers, and the remaining 10% were teachers from other subject areas.

Table 1 indicates the units that were taught by the teachers. Thirty-nine percent used all seven units. Sixty-one percent of the teachers used some combination of the seven units, but not all of them. Ninety-five percent of the teachers teaching a subset of the units used unit one which provides an introduction to the financial planning process. Ninety percent incorporated unit two which focuses on careers and earning potential. Unit three (focusing on personal spending/savings plans) was used by 86% of the teachers. The unit on credit (Unit 4) was used by 90% of the teachers. The last three units were used less than the others. Sixty-six percent used the unit on risk management, 44% used unit six which focused on saving and investment plans, and only 12% used unit seven which focused on completing the financial portfolio.

Table 1

Units of Curriculum Utilized by Teachers (n = 188)

	Units	Percent
	Teachers Using All Seven Units	39%
	Teachers Not Using All Seven Units	61%
Unit 1	What In The World Is Financial Planning?	95%
Unit 2	How To Make Your Dream A Reality? (careers and earning potential)	90%
Unit 3	Your Road Map To Success? (personal spending/saving plans)	86%
Unit 4	Don't Get Caught In The Credit Trap	90%
Unit 5	Is Your Safety Net In Place? (risk management)	66%
Unit 6	Time's On Your Side (saving and investment plan)	44%
Unit 7	You Are In Control (completing financial portfolio)	12%

Variables

Utilizing the post-then-pre design, the students were first asked about their financial knowledge, behavior and self-

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efficacy since studying financial planning followed by those same financial knowledge, behavior and self-efficacy questions framed in the context prior to studying financial planning. Students were asked eight questions about their financial behavior, three questions about their financial knowledge, and two about their self-efficacy related to money. Self-efficacy refers to a feeling of being able to deal effectively with a situation (Bandura, 1977). Those two questions were included because self-efficacy issues are critical factors in determining whether people believe they are capable of making changes in the financial behavior and knowledge areas that are being measured in the evaluation process.

The scale to measure abilities both before and after studying the material in the curriculum used was a 1-5 Likert scale: almost never (1), seldom (2), about half the time (3), often (4), and almost always (5). The specific items are listed in Tables 2, 3, and 8. The only difference in the questions between the points in time was the verb tense.

Students were also asked a series of questions about what assets and financial products they had in their own names, what their employment status was and characteristics of their employment, various ways they received money and their saving and debt patterns. The teachers were asked their assessment of the students' financial abilities prior to starting to teach the curriculum as well as the changes they observed in their students' abilities after studying the personal finance curriculum. The teachers provided information about their history in teaching the curriculum, their satisfaction with the curriculum, and the student response to it.

Two sets of questions containing Likert scales were asked of the teachers. They were asked how satisfied they were with several aspects of the curriculum. A four-point scale was used: very dissatisfied (1), somewhat dissatisfied (2), somewhat satisfied (3), and very satisfied (4). When teachers were asked to assess their students' abilities before they participated in the curriculum, a four-point scale was used. The responses were poor (1), only fair (2), good (3), and excellent (4).

Besides the financial knowledge, behavior, and self-efficacy questions in the three-month follow-up, students were asked open-ended questions addressing their changes in both spending and saving habits. At the very end, the students were asked this open-ended question, "What is the most important thing you have done with your money as a result of studying financial planning?"

Analyses

Frequencies and descriptive statistics were first obtained for all variables from all phases of the evaluation process. Differences between the phases were determined with t-tests. Gains and losses in knowledge and behavior from before taking the curriculum (pre) compared to immediately after completing the curriculum (post) were determined by subtracting the "pre" from "post" scores.

Findings

Behaviors, Knowledge, and Self-efficacy

The two behaviors that students indicated they did the least before participating in the HSFPP were writing goals (M = 2.20) and using a spending plan (M = 2.22) (Table 2). The two behaviors performed the most were

Table 2

Frequencies of Financial Behaviors, Knowledge, and Self-efficacy Before and After Participating in the High School Financial Planning Curriculum (n = 4,107)

		Percentage					Mean
Financial Questions		Almost Never	Seldom	About Half the Time	Often	Almost Always	
Behaviors							
I tracked some or all of my expenses	BeforeI	24.6	22.5	26.9	16.2	9.8	2.64
track some or all of my expenses	After	14.3	20.3	30.1	23.7	11.6	2.98 *
I compared prices when I shopped	Before	11.5	15.7	25.6	26.2	23.0	3.34
I compare prices when I shop	After	6.4	12.0	23.3	30.4	27.9	3.61 *
I set aside money for future needs/wants	Before	12.8	17.7	27.1	23.7	18.7	3.18

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I set aside money for future needs/wants	After	6.4	14.5	25.5	29.7	23.9	3.50	*
I used a spending plan/budget	Before	37.9	25.1	20.5	10.6	5.9	2.22	
I use a spending plan/budget	After	26.5	28.4	25.3	13.1	6.6	2.45	*
I repaid the money I owed on time	Before	5.9	10.0	20.3	25.2	38.6	3.81	
I repay the money I owe on time	After	3.6	4.6	13.0	29.2	49.6	4.17	*
I wrote goals for managing my money	Before	38.8	24.1	20.7	10.9	5.5	2.20	
I write goals for managing my money	After	26.4	23.6	26.2	16.0	7.8	2.55	*
I generally achieved my money management goals	Before	19.0	23.0	30.2	18.7	9.1	2.76	
I generally achieve my money management goals	After	12.0	14.7	33.2	28.3	11.8	3.13	*
I discussed money management with my family	Before	32.5	21.1	21.3	15.6	9.5	2.49	
I discuss money management with my family	After	25.2	19.7	21.5	21.9	11.7	2.75	*
Knowledge								
I knew the cost of buying on credit	Before	35.1	23.3	19.0	11.5	11.1	2.40	
I know the cost of buying on credit	After	18.4	14.3	18.6	23.1	25.6	3.23	*
I knew key questions to ask when shopping for auto insurance	Before	36.3	24.9	20.5	11.2	7.1	2.28	
I know key questions to ask when shopping for auto insurance	After	19.6	17.8	26.3	21.8	14.5	2.94	*
I knew about investments (stocks, mutual funds, bonds, etc.)	Before	35.5	24.7	20.7	12.0	7.1	2.31	
I know about investments (stocks, mutual funds, bonds, etc.)	After	15.2	17.7	27.6	23.4	16.1	3.08	*
Self-efficacy								
I believed the way I managed my money would affect my future	Before	9.1	12.0	21.8	23.6	33.5	3.60	
I believe the way I manage my money will affect my future	After	3.9	5.0	13.9	25.6	51.6	4.16	*
I felt confident about making decisions that dealt with money	Before	9.2	15.0	29.7	26.2	19.9	3.33	
I feel confident about making decisions that deal with money	After	3.0	5.8	24.2	36.3	30.7	3.86	*

*Indicates that the difference in mean score after participating in the High School Financial Curriculum was higher and that the t-score for the difference
was statistically significant at the .001 level.

repaying debts and comparing prices; the mean for these behaviors fell within the category of "About Half the Time." Within the response of "Almost Always," a notable finding was that about 39% of the students indicated that they almost always repay the money they owe on time.

Before participating in the HSFPP, students reported low knowledge levels about the cost of buying credit, about key questions to ask when shopping for auto insurance and about investments. About a third of the students indicated that they "almost always" believed the way they managed their money would affect their future and about a fourth "almost always" felt confident about making decisions that dealt with money.

Students were asked the same questions after participating in the HSFPP. There was a statistically significant increase on all behavior, knowledge and self-efficacy questions at the .001 level (Table 2). The knowledge and self-efficacy questions increased dramatically. The pattern in means among the behaviors were similar, although higher in every case.

Further Investigation of Changes

To more fully understand the changes that occurred as a result of studying the curriculum, the scores for each question after studying the curriculum were subtracted from the scores for each question from before studying the curriculum. Table 3 identifies the gains and losses of students and identifies those that maintained the same score.

For all the financial knowledge questions, almost half of the students had gains in knowledge after completing the curriculum content for the area where the most students increased in knowledge was in understanding the cost of credit. About a third of the students had increases in financial behaviors. The items where students primarily maintained the same level of financial management behavior, they were doing those things prior to participating in the curriculum (such as comparing prices) or they were things that they tend not to do (such as writing down goals). There was a strong increase for the questions about financial self-efficacy. About 40% of the students experienced increased confidence about managing their money. This finding means that students participating in the curriculum have gained confidence which could help them to build on the skills learned, thereby strengthening their future financial security.

Across the 13 questions, 86% of the students showed

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an increase in at least one question related to financial knowledge or behaviors. Eleven percent showed changes for 10 to 13 of the questions.

Teacher Observations

Prior to participating in the HSFPP, the teachers' evaluation of the personal finance knowledge of their students was quite low, in general, but particularly low in the specific areas of credit and insurance (Table 4). The teachers indicated that there was some willingness on the part of their students to learn financial concepts but less willingness to adjust their spending habits to save.

Teachers, however, indicated a marked change in knowledge and behavior in students after participating in the HSFPP. Teachers observed the most changes in the areas of consumer credit, car insurance, time value of money and tracking expenses (Table 5). The lowest change observed by teachers in students was in setting realistic goals for themselves. These findings from teacher observations are very similar to the reports of students about their changes.

Table 3

Changes in Financial Behaviors, Knowledge, and Self-Efficacy Comparing Before and Immediately After Completing the Curriculum (n = 4,107)

	Percentage		
Financial Questions	Loss	Maintain	Gain
Behaviors			
I tracked some or all of my expenses	10.7	54.5	34.8
I compared prices when I shopped	8.5	64.7	26.8
I set aside money for future needs/wants	10.8	57.8	31.4
I used a spending plan/budget	13.2	56.1	30.7
I repaid the money I owed on time	6.1	63.6	30.3
I wrote goals for managing my money	13.4	50.4	36.2
I generally achieved my money management goals	12.8	49.4	37.8
I discussed money management with my family	12.3	57.7	30.0
Knowledge			
I knew the cost of buying on credit	9.4	41.1	49.5
I knew key questions to ask when shopping for auto insurance	9.8	44.9	45.3
I knew about investments (stocks, mutual funds, bonds, etc.)	9.3	41.7	49.0
Self-Efficacy			
I believed the way I managed my money would affect my future	7.9	53.1	39.0
I felt confident about making decisions that dealt with money	8.8	49.5	41.7

Table 4

Teacher Evaluation of Students' Abilities Before Participating in High School Financial Planning Curriculum (n = 188)

	Percentage			
Ability	Poor	Only Fair	Good	Excellent
Understand personal finance in general	38.8	47.1	11.2	2.9
Understand the basics of insurance	44.8	43.6	9.1	2.5
Understand the responsibilities	21.3	35.5	38.5	4.7
Willingness to learn financial concepts	32.3	41.0	23.0	3.7
Willingness to adjust spending habits to save				

Table 5

Teacher Observations of Changes in Their Students' Financial Knowledge, Attitudes, or Behavior After Participating in the High School Financial Planning Curriculum (n = 188)

Changes	%
Students increased their knowledge of consumer credit	89
Students increased their knowledge of car insurance	73
Students learned about the time value of money	70
Students learned skills for tracking expenses	70
Students learned to comparison shop	60
Students set realistic goals for themselves	52

Teacher Satisfaction

Overall, the teachers were quite satisfied with the curriculum. Over two-thirds of the teachers indicated they were "very satisfied" with the content of the curriculum (Table 6). About 60% noted that the curriculum was relevant to their students. About half were quite satisfied with their confidence in teaching the personal finance content within the curriculum. Approximately 80% of the teachers were either very satisfied or somewhat satisfied with the interest that the students showed in the topic.

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Financial Description of the Students

Sixty-six percent of the students in this study had savings accounts in their own names (Table 7). Thirty-eight percent had a car or truck in their own name and four percent had a motorcycle. A quarter of the students had a checking account in their own name. Eight percent had a credit card in their own name, 7% had an investment account in their own name, and 6% had a loan in their own name.

Fifty-six percent of the students had a part-time job. About 9% worked less than 10 hours a week, 21% between 10 and 15 hours, 27% between 16 and 20 hours, 31% between 21 and 30 hours, 11% between 31 and 40 hours, and 2% worked more than 40 hours a week. The average weekly take-home pay after deductions for these jobs was $112.00.

When the students were asked how much was given to them by parents/guardians on an "as needed" basis, 25% indicated they received no money "as needed." Those who did receive money (75%), received $15.00, on average, each week. About 30% of the students indicated that they received an allowance. Those who received an allowance indicated they received, on average, $27 per week.

Table 6

Teacher Satisfaction With Selected Aspects of the Curriculum (n = 188)

Selected Aspects	Very Dis-satisfied	Some-what Dis-satisfied	Some-what Satisfied	Very Satisfied
Content of the curriculum	4.5	1.1	25.0	69.4
Relevance of the curriculum for your students	3.3	3.3	31.7	61.7
Your confidence in teaching the content	3.4	6.7	36.0	53.9
Interest of the students in topics	4.5	11.2	61.8	22.5

When asked how much money do you personally save each week, 21% of the students said they did not save anything. Those who saved placed about $30 in savings per week. About 38% of the students indicated that they had debts or bills to pay; they were asked to include money they owed friends and family as well as creditors outside their immediate family and friends. On average, those students with debt had $703 in debts and bills. When asked how much, on average, they spent each week of their own money, the average amount was $36.

Attrition Analyses

Analyses were conducted to discern whether the students who completed the follow-up survey were different from the students who did not. No differences were found, with one exception. The students who completed the follow-up survey did differ from the students who did not complete the follow-up survey on the amount of money saved each week. The average amount saved for students without follow-up data was $27.59 and for students with follow-up data was $23.12. This finding lends confidence to the belief that all students who completed the follow-up survey and those who did not benefited from the program.

Three-Month Follow-Up

The follow-up survey three months after completing the HSFPP included the same eight behaviors, three knowledge, and two self-efficacy questions that were on the initial survey. Three months after participating in the HSFPP, the mean scores for all of the financial questions increased significantly compared to immediately having completed the course (Table 8). Greater percentages of students reported that they "almost always": compare prices when shopping (44.5%), set money aside for future needs or wants (40.5%), and repay the money they owe on time (60%). In the follow-up, students reported "almost always" knowing the cost of buying on credit approximately 43% of the time. Finally, about 76% of the students reported that they "almost always" felt as though the way they managed their money would affect their future.

Changes in Spending and Savings Habits

Students were asked if they had made changes in their spending and savings habits. Three months after participating in the HSFPP, over half of the students reported a change in both spending and savings habits. Fifty-eight percent said they had changed spending habits and 56% said they had changed saving habits.

Students were asked to identify how they changed their spending and savings habits through open-ended questions. Two hundred forty-one of the 418 students in the follow-up identified changes in spending. About one quarter of the students (26%) said that they now think more carefully about their spending (Table 9). Another 23% report that they now save money for purchases. The remaining half of students reported changes such as only buying needed items, using a

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budget, comparing prices, and spending less. Of the 241 students reporting changes, 75 students reported more than one change.

Two hundred thirty-two of the 418 students identified changes in saving. Almost 40% of students reported that they had started saving money three months after completing the HSFPP (Table 10). Slightly more than 27% of students said that they now save more than before. The remaining students reported changes in savings behavior such as saving for future needs, spending less money, and shopping more carefully. Of the 232 students reporting changes in savings habits, 29 identified a second change.

Most Important Thing Done From Studying HSFPP

In an open-ended question, nearly one-third of students (31%) reported that the most important financial planning activity they had taken on since participating in the HSFPP was establishing a savings account (Table 11). Saving for major expenses and purchases was reported by 14% as the most important thing they had done, while another 14% reported saving for a future want or need. Other identified activities were paying for one's own expenses, comparing prices and spending less when shopping, budgeting and planning, learning how to save, investing, and helping family.

Summary and Discussion

The purpose of the study was to assess the impact of a high school financial planning curriculum on the financial knowledge, behavior, and self-efficacy of a national sample of teens using the curriculum. In trying to determine the impact of this financial planning curriculum, both teachers and students contributed information for the evaluation. The students were asked about eight financial behaviors, three questions about their financial knowledge, and two about their financial self-efficacy before and after studying the financial planning curriculum and three months after completing the curriculum.

Table 7
Items Students Have In Their Own Names
(n = 4,107)

Item	Percent
Savings account	66
Car or truck	38
Checking account	25
Credit card	8
Investment account	7
Loan	6
Motorcycle	4

Table 8
Frequencies of Financial Behaviors, Knowledge, and Self-Efficacy Three-Months After Participating in the High School Financial Planning Curriculum (n = 418)

	Percentage					Mean
Financial Questions	Almost Never	Seldom	About Half the Time	Often	Almost Always	
Behaviors						
I track some or all of my expenses	4.6	9.9	22.5	34.4	28.6	3.73*
I compare prices when I shop	1.2	6.9	16.5	30.9	44.5	4.12*

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I set aside money for future needs/wants	2.6	9.4	17.8	29.7	40.5	3.96*
I use a spending plan/budget	14.0	20.7	27.2	23.4	14.7	3.04*
I repay the money I owe on time	0.7	1.7	11.1	26.5	60.0	4.43*
I write goals for managing my money	14.2	24.1	26.8	18.8	16.1	2.99*
I generally achieve my money management goals	4.3	12.5	25.1	36.5	21.6	3.59*
I discuss my money management with my family	15.1	13.0	20.4	28.4	23.1	3.31*
Knowledge						
I know the cost of buying on credit	7.2	7.5	16.1	25.7	43.5	3.91*
I know key questions to ask when shopping for auto insurance	12.5	15.1	23.0	28.8	20.6	3.30*
I know about investments (stocks, mutual funds, bonds, etc.)	9.1	13.7	20.3	33.6	23.3	3.48*
Self-Efficacy						
I believe the way I manage my money will affect my future	1.4	2.2	4.0	15.6	76.8	4.64*
I feel confident about making decisions that deal with money	0.7	2.2	13.4	36.0	47.7	4.28*

* Indicates that the difference in mean score 3 months after participating in the High School Financial Planning Program was higher than at the completion of the class and that the t-score was statistically significant at the .001 level.

Table 9
Change in Spending Habits Three Months After Curriculum Completion

Spending Change	Percent of students reporting change in spending habits (N=241)	Percent of total sample (N=418)
Think more carefully about spending	26.3	15.1
Save money for purchases	22.9	13.2
Only buy needed items	14.2	8.1
Budget/Spending Plan	8.3	4.8
Comparing prices	7.1	4.1
Spending less	4.6	2.6
Trading expenses	4.6	2.6
Looking for bargains	2.5	1.4
Investing	1.7	1.0
Making lists	0.8	0.5
Managing money	0.8	0.5
Other	6.3	3.6

Table 10
Change in Savings Habits Three Months After Curriculum Completion

Savings Change	Percent of students reporting change in savings habits (N=232)	Percent of total sample (N=418)
Started saving	39.5	21.5
Save more than before	27.2	14.8
Save for future needs	13.2	7.2
Spend less money	9.2	5.0
Shop more carefully	2.6	1.4
Investing	2.2	1.2
Other	5.7	3.1

It is clear that teaching financial literacy through the NEFE curriculum has a positive impact on students' financial knowledge, behavior, and self-efficacy. For all questions, there was a statistically significant increase in all financial behavior, knowledge, and self-efficacy questions after participating in the program as well as three months after completing the curriculum. The two behaviors students indicated they did the least before participating in the curriculum were writing goals and using a spending plan. The two behaviors performed most were repaying debts and comparing prices. About 40% of the students who participated in the three-month follow-up started saving money. Further evaluation is warranted to continue the examination of the longer term benefits and impacts of financial management education for teens.

Table 11
Most Important Financial Planning Activity Since Completion of HSFPP

Activity	Percent of students reporting an activity (N=399)	Percent of total sample (N=418)
Establishing a savings account	30.8	29.4
Saving for major expenses & purchases	14.3	13.6
Saving for a future want or need	14.0	13.4
Paying own expenses	8.8	8.4
Comparing prices, spending less	9.3	8.9
Budgeting and planning	4.5	4.3
Learning how to save	5.0	4.8
Investing	3.0	2.9
Helping family	1.8	1.7
Other	8.5	8.2

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Teachers indicated prior to teaching the curriculum that the personal finance knowledge of the students was low particularly in reference to credit and insurance. They did note, however, a marked change in their knowledge, attitudes and behavior after studying the personal finance curriculum topics. Over two-thirds of the teachers indicated they were "very satisfied" with the content of the curriculum.

This evaluation study is one that was designed to address the fourth and fifth tier of Jacobs' (1988) five-tiered evaluation approach. The focus of tier four is to assess progress toward the program's goals and the fifth tier is to assess program impact. The findings of the evaluation study indicated that when teachers use the HSFPP curriculum in their classrooms, it does affect the financial literacy of teens. That finding was found to be true both by the assessment of the teachers and the students. This type of impact was found when a complex methodology was used including a national sample, several levels of verification, and using a "post-then-pre" assessment (Rockwell & Kohn, 1989), thus meeting the requirements of both tiers of the Jacobs' evaluation approach.

The results of this national study indicate that teaching personal finance in high schools can impact the financial knowledge, behavior, and self-efficacy levels of teens. These findings are additional evidence to those of the study by the Economic Research Institute (Bernheim et al., 1997) that teaching personal finance in schools does have a positive impact on financial management in adulthood.

The findings from this study should be motivation for financial professionals of all kinds to encourage schools to include personal finance in the school curriculum. They might even work toward mandating that it be part of every school curriculum. Many states currently are developing graduation standards so these are ideal times to make a difference in the lives of youth as they launch into adulthood. It certainly seems sad that one of the goals of education is to prepare youth to be employable citizens, but not to prepare them to use the income they earn from that employment wisely.

A continued systems approach of the partnerships with parents/families, schools, and the community is needed, as the task of preparing financially literate youth cannot be the task of the schools alone. Enduring changes need to be approached from a systemic model (Pritchard & Myers, 1992). That means that a partnership must be developed between the schools, families, and the community of financial professionals. Along with personal finance being taught in schools, it must be taught more intentionally within families to complement what is being taught in the schools. But, it also means involvement of the community, especially from financial professionals by teaching in the classroom, developing media messages about finances that are targeted to teens, and creating mentoring opportunities that encourage financial literacy or financial career education. As students become financially independent, they encounter an increasingly complex marketplace, earnings do not meet spending goals, and easy access to credit places young adults at risk for future financial instability. Education within the high school setting can better prepare youth to successfully meet these challenges.

In an economic period of minimum-wage job surplus and a political environment where "self-sufficiency" seems to be the latest policy buzz-word, financial education is key. It would follow that all youth should also be given the opportunity to acquire the knowledge and skills to become self-sufficient adults. Consequently, teen financial literacy should be a priority on the education policy agenda. The National Endowment for Financial Education (NEFE) working in partnership with USDA Cooperative State Research, Education, and Extension Service (CSREES) has provided educational resources and training for educators and their students. Additional promotional efforts are warranted to increase further the awareness among educators of available resources which can support the goal of increasing the public awareness of the importance of financial literacy education.

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