



Survey of Financial Education in Ohio's High Schools:

Assessment of Teachers, Programs, and Legislative Efforts

A Research Project funded by The Ohio State University P-12 Project

Report prepared by

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Columbus, Ohio, April 21, 2008

Dear Reader:

This is an abbreviated version of the complete report. The full report and an executive summary are available at the following website:

<http://p12.osu.edu/scholars.php>

Kind regards,

A handwritten signature in black ink, reading "Căzilia Loibl". The script is cursive and elegant, with the first letter of each name being capitalized and prominent.

Căzilia Loibl
Assistant Professor
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Executive Summary

This research contributes to the understanding of the scope and determinants of financial education in Ohio high schools. It was conducted at the time when the legislative body in Ohio decided to mandate financial education in Ohio high schools. Specifically, the study objectives were to provide:

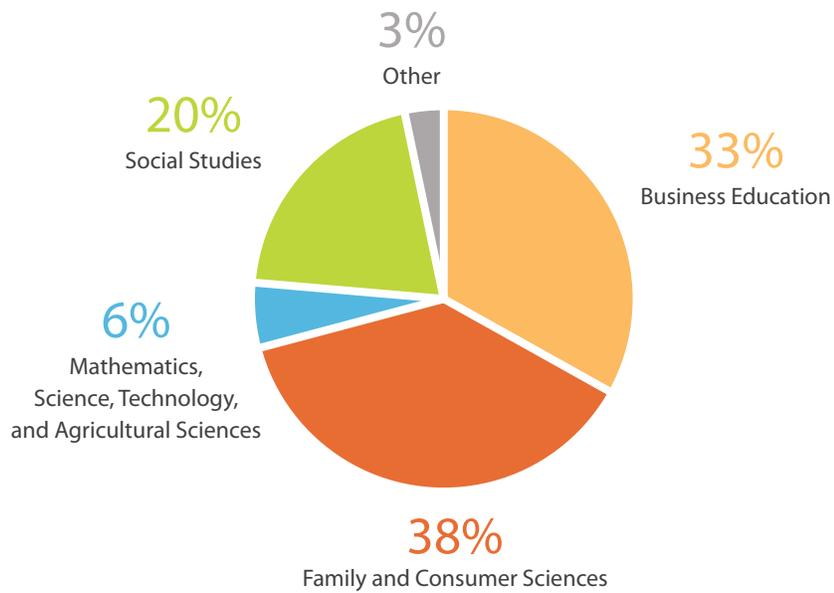
1. Quantitative information about the *when, where, who,* and *how* of personal finance instruction in Ohio high schools;
2. Quantitative information about the student population attending personal finance courses;
3. Knowledge of Ohio high school teachers' personal finance knowledge and the sources they use to stay informed of personal finance topics;
4. A comprehensive manual of financial literacy programs used by high school teachers in Ohio and organizations which offer train-the-teacher programs across Ohio; and
5. Knowledge of the key actors and status of legislative efforts to achieve legislation mandating effective financial education in schools.

Funded by a grant of *The Ohio State University P to 12 Project*, an Ohio-wide survey of high school teachers who teach personal finance was conducted.

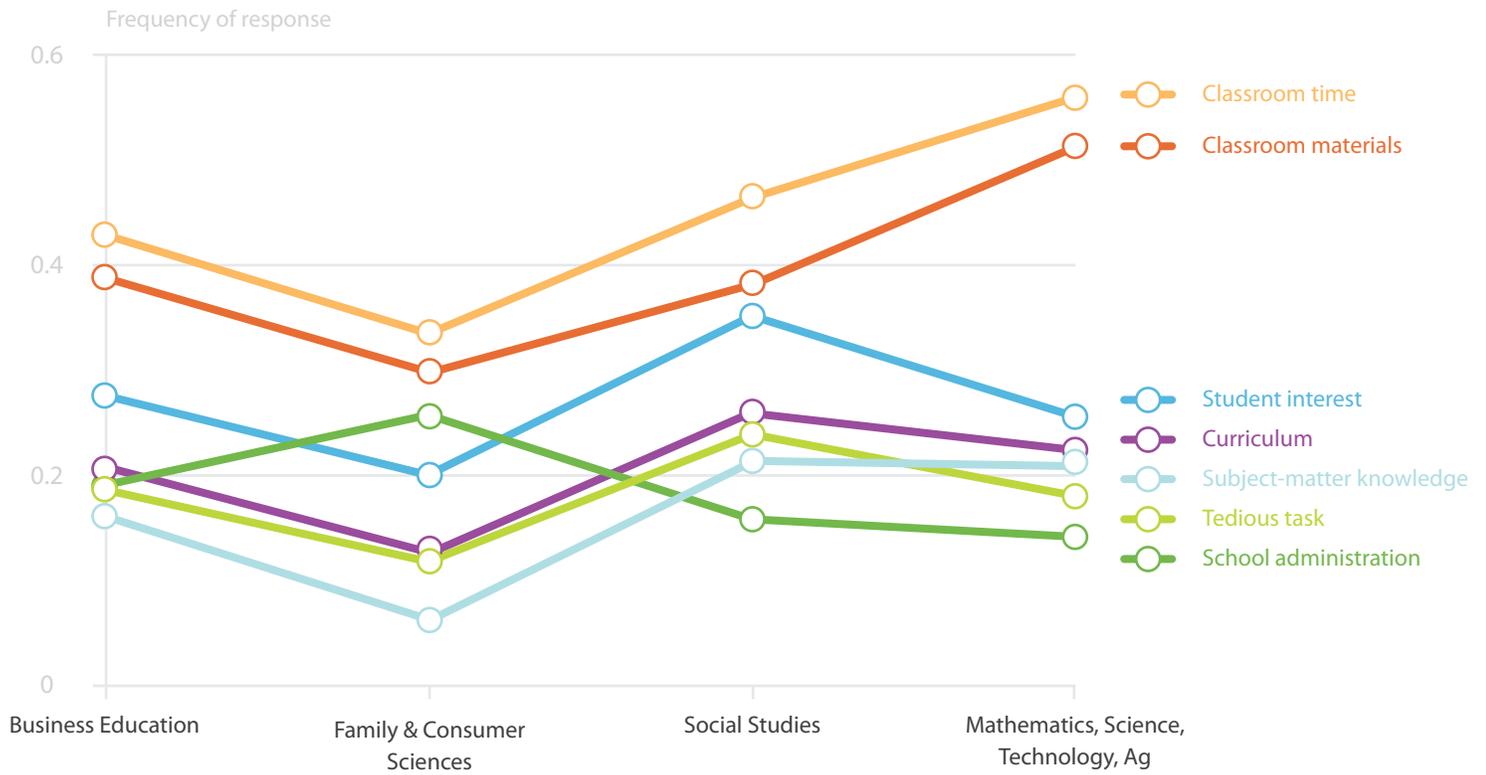
- Qualified participants were high school teachers who actually teach personal finance in the 2006/2007 academic year.
- Business Education, Family and Consumer Sciences, and Social Studies teachers in 1,145 high schools in Ohio were contacted by mail and invited to participate in the survey.
- The questionnaire consisted of 54 questions and was administered online from February 26 to April 7, 2007.
- A total of 710 respondents completed the survey.

Major survey findings by study objectives

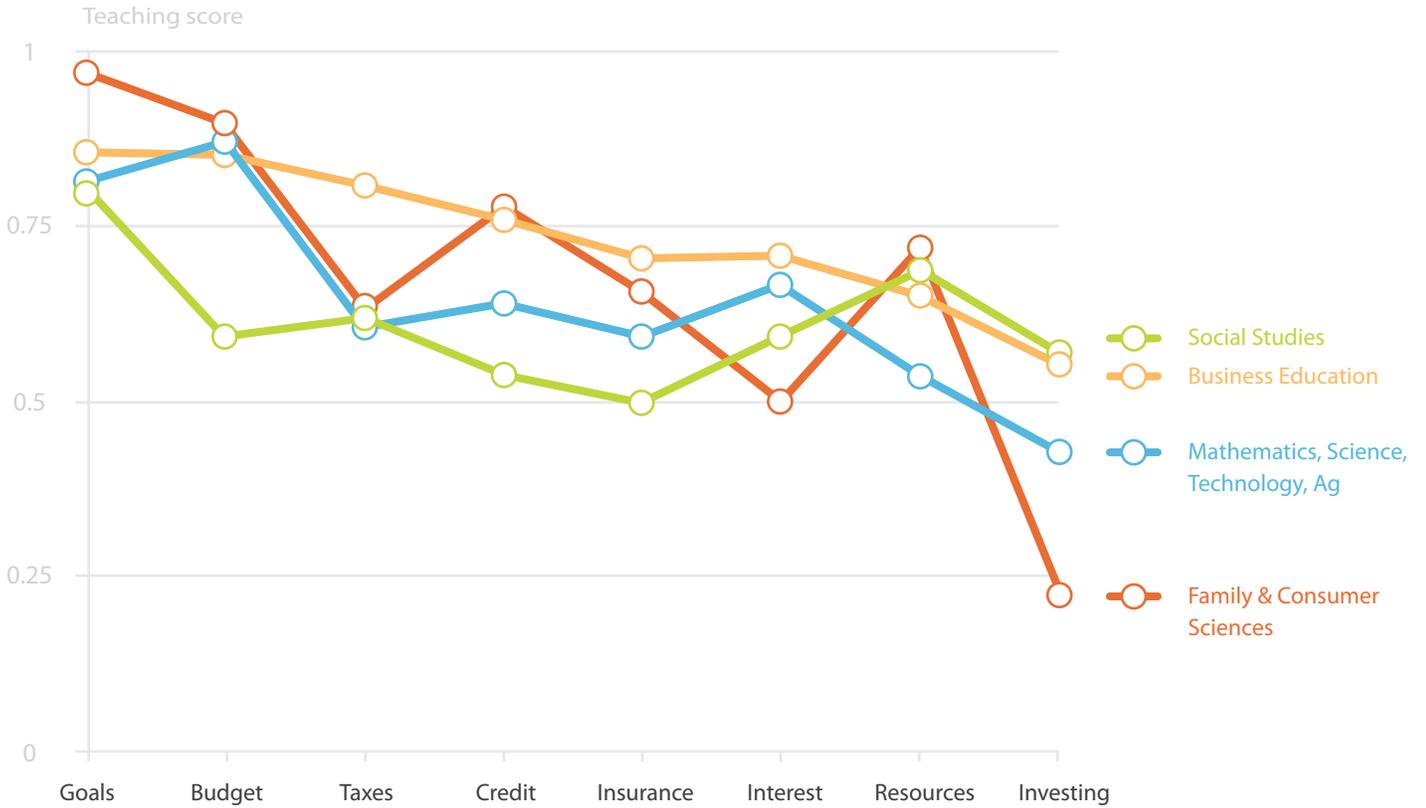
The majority of personal finance instruction was offered by three academic content areas: Family and Consumer Sciences, Business Education, and Social Studies.



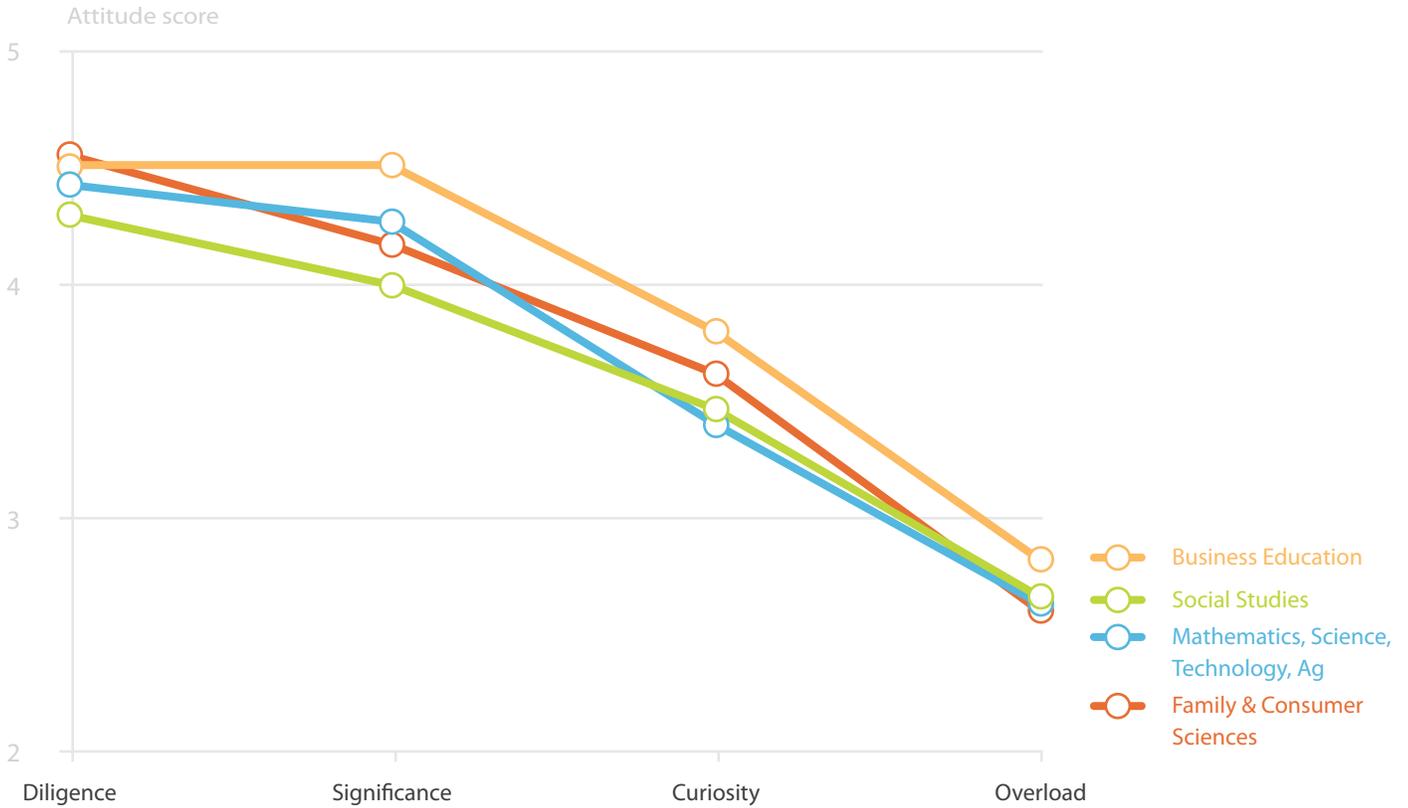
The lack of classroom time to properly teach personal finance topics and the lack of classroom materials were the top challenges for teaching personal finance across academic content areas.



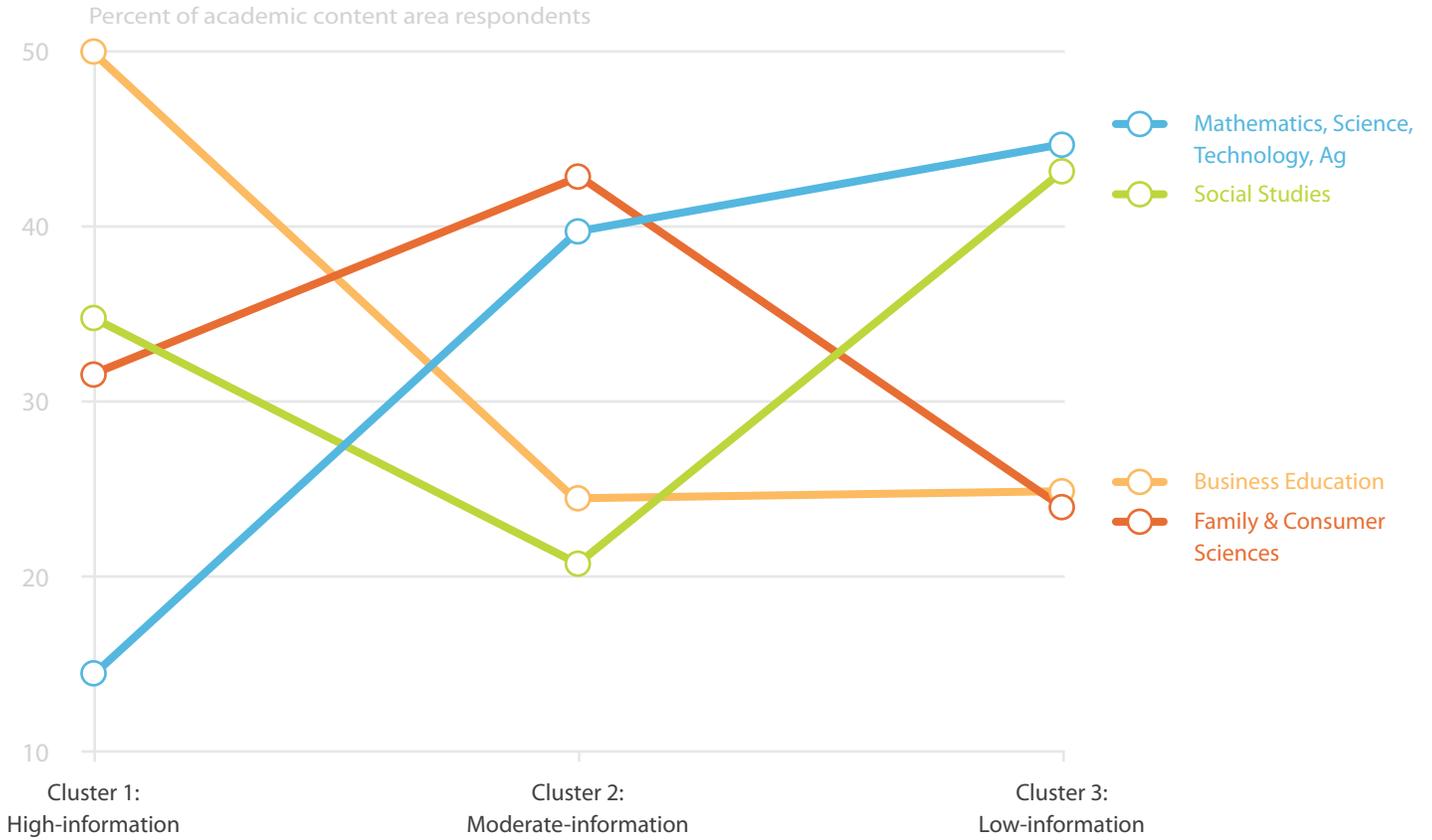
The four academic content areas differed significantly in their instruction of the eight personal finance themes. In this illustration, Business Education teachers were used as basis for comparison.



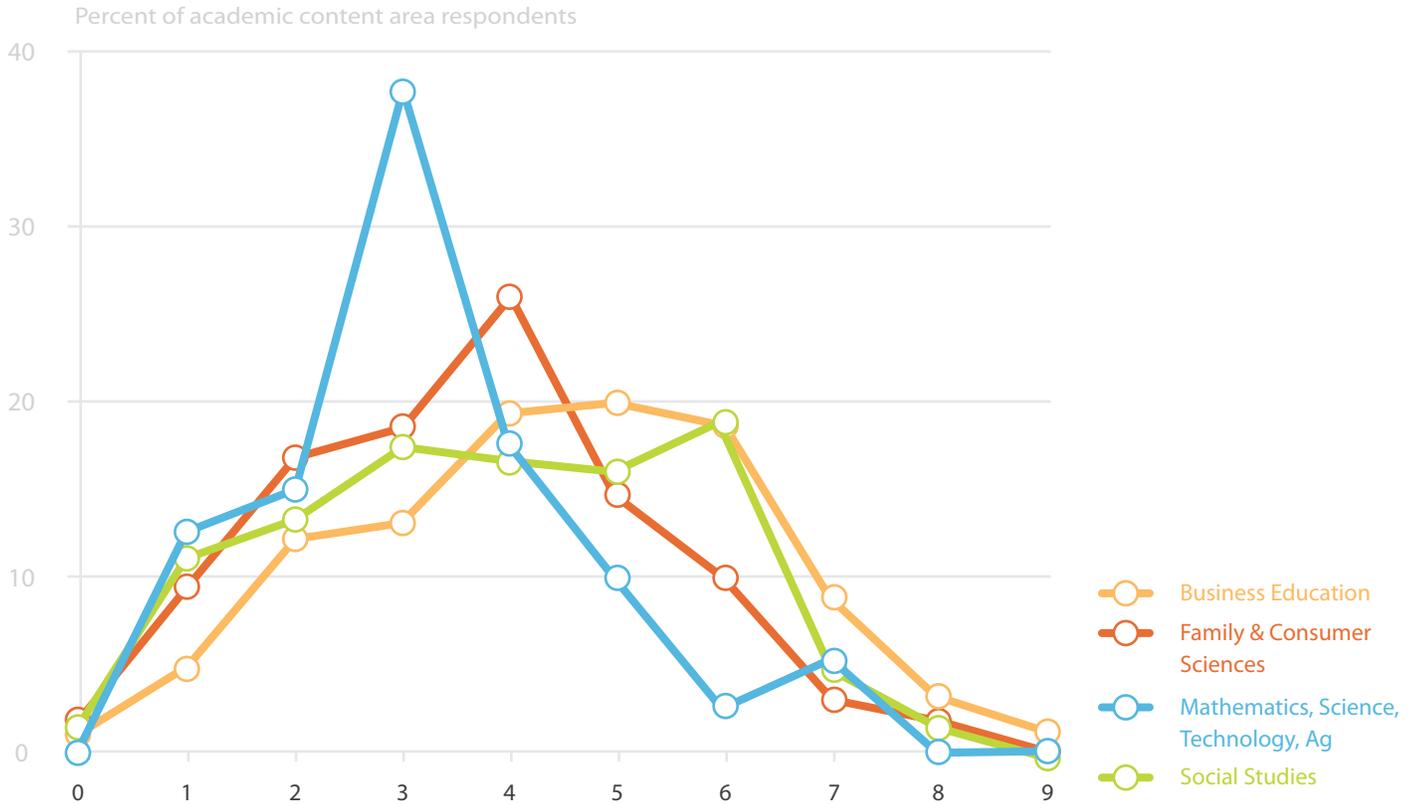
The four academic content areas differed significantly in their curiosity toward teaching personal finance, the significance they attached to these topics, and the diligence in researching them. The feeling of information overload was low and not significant when comparing the four groups.



Business Education teachers were most likely to practice a high-information strategy to stay current about personal finance topics whereas Social Studies and Sciences teachers preferred a low-information strategy.



In the financial knowledge quiz, most respondents answered between two and five questions correctly. There was a much lower percentage who answered none/one question or six to nine questions correctly.



Major survey findings by academic content area

Business Education

Business Education teachers were more likely to teach elective courses, to teach tax-related topics, and to have a higher percentage of male students in their personal finance classes. On the other hand, their courses were less likely to be limited to one semester and they used less classroom time to teach personal finance compared to the other academic content areas. They were less likely to teach goal setting and limited-resource topics, and were most likely to score high on the personal finance quiz. They were curious about learning personal finance and attached great significance to teaching these topics.

Their main barrier to teaching personal finance topics was their school's administration. None of the subject-matter barriers were pertinent for this content area. In fact, Business Education teachers were even less likely to cite curriculum needs and student ignorance as challenges for teaching personal finance compared to the other academic content areas. Those teaching personal finance were less likely to be female and to participate in continuing education courses, but were more likely to have taken college courses on personal finance.

Family and Consumer Sciences

Family and Consumer Sciences teachers were more likely to teach credit, budgeting, and goal-setting, while they avoided the investment topic. They were most likely to be teaching personal finance in an elective course offered on a one-semester schedule with ample time spent on this topic. Their audience was less likely to be male. These teachers expressed high diligence in researching personal finance topics and were highly likely to belong to either the high or moderate-information search types of teachers. Surprisingly, they tended to score low on the knowledge quiz and to dislike the Internet as a source of information on personal finance topics.

Their main challenges in teaching personal finance were a lack of curricula that fit their teaching needs and the lack of student interest. School administration and classroom materials were less likely to present barriers to this content

area. Overall, they attached less significance to teaching these topics than did Business Education or Science teachers. Family and Consumer Sciences teachers were most likely to be female, older, and living in households with a higher household income. Most likely, they had been teaching personal finance for a number of years supported by continuing education courses. This group of teachers was less likely to hold a Masters' degree.

Social Studies

Social Studies teachers were most likely to teach investment, tax, and limited-resources topics. They stayed away from teaching budgeting and interest-related topics. They were more likely to teach a large number of students in Grade 12, to devote significant time to these topics, and to follow a one-semester course schedule. Their courses were least likely to be elective compared to the other academic content areas.

This group of teachers attached little significance to teaching personal finance topics and the group members were less likely to diligently research personal finance topics. They were unlikely to belong to the high- or moderate-search types of teachers for personal finance information. They did indicate that they like to talk to colleagues to prepare for teaching these topics and that their main challenges were classroom materials and classroom time to properly teach these topics. Social Studies teachers who were teaching personal finance were least likely to be located in rural school locations, to be female, and to participate in continuing education on personal finance topics. They also reported fewer years teaching personal finance.

Mathematics, Science, Technology, and Agricultural Sciences

The group of "Science" teachers was more likely to focus on budgeting and to avoid teaching limited-resource related topics. While Science teachers were more likely to have a higher number of male students, their personal finance instruction was characterized by fewer students in Grade 10, the topics being spread out over fewer courses, and generally less time reserved for teaching personal finance topics.

Similar to Business Education teachers, their courses were less likely to be limited to one semester. These Science teachers attached the highest level of significance to teaching personal finance topics among the four academic content areas. While they were less likely to practice high-information search efforts to learn about personal finance, they were most likely to talk to others to prepare for teaching these topics.

Their greatest reported challenge was the feeling that teaching personal finance often seems tedious.

Classroom time, in particular, was of little concern to this group. They were less likely to teach personal finance at public schools, to be female, and to hold a Masters' degree. They reported fewer years teaching personal finance topics and were less likely to have taken college-level coursework in this area. However, they did indicate that they participate in continuing education courses.

Major findings of a comparison of state statutes' attempts to provide students with financial literacy instruction

In addition to the survey of high school teachers, a comparison of state statutes' attempts to provide high school students with financial literacy instruction was conducted. Seventeen states and one United States territory have some form of legislation concerning financial literacy in public schools.

- Nine actually require financial literacy education, either as a separate course or to be integrated into existing courses.
- Rather than mandating the inclusion of financial literacy, six states encourage school districts to provide financial education by requiring the state's education agency to set academic standards, create financial literacy curricula, or provide resources for disseminating financial education.
- Finally, three states have enacted laws that merely require the state's education board to accumulate information on financial literacy programs or require an entity to conduct studies about need for financial literacy instruction.
- All of the statutes currently enacted vary greatly based on factors such as the extent of discretion granted to boards of education in requiring financial education, guidance about what financial literacy topics should be taught, funding availability to create financial literacy courses and materials, and training of teachers in financial literacy instruction.

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Rationale

Following Greenspan (2005), we argue that financial education should be a necessary part of the high school curriculum, given the increasing sophistication of, and technological changes in, the financial industry, as well as the abundance of financial products and services available to consumers. Consumers can only avail themselves of the many products and opportunities offered in financial markets if they have the ability to research and understand the products, and the ability to take advantage of the existing technologies. Having this knowledge protects consumers from predatory and illegal practices and also empowers them in financial decision-making.

Despite the importance generally assigned to financial education in high schools (see, e.g., 126th Ohio General Assembly, 2006a, , 2006b, , 2006c, , 2006d, , 2006e; Greenspan, 2005) no information is available about the extent of personal finance instruction in Ohio. By demonstrating the scope and determinants of personal finance instruction in Ohio high schools via survey research and a comparison of legislative initiatives and financial literacy programs via a literature review and scenario analysis, the current study increases the understanding of personal finance education in Ohio.

In particular, this study furthers financial literacy research, aids school administrators and teachers interested in expanding the scope of personal finance topics offered in schools, and buttresses legislative efforts to require personal finance instruction in Ohio schools.

This project has three specific objectives:

1. Determine what personal finance topics are taught at Ohio high schools, which teachers are teaching it, and which students attend the classes (Objective 1).
2. Determine the personal finance education and knowledge of high school teachers and their sources of information (Objective 2).
3. Compare legislative efforts in Ohio to other state legislative efforts to mandate the inclusion of personal finance

“Financial education should be a necessary part of the high school curriculum.”

education in the high school curricula (Objective 3a) and conduct a meta-analysis of existing financial literacy programs and trainings available to Preschool to Grade 12 teachers in Ohio (Objective 3b).

Methods for achieving Objectives 1, 2, and 3b include an online survey of high school teachers in Ohio who belong to three academic content areas: Business Education, Family and Consumer Sciences, and Social Studies. The findings of the online survey are presented in Part I of this report.

The method for achieving Objective 3a consisted of a meta-analysis of existing laws and proposed legislation in the United States which mandate or require personal financial literacy topics be incorporated in P to 12 schools. The findings of the legislative analysis are presented in Part II of this report.

The current report represents a unique collaboration among faculty members from five OSU academic units. The six project members have special expertise and extensive experience in studying financial education. With the ultimate goal of providing insight on the scope and determinants of personal finance education in Ohio high schools, this project is consistent with the P to 12 Project's mission to *"assist in the improvement of Ohio's schools"* and its goals to *"initiate, incubate, and support projects closely aligned with school improvement"* and to *"develop and sustain an ongoing relationship with the thirteen university-area schools."*

Project Outcomes

Deliverables and outcomes from this project include the here presented report providing:

- Quantitative information about the when, where, who, and how of personal finance instruction in Ohio high schools;
- Quantitative information about the student population attending personal finance courses;
- Knowledge of Ohio high school teachers' personal finance knowledge and the sources they use to stay informed of personal finance topics;
- A comprehensive manual of financial literacy programs used by high school teachers in Ohio and organizations which offer train-the-teacher programs across Ohio; and
- Knowledge of the key actors and status of legislative efforts to achieve legislation mandating effective financial education in schools.

The present findings are currently in preparation for conference presentations and peer-reviewed journal articles.

Part I:

Survey of High School Teachers in Ohio Schools

By Cäzilia Loibl, Assistant Professor
Department of Consumer Sciences, The Ohio State University

Research Questions

This study presents a response to the call for financial education in high schools by examining the current state of instruction in Ohio high schools. Specifically, the study objectives were to provide:

1. Quantitative information about the when, where, who, and how of personal finance instruction in Ohio high schools;
2. Quantitative information about the student population attending personal finance courses;

3. Knowledge of Ohio high school teachers' personal finance knowledge and the sources they use to stay informed of personal finance topics; and

4. A manual of financial literacy programs used by high school teachers in Ohio and the organizations which offer train-the-teacher programs across Ohio.

Survey Procedure

Survey invitation

The present study presents analyses of a survey of high school teachers in Ohio who teach personal finance topics in the 2006/2007 academic year. The survey invitation postcard particularly addressed Business Education, Family and Consumer Sciences, and Social Studies/Economics teachers because these three groups were most likely to teach personal finance topics (National Endowment for Financial Education, 2005).

We mailed one survey invitation postcard to each of the three academic content areas at each of the 1,145 high schools in Ohio that offer 10th to 12th grade-level classes (total mailing N=3,435). This sample included public, public charter, private, and parochial schools. The survey was conducted online during six weeks from February 26 to April 07, 2007.

Survey invitation postcards were mailed at three points in time (see Figure 1, page 7):

1. Postcard 1: Monday, February 26, 2007
2. Postcard 2: Monday, March 5, 2007
3. Postcard 3: Thursday, March 22, 2007

A press release about the ongoing survey was distributed on Wednesday, March 7, 2007 through OSU Communication and

Technology media channels. Six weeks after the survey was closed, participants were mailed a \$10 gasoline gift card for their assistance.

Survey responses

A total of 868 teachers accessed the survey Internet site. A total of 710 teachers taught personal finance in the 2006/2007 academic year. This group of 710 teachers completed the survey. The remaining 158 teachers (=868-710) indicated that they do not teach personal finance in the 2006/2007 academic year. These 158 teachers were exited from the survey at Question 1 ("invalid responses").

It is not possible to determine a response rate as there exists no official statistics of how many teachers taught personal finance topics in Ohio high schools in the 2006/2007 academic year.

Questionnaire

The questionnaire consisted of 53 questions and was divided into four parts. Part I consisted of a total of 20 questions which assessed respondents' personal finance curricula and student population. This part inquired about the time spent on personal finance in the courses in which it is mainly taught, the topics taught, the grade levels, as well as the length, schedule, meeting frequency of these courses. Teachers were

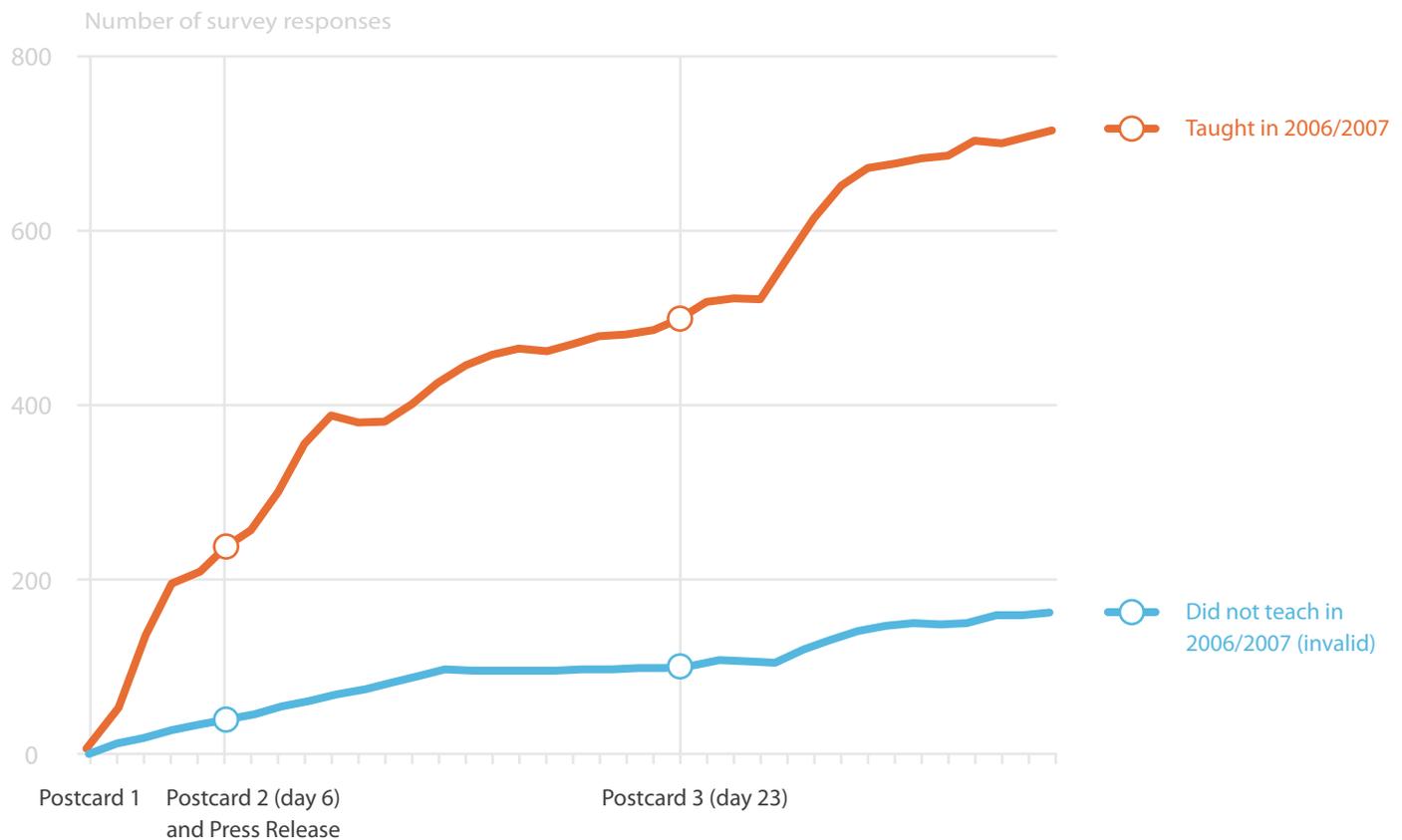


Figure 1
Survey responses

A total of 710 valid responses were received through the online survey. Valid responses comprised the group of teachers who actually taught personal finance topics in the 2006/2007 academic year.

also asked to indicate how many students in this course would receive a grade of "C" or above and how many were ESL/ELL, as well as the students' race, gender, the percentage of students expected to graduate with a high school diploma, and the percentage expected to enter college.

Part II consisted of ten questions assessing challenges to teaching personal finance. These questions examined teachers' attitudes toward teaching personal finance, preferred sources of information on personal finance, and the time spent to prepare for teaching personal finance in class. Part III consisted of 14 questions on participants' school environment and socio-demographic background. The fourth and final part of the survey measured teachers' knowledge of personal finance concepts with a nine-question quiz. The survey instrument is provided in Appendix 6 of this report.

Data imputation for missing values

We used the maximum likelihood estimation (MLE) procedure to replace missing values in the data set. This method, implemented by the EM algorithm, applies MLE to the task of imputing missing data values without recourse to the simulation involved in multiple imputation. MLE makes fewer demands of the data in terms of statistical assumptions and is generally considered superior to imputation by multiple regression. This is now the most common method of imputation. The MLE method assumes that missing values are "missing at random".

Results

The results section presents the analyses of the survey data and summarizes the findings for four academic content areas. This section consists of six parts:

1. Description of the teachers and their students in personal finance courses,
2. Factor analyses to identify the personal finance topics taught in class and teachers' attitudes toward teaching personal finance,
3. Cluster analysis to identify teachers' efforts in staying informed about personal finance topics,
4. Financial knowledge score compiled of respondents' answers to the nine quiz questions

5. Regression analysis to identify the influence of the measures defined in Parts 1 to 4 on personal finance instruction in four academic content areas, and

6. Academic content area scores for the main measures as identified in Parts 1 to 4.

Survey participants provided us with a wealth of comments and suggestions in an open-ended question at the end of the survey. This feedback is presented in Appendix 3.

A detailed descriptive analysis of the survey findings is presented in Appendix 5.

Description of teachers and their students in personal finance courses

Teacher population

The data collection focused on teachers who are teaching (1) business education, (2) family and consumer sciences, and (3) social studies in one or more four high school grades. These three academic content areas were identified in a recently conducted national study as those which are most likely to cover personal finance topics (National Endowment for Financial Education, 2005). Our respondents support this finding, as the majority of survey respondents (91%) belonged to the following three academic content areas (Ohio Department of Education, 2006):

- Family and Consumer Sciences, 38% (N=268);
- Business Education, 33% (N=234); and
- Social Studies, 20% (N=145).

A total of 63 respondents taught in other academic content areas. Of those teachers, 40 were somewhat similar in that they taught "science" courses, including teachers in the following sections: Mathematics, Science, Technology, and

Agricultural Sciences. We included this group as an additional academic content area into our analysis. Although the group is small, with only 40 teachers, we felt that they provide an additional perspective in the analysis of personal finance instruction in Ohio.

The remaining 23 responses came from teachers in the remaining academic content areas (e.g., Fine Arts, English Language) and from teachers in counseling, elementary education, and vocational education. This group was too diverse to allow for useful interpretation. As a result, these 23 responses were excluded from the analyses. Therefore, the working sample for the current analyses consisted of 687 teachers; the total responses were 710 (see Figure 2).

The titles of the courses in which these teachers were teaching personal finance topics are summarized in Appendix 1.

In the following paragraphs, we describe the characteristics of the student population (Table 1), the specifics of personal

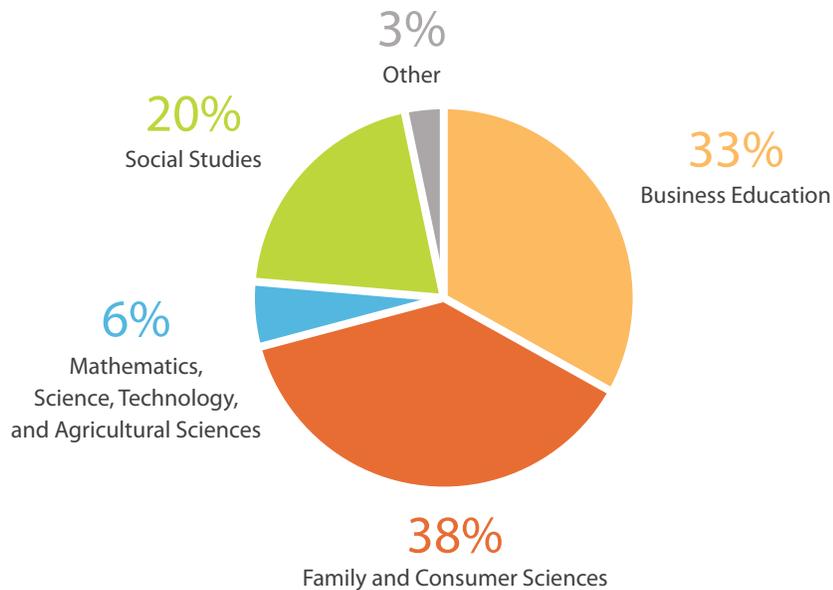


Figure 2

Academic Content Areas of the Sample (N=710)

The majority of personal finance instruction was offered by three academic content areas: Family and Consumer Sciences, Business Education, and Social Studies.

finance instruction in high schools (Table 2), and the school and teacher demographics (Table 3). We present the descriptive data divided into the four academic content areas. A number of differences emerged, which we describe in detail in the following sections.

Student population

Two important differences emerge between the four academic content areas with respect to the student population enrolled in their personal finance courses. Specifically, the questionnaire inquired for the number of student in personal finance classes at each grade level. Teachers were asked to add up the number of students for each grade level if they taught more than one personal finance class at one grade level. The results are presented in Table 1.

Our major finding was that Social Studies teachers instructed, by far, the largest classes in Grades 11 and 12 in personal finance. They taught, on average, 20 juniors and 36 seniors compared to the overall average across the four academic content areas of 13 and 15, respectively. In Grade 10, Family and Consumer Sciences teachers had larger classes (12

students on average), while Social Science teachers had the second largest classes (9 students on average). Second, the number of male students differed among the academic content areas. The number of male students was highest in the Science area (55% on average) and lowest in Family and Consumer Sciences courses (39% on average).

The academic content areas did not differ with respect to minority students (14% on average), student grades (93% will attain a "C" on average), ESL/ELL students (5% on average), nor with respect to teacher expectations about how many of their personal finance students will graduate with a high school diploma (94% on average) or will enter college (62% on average).

Table 1

Sample characteristics: Student population

Significant differences among academic content areas are shadowed. They were observed for the number of students in Grades 10 to 12 and the number of male students.

Variable	Range	All Mean (SD)	Business Education Mean (SD)	Family & Consumer Sciences Mean (SD)	Social Studies Mean (SD)	Mathematics, Science, Technology, Ag Mean (SD)
<i>Student population</i>						
in Grades 9 to 12 ($\chi^2=391.008$, $df=378$, $p=.311$)	2-325	50.05 (45.418)	42.76 (33.851)	47.24 (47.426)	70.58 (53.475)	36.85 (36.910)
in Grade 9 ($\chi^2=140.295$, $df=162$, $p=.890$)	0-150	6.43 (17.986)	5.70 (13.604)	7.71 (19.963)	5.94 (19.948)	3.93 (19.102)
in Grade 10 ($\chi^2=253.019$, $df=177$, $p=.000$)	0-150	9.21 (20.786)	7.86 (12.163)	11.57 (24.655)	8.83 (25.401)	2.70 (8.873)
in Grade 11 ($\chi^2=272.142$, $df=207$, $p=.002$)	0-255	14.20 (23.600)	13.41 (15.604)	12.15 (20.719)	19.95 (36.269)	11.78 (19.617)
in Grade 12 ($\chi^2=320.808$, $df=258$, $p=.005$)	0-310	20.19 (28.484)	15.80 (16.917)	15.81 (19.100)	35.86 (47.789)	18.45 (21.625)
white students ($\chi^2=660.140$, $df=717$, $p=.936$)	0-1	.8594 (.22833)	.8684 (.22549)	.8678 (.21374)	.8226 (.26741)	.8839 (.17277)
male students ($\chi^2=915.008$, $df=852$, $p=.066$)	0-1	.4546 (.20746)	.4918 (.19240)	.3921 (.19838)	.4830 (.20053)	.5523 (.26474)
Graduate "C" students ($\chi^2=764.788$, $df=747$, $p=.318$)	0-1	.92655 (.68507)	.9321 (.63752)	.9428 (.63427)	.9072 (.90616)	.8542 (.1794)
ESL/ELL students ($\chi^2=.529.001$, $df=564$, $p=.852$)	0-1	.05129 (.09838)	.0488 (.10581)	.0641 (.10003)	.0357 (.08825)	.035939 (.0615782)
Will graduate with diploma ($\chi^2=97.633$, $df=96$, $p=.434$)	0-1	.9440 (.12767)	.9654 (.07528)	.9412 (.13891)	.9221 (.14455)	.9165 (.19555)
Will enter college ($\chi^2=173.133$, $df=171$, $p=.440$)	0-1	.6182 (.26656)	.6580 (.24231)	.5714 (.27361)	.6519 (.27329)	.5760 (.28306)
N		687	234	268	145	40

Personal finance instruction

Differences among the four academic content areas were also obtained with respect to the conditions of instructing personal finance. The questionnaire inquired about conditions related to the number of courses taught with personal finance content, the course layout, teachers' course preparation, and the challenges of teaching personal finance. The findings are summarized in Table 2.

Overall, Family and Consumer Sciences teachers taught personal finance topics in the most number of courses (1.8 courses; overall sample average: 1.7), while Business Education teachers invested the most instruction time on personal finance topics (61% of their courses; average: 59%). In most schools, personal finance was an elective, one-semester long course. This was particularly true for the Family and Consumer Sciences academic content area, with 88 percent elective (opposite end: Social Studies: 31%) and 77 percent one-semester coursework (opposite end: Science: 25%). The academic content areas did not differ with respect to teaching personal finance in a traditional course schedule (average: 81%) or in the frequency of class meetings (average: 4.8 times per week).

When teachers prepared for their personal finance courses, they differed in their sources of information they preferred to gather information and classroom materials for teaching personal finance. About 45 percent of Science teachers' reported the Internet as their preferred source of information (average: 38%), while they spent the least amount of time searching the Internet on personal finance topics to prepare for one class period (19.5 min.; average: 29.1 min.). Just the contrary was true for Family and Consumer Sciences teachers. They spent the most time searching the Internet to prepare, on average, for one class period of their personal finance courses (32.1 min.), and were least likely to choose the Internet as their preferred source for gathering information and classroom materials for teaching personal finance (32%). Family and Consumer Sciences teachers also spent the most time talking to others about personal finance topics (15.0 min.; average: 10.5 min.; tied with Science teachers) and on assembling materials to prepare for one class period (40.2 min.; average: 32.7 min.). The academic content areas exhibited similar patterns with respect to reading publications about personal finance (average: 20.4 min. per class period).

Asked about what they felt were the major challenges when teaching personal finance, differences between the academic content areas emerged for seven of the nine presented challenges. Business education teachers were most likely to cite a disinterest of the school administration (26%; average: 18%), and were least likely to report about lacking subject-matter knowledge (6%; average: 16%), curricula needs (12%, average: 20%), classroom materials (29%, average: 39%), and student interest (20%; average: 27%). They were least likely to consider teaching personal finance to be a "tedious task" (12%; average: 18%).

Family and Consumer Sciences teachers reported the highest concerns for not having enough subject-matter knowledge (21%) and suitable curricula (26%), and had the strongest concerns about student interest in the topic (35%). Social Studies teachers were most likely to mention a lack of classroom materials (51%) and classroom time (56%; average: 42%) to properly teach personal finance topics. Finally, the Science teachers were the most likely to consider teaching personal finance to be a "tedious task" (25%) and were more likely to report a lack of suitable curricula (25%) and classroom materials (50%). They were least likely to report lacking classroom time (23%) and inferences of their school's administration (13%) as major challenges.

Interestingly, the academic content areas expressed equal concerns about the information overload (average: 29%) and a lack of time available to stay current with changes in personal finance (average: 30%).

As illustrated in Figure 3, the three major challenges across the four academic content areas were: (1) the lack of classroom time to properly teach personal finance topics (average: 42%), (2) the lack of classroom materials, such as lesson plans and student handouts (average: 39%), and (3) the lack of time to stay current with changes in personal finance (average: 30%).

Table 2

Sample characteristics: Personal finance instruction

The four academic content areas differed by the number of courses in which personal finance is taught, the course layout, teachers' course preparation, and course challenges. Significant differences among the four academic content areas are shadowed.

Variable	Range	All	Business Education	Family & Consumer Sciences	Social Studies	Mathematics, Science, Technology, Ag
		Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
<i>Courses taught</i>						
No. of courses ($\chi^2=46.235$, df=9, p=.000)	1-3	1.69 (.777)	1.76 (.771)	1.81 (.772)	1.44 (.725)	1.45 (.783)
Percentage of instruction time in main pf course ($\chi^2=217.571$, df=33, p=.000)	<10% to 100%	58.9% (82.36%)	60.9% (85.78%)	45.60% (96.02%)	36.80% (92.70%)	54.00% (83.65%)
<i>Course layout</i>						
Elective course ($\chi^2=197.696$, df=3, p=.000)	0-1	.755 (.43013)	.8761 (.33021)	.8806 (.32487)	.3103 (.46424)	.8250 (.38481)
One-semester course ($\chi^2=51.552$, df=3, p=.000)	0-1	.6405 (.48021)	.5769 (.49511)	.7724 (.42008)	.6069 (.49013)	.2500 (.43853)
Traditional schedule ($\chi^2=5.857$, df=3, p=.119)	0-1	.8079 (.39427)	.8333 (.37348)	.8097 (.39327)	.7448 (.43747)	.8750 (.33493)
Meeting times ($\chi^2=24.395$, df=18, p=.143)	1-5	4.78 (.743)	4.88 (.554)	4.75 (.809)	4.71 (.814)	4.70 (.939)
<i>Course preparation</i>						
Preferred source is Internet (F=2.829, df=686, p=.038)	0-1	.3785 (.48536)	.4359 (.49694)	.3172 (.46624)	.3793 (.48690)	.4500 (.50383)
Time correlating materials (F=10.770, df=686, p=.000)	min.	32.7 (11.64)	31.5 (10.90)	40.2 (13.38)	22.5 (8.71)	24.0 (8.73)
Time searching the Internet (F=2.254, df=686, p=.081)	min.	29.1 (10.48)	28.8 (9.57)	32.1 (11.74)	27.0 (10.25)	19.5 (7.56)
Time reading publications (F=.419, df=686, p=.739)	min.	20.4 (8.04)	20.7 (7.95)	21.3 (8.50)	17.7 (7.13)	20.4 (8.15)
Time talking to others (F=4.905, df=686, p=.002)	min.	10.5 (4.43)	5.4 (2.22)	15.0 (6.35)	8.7 (3.77)	15.0 (5.44)
<i>Course challenges</i>						
Classroom time (F=9.123, df=686, p=.000)	0-1	.4236 (.49449)	.3333 (.47242)	.4590 (.49924)	.5586 (.49827)	.2250 (.42290)
Classroom materials (F=6.788, df=686, p=.000)	0-1	.3857 (.48712)	.2949 (.45696)	.3806 (.48644)	.5103 (.50163)	.5000 (.50637)

Table 2, continued

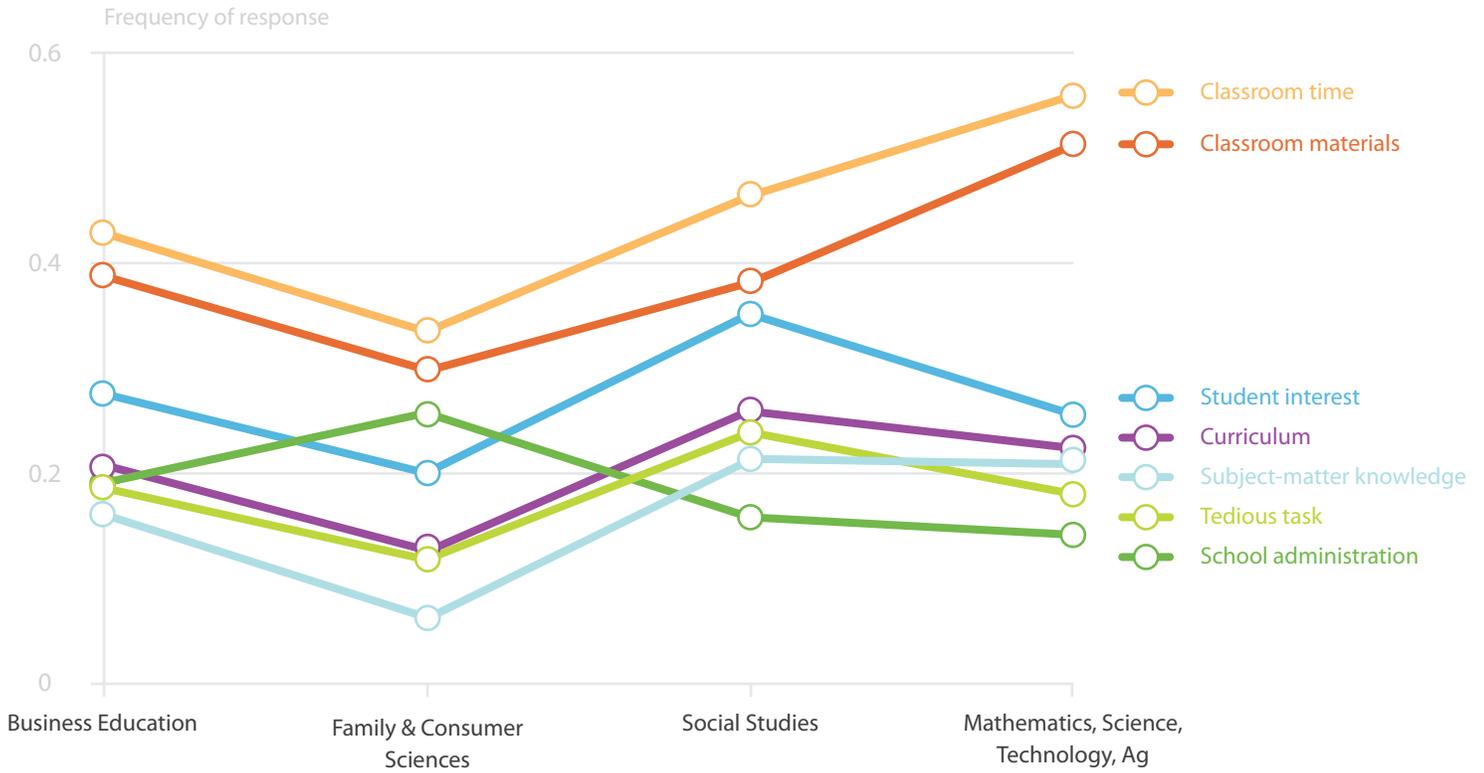
Sample characteristics: Personal finance instruction

The four academic content areas differed by the number of courses in which personal finance is taught, the course layout, teachers' course preparation, and course challenges. Significant differences among the four academic content areas are shadowed.

Variable	Range	All	Business Education	Family & Consumer Sciences	Social Studies	Mathematics, Science, Technology, Ag
		Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Time to stay current (F=1.460, df=686, p=.224)	0-1	.3028 (.45979)	.2692 (.44451)	.3470 (.47691)	.2897 (.45517)	.2500 (.43853)
Information overload (F=1.425, df=686, p=.234)	0-1	.2853 (.45189)	.2564 (.43759)	.3246 (.46911)	.2483 (.43351)	.3250 (.47434)
Student interest (F=5.225, df=686, p=.001)	0-1	.2722 (.44542)	.1966 (.39826)	.3507 (.47810)	.2552 (.43747)	.2500 (.43853)
Curriculum (F=4.991, df=686, p=.002)	0-1	.2038 (.40310)	.1239 (.33021)	.2575 (.43805)	.2207 (.41615)	.25000 (.43853)
School administration (F=4.195, df=686, p=.006)	0-1	.1849 (.38847)	.2564 (.43759)	.1567 (.36421)	.1379 (.34602)	.1250 (.33493)
Tedious task (F=4.462, df=686, p=.004)	0-1	.1834 (.38728)	.1154 (.32017)	.2351 (.42484)	.1793 (.38494)	.2500 (.43853)
Subject-matter knowledge (F=8.963, df=686, p=.000)	0-1	.1587 (.36563)	.0598 (.23768)	.2127 (.40997)	.2069 (.40648)	.2000 (.40510)
N		687	234	268	145	

Figure 3
Challenges of teaching personal finance topics by academic content areas

The lack of classroom time to properly teach personal finance topics and the lack of classroom materials were the top challenges for teaching personal finance across academic content areas.



School and teacher demographics

The survey instrument inquired about survey respondents' school demographics, teaching experience, and their demographic characteristics. The school and teacher demographic variables differed significantly for the four academic content areas (see Table 3).

Business Education teachers had the highest level of formal education (73% Masters; average: 67%) and reported the highest number of college courses taken on personal finance (2.7 courses; average: 2.3 courses). They were second in line, behind Family and Consumer Sciences teachers, with respect to teaching at public schools (93%), being female (62%), and slightly older (44 yrs.). They reported the second-highest annual household income (\$71,600) and the second-longest career teaching personal finance (12.5 yrs.).

Family and Consumer Sciences teachers were most likely to be located in public schools (94%; average 90%) and in rural school locations (57%; average 53%). A teacher in the Family and Consumer Sciences academic content area was most likely to be female (99%; average: 67%). This group was the oldest, on average (48 years; average: 45 years), with the highest annual household income (\$80,400; average: \$72,800) and the longest time teaching personal finance (17.0 years; average: 13.2 years). They were the most likely to report having taken CEU courses (84%; average: 63%).

Teachers teaching personal finance in the Social Studies content area were least likely to teach in rural school locations (42%) and to be female (26%). They were the youngest group (40.2 yrs.). Social Studies teachers had lower educational backgrounds (61% Masters), lower annual household income (\$63,400), fewer years teaching personal finance (9.2 yrs.), and were less likely to have taken college-level courses (1.9 courses). In addition, they collected the fewest CEUs (37%).

The group of Science teachers, while more likely to teach in rural locations (55%) and to collect CEUs (58%), was least likely to teach personal finance in public schools (76%), and had the lowest level of formal education (53% Masters) and household income (\$63,200). These teachers had the shortest history of teaching personal finance (6.6 yrs.) and had taken the fewest college-level courses (1.6 courses) compared to teachers in the three other content areas. They were also less likely to be female (33%) and were younger (41.3 yrs.).

The four academic content areas participated in a multitude of continuing education courses to stay current on personal finance topics and teaching methods. The content of their continuing education courses on personal finance and the institutions used for continuing education in personal finance are summarized in Appendix 4.

Table 3

Sample characteristics: School and teacher demographics by academic content area

The four academic content areas differed significantly by school demographics, teacher experience in teaching personal finance topics, and teacher demographic characteristics. Significant differences among the four academic content areas are shadowed.

Variable	Range	All Mean (SD)	Business Education Mean (SD)	Family & Consumer Sciences Mean (SD)	Social Studies Mean (SD)	Mathematics, Science, Technology, Ag Mean (SD)
<i>School demographics</i>						
Rural school location ($\chi^2=8.767$, $df=3$, $p=.033$)	0-1	.5284 (.49956)	.5470 (.49885)	.5672 (.49640)	.4207 (.49538)	.5500 (.50383)
Public school ($\chi^2=28.894$, $df=3$, $p=.000$)	0-1	.8967 (.30463)	.9274 (.26012)	.9403 (.23738)	.8000 (.40139)	.7750 (.42290)
<i>Teacher experience</i>						
Years teaching pf ($\chi^2=178.978$, $df=114$, $p=.000$)	1-44	13.23 (10.067)	12.51 (10.023)	17.03 (9.761)	9.20 (8.451)	6.60 (7.669)
College-level courses ($\chi^2=78.675$, $df=15$, $p=.000$)	0-4	2.29 (1.452)	2.72 (1.385)	2.20 (1.348)	1.94 (1.533)	1.61 (1.548)
Continuing education ($\chi^2=48.446$, $df=18$, $p=.000$)	0-5	.63 (1.048)	.55 (1.018)	.84 (1.147)	.37 (.695)	.58 (1.318)
<i>Teacher demographics</i>						
Gender (women=1; $\chi^2=260.331$, $df=3$, $p=.000$)	0-1	.6710 (.47018)	.6154 (.48755)	.9925 (.08622)	.2621 (.44128)	.3250 (.47434)
Age ($\chi^2=244.894$, $df=138$, $p=.000$)	22-76	44.59 (10.319)	44.12 (9.534)	47.83 (9.496)	40.24 (10.684)	41.31 (11.667)
Education (Master's and Ph.D.=1; $\chi^2=9.213$, $df=3$, $p=.027$)	0-1	.6667 (.47175)	.7265 (.44671)	.6642 (.47316)	.6138 (.48857)	.5250 (.50574)
Marital status (Married=1; $\chi^2=3.986$, $df=3$, $p=.263$)	0-1	.8006 (.39985)	.7692 (.42223)	.8246 (.38100)	.7862 (.41140)	.8750 (.33493)
Household income ($\chi^2=79.609$, $df=33$, $p=.000$)	1-11	\$72,800 (\$33,480)	\$71,600 (\$29,800)	\$80,400 (\$35,660)	\$63,400 (\$32,360)	\$63,200 (\$31,780)
N		687	234	268	145	40

Factor analysis of topics taught and teacher attitudes

Factor analysis was used to develop measures for two sections of the questionnaire: (1) the personal finance topics taught by survey respondents, and (2) their attitudes toward teaching personal finance. Eight factors were obtained for the most

Topics taught in personal finance courses

The survey instrument included a list of 58 personal finance topics adapted from the NEFE High School Financial Planning Program (National Endowment for Financial Education, 2007). The topics addressed the following five themes in personal finance instruction: (1) financial planning, goal setting, and decision making; (2) budgeting; (3) savings and investments; (4) consumer credit; and (5) insurance.

All single 58 topics, measured on a 1 = "do cover", 0 = "do not cover" scale, were factor analyzed to verify the stability of the five original themes. To this end, we employed principal components method and the Varimax rotation. Item loadings under each factor in the rotated component matrix were then examined for reliability using Cronbach's alpha. Separate reliability analyses were conducted for each topic factor for each of the four academic content areas. Unsatisfactory items were removed and the factor analysis then repeated with the remaining items. The procedure was repeated four times, after which the final factor solution emerged. It included 38 of the original 58 items.

As presented in Table 4, a total of eight factors were obtained. This result extends and rearranges the original five themes to a total of eight. A new label was developed for each of the eight factors based on the mix of the items that loaded on the said factor. Eigenvalues for the independent factors were all greater than one and all item loadings were in excess of the 0.50 threshold. Three-quarters of the Cronbach's alpha reliability coefficients were greater than 0.70, but one was below the 0.60 threshold.

The eight themes that emerged via factor analysis reflect the following themes and are composed of the following specific items:

common topics taught in personal finance courses and four factors were obtained for teacher attitudes toward teaching personal finance.

- **Credit:** Comparing credit offers; Grace period; Benefits of credit; Credit report, history, score; Balance transfers on credit cards; Types of loans; Credit cards, fees, and charges; APR; Minimum balances, charges, fees at financial institutions; Identity theft;
- **Investing:** Growth investments; Diversification of a portfolio; Fixed-income investments; Risk and return of investments; Impact of inflation and taxes on return; Stock market simulation games;
- **Insurance:** Deductible; Insurance premium; Auto insurance types of coverage; Factors affecting costs of auto policies; Future insurance needs; Concept of insurance;
- **Taxes:** Federal income tax, State income tax; Social Security tax, Medicare tax; Forms W-4, W-2, 1040; Payroll deductions;
- **Budget:** Record keeping; Tracking money, spending record; Building a budget; Transaction services;
- **Goals:** Short-, intermediate-, and long-term goals; Setting goals; Needs vs. wants;
- **Interest:** Compounding interest; Earned interest; Rate of return;
- **Limited-Resources:** Living with limited resources; Delayed gratification.

Table 4

Factors for topic-related variables

Eight commonly taught themes emerged from the factor analysis of 58 single personal finance topics.

Factors, reliabilities ^a (all groups; 1, 2, 3, 4) ^b , items	Factor loadings
<i>Credit (.906; .916, .879, .904, .885)</i>	
Comparing credit offers	.784
Grace period	.750
Benefits of credit	.719
Credit report, history, score	.707
Balance transfers on credit cards	.668
Types of loans	.627
Credit cards, fees and charges	.658
APR	.583
Minimum balances, charges, fees at financial institutions	.570
Identity theft	.544
<i>Investing (.874; .870, .842, .827, .859)</i>	
Growth investments	.837
Diversification of a portfolio	.819
Fixed-income investments	.765
Risk and return of investments	.758
Impact of inflation and taxes on return	.676
Stock market simulation games	.619
<i>Insurance (.929; .942, .931, .900, .921)</i>	
Deductible	.837
Insurance premium	.823
Auto insurance types of coverage	.811
Factors affecting costs of auto policies	.788
Future insurance needs	.737
Concept of insurance	.716
<i>Taxes (.851; .883, .858, .789, .862)</i>	
Federal income tax, State income tax	.855
Social Security tax, Medicare tax	.867
Forms W-4, W-2, 1040	.732
Payroll deductions	.693

Table 4

Factors for topic-related variables

Eight commonly taught themes emerged from the factor analysis of 58 single personal finance topics.

Factors, reliabilities ^a (all groups; 1, 2, 3, 4) ^b , items	Factor loadings
<i>Budget (.739; .645, .688, .758, .491)</i>	
Record keeping	.756
Tracking money, spending record	.703
Building a budget	.556
Transaction services	.521
<i>Goals (.700; .742, .641, .603, .827)</i>	
Short-, intermediate-, and long-term goals	.805
Setting goals	.803
Needs vs. wants	.557
<i>Interest (.832; .857, .807, .796, .900)</i>	
Compounding interest	.718
Earned interest	.680
Rate of return	.588
<i>Limited-Resources (.607; .692, .577, .452, .688)</i>	
Living with limited resources	.808
Delayed gratification	.713

N = 687; All items measured on a 1 = "do cover", 0 = "do not cover" scale,

Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization;

Rotation converged in 7 iterations; Total variance explained: 66.154%; Kaiser-Meyer-Olkin Measure of Sampling Adequacy: .933; Bartlett's Test of Sphericity:

$\chi^2 = 14791.056$, $df = 703$, Sig.: .000.

a) Cronbach's alpha; b) Teacher licenses: 1 = Business Education, 2 = Family and Consumer Sciences, 3 = Social Sciences, 4 = Mathematics, Science, Technology, and Agricultural Sciences.

Table 5 and Figure 4 present the differences among the four academic content areas in teaching the eight personal finance themes that emerged from the factor analysis.

Business Education teachers reported highest scores in teaching insurance, taxes, and interest-related topics compared to the other three academic content areas. They were less likely to teach budgeting or limited-resources topics. Family and Consumer Sciences teachers were most likely to teach credit, budgeting, goal setting, and limited-resources

topics. They were least likely to teach investing and interest-related topics among the four academic content areas.

Social studies teachers focused on investing. They were least likely among the four groups to teach credit, insurance, budgeting, and goal setting topics. Science teachers were more likely to teach budgeting and interest-related topics. They scored lowest for tax- and limited resource-related topics.

Table 5

Frequency of instruction of the eight themes

The four academic content areas differed significantly in how frequently they teach each of the eight themes in their personal finance classes. Significant differences among the four academic content areas are shadowed.

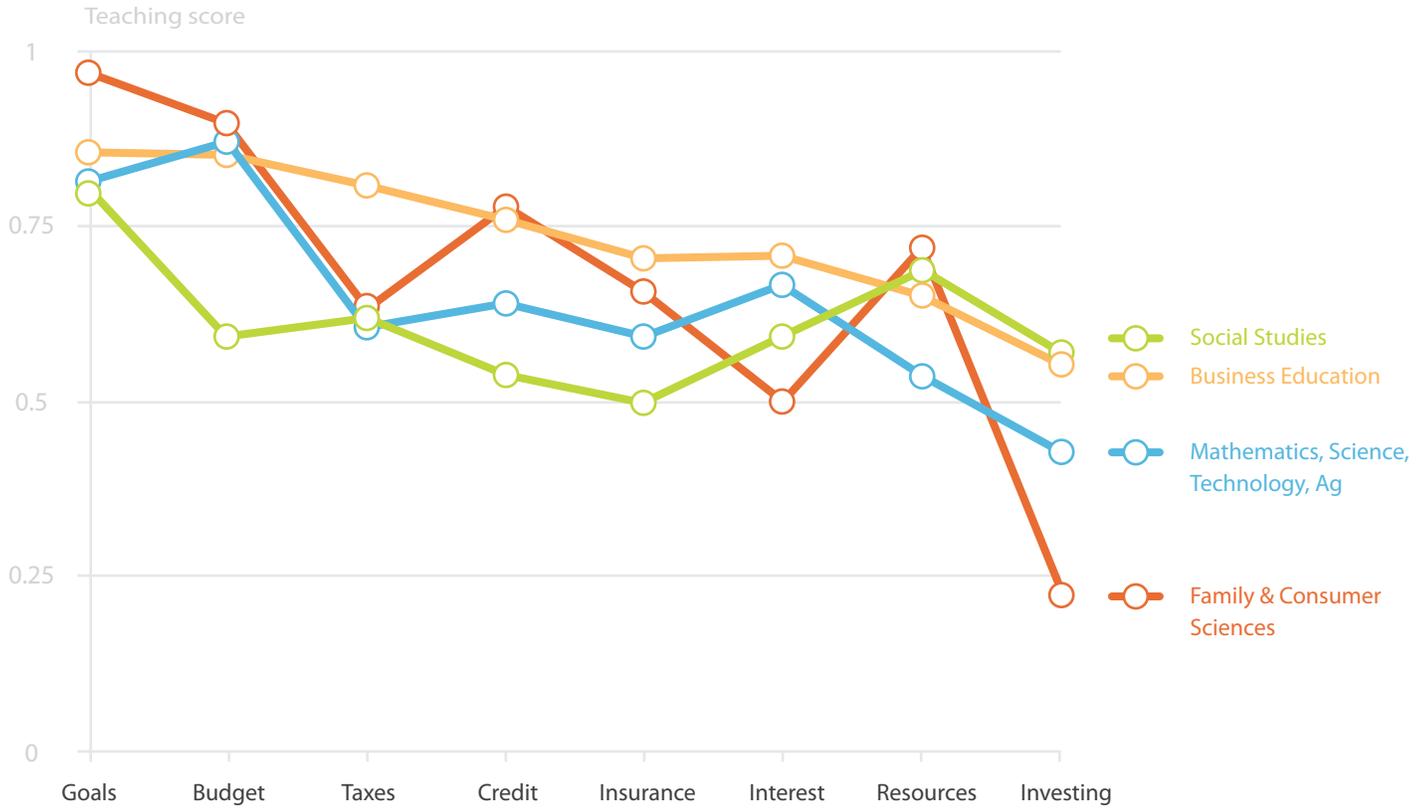
Variable	All mean, SD	Business Education	Family & Consumer Sciences	Social Studies	Mathematics, Science, Technology, Ag
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Teaching credit ($\chi^2=81.976$, $df=33$, $p=.000$)	.708 (.324)	.756 (.3106)	.772 (.2807)	.534 (.3575)	.638 (.3264)
Teaching investment ($\chi^2=123.156$, $df=18$, $p=.000$)	.419 (.3829)	.547 (.3832)	.227 (.3067)	.567 (.3624)	.425 (.3735)
Teaching insurance ($\chi^2=43.398$, $df=18$, $p=.001$)	.634 (.4111)	.703 (.3999)	.656 (.4079)	.496 (.4032)	.595 (.4166)
Teaching taxes ($\chi^2=70.161$, $df=12$, $p=.000$)	.687 (.3791)	.807 (.3362)	.632 (.3909)	.615 (.3591)	.606 (.4117)
Teaching budgeting ($\chi^2=119.766$, $df=12$, $p=.000$)	.813 (.2914)	.849 (.2484)	.894 (.2203)	.591 (.3712)	.868 (.2117)
Teaching goal setting ($\chi^2=88.763$, $df=9$, $p=.000$)	.996 (.2493)	.854 (.2860)	.965 (.1399)	.813 (.2774)	.816 (.3371)
Teaching interest-related ($\chi^2=39.558$, $df=9$, $p=.263$)	.598 (.4198)	.702 (.4004)	.502 (.4165)	.588 (.4139)	.666 (.4336)
Teaching limited-resources topics ($\chi^2=17.832$, $df=7$, $p=.007$)	.676 (.3897)	.649 (.4131)	.714 (.3743)	.686 (.3581)	.537 (.4294)
N	687	234	268	145	40

Note: Measures range from 0 to 1.

Figure 4

Frequency of instruction of the eight themes

The four academic content areas differed significantly in their instruction of the eight personal finance themes. In this illustration, Business Education teachers provide the basis for comparison.



Attitudes toward teaching personal finance

A factor-analytical approach was also taken to identify the attitudes teachers have toward teaching personal finance. A total of 28 attitudinal statements, measured on a 1 = "strongly disagree" to 5 = "strongly agree" scale, were factor analyzed using the same procedure as described for the topic factors. The procedure was repeated five times, after which the final factor solution emerged. It included 18 of the original 28 items.

As presented in Table 6, four factors were obtained. A label was developed for each factor based on the mix of the items that loaded on the said factor. Eigenvalues for the independent factors were all greater than one and all item loadings were in excess of the 0.60 threshold. All but one of the Cronbach's alpha reliability coefficients were greater than the 0.70 threshold.

The four factors that emerged via factor analysis reflect the following themes and are composed of the following specific items:

- **Curiosity:** (1) When I am looking for information or classroom materials for my personal finance course(s), I search a lot; (2) I spend a lot of time comparing information and classroom materials from different sources; (3) I regularly change the sources of information and classroom materials I use for my personal finance course(s); (4) I use many information sources for my personal finance course(s); (5) I enjoy searching for information and classroom materials for teaching personal finance; (6) I enjoy exploring new places for information and classroom materials for teaching personal finance.
- **Overload:** (1) Deciding which financial information and classroom materials to use is overwhelming; (2) I often feel confused by all the information available on personal finance; (3) The more I get into teaching personal finance, the harder it seems to choose the best information and classroom materials; (4) There are too many different sources to consider for gathering information and classroom materials for teaching personal finance; (5) Deciding which information and classroom materials to use requires a great deal of thought
- **Significance:** For me, teaching personal finance topics is (1) satisfying; (2) enjoyable; (3) important.
- **Diligence:** (1) It pays to select the best source of information and classroom materials for teaching personal finance; (2) The process of selecting an information source and classroom materials for my personal finance course(s) is important to me.

Table 6
Factors for attitudinal variables

Factors, reliabilities ^a (groups 1, 2, 3, 4) ^b , items	Factor loadings
<i>Curiosity (.795, .826, .866, .772)</i>	
When I am looking for information or classroom materials for my personal finance course(s), I search a lot.	.784
I spend a lot of time comparing information and classroom materials from different sources.	.780
I regularly change the sources of information and classroom materials I use for my personal finance course(s).	.710
I use many information sources for my personal finance course(s).	.691
I enjoy searching for information and classroom materials for teaching personal finance.	.668
I enjoy exploring new places for information and classroom materials for teaching personal finance.	.618
<i>Overload (.866, .799, .832, .886)</i>	
Deciding which financial information and classroom materials to use is overwhelming.	.831
I often feel confused by all the information available on personal finance.	.823
The more I get into teaching personal finance, the harder it seems to choose the best information and classroom materials.	.782
There are too many different sources to consider for gathering information and classroom materials for teaching personal finance.	.748
Deciding which information and classroom materials to use requires a great deal of thought.	.672
<i>Significance (.758, .773, .789, .857)</i>	
For me, teaching personal finance topics is satisfying.	.845
For me, teaching personal finance topics is enjoyable.	.804
For me, teaching personal finance topics is important.	.739
<i>Diligence (.760, .704, .671, .895)</i>	
It pays to select the best source of information and classroom materials for teaching personal finance.	.856
The process of selecting an information source and classroom materials for my personal finance course(s) is important to me.	.775

N = 687; All items measured on 5-point scales, anchored by 1=strongly agree, 5=strongly disagree;

Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization;

Rotation converged in 5 iterations; Total variance explained: 64.328%; Kaiser-Meyer-Olkin Measure of Sampling Adequacy: .850; Bartlett's Test of Sphericity:

$\chi^2 = 4466.097$, $df = 153$, $Sig. = .000$.

a) Cronbach's alpha; b) Teacher licenses: 1 = Business Education, 2 = Family and Consumer Sciences, 3 = Social Sciences, 4 = Mathematics, Science, Technology, and Agricultural Sciences.

Table 7 and Figure 5 illustrate the four academic content areas' attitudes toward teaching personal finance. Using the four attitudes that emerged from the factor analysis, we found that the four areas differed significantly for all but the "information overload" measure. Business Education teacher scored highest with respect to all four attitudes. However, the trend line is

clear: Teachers scored highest with respect to their diligence in researching personal finance topics for class, they attached relatively high significance to this topic, and were somewhat curious about it. The feeling of information overload was low and not significant for the four groups.

Table 7

Strength of teacher attitudes toward teaching personal finance

The four academic content areas differed significantly in their curiosity toward teaching personal finance, the significance they attached to these topics, and the diligence in researching them. The feeling of information overload was low and not significant when comparing the four groups.

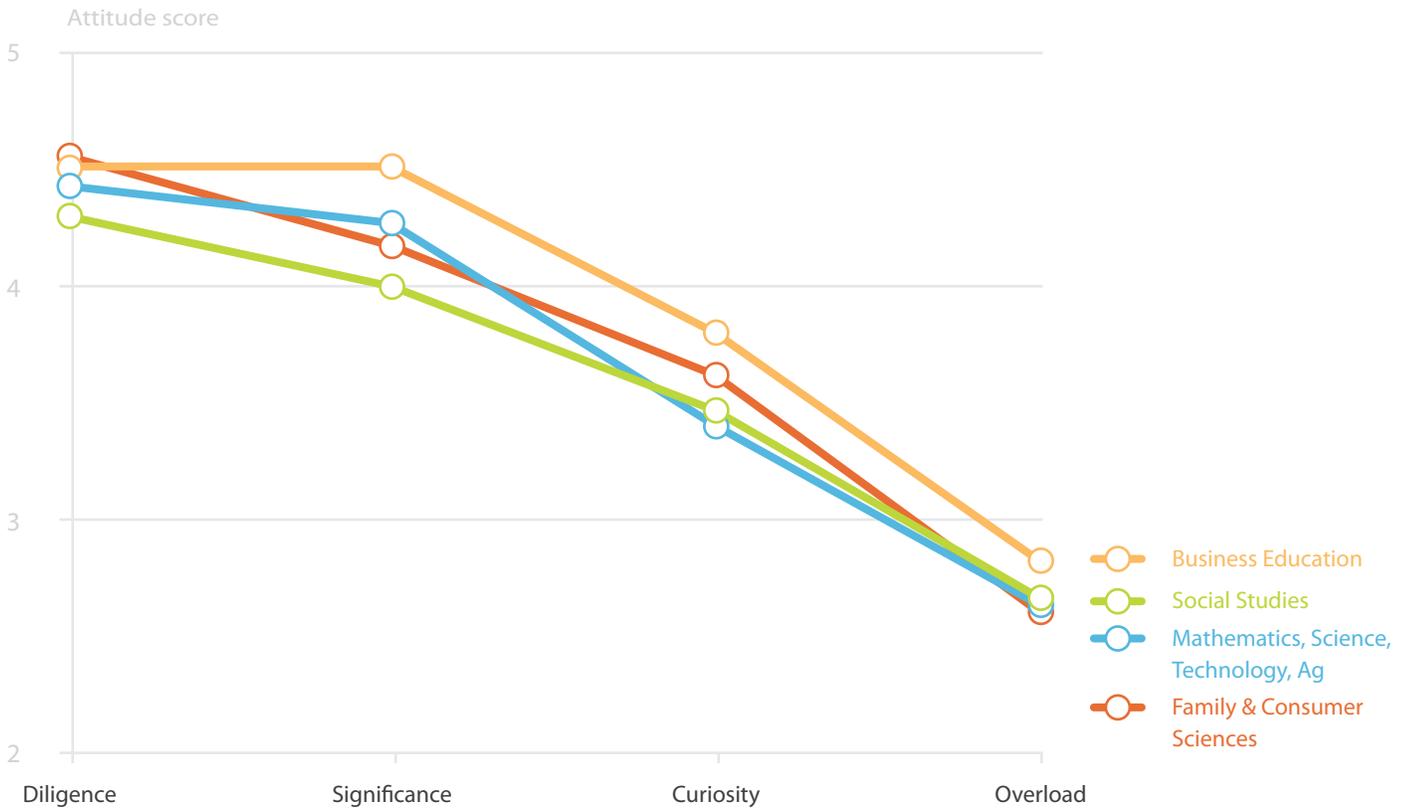
Variable	All	Business Education	Family & Consumer Sciences	Social Studies	Mathematics, Science, Technology, Ag
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Diligence in researching topics ($\chi^2=58.071$, $df=30$, $p=.002$)	4.49 (.540)	4.53 (.562)	4.56 (.485)	4.30 (.560)	4.44 (.540)
Significance of topics ($\chi^2=122.100$, $df=66$, $p=.000$)	4.26 (.675)	4.51 (.576)	4.17 (.689)	4.02 (.688)	4.26 (.606)
Curiosity in topics ($\chi^2=167.831$, $df=120$, $p=.003$)	3.64 (.653)	3.80 (.609)	3.62 (.644)	3.47 (.703)	3.41 (.553)
Overload of information ($\chi^2=85.049$, $df=93$, $p=.709$)	2.71 (.735)	2.84 (.793)	2.63 (.689)	2.68 (.689)	2.64 (.779)
N	687	234	268	145	40

Note: Measures range from 1 to 5.

Figure 5

Strength of teacher attitudes toward teaching personal finance

The four academic content areas differed significantly in their curiosity toward teaching personal finance, the significance they attached to these topics, and the diligence in researching them. The feeling of information overload was low and not significant when comparing the four groups.



Cluster analysis of information sources

Cluster analysis was used to identify groups of teachers with similar information search patterns. These patterns served as the dependent measures in the regression analyses in the subsequent sections of the current study. A total of 38 information-source variables were used to build the clusters. Usage of the sources was measured with the question, "How frequently do you use each of the following to stay informed about personal finance topics?" Responses were rated on a five-point scale ranging from 1 = "never" to 5 = "very often".

Information sources included:

- Eight mass-media sources,
- Fourteen Internet-based sources,
- Twelve interpersonal sources, and
- Four professional sources.

For the cluster analysis, we employed the k-means clustering technique with the software SPSS 14.0 for Windows. This is considered the most robust clustering technique in a review of different clustering applications (Punj & Stewart, 1983). Our process was facilitated by the survey design, which measured these variables on the same five-point Likert scale (anchored by 1 = "never", 5 = "always").

Following a procedure described in Schneider and Roberts (2004), we employed a multi-step cluster analysis process. Starting the cluster analysis with a two-cluster solution, we one-by-one increased the number of clusters to eight. At each step of our analysis, we observed the indicators for valid and reliable cluster solutions, including quantitative indicators, such as iteration history, distance between cluster centers, and analysis of variance, to seek high and statistically significant F values, as well as qualitative indicators, such as the structural meaning of constructs within clusters (Aldenderfer & Blashfield, 1984; Henry, Tolan, & Gorman-Smith, 2005).

The three-cluster solution proved to be the best solution. It included statistically significant, high F values in the ANOVA, satisfying distances between final cluster centers ranging from 1.95 to 2.99, and an iteration history reaching an endpoint at the 13th iteration. The cluster centers and the ANOVA results are presented in Table 8. The three information clusters differ in how often they used the information sources, from a high of 2.99 (Cluster 1) to a low of 1.95 (Cluster 3) and the number of sources used, ranging from all 38 sources (Cluster 1), 37 sources (Cluster 2), to 27 sources (Cluster 3).

Table 8

Cluster centers and ANOVA results for teacher information sources

38 sources of personal finance information and the frequency of their usage were clustered to identify high-, moderate-, and low-information strategies among teachers.

Information sources	Cluster 1	Cluster 2	Cluster 3	F Statistics ^a
<i>Mass-media sources</i>				
Television programs	4	3	3	39.395
Radio programs	3	3	2	11.026
Books	3	3	3	37.801
Personal finance textbooks	4	3	3	18.950
General newspapers	4	3	3	30.814
Financial newspapers	3	2	2	113.810
Financial planning magazines	3	2	2	132.530
General interest magazines	3	3	2	30.706
<i>Internet-based sources</i>				
Email newsletters	2	2	1	85.825
Information-sharing email listservs	2	2	1	81.803
Browser searches	4	4	3	69.844
Blogs	2	1	1	38.526
Teacher-focused financial Web sites	3	2	2	118.056
Curriculum clearinghouses	3	2	1	100.336
Investment firms' and brokerage houses	3	2	1	210.555
Market watch Web sites	3	2	2	213.302
Personalized financial Web sites	3	2	2	215.557
Youth-focused Web sites	3	2	1	160.849
Web sites that provide access to financial	4	3	2	166.605
Personal finance web portals and directories	3	2	2	178.545
Online games and simulations	3	2	2	118.460
Online financial tools	4	3	2	172.786
<i>Interpersonal sources</i>				
Spouse	3	3	2	17.224
Parents	3	2	2	27.273
Friends and extended family	3	3	2	42.819
Colleagues	3	3	2	47.732
Workplace financial education	3	3	2	53.966
Investment clubs	2	2	1	56.785
Financial advisors	3	3	2	51.310
Bankers, credit union associates	3	3	2	88.813

Table 8, continued

Cluster centers and ANOVA results for teacher information sources

38 sources of personal finance information and the frequency of their usage were clustered to identify high-, moderate-, and low-information strategies among teachers.

Information sources	Cluster 1	Cluster 2	Cluster 3	F Statistics ^a
Business leaders	3	3	2	111.566
Civic or religious leaders	2	2	1	55.934
Personal experiences	4	4	4	21.228
Stock broker	3	2	2	71.548
Professional sources				
Professional conferences	3	3	1	109.325
Other continuing education events	3	3	2	121.209
Jumpstart trainings and resources	2	2	1	75.880
NCEE sponsored workshops	2	2	1	53.070
Frequency of sources (SD)	2.99	2.52	1.95	
Number of sources (= 38)	38	37	27	
N (= 687)	260 (37.8%)	221 (32.2%)	206 30.0%	

Note: Variables were coded on a five-point scale: never=1, seldom=2, sometimes=3, often=4, very often=5;

a) All F statistics were significant at the $p < 0.001$ level

Following the terminology of previous research (Claxton, Fry, & Portis, 1974; Furse, Punj, & Stewart, 1984; Kiel & Layton, 1981; Klein & Ford, 2003), we used the distances between the mean frequency of source usage to classify the following (see Figure 6):

1. Cluster 1 (260 respondents; 37.8 percent of the survey respondents): the high information search type of teachers practicing a multi-source, high-information strategy. These teachers were highly information-driven and use a diversified information strategy. The cluster's mean information gathering score is 2.99.

2. Cluster 2 (221 respondents; 32.2 percent of the respondents): the moderate information search type of teachers practicing a multi-source, but less frequent, information search strategy. The cluster's mean information gathering score is 2.52.

3. Cluster 3 (206 respondents; 30.0 percent of the respondents): the low information search type of teachers practicing a low-information strategy. Their major information source is personal experience. The cluster's mean information gathering score is 1.95, the lowest of the three clusters.

Figure 6

Information search strategies among teachers

Teachers practiced high-, moderate-, and low-search strategies to stay current on personal finance topics.

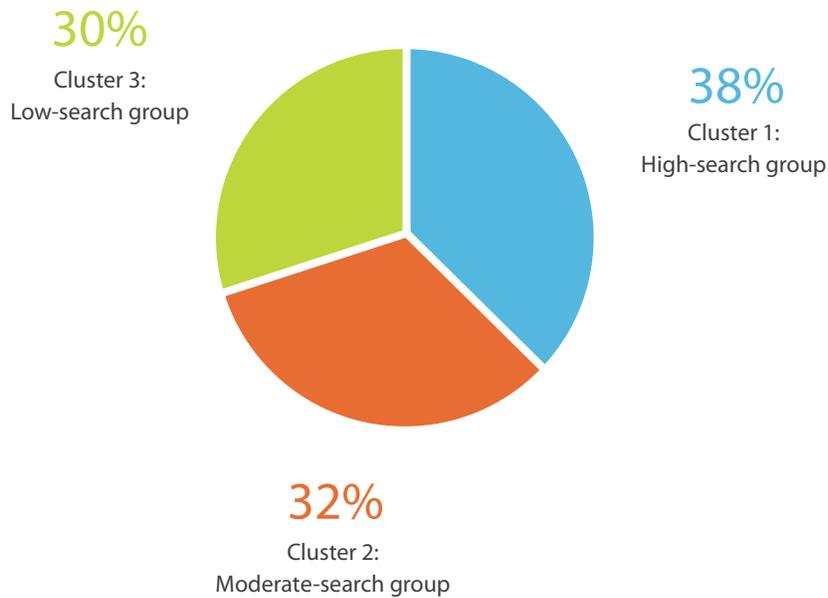


Table 9 and Figure 7 illustrate the different information search strategies for personal finance information among the four academic content areas. Half of the Business Education teachers (50%) practiced a high-information strategy compared to one-third of Social Studies (35%) and Family and Consumer Sciences (32%) teachers, and only 15 percent of

the Science teachers. The latter were most likely to practice a low-information strategy (45%), as did Social Studies teachers (43%), while only one-quarter of the Business Education and Family and Consumer Sciences teachers were in this low-information group.

Table 9

Teacher use of information sources

Business Education teachers were most likely to practice a high-information strategy to stay current about personal finance topics whereas Social Studies and Sciences teachers were most likely to practice a low-information strategy.

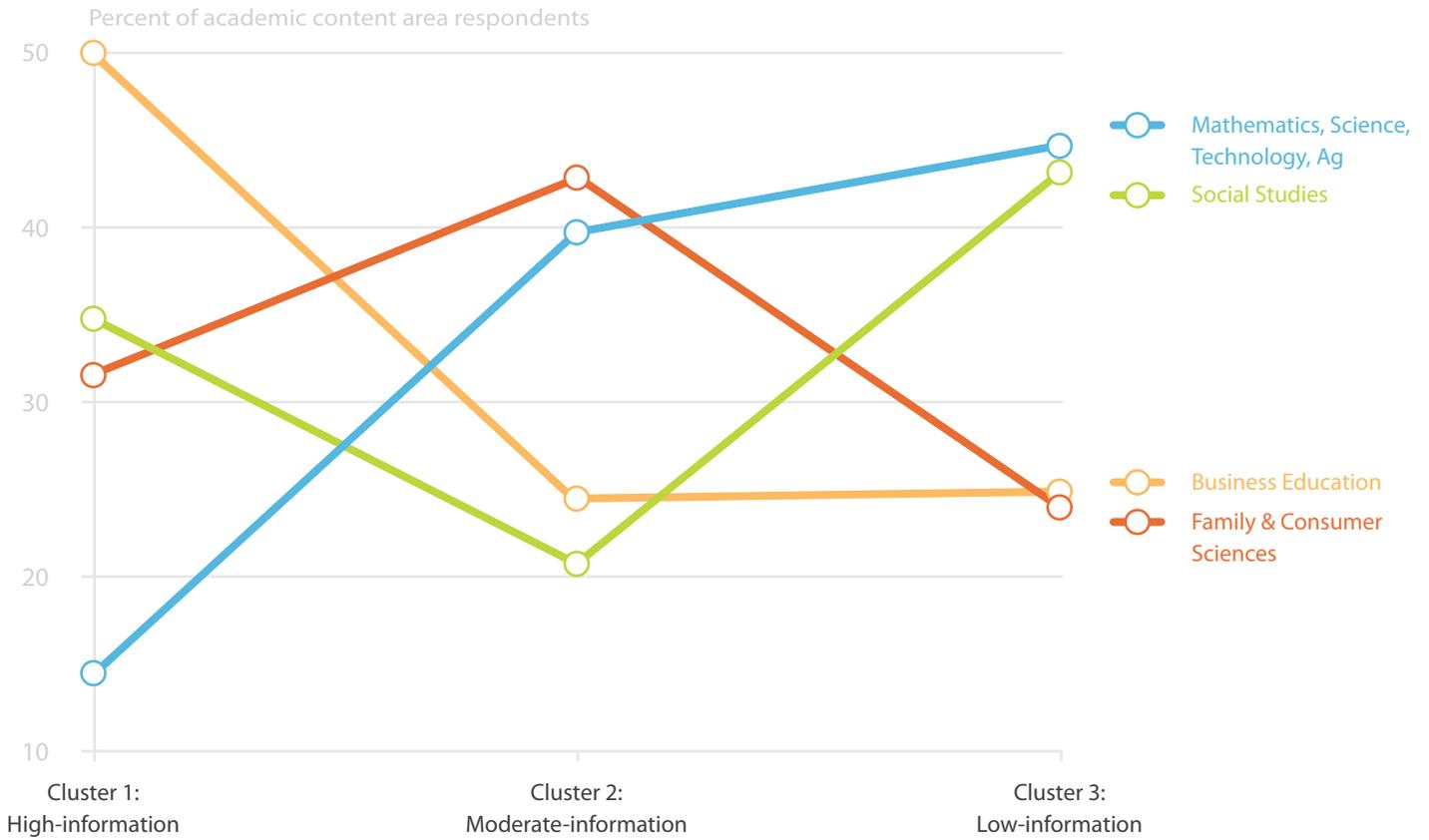
Source	Range	Business Education (N, %)	Family & Consumer Sciences (N, %)	Social Studies (N, %)	Mathematics, Science, Technology, Ag (N, %)
High-information	1-5	117 (50.0%)	86 (32.1%)	51 (35.2%)	6 (15.0%)
Moderate-information	1-5	58 (24.9%)	116 (43.3%)	31 (21.4%)	16 (40.0%)
Low-information	1-5	59 (25.2%)	66 (24.6%)	63 (43.4%)	18 (45.0%)
N (= 687)		234	268	145	40

Note: rated on a five-point scale ranging from 1 = “never” to 5 = “very often”; Pearson Chi-Square = 53.653, df = 6, p < .001 (two-sided)

Figure 7

Information search strategies

Business Education teachers were most likely to practice a high-information strategy to stay current about personal finance topics whereas Social Studies and Sciences teachers were most likely to practice a low-information strategy.



Financial knowledge score

In order to study the interaction between teacher knowledge and personal finance instruction, each participant was given a nine-question financial literacy exam at the end of the survey. The questions in the exam were taken directly, or were adapted, from questions asked in nationally-representative consumer surveys. We chose nine questions from seven sources to test the five personal finance themes that we also used to assess teaching priorities. Due to the comprehensive range of topics, no single questionnaire tested in the literature was available for the current survey. The knowledge quiz questions and their sources were as follows.

Financial planning

What do you think is currently the average personal savings rate in the United States in 2006 as a percentage of the disposable income? Source: Bureau of Economic Analysis (2006)

1. Between -5% and 0% (correct answer)
2. More than 0% to 5%
3. More than 5% to 10%
4. Not sure

Budgeting

In an FDIC-insured financial institution, up to what amount is an individual's accounts insured? Source: Federal Deposit Insurance Corporation (2006)

1. Up to \$100,000 (correct answer)
2. Up to \$10,000
3. Up to \$1,000
4. Not sure

Savings and Investing

Over the last 20 years in the U.S., the best average returns have been generated by which of the following? Source: NASD Investor Education Foundation (2003)

1. Stocks (correct answer)
2. Bonds
3. Certificates of deposit
4. Money market accounts
5. Precious metals
6. Not sure

When is the best time to transfer money into a long-term bond fund? Source: Agnew & Szykman (2005)

1. When interest rates are expected to increase
2. When interest rates are expected to remain stable
3. When interest rates are expected to decrease (correct answer)
4. Interest rate doesn't matter
5. Not sure

Is the following statement true or false? "A stock market index fund is actively managed by a fund portfolio manager." Source: Agnew & Szykman (2005)

1. True
2. False (correct answer)
3. Not sure

Consumer Credit

Negative financial information can stay on your credit report for how many years? Source: National Consumer Protection Week (2004)

1. 5 to 7 years
2. 7 to 10 years (correct answer)
3. 10 to 15 years
4. Not sure

If your credit card was lost or stolen and used to charge items you didn't authorize, you are responsible for what amount? National Consumer Protection Week (2004)

1. Nothing
2. Up to \$50 (correct answer)
3. Up to \$500
4. All unauthorized charges

Credit scores range from 330 to 830. What do you think is the average credit score in the United States as reported in credit reports? Source: Experian Information Solutions (2006)
Open-ended question; correct answer: Numbers in the range of 660 to 720

Insurance

If you have caused an accident, which type of automobile

insurance would cover damage to your own car? Source: Jumpstart Coalition for Personal Financial Literacy (2006)

1. Term insurance
2. Collision insurance (correct answer)
3. Comprehensive insurance
4. Liability insurance

Table 10 provides the questions and the percent of each academic content area answering the questions correctly. There were several surprising results from the financial knowledge quiz.

First, only three of the nine questions were answered correctly by a majority of the teachers. In total, 86 percent of the sample knew the correct amount of FDIC insured deposits, the question with the highest number of correct answers. About half of the sample knew the amount one is responsible for when a credit card is lost (55.4%), the type of car insurance (54.4%), credit report time frames (48.6%), the current personal savings rate (46.8%), and average returns

of investment products (42.6%). Only about one quarter of respondents understood the relationship between bonds and interest rates (26.6%) and the nature of index funds (24.3%). A low percentage knew about the average credit score (9.3%), the question with the lowest number of correct answers.

Secondly, the academic content areas differed significantly in the number of correct answers given. Rank 1, the highest number of correct answers for a question, was achieved four times by Business Education (Questions 2, 6, 8, 9) and Social Studies teachers (Questions 1, 3, 4, 5). Family and Consumer Sciences teachers scored lowest on four of the nine questions (Questions 2, 3, 5, 8) and second-lowest on three more questions (Questions 1, 4, 9). Science teachers were ranked third place for five of the nine questions (Questions 2, 3, 5, 7, 8).

The most significant differences in correct answers among the academic content areas were observed for the lost credit card (Question 7, $F=25.063$), average investment return (Question 3, $F=16.262$), and index fund (Question 5, $F=12.287$) questions.

Table 10

Summary of quiz questions and percentage of participants who answered each question correctly.

The number of correct answers differed most significantly for, in order, Questions 7, 3, and 5. Only three questions were answered correctly by more than half of the sample (Questions 2, 7, 9). Significant differences among the four academic content areas are shadowed.

Quiz Question	All %	BUS %	FCS %	SS %	SCI %
1. What do you think is currently the average personal savings rate in the United States in 2006? ($F=2.421$, $df=3$, $p=.065$)	46.8	43.2	44.8	56.6	47.5
2. In an FDIC-insured financial institution, up to what amount is an individual's accounts insured? ($F=6.477$, $df=3$, $p=.000$)	86.3	92.7	79.9	89.0	82.5
3. Over the last 20 years in the U.S., the best average returns have been generated by which of the following? ($F=16.262$, $df=3$, $p=.000$)	42.6	50.4	27.6	58.6	40.0
4. When is the best time to transfer money into a long-term bond fund? ($F=1.793$, $df=3$, $p=.147$)	26.6	29.5	22.8	31.0	20.0
5. Is the following statement true or false? "A stock market index fund is actively managed by a fund portfolio manager." ($F=12.287$, $df=3$, $p=.000$)	24.3	32.1	14.2	34.5	10.0
6. Negative financial information can stay on your credit report for how many years? ($F=7.358$, $df=3$, $p=.000$)	48.6	55.6	52.2	36.6	27.5

Table 10, continued

Summary of quiz questions and percentage of participants who answered each question correctly.

The number of correct answers differed most significantly for, in order, Questions 7, 3, and 5. Only three questions were answered correctly by more than half of the sample (Questions 2, 7, 9). Significant differences among the four academic content areas are shadowed.

Quiz Question	All	BUS	FCS	SS	SCI
	%	%	%	%	%
8. What do you think is the average credit score in the United States as reported in credit reports? (F=.771, df=3, p=.510)	9.3	11.1	7.5	10.3	7.5
9. If you have caused an accident, which type of automobile insurance would cover damage to your own car? (F=6.480, df=3, p=.000)	54.4	65.4	49.3	45.5	57.5

Table 11 reports the results sorted for the number of questions answered correctly. For all four academic content areas, the mean quiz scores were below 50 percent (Business Education: 49.3%, Family and Consumer Sciences: 40.4%, Social Studies: 43.4%, Science: 36.1%) and only for the Business Education teachers was the median quiz score above the 50-percent threshold.

As illustrated in Figure 8, most respondents answered two to five questions correctly. There was a much lower number who answered none/one question or six to nine questions correctly. With respect to the full sample, most respondents answered four questions correctly (21.1%). Only two of the 687 teachers answered all nine questions correctly. In the subsequent analyses, we used the mean of the quiz scores as our indicator of financial knowledge.

Table 11

Teacher differences in the personal finance knowledge quiz

Most respondents answered two to five questions correctly. There was a much lower number who answered none/one question or six to nine questions correctly.

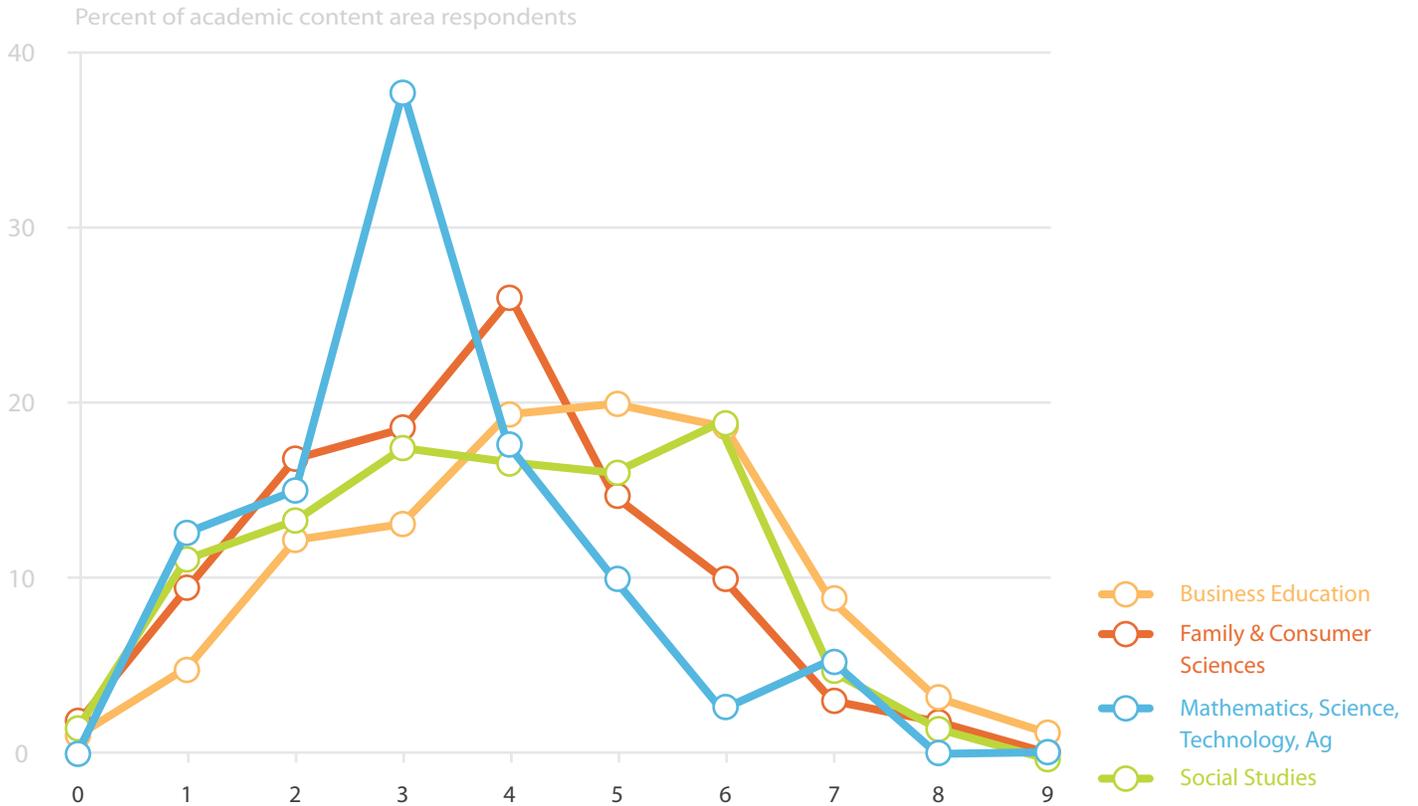
No. of correct answers	Range	Business Education (N, %)	Family & Consumer Sciences (N, %)	Social Studies (N, %)	Mathematics, Science, Technology, Ag (N, %)
0 questions	0-1	2 (.9%)	4 (1.5%)	2 (1.4%)	0 (.0%)
1 question	0-1	11 (4.7%)	25 (9.3%)	16 (11.0%)	5 (12.5%)
2 questions	0-1	28 (12.0%)	44 (16.4%)	19 (13.1%)	6 (15.0%)
3 questions	0-1	30 (12.8%)	49 (18.3%)	25 (17.2%)	15 (37.5%)
4 questions	0-1	45 (19.2%)	69 (25.7%)	24 (16.6%)	7 (17.5%)
5 questions	0-1	46 (19.7%)	39 (14.6%)	23 (15.9%)	4 (10.0%)
6 questions	0-1	43 (18.4%)	26 (9.7%)	27 (18.6%)	1 (2.5%)
7 questions	0-1	20 (8.5%)	8 (3.0%)	7 (4.8%)	2 (5.0%)
8 questions	0-1	7 (3.0%)	4 (1.5%)	2 (1.4%)	0 (.0%)
9 questions	0-1	2 (.9%)	0 (.0%)	0 (.0%)	0 (.0%)
Mean		49.3%	40.4%	43.4%	36.1%
Median		55.5%	44.4%	44.4%	33.3%
N (= 687)		234	268	145	40

Note: Variables were coded on a two-point true = 1 and false = 0 scale; Pearson Chi-Square = 55.674, df = 27, p = .001 (two-sided).

Figure 8

Financial knowledge quiz score

Most respondents answered between two and five questions correctly. There was a much lower percentage who answered none/one question or six to nine questions correctly.



Regression analysis

Regression analysis is the perfect tool to combine all of the measures that we defined in the above chapters into one single analysis. We conducted four separate binary logistic regression analyses to identify the measures that influence the instruction of personal finance in each of the four academic content areas (= dependent variables). The binary logistic regression analyses allow us to predict the variance in the dependent variables explained by the independent measures, to rank the relative importance of the independent measures, and to assess interaction effects.

Table 12 summarizes the results for the regression analyses that were conducted for each academic content area. A complete breakdown of the regression results for each academic content area appears in Appendix 2. In order to facilitate comparisons among the four academic content areas, the regression values of the odd ratios are expressed as

Instructing personal finance – Comparing the four academic content areas

With respect to the presence and sign direction of significant predictor variables, there were few similarities among the four academic content areas. Business education teachers were more likely to teach elective courses, to teach tax topics, and to have a higher percentage of male students in their personal finance classes. On the other hand, their courses were less likely to be limited to one semester and they used less classroom time to teach personal finance. In addition, they were less likely to teach goal setting and limited-resource topics.

Family and Consumer Sciences teachers were more likely to teach credit, budgeting, and goal-setting but avoided the investment topic. They were most likely teaching personal finance in an elective course offered on a one-semester schedule with ample time spent on instructing it. Their audience was less likely to be male.

Social Studies teachers were most likely to teach investment, tax, and limited-resources topics. They stayed away from

positive and negative signs to indicate strength and direction of the relationship with the dependent variables. For each academic content area, the variables have been grouped into three sets: instruction [i], preparation [p], and demographics [d].

Concerning the underlying determinants of teaching personal finance in Ohio high schools, the four academic content areas exhibit differences with respect to the actual number of determinants. The Family and Consumer Sciences academic content area was found to have the highest number, with a total of 24 determinants, while the Social Studies content area had 21, the Business Education content area had 19, and the Science content area had 18 determinants. The ensuing sections describe the effects of the significant antecedent variables on teaching personal finance, with a focus on comparing the four academic content areas.

teaching budgeting and interest-related topics. They were more likely to teach a large number of students in Grade 12, to devote significant time to these topics, and to follow a one-semester course schedule. Their courses were least likely to be elective.

Similar to Family and Consumer Sciences teachers, Science teachers were more likely to focus on budgeting and avoided teaching limited-resource related topics. While Science teachers were more likely to have a higher number of male students, their personal finance instruction was characterized by fewer students attending personal finance courses in Grade 10, topics spread out over fewer courses, and generally had less time reserved for teaching personal finance topics. Similar to Business Education teachers, their personal finance instruction was less likely limited to one semester.

Preparing to teach personal finance – Comparing the four academic content areas

As with the case of the instruction of personal finance, few predictor variables commonly affected class preparation among the four academic content areas. Business Education

teachers were most likely to score high on the personal finance quiz, were curious about learning personal finance, and attached great significance to teaching these topics. Their main barrier to teaching personal finance topics was their school's administration. None of the subject-matter barriers were pertinent for this content area. In fact, Business Education teachers were even less likely to cite curriculum needs and student ignorance as challenges for teaching personal finance compared to the other academic content areas.

Family and Consumer Sciences teachers expressed high diligence in researching personal finance topics and were highly likely to belong to either the high or moderate-information search types of teachers. Surprisingly, they were likely to score low on the knowledge quiz and indicated that they dislike the Internet as a source of information on personal finance topics. Their main barriers to teaching personal finance were a lack of curricula that fit their teaching needs and a lack of student interest. School administration and classroom materials were less likely to present barriers within this content area. Overall, they attached less significance to teaching personal finance topics compared to Business Education or Science teachers.

Social Studies teachers attached little significance to teaching personal finance topics. They were less likely to diligently research personal finance topics and were unlikely to belong to the high or moderate search types of teachers for personal finance information. They indicated that they like to talk to colleagues to prepare for teaching these topics and their main barriers were classroom materials and classroom time to properly teach these topics.

Science teachers attached the highest level of significance to teaching personal finance topics. While they were less likely to practice high-information search efforts to learn about personal finance, they were most likely to talk to others to prepare for teaching these topics. Their greatest challenge was the feeling that teaching personal finance often seems tedious. They were not likely to cite any of the other challenges. Classroom time, in particular, was of little concern to this group.

School and teacher demographics – Comparing the four academic content areas

A selected number of demographics characterize teachers' involvement in teaching personal finance. Business Education teachers were less likely to be female and to participate in continuing education courses, but were more likely to have taken college courses on personal finance.

Family and Consumer Sciences teachers were most likely to be female, older, and living in households with a higher household income. Most likely, they had been teaching personal finance for a number of years, supported by continuing education courses. This group was less likely to hold a Masters' degree.

Social Studies teachers who teach personal finance were least likely to be located in rural school locations, to be female, and to participate in continuing education on personal finance topics. They reported fewer years teaching personal finance.

Science teachers who teach personal finance, finally, were less likely to teach personal finance at public schools, to be female, and to hold a Masters' degree. They, too, reported fewer years teaching personal finance topics and were less likely to have taken college-level coursework in this area. However, they did indicate that they participate in continuing education courses.

Table 12

Antecedent variable effects among academic content areas (direction of coefficient)

The red-shadowed fields indicate significantly positive relationships with the academic content area; blue indicates negative relationships.

Independent variables	Business Education	Family & Consumer Sciences	Social Studies	Mathematics, Science, Technology, Ag
	Exp(B)	Exp(B)	Exp(B)	Exp(B)
[i] Teaching credit	<i>n.s.</i>	++ ^{a)}	<i>n.s.</i>	<i>n.s.</i>
[i] Teaching investment	<i>n.s.</i>	-- ^{a)}	++ ^{a)}	<i>n.s.</i>
[i] Teaching tax	+ ^{c)}	<i>n.s.</i>	++ ^{b)}	<i>n.s.</i>
[i] Teaching budgeting	<i>n.s.</i>	++ ^{a)}	-- ^{a)}	++ ^{a)}
[i] Teaching goal setting	-- ^{b)}	++ ^{a)}	<i>n.s.</i>	<i>n.s.</i>
[i] Teaching interest-related	<i>n.s.</i>	<i>n.s.</i>	-- ^{c)}	<i>n.s.</i>
[i] Teaching resources topics	-- ^{b)}	<i>n.s.</i>	++ ^{a)}	-- ^{b)}
[i] No. students in Grade 10	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	- ^{b)}
[i] No. students in Grade 12	<i>n.s.</i>	<i>n.s.</i>	+ ^{c)}	<i>n.s.</i>
[i] Percent male students	+ ^{b)}	- ^{a)}	<i>n.s.</i>	+ ^{a)}
[i] No. of personal finance courses	<i>n.s.</i>	<i>n.s.</i>	- ^{b)}	- ^{c)}
[i] Instruction time in main course	- ^{a)}	+ ^{a)}	+ ^{a)}	- ^{c)}
[i] Elective course	++ ^{a)}	++ ^{c)}	-- ^{a)}	<i>n.s.</i>
[i] One-semester course	-- ^{a)}	++ ^{a)}	++ ^{a)}	-- ^{a)}
[p] Curiosity in topics	+ ^{c)}	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>
[p] Significance of topics	+ ^{a)}	- ^{b)}	- ^{b)}	++ ^{b)}
[p] Diligence in researching topics	- ^{c)}	++ ^{a)}	-- ^{b)}	<i>n.s.</i>
[p] High-information search	<i>n.s.</i>	++ ^{a)}	-- ^{c)}	-- ^{b)}
[p] Moderate-information search	<i>n.s.</i>	++ ^{b)}	-- ^{c)}	<i>n.s.</i>
[p] Low-information search	<i>omitted</i>	<i>omitted</i>	<i>omitted</i>	<i>omitted</i>
[p] Financial knowledge quiz score	++ ^{c)}	-- ^{a)}	<i>n.s.</i>	<i>n.s.</i>
[p] Preferred source is Internet	<i>n.s.</i>	-- ^{a)}	<i>n.s.</i>	<i>n.s.</i>
[p] Talking to others	- ^{a)}	<i>n.s.</i>	+ ^{b)}	++ ^{b)}
[p] Barrier: Curriculum	- ^{b)}	++ ^{b)}	<i>n.s.</i>	<i>n.s.</i>
[p] Barrier: Classroom materials	<i>n.s.</i>	-- ^{b)}	++ ^{b)}	<i>n.s.</i>
[p] Barrier: Classroom time	<i>n.s.</i>	<i>n.s.</i>	++ ^{b)}	-- ^{b)}
[p] Barrier: School admin	+ ^{b)}	-- ^{a)}	<i>n.s.</i>	<i>n.s.</i>
[p] Barrier: Student interest	- ^{b)}	++ ^{c)}	<i>n.s.</i>	<i>n.s.</i>
[p] Barrier: Tedious task	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	++ ^{c)}

Table 12, continued

Antecedent variable effects among academic content areas (direction of coefficient)

The red-shadowed fields indicate significantly positive relationships with the academic content area; blue indicates negative relationships.

Independent variables	Business Education	Family & Consumer Sciences	Social Studies	Mathematics, Science, Technology, Ag
	Exp(B)	Exp(B)	Exp(B)	Exp(B)
[d] Rural school location	<i>n.s.</i>	<i>n.s.</i>	-- ^{b)}	<i>n.s.</i>
[d] Public school	<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>	-- ^{a)}
[d] Women	-- ^{c)}	++ ^{a)}	-- ^{a)}	-- ^{a)}
[d] Age	<i>n.s.</i>	+ ^{b)}	<i>n.s.</i>	<i>n.s.</i>
[d] Masters degree	<i>n.s.</i>	-- ^{b)}	<i>n.s.</i>	-- ^{c)}
[d] Annual household income	<i>n.s.</i>	+ ^{c)}	<i>n.s.</i>	<i>n.s.</i>
[d] Years teaching personal finance	<i>n.s.</i>	+ ^{a)}	-- ^{b)}	-- ^{a)}
[d] College-level courses	+ ^{a)}	<i>n.s.</i>	<i>n.s.</i>	-- ^{a)}
[d] Continuing education	-- ^{b)}	+ ^{b)}	-- ^{a)}	+ ^{c)}
N (N=687)	234	268	145	40
No. of significant variables	19	24	21	18
Omnibus test of model coefficients (Chi-square)	327.020 ^{a)}	650.960 ^{a)}	501.029 ^{a)}	170.532 ^{a)}
Nagelkerke R Square	.524	.830	.805	.613

Note: ++: $\text{Exp}(b) \geq 2$; +: $2 > \text{Exp}(b) \geq 1$; --: $0.5 < \text{Exp}(b) \leq 1$; --: $\text{Exp}(b) \leq 0.5$; a) Significant at $p < .01$, one-way; b) Significant at $p < .05$, one-way; c) Significant at $p < .10$, one-way.

Academic content area scores for teaching personal finance

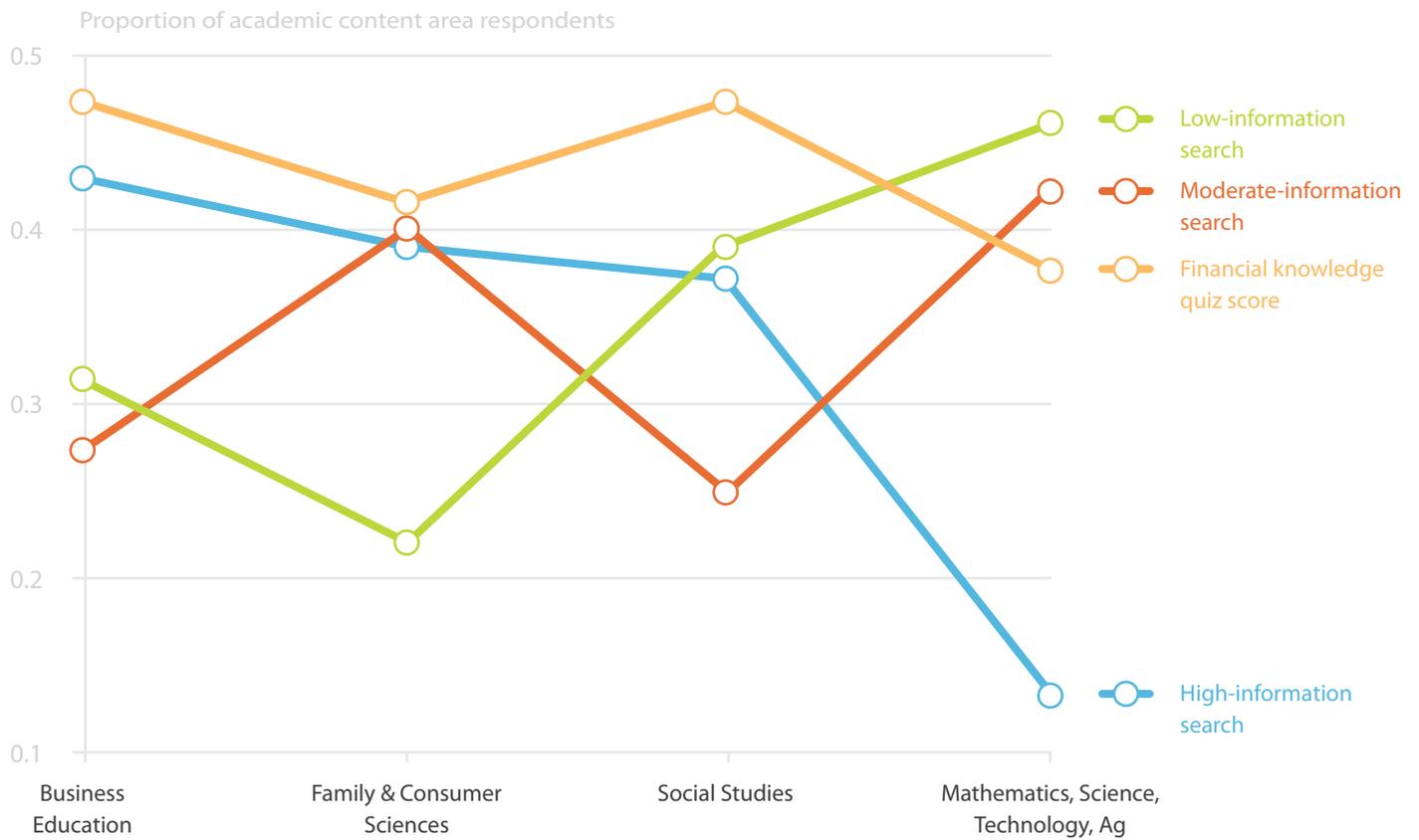
The average mean scores analysis presents a scoring tool to summarize the influence of the major measures of our analyses on teaching personal finance in the four academic content areas.

To assess the mean scores for each academic content area on the dependent variables, several MANCOVAs were conducted (Table 13). Since between-sample differences were determined for 28 variables, these variables were entered into the MANCOVA as covariates. As shown in Table 13 and Figures 9 and 10, significant differences emerged with respect to the mean average scores for all three information search types, financial knowledge scores, the topics of credit, investment, budgeting, goal-setting, and limited resources, as well as the

significance and diligence attributed to teaching personal finance.

Figure 9 illustrates the main effects of academic content area on reported search behaviors and financial knowledge. With respect to information search strategies, the largest group of Business Education teachers practiced a high-information strategy. Family and Consumer Sciences teachers were equally found to practice a high and moderate-search strategy. The largest group of Social Studies and Science teachers practiced a low-information strategy. Surprisingly, despite the lower search efforts, Social Studies and Business Education teachers achieved the highest scores in the financial knowledge quiz.

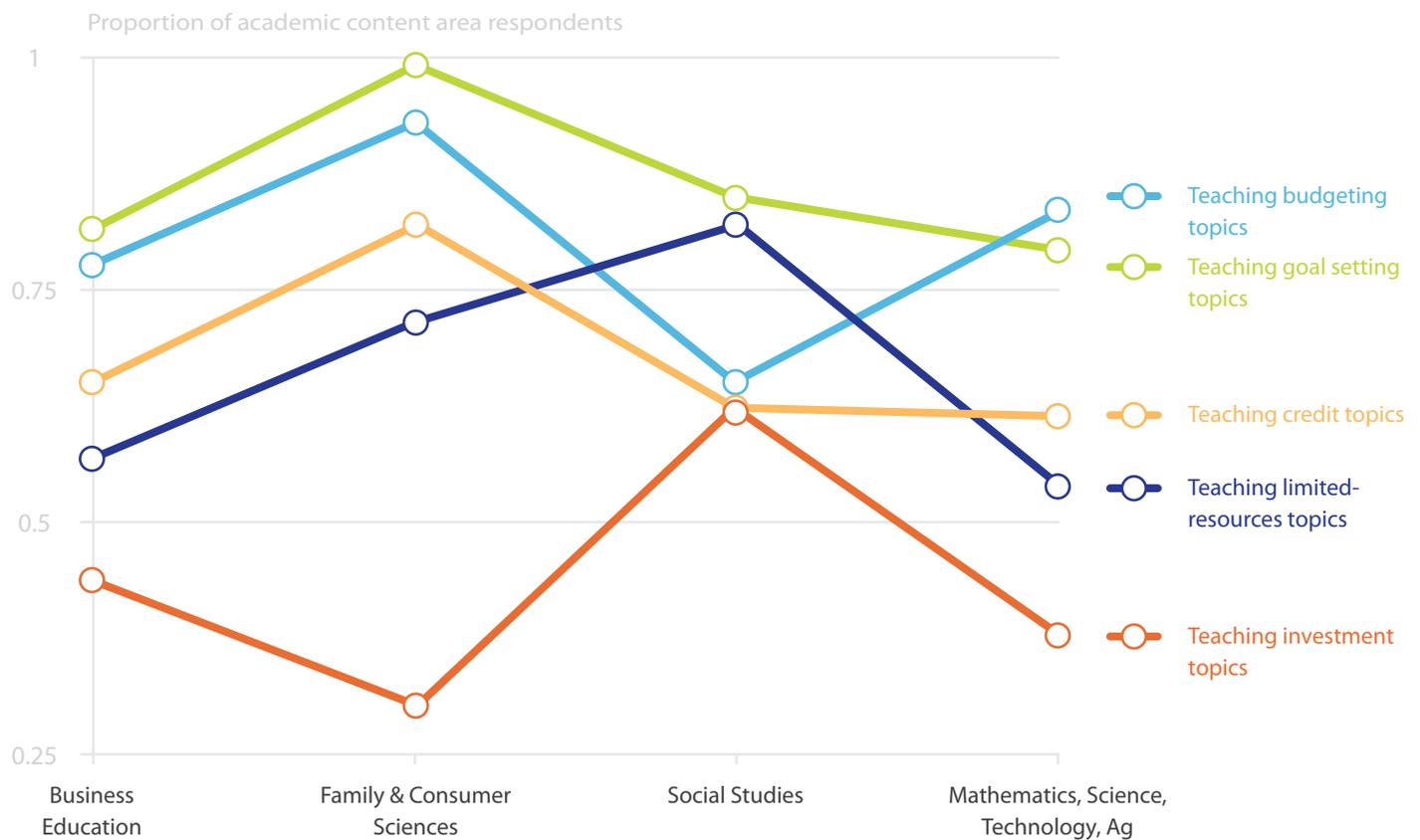
Figure 9
Main effect of teaching license on information search and knowledge



Concerning personal finance topics taught within the four academic content areas, Family and Consumer Sciences teachers reported the highest scores for teaching goal setting, budgeting, and credit. They were least likely to report teaching investing among all four groups. Social Studies teachers reported the highest scores for teaching about

limited resources and investing and the lowest scores for teaching budgeting. Business Education teachers were most likely to cover all the topics equally. Science teachers were least likely to teach credit, goal setting, and limited resources topics, and score high on budgeting topics. Figure 10 illustrates these findings.

Figure 10
Main effect of academic content area on personal finance topics taught



Finally, with respect to teachers' interest in personal finance topics, Business Education teachers attributed the highest significance to teaching personal finance, followed by Science teachers. Family and Consumer Sciences teachers reported the highest scores for diligence in selecting materials for personal finance courses, followed by Business Education teachers. Social Studies teachers scored the lowest for both

factors. It is surprising that Social Studies teachers scored so high on the financial knowledge quiz considering their limited efforts in preparing for these courses. Social Studies teachers were the youngest group with the highest portion of male teachers, teaching more often in non-rural school locations compared to the other three groups.

Table 13

Academic content area scores for teaching personal finance

The four academic content areas scores vary widely for the main antecedent measures of personal finance instruction. Significant differences among the four academic content areas are shadowed.

Cluster/Factor	Adjusted means ^{a)}				Statistics (omnibus F test)
	Business Education	Family & Consumer Sciences	Social Studies	Mathematics, Science, Technology, Ag	
<i>Antecedent clusters</i>					
High information search	.420	.386	.366	.132	4.262, p=.005
Moderate information search	.270	.394	.246	.415	3.150, p=.025
Low information search	.310	.220	.387	.454	3.378, p=.018
<i>Antecedent score</i>					
Financial knowledge quiz score	.464	.412	.464	.372	4.453, p=.004
<i>Antecedent factors</i>					
Teaching credit topics	.653	.819	.621	.615	12.060, p=.000
Teaching investment topics	.436	.303	.622	.378	16.342, p=.000
Teaching insurance topics	.599	.688	.613	.571	n.s.
Teaching tax topics	.721	.656	.711	.611	n.s.
Teaching budgeting topics	.780	.929	.650	.829	19.673, p=.000
Teaching goal setting topics	.812	.989	.846	.791	14.761, p=.000
Teaching interest-related topics	.577	.575	.671	.611	n.s.
Teaching limited-resources topics	.568	.713	.820	.539	10.541, p=.000
Curiosity	3.719	3.626	3.599	3.500	n.s.
Overload	2.726	2.655	2.795	2.747	n.s.
Significance	6.166	5.890	5.765	6.143	5.657, p=.001
Diligence	4.476	4.574	4.374	4.470	2.142, p=.094
N	234	268	145	40	

a) Means are adjusted for covariates. Covariates appearing in the statistical model are evaluated at the following values: students in Grade 10 = 9.21, students in Grade 11 = 14.20, students in Grade 12 = 20.19, percentage of male students = 45.4627, courses taught personal finance topics = 1.69, instruction time = 6.89, elective course = .7555, one-semester course = .6405, Internet-based sources = .3785, searching the Internet = 2.97, talking to others = 2.35, correlating classroom materials = 3.09, subject matter = .1587, curriculum = .2038, materials = .3857, time = .4236, admin = .1849, student interest = .2722, tedious = .1834, rural school = .5284, public school = .8967, women = .6710, age = 44.59, Master, Ph.D. = .6667, total household income = 4.64, years teaching personal finance = 13.23, college-level courses on personal finance topics = 2.29, continuing education courses = .63.

Differences in the antecedent variables were further tested using the Games-Howell and Scheffé method. The significance levels of these tests are designed to be more conservative than other tests in the sense that larger differences between the means are required for significance. As shown in Table 14, significant differences between the groups were obtained for almost half of the possible content area pairs (31 of 70 pairs). Counting significant pairs by academic content area, Family and Consumer Sciences teachers emerged as the group most different from the other three academic content areas, differing significantly from Business Education and Social Studies teachers in 7 out of 11 pair comparisons and from Science teachers in 6 of 11 pair comparisons.

Comparing the direction of the signs of the pair-wise

comparisons, several insights gained in the regression and MANCOA are confirmed:

- Business education teacher reported higher scores in the high-information search strategy and the knowledge quiz than the three other academic content areas.
- Family and Consumer Sciences teachers were less likely to teach investing and were more likely to teach goal-setting than the other three groups. Social Studies teachers were less likely to teach budgeting than the other three groups.
- Business Education teachers attached higher significance to teaching personal finance than the other three groups.

Table 14

Post hoc contrasts

Significant differences were obtained for almost half of the possible content area pairs.

Medium	Pairs	δ Mean	Std. error	Sig.	Medium	Pairs	δ Mean	Std. error	Sig.
High information search	1,2	0.179	0.043	0.000	Investing	1,2	0.320	0.031	0.000
<i>Levene statistics</i>	1,3	0.148	0.052	0.022	<i>Levene statistics</i>	1,3	-0.020	0.039	0.956
<i>F=7.649, p=.000</i>	1,4	0.350	0.066	0.000	<i>F=3.931, p=.008</i>	1,4	0.123	0.064	0.235
	2,3	-0.031	0.049	0.923		2,3	-0.340	0.035	0.000
	2,4	0.171	0.064	0.046		2,4	-0.197	0.062	0.013
	3,4	0.202	0.070	0.025		3,4	0.143	0.066	0.148
Moderate information search	1,2	-0.185	0.041	0.000	Budget	1,2	-0.045	0.021	0.141
<i>Levene statistics</i>	1,3	0.034	0.044	0.869	<i>Levene statistics</i>	1,3	0.258	0.035	0.000
<i>F=30.249, p=.000</i>	1,4	-0.152	0.083	0.274	<i>F=28.254, p=.000</i>	1,4	-0.019	0.037	0.954
	2,3	0.219	0.046	0.000		2,3	0.303	0.034	0.000
	2,4	0.033	0.084	0.980		2,4	0.026	0.036	0.890
	3,4	-0.186	0.086	0.143		3,4	-0.277	0.046	0.000
Low information search	1,2	0.006	0.039	0.999	Goals	1,2	-0.110	0.021	0.000
<i>Levene statistics</i>	1,3	-0.182	0.050	0.002	<i>Levene statistics</i>	1,3	0.041	0.030	0.514
<i>F=8.514, p=.000</i>	1,4	-0.198	0.085	0.103	<i>F=25.192, p=.000</i>	1,4	0.038	0.056	0.907
	2,3	-0.188	0.049	0.001		2,3	0.151	0.025	0.000
	2,4	-0.204	0.084	0.085		2,4	0.149	0.054	0.042
	3,4	-0.016	0.090	0.998		3,4	-0.003	0.058	1.000

Table 14, continued

Post hoc contrasts

Significant differences were obtained for almost half of the possible content area pairs.

Medium	Pairs	δ Mean	Std. error	Sig.	Medium	Pairs	δ Mean	Std. error	Sig.
Knowledge quiz score (Scheffé)	1,2	0.089	0.018	0.000	Resources (Scheffé)	1,2	-0.065	0.035	0.321
<i>Levene statistics</i>	1,3	0.059	0.021	0.046	<i>Levene statistics</i>	1,3	-0.037	0.041	0.850
<i>F=1.951, p=.120</i>	1,4	0.132	0.034	0.002	<i>F=1.632, p=.181</i>	1,4	0.112	0.066	0.416
	2,3	-0.030	0.020	0.526		2,3	0.028	0.040	0.918
	2,4	0.043	0.033	0.642		2,4	0.177	0.066	0.065
	3,4	0.073	0.035	0.225		3,4	0.149	0.069	0.204
Credit	1,2	-0.015	0.027	0.940	Significance	1,2	0.478	0.079	0.000
<i>Levene statistics</i>	1,3	0.223	0.036	0.000	<i>Levene statistics</i>	1,3	0.695	0.096	0.000
<i>F=7.330, p=.000</i>	1,4	0.118	0.055	0.157	<i>F=4.017, p=.008</i>	1,4	0.351	0.144	0.083
	2,3	0.238	0.034	0.000		2,3	0.217	0.099	0.130
	2,4	0.133	0.054	0.081		2,4	-0.127	0.147	0.822
	3,4	-0.104	0.060	0.304		3,4	-0.344	0.156	0.133
Diligence	1,2	-0.029	0.047	0.925	Diligence	2,3	0.254	0.055	0.000
<i>Levene statistics</i>	1,3	0.224	0.059	0.001	(cont.)	2,4	0.113	0.090	0.602
<i>F=3.009, p=.030</i>	1,4	0.083	0.093	0.808		3,4	-0.141	0.097	0.474

Note: Levene's test of equality of error variances tests the null hypothesis that the error variance of the dependent variable is equal across academic content areas; Games-Howell method was used to account for unequal variances ($p < .050$).

Conclusions

This research contributes to the understanding of the scope and determinants of financial education in Ohio high schools. It was conducted at the time when the legislative body in Ohio decided to mandate financial education in Ohio high schools. The relevant House Bill requiring every high school to include instruction of personal finance in the requirements for graduation was passed by the House of Representatives in October 2006 during the development of the here presented survey instrument.

The present study contributes to the understanding of the current state of personal finance instruction in Ohio high schools by:

1. Describing the student population, personal finance instruction, and school and teacher demographics in different academic content areas;
2. Identifying differences among academic content areas with respect to teaching personal finance and teacher attitudes and knowledge of this topic; and
3. Identifying the factors that affect personal finance instruction in different academic content areas.

Major findings by study objectives

1. **Large sample of 710 responses.** A total of 710 teachers responded to the survey. All of these teachers taught personal finance topics in the 2006/2007 academic year. About one-third of the respondents were Family and Consumer Sciences teachers and another third were Business Education teachers. Twenty percent of the respondents belonged to the Social Studies academic content area. A fourth group of 40 "science" teachers also entered the analysis.
2. **Significantly different class sizes in Grades 10 to 12 and attendance of male and female students among the four academic content areas.** Social Studies teachers instructed, by far, the largest classes in Grades 11 and 12 on personal finance. They taught an average of 20 juniors and 36 seniors in their personal finance classes compared to the overall sample

averages of 13 and 15, respectively. In Grade 10, Family and Consumer Sciences teachers had larger classes (12 students on average). The number of male students was highest in the Science content area (55% on average) and lowest in the Family and Consumer Sciences courses (39% on average).

3. **Number of courses, instruction time, course layout, and information sources differed significantly by academic content area.** In most schools, personal finance was an elective, one-semester course. Family and Consumer Sciences teachers taught personal finance topics in the largest number of courses, while Business Education teachers invested the most instruction time on personal finance topics.

When preparing for their personal finance courses, teachers had varying preferences for the Internet. Among Science teachers, 45 percent reported the Internet as their preferred source of information, while they spent the least amount of time searching the Internet on personal finance topics to prepare for one class. In contrast, Family and Consumer Sciences teachers spent the most time searching the Internet to prepare for their personal finance courses and were least likely to choose the Internet as their preferred source for gathering information and classroom materials for teaching personal finance. Family and Consumer Sciences teachers also spent the most time talking to others about personal finance topics (tied with Science teachers) and on assembling materials to prepare for class.

4. **Classroom time, suitable materials, and time to stay current were the top challenges of teaching personal finance.** Across the four academic content areas, the three major challenges of teaching personal finance were: (1) the lack of classroom time to properly teach personal finance topics; (2) the lack of classroom materials, such as lesson plans and student hand-outs; and (3) the lack of time to stay current with changes in personal finance.
5. **School and teacher demographics differed for the four academic content areas.** Business Education teachers had the highest level of formal education and reported the highest number of college courses taken on personal finance.

Family and Consumer Sciences teachers were most likely located in public schools in rural school locations. A teacher in the Family and Consumer Sciences area was most likely to be female, and Family and Consumer Sciences teachers were the oldest group, with the highest annual household income and the longest time teaching personal finance. They also reported the highest scores for taking CEU. Teachers of personal finance in the Social Studies content area were least likely to teach in rural school locations and to be female. They were the youngest group and collected the fewest CEUs. The Science teacher group was least likely to teach personal finance in public schools, had the lowest formal education, household income, and shortest history of teaching personal finance, and had taken the fewest college-level courses in this subject matter area compared to the three other content areas.

6. Eight major themes were taught in personal finance classes. Entering all 58 items of our list of teaching topics into a factor analysis resulted in eight themes that were commonly addressed in personal finance courses, including credit, investing, insurance, taxes, budgeting, goal setting, interest, and limited-resources.

7. Teachers exercise due diligence in teaching personal finance. The 28 attitudinal statements of the questionnaire were factor-analyzed. Four themes emerged reflecting the following: teachers' curiosity in the topic, teachers' feelings of information overload when choosing financial information and classroom materials, the significance teachers attach to teaching this topic, and the diligence executed in preparing for personal finance classes. Business Education teachers scored highest with respect to all four attitudes.

8. Business Education teachers were most likely practicing a high-information strategy to stay current on personal finance topics. Half of the Business Education teachers practiced a high-information strategy compared to one-third of Social Studies and Family and Consumer Sciences teachers, and only 15 percent of the Science teachers. The latter were most likely to practice a low-information strategy, as did Social Studies teachers, while only one-quarter of the Business Education and Family and Consumer Sciences teachers were in this low-search group.

9. Only average scores on financial knowledge quiz. For all four academic content areas, the mean quiz scores were below 50 percent and only for the Business Education teachers was the median quiz score above the 50-percent threshold. Most respondents answered four questions correctly. Much fewer answered none or only one question, or six to nine questions correctly. Only two of the 687 teachers answered all nine questions correctly.

10. Academic content area scoring differs with respect to information search types and financial knowledge scores. With respect to information search strategies, the largest group of Business Education teachers practiced a high-information strategy. Family and Consumer Sciences teachers were equally found to practice a high and moderate-search strategy. The largest group of Social Studies and Science teachers practiced a low-information strategy. Surprisingly, despite the lower search efforts, Social Studies and Business Education teachers achieved the highest scores in the financial knowledge quiz.

Concerning personal finance topics taught within the four academic content areas, Family and Consumer Sciences teachers reported the highest scores for teaching goal setting, budgeting, and credit. They were least likely to teach investing among all four groups. Social Studies teachers reported the highest scores for teaching about limited resources and investing, and the lowest scores for teaching budgeting. Business Education teachers were most likely to cover all of the topics equally. Science teachers were least likely to teach credit, goal setting, and limited resources topics, and scored high on budgeting topics.

Major findings by academic content area

Business education

Business education teachers were more likely to teach elective courses, to teach tax-related topics, and to have a higher percentage of male students in their personal finance classes. On the other hand, their courses were less likely to be limited to one semester and they used less classroom time to teach personal finance compared to the other academic content areas. They were less likely to teach goal setting and limited-resource topics, and were most likely to score high on the personal finance quiz. They were curious about learning

personal finance and attached great significance to teaching these topics. Their main barrier to teaching personal finance topics was their school's administration. None of the subject-matter barriers were pertinent for this content area. In fact, Business Education teachers were even less likely to cite curriculum needs and student ignorance as challenges for teaching personal finance compared to the other academic content areas. Those teaching personal finance were less likely to be female and to participate in continuing education courses, but were more likely to have taken college courses on personal finance.

Family and Consumer Sciences

Family and Consumer Sciences teachers were more likely to teach credit, budgeting, and goal-setting, while they avoided the investment topic. They were most likely to be teaching personal finance in an elective course offered on a one-semester schedule with ample time spent on this topic. Their audience was less likely to be male. These teachers expressed high diligence in researching personal finance topics and were highly likely to belong to either the high or moderate-information search types of teachers. Surprisingly, they tended to score low on the knowledge quiz and to dislike the Internet as a source of information on personal finance topics.

Their main challenges in teaching personal finance were a lack of curricula that fit their teaching needs and the lack of student interest. School administration and classroom materials were less likely to present barriers to this content area. Overall, they attached less significance to teaching these topics than did Business Education or Science teachers. Family and Consumer Sciences teachers were most likely to be female, older, and living in households with a higher household income. Most likely, they had been teaching personal finance for a number of years supported by continuing education courses. This group of teachers was less likely to hold a Masters' degree.

Social Studies

Social Studies teachers were most likely to teach investment, tax, and limited-resources topics. They stayed away from teaching budgeting and interest-related topics. They were more likely to teach a large number of students in Grade 12, to devote significant time to these topics, and to follow a one-semester course schedule. Their courses were least likely to be elective compared to the other academic content areas.

“ Financial education should be a necessary part of the high school curriculum. ”

This group of teachers attached little significance to teaching personal finance topics and the group members were less likely to diligently research personal finance topics. They were unlikely to belong to the high- or moderate-search types of teachers for personal finance information. They did indicate that they like to talk to colleagues to prepare for teaching these topics and that their main challenges were classroom materials and classroom time to properly teach these topics. Social Studies teachers who were teaching personal finance were least likely to be located in rural school locations, to be female, and to participate in continuing education on personal finance topics. They also reported fewer years teaching personal finance.

Mathematics, Science, Technology, and Agricultural Sciences

Science teachers were more likely to focus on budgeting and to avoid teaching limited-resource related topics. While Science teachers were more likely to have a higher number of male students, their personal finance instruction was characterized by fewer students in Grade 10, the topics being spread out over fewer courses, and generally less time reserved for teaching personal finance topics. Similar to Business Education teachers, their courses were less likely to be limited to one semester. These Science teachers attached the highest level of significance to teaching personal finance topics among the four academic content areas. While they were less likely to practice high-information search efforts to learn about personal finance, they were most likely to talk to others to prepare for teaching these topics. Their greatest reported challenge was the feeling that teaching personal finance often seems tedious. They were not likely to cite any of the other barriers. Classroom time, in particular, was of little concern to this group. They were less likely to teach personal finance at public schools, to be female, and to hold a Masters' degree. They reported fewer years teaching personal finance topics and were less likely to have taken college-level coursework in this area. However, they did indicate that they participate in continuing education courses.

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Appendix 1:

Course titles with personal finance instruction

Business education

Accounting I, II, and III
 Advanced Business
 Advanced Personal Finance
 Agricultural Business
 Agricultural Science
 Applied Business
 Automated Accounting
 Banking & Borrowing
 Banking and Finance
 Basic Business Concepts
 Bookkeeping
 Business & Management Foundation
 Business & Personal Finance
 Business & Personal Law
 Business Computer
 Business Concepts
 Business Dynamics
 Business Economics
 Business Finance I and II
 Business Foundations
 Business I and II
 Business Law
 Business Management
 Business Mathematics
 Business Ownership
 Business Principles
 Career Exploration I and II
 Career Planning
 Career Success
 Careers and Personal Finance
 College Survival Skills
 Computer Applications I and II
 Computer Foundations
 Computerized Accounting
 Computerized Employment
 Opportunities
 Consumer Economics
 Consumer Education

Consumer Mathematics
 Consumer Rights
 Contracts and Insurance
 Cooperative Business Education
 Economic Problems
 Economics
 Entrepreneurship
 Finance
 Financial Planning
 Financial Services
 Foundations of Business Management
 Fundamentals of Banking & Insurance
 General Business
 History
 Home Maintenance
 Income Tax and Money Management
 Information Services
 Integrated Mathematics
 Introduction to Accounting
 Introduction to Business
 Introduction to Business I and II
 Introduction to Business Management
 Introduction to Economics
 Investing & Risk Management
 Investments
 Jobs for Ohio's Graduates
 Legal/Medical Secretary
 Life Choices
 Life Skills I and II
 Managing Your Personal Finances
 Marketing I and II
 Medical Office Support
 Microcomputer
 Microsoft Office
 Money Management
 Money Skills
 Office Procedures
 Personal and Business Finance
 Personal and Business Skills
 Personal Finance

Personal Financial Management
 Personal Money Management
 Power Hour
 Principles of Business
 Real World 101
 Recordkeeping
 Senior Microeconomics
 Senior Skills
 Skills for the Workplace

Family and Consumer Sciences

Adult Role
 Budgeting
 Building Successful Families
 Career and College Planning
 Career and Life Planning
 Career Choices
 Career Connections
 Career Decisions
 Career Development
 Career Exploration
 Career Mentorship
 Career Passport
 Career Seminar
 Careers
 Child Development
 College Life on a Shoestring
 College Life Skills
 College Survival Skills
 Consumer Choices
 Consumer Economics
 Consumer Education
 Consumer Science
 Consumerism
 Contemporary Living
 Creative Living
 Cuisine and Culture
 Dynamic Relationships

Employability Skills	Personal Relationships	Career Planning Independent Living
Exploring Career Paths	Personal Resources	Citizenship
Exploring Careers	Practical Living	Civics and Civic Responsibility
Family & Parenting	Preparation for College Life	Computer applications
Family and Consumer Science I and II	Quest II	Consumer Economics
Family Finance and Financial Education	Resource Management	Contemporary Issues
Family Living	Senior Seminar	Contemporary World Affairs
Family Relations	Seniors Only	Current Affairs
Family Studies	Single Living	Current Events
Fast Foods/Gourmet Foods	Single Survival	Current Issues
Foods & Fitness	Singles Living	Democratic Citizenship
Foods & Independent living	Skills for Living	Economics
Foods for Life	Smart Food/Smart Money	Family Relations
Foods I and II	So you want to be a millionaire?	Freshmen Social Studies
Foundations	Survival Skills	Global Connections
Future Bound	Technology in the Workplace	Global Issues
GRADS I and II	Teen Challenges	Government
Home Economics I and II	Teen Living	Government and Economics
Housing	Teen Survival	Government and Politics
Housing and Home Arts	Toward Independence	History of Economics
Human Resources Career Cluster	Work & Family Life I and II	Honors Civics
Independent Life Skills	Work and Family Living	Information Technology
Independent Living I and II	Young Professionals	Integrated Citizenship
Independent Management		Introduction to Economics
Interior Design	<i>Social Studies</i>	Life Skills
Life Choices	20th Century History	Managing Your Personal Finances
Life Management	7 Habits of Highly Effective Teens	Microeconomics
Life Planning I and II	Academic Economics	Money and Banking
Life Skills I and II	Advanced Placement Economics	Money Matters
Lifestyles	Advanced Placement Macroeconomics	Personal Finance
Living on Your Own	Advanced Placement U.S. History	Political and Economic Studies
Living Today	American Citizenship	Principles of Democracy
Marriage and Family Living	American Government	Principles of Economics
Married and Single Life	American Government and Economics	Problems of Democracy
Mentoring	American Heritage III	Psychology
Modern Living	American History and Economics	Research and Mentoring
Money Matters	American Issues	Social Studies I, III, IV
Nutrition and Wellness	American Politics, Government, and Economics	Sociology
On My Own	Economics	U.S. Government and Economics
On Your Own	Applied Economics	U.S. History
Parenting	Business Management	U.S. Studies
Personal Banking & Credit in Work and Family	Career Based Intervention	World Geography
Personal Development	Career Connections	World History
Personal Finance	Career Planning Independent Living	World Issues
Personal Financial Literacy		World Studies

*Mathematics, Science, Technology,
and Agricultural Sciences*

Accounting
Agricultural Business I, II, III and IV
Agricultural Production II
Agricultural Science I and II
Applied Financial Mathematics
Business and Consumer Mathematics
Business and Economics
Business and Personal Finance
Business Foundations
Business Mathematics
College Mathematics
College Prep Algebra
Consumer Mathematics
Consumer Science
Dynamics of Money Management
Economics
Financial Fitness
Investment/Stock market
IT Fundamentals
Landscape & Turf Management
Mechanical Drawing
Money Management
Money Matters
Personal Finance
Personal Finance for Young Adults
Personal Money Management
Practical Mathematics
Pre-calculus
Tech-bridge
Woods Technology

Appendix 2:

Antecedent variable effects among academic content areas

Independent variables	Business	Business	Family &	Family &	Social	Social	Math,	Math,
	Education	Education	Consumer	Consumer	Studies	Studies	Science,	Science,
	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Tech, Ag	Tech, Ag
			Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.
[i] Teaching credit	0.374	0.102	22.327	0.001	0.141	0.259	0.189	0.175
[i] Teaching investing	1.960	0.113	0.034	0.000	0.000	48.346	0.202	0.113
[i] Teaching insurance	0.941	0.869	0.837	0.759	0.502	1.500	1.493	0.640
[i] Teaching tax	1.837	0.092	0.656	0.451	0.022	4.535	0.400	0.271
[i] Teaching budgeting	0.802	0.694	19.781	0.001	0.002	0.075	45.838	0.008
[i] Teaching goal setting	0.331	0.025	50.383	0.000	0.507	0.558	1.375	0.752
[i] Teaching interest-related	0.668	0.303	0.958	0.943	0.057	0.261	4.204	0.112
[i] Teaching resources topics	0.429	0.010	1.327	0.565	0.000	14.370	0.155	0.014
[i] No. students in Grade 10	1.006	0.322	1.014	0.105	0.826	0.998	0.906	0.045
[i] No. students in Grade 11	1.000	0.993	1.001	0.842	0.275	1.008	1.018	0.146
[i] No. students in Grade 12	0.992	0.140	1.008	0.299	0.062	1.014	1.000	0.980
[i] Percent male students	1.014	0.018	0.966	0.000	0.123	1.014	1.046	0.002
[i] No. of personal finance courses	1.091	0.561	1.183	0.454	0.042	0.574	0.515	0.085
[i] Instruction time in main course	0.743	0.000	1.502	0.000	0.000	1.584	0.831	0.092
[i] Elective course	4.291	0.000	2.552	0.062	0.000	0.037	2.164	0.245
[i] One-semester course	0.351	0.000	9.526	0.000	0.001	4.489	0.051	0.000
[p] Curiosity in topics	1.466	0.089	0.618	0.171	0.167	1.809	0.469	0.147
[p] Overload of information	0.976	0.877	0.800	0.347	0.453	1.244	1.039	0.921
[p] Significance of topics	1.681	0.001	0.531	0.012	0.019	0.573	2.469	0.029
[p] Diligence in researching topics	0.676	0.092	3.418	0.001	0.040	0.418	1.507	0.456
[p] High-information search	1.166	0.627	5.119	0.005	0.088	0.389	0.153	0.021
[p] Moderate-information search	0.863	0.630	3.508	0.013	0.091	0.389	1.018	0.978
[p] Low-information search								
[p] Knowledge quiz score	3.458	0.051	0.053	0.004	0.284	3.255	0.163	0.244

Independent variables	Business	Business	Family &	Family &	Social	Social	Math,	Math,
	Education	Education	Consumer	Consumer	Studies	Studies	Science,	Science,
	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.	Tech, Ag	Tech, Ag
							Exp(B)	Sig.
[p] Preferred source is Internet	1.087	0.720	0.375	0.007	0.158	1.813	2.211	0.157
[p] Searching the Internet	1.002	0.989	1.006	0.977	0.869	1.045	1.196	0.628
[p] Talking to others	0.625	0.001	1.109	0.594	0.011	1.905	2.200	0.017
[p] Correlating materials	1.207	0.162	0.849	0.402	0.200	0.716	0.652	0.253
[p] Barrier: Knowledge	0.598	0.188	1.772	0.296	0.243	1.918	0.343	0.201
[p] Barrier: Curriculum	0.506	0.035	3.127	0.027	0.663	0.807	0.931	0.914
[p] Barrier: Classroom materials	0.995	0.983	0.393	0.026	0.034	2.438	2.241	0.207
[p] Barrier: Classroom time	0.775	0.277	1.164	0.654	0.022	2.674	0.241	0.023
[p] Barrier: School admin	1.853	0.027	0.285	0.006	0.776	1.156	1.030	0.970
[p] Barrier: Student interest	0.586	0.048	2.040	0.070	0.549	0.750	1.443	0.609
[p] Barrier: Tedious task	0.737	0.353	1.409	0.488	0.868	1.095	3.142	0.091
[d] Rural school location	1.504	0.101	0.969	0.935	0.036	0.397	2.536	0.162
[d] Public school	1.636	0.232	2.624	0.122	0.259	0.508	0.074	0.003
[d] Women	0.635	0.095	266.230	0.000	0.000	0.058	0.164	0.003
[d] Age	0.986	0.327	1.050	0.025	0.690	0.990	1.015	0.598
[d] Masters degree	1.439	0.133	0.414	0.020	0.873	1.072	0.374	0.079
[d] Annual household income	0.972	0.696	1.224	0.082	0.278	0.854	1.277	0.254
[d] Years teaching personal finance	0.989	0.466	1.077	0.001	0.014	0.928	0.876	0.002
[d] College-level courses	1.283	0.003	0.866	0.287	0.696	0.945	0.525	0.005
[d] Continuing education	0.781	0.025	1.426	0.040	0.000	0.371	1.555	0.084
Constant	0.544	0.699	0.000	0.000	0.297	16.377	0.010	0.225
N (N=687)	234		268		145		40	
No. of significant variables (N=43, without constant)		19		24		21		18
Omnibus test of model coefficients (Chi-square)	327.020	.000	650.960	.000	501.029	.000	170.532	.000
Nagelkerke R Square		.524		.830		.805		.613

Appendix 3:

Comments by survey respondents

Positive experiences

As a human and consumer sciences teacher I am extremely happy that our department teaches personal finance. I believe that it is probably one of if not the most important class many students will take. Unlike some other classes that teach "core" curriculum...

I am excited that FCS is being recognized as a personal finance provider. I am always interested in new curriculum suggestions and materials.

I enjoy helping my class learn about checking and savings. I show them how to balance a statement. I expect my students to learn vocabulary words for financial literacy. It will help them in the future when they hear those terms used with bankers or in...

I have really enjoyed teaching finance so far this year. I want to continue to improve my knowledge on personal finance and the best way to teach it to high school students.

I love teaching it and the kids love to learn about it! They go home and tell their parents about things they have learned!

I love teaching my two Personal Finance classes. It helps me individually to keep current on financial matters. I have all seniors and they really want to know how to manage their finances. Next year it is going to be open to 10, 11, and 12 graders.

I love teaching Personal Finance and the students enjoy it too. I don't remember the name of the workshop I attended but there was someone there from OSU. I attended the same workshop two years in a row and received lots of great materials that I use.

I think it is a great topic to teach and I think most students should enjoy taking classes in high school about it.

“

I love teaching Personal Finance and the students enjoy it too.

”

It is an exciting area to teach and I feel you give students valuable information that is necessary for the now and in the future.

Over the years I have had numerous students come back to tell me because of taking the class, they now own stock or they feel comfortable with their financial decision or they made good choices when spending their money. They felt prepared for life with...

I really enjoy teaching Personal Finance and it relates well with my entire curriculum. I am able to teach Personal Finance as it relates to family and real world situations and I believe the students really understand it best in that context.

Challenges

A lot of the students lack real interest because financial literacy is not relative to them at this point. They hear and do the exercises but don't seem to take the information as being what they need to know now.

After reading the questions, I don't know as much as I should.

As a FCS teacher I have to create lessons for everything I teach - I have no textbooks that cover topics deeply or thoroughly. I have little time to research and thoroughly develop meaningful lessons. I know I am in need of a comprehensive curriculum...

As an FCS teacher, I often overlap with the business teacher.

However, my class is required. I don't feel as much an expert as she is, so I stay away from topics that I don't know enough about such as the stock market.

Financial literacy is something that needs to be taught. Students do not see the value in it unfortunately. We have to do a better job of showing them how important it is to know and to make it interesting at the same time.

Having some banking experience, I see a need for "experts" in the field to share what works & what doesn't work when it comes to investing. It is difficult to encourage kids to save money when the interest rates at the bank are so poor.

I am in search of funds to attend a National Financial Literacy conference to be held this June in Arizona. I did apply for a grant through the University of Arizona. Unfortunately, they were overwhelmed with applications and I did not receive a grant.

I believe that financial literacy education is imperative to America's future financial health. Though I feel prepared to teach the basics, I feel unprepared for the "big" questions students may have.

I definitely need more financial literacy education!

I definitely should be teaching it for a longer period of time (and updating my info).

I do the best I can with what time I have to plan and prepare my 6 preps a day.

I have a brief amount of time and background to teach financial ed. I bring in speakers to cover banking, investments, insurance, real estate, etc.

I have never received proper personal finance education and have made major mistakes. Most of what I teach is in regards to economic standards from the state of Ohio.

I need to continue to get more education in the area but I feel it is very important for all students to learn...it should be a required course (in the FCS) department.

I need to learn more about stocks, but our Econ course

teaches that part of curriculum. I'd like a summer course on teaching finances to High School students.

“

I need to learn more.

”

I realize that I don't really know enough about finance and credit. Maybe we need actual college courses in these areas.

I teach at an alternative high school which is barely funded and all teaching staff perform multiple functions. While I enjoy teaching financial literacy, I have little time to prepare. My administration is moving to change the focus of my social studies.

I think it is important in the high school, but our school just made it an elective from required in our school for next year. In another year of two they are eliminating my position and we will have one section taught by the business teacher and finance education.

I was completely SHOCKED at just how LITTLE students know about BASICS -- like writing checks & balancing a checkbook for example!

would like to attend financial and economic workshops or classes if they were offered. I think they need to help us with the topics that we should cover. There are too many people establishing standards. We should have one standard to follow.

It is sad that students don't see the importance of learning it if they still live at home. It seems that they only learn it when they seem to need it and by then it really is too late.

It is very important, my students need to learn about it, but I don't know where to start.

Kids know very little about personal finance...parents do very little in explaining needs and wants and the basics of managing money. Materialism seems to dominate. Also, I notice a lack of knowledge from the general population about

basic economics.

Most students are really only using debit cards, this information is very hard to find for classroom discussion.

National and state leaders are emphasizing science and math instruction, often at the expense of the social sciences. In today's economy, educators must recognize the importance of basic financial literacy to allow American citizens in all professions to...

“
My students need to learn about it, but I don't know where to start.
”

Our school needs to offer a class like this.

Professional development training is needed to relate finance literacy to today's teens.

Students lack real interest because financial literacy is not relative to them at this point. They hear and do the exercises but don't seem to take the information as being what they need to know now.

Students often don't see worth as they are not old enough for most of the info to be experienced.

Students see themselves as too far removed from the need for personal finance help; Need creative, updated and interesting info to stimulate interest.

The F&CS Department is closing this year. Life Management will not longer be taught however, personal finance will be assumed by the Social Studies Department before 2010. My Social Studies colleagues are scared about teaching this topic.

The teachers need to be educated before we can educate the students. We NEED workshops and good sources.

Very important, I wish I had time to do more and I wish I knew more to teach. Kids & adults both need the info!

We desperately need more externship opportunities and education. It would be nice if OSU could plan the professional development course activities for all business teachers for graduate credit. This would ensure that our training is accurate and up to date.

We need professional development for faculty to stay current, as well as, on-going, required courses for juniors and seniors in high school.

What a challenge it is time-wise and resource-wise to keep up to date. Family Consumer Science needs to keep teaching personal finance in our curriculum because we are the only department that deals with the family.

With the new (in 2010) requirements, more professional development needs to be made available for educators who will be required to teach it. Most teachers find the concepts confusing and frightening for their own money, let alone the responsibility of...

Would LOVE to have something basic and comprehensive to use, to generate some interest in lower functioning students!

Would really appreciate professional dev. on this topic

General financial literacy education

As an educator, I know that there is always more for me to learn about personal finance. I have found that sharing other people's information about financial successes and woes has helped me more than anything.

Basically, finance is taught in my regular class because I see how important it is and it is not taught elsewhere. I have seen some teachers are the worst financial planners. People are people. I feel the best place to start is basics in elementary school.

Family and Consumer Science teachers can be a rich source of personal finance education - too often such courses are left in the hands of Social Studies Teachers who may have less training and education in these areas.

GRADS is not a comprehensive financial education class but we cover several topics to help young people become

independent and we do it more on student needs. Some things we try to cover on a regular basis are wants versus needs, checking accounts, etc.

I am an English teacher in her first year of teaching. When I was hired into this school, I was asked to teach a class that included information on "real-life" skills, such as balancing a checkbook, how to buy a house, credit cards, etc.

I am surprised that more students don't take this type of a program. It is valuable information.

I believe family and consumer science teachers should be considered a source of providing financial literacy instruction to meet upcoming curriculum standards.

I believe FCS teachers will be able to give the family slant that will be needed for students to use the information on a daily basis over time.

I don't deal with the stock market details and bonds since it's not a topic I am interested in or the students want to know about at their age.

I love teaching Personal Money Management and I am upset to hear that it may be taught in the Social Studies

Department. I just feel a Business background is a much better stage for the class.

I only hope I'm able to stress to my students the importance of obtaining the most education they can, that they should never stop learning, that they must be aware of the importance of having a good work ethic, to be financial and ethically responsible, etc.

I teach students the value of education in planning any financial goals.

I think that we need to start educating more young people on this even though they find it boring.

I would be interested in taking a course through OSU. I think that we need more personal financial courses for students.

In addition to our current Economics course we are adding a

course in personal finance for next school year.

It is and will remain the responsibility of the public education system to make some effort in alerting, directing, and developing economic awareness for all students, they are all going to be the future consumers, whose use of currency will effect...

Many of these courses have been dropped due to declining enrollment because of post-secondary, early release options and emphasis on the graduation tests in Ohio high schools.

Many students in the past received this information when they took businesses courses.

My students have to face the reality of providing for a child as a teen. We have to spend time helping most of them learn to budget their resources.

“

I am surprised that more students don't take this type of a program.

”

Needs to be started in the early grades

Next year the keyboard teacher will teach personal finance. After three years, the class goes to the social studies dept. Why are we not the only ones to teach this since it all relates to family living? Why is the state dept. taking this from our curriculum?

Our district is mandating teaching a course in personal finance beginning next year so I may not be teaching as much about it in 2007-2008.

Our focus in Economics should be on the pitfalls that incoming college freshmen will encounter. The credit card companies are just waiting for the "fresh fish" to appear on campus. They should know how to organize and manage a checking account.

Student loans

The Bible is the best single source for understanding sound financial principles.

The class I teach is a senior only class designed to give the students one last ditch effort to pass a math course for graduation.

The living skills class I teach is for cd/ed and Ld students



Financial literacy is going by the wayside.



There certainly is not enough of it. 90% of our students need REAL LIFE education that can be useful. The other 10% will be the doctors, scientists, engineers, etc.

This is my first year teaching this course, and we haven't gotten into the full Economics section yet

We are not currently teaching a personal finance class at our school. I have added some points to my accounting class. There is a personal finance class in the schedule for next school year.

With the new Core Plan set in place by Gov. Taft that includes financially literacy I think we are moving in the right direction, but I think we need to be careful getting too technical with what I would consider large market or governmental finances like...

With today's concentration on passing the OGT and most schools teaching toward that goal, financial literacy is going by the wayside and is something all students should have an idea about.

Importance

A parent on my advisory committee shared that one of her daughter's school's greatest downfalls was that they taught her nothing about managing money.

Absolutely essential, we in FCS need to be on the front line in this endeavor.

I believe financial literacy to be VERY important to today's student. I also strongly believe teaching students HOW to find information to become literate about finances to be their largest asset.

I believe personal finance is extremely important, however it is not deemed necessary by school administrators. This is very frustrating to me.

I believe that it is very important to teach our future business leaders about how to be knowledgeable about personal finances.

I do not think we are preparing our students for the real world. Financial literacy is not one of the "core" areas that students are tested on by the state, so it is not considered "important" by the school districts.

I think it is a vital educational topic to help students understand financial situations and make good decisions for themselves in the future.

I think it is very valuable to teach high school students about financial literacy so they do not go into debt.

I think personal finance is one of the most important classes I teach. More resources need to get the kids interested so they realize how much they need to learn about personal finance.

I think that it is very important to prepare students for the financial decisions they will be making in the future.

I think that personal finance education is very important and too much overlooked.

I think that teaching financial literacy is imperative for today's youth. They are hungry to learn all they can about money

management. Personally, having answered your questions regarding financial literacy, it is apparent that I would need some retooling...

It definitely is needed. My students reside in a community of quiet wealth, but the wannabe's live way beyond their means. We have many students living a false reality. In questioning them, most do not have a clue about money.

It is definitely needed for high school and adults. Today's parents and educational systems are not providing the information to our young people!! Credit is making it too easy for people to go into debt.

It is extremely important to be emphasized at the high school level and taught by a qualified Business teacher.

It is important that people take time to learn about personal finance in the short term so that they can save in the long term.

It is important to teach and introduce the different topics to our future leaders.

It is important!

“

It is sorely needed
in all schools.

”

It is very much needed in the state of Ohio. I'm very happy to see that the state is addressing it at the high school level and making it required. There should be a follow-up course required of ALL college graduates of how to plan for retirement.

It's important! Many young people today do not understand it. Students need to understand that credit cards can get them into financial trouble.

It's very important! My Independent Living class is being eliminated (we covered other topics relating to living on your own) to be replaced by a full personal finance class to be

taught through the business department.

Much needed class in HS these days

Next to learning how to read and being able to do basic math, financial literacy is the next most important and necessary school class.

Not taught enough in schools. Should be incorporated at earlier ages, probably middle schools or maybe in some districts' intermediate schools.

Our lives revolve around our finances and yet we send so many students out in the world without any knowledge of this subject matter. We need to recognize its importance and educate the public.

This is a critical issue and I am the first to agree that I need to constantly learn about how to best teach this topic.

This is a very important class for all students.

This subject is very important for kids to learn in school, because too many times they are not learning this info in their homes.

Very important and I plan on rewriting most of the course to be able to include more finance information. Will have a new text in 2007/2008.

Very important to the education of all HS students

Very important! In Ohio, too many people are defaulting on their mortgages. We need to educate them before it's too late.

Very much needed at high school level.

We need lots more of it!

We need more and better.

We need more of it...I have many parents that feel there should be more classes taught on basic finance and how to handle money, etc.

We need to do more of it.

Required financial literacy education

A course should be required for graduation.

All students should take personal finance class in high school just like everything else not all students are college material.

Due to the number of foreclosures in Ohio, all students should be required to complete a personal finance course to graduate.

Financial literacy education classes are extremely important, prepare students for their future, and should be required for graduation in all school districts.

I am hoping to see funding and inclusion of financial literacy education in all of our public schools in the near future. Young Americans need to have sound background knowledge as they enter the workforce and adult life. I hope it is taught as a semester course.

I believe it should be required for graduation. It should not be incorporated solely into Math, Social Studies etc., for it gets 'lost in the shuffle.' I think it should be a stand alone course taught by a Business Ed or FCS teacher.

I believe that a financial literacy course should be a required course in high school.

I believe there should be a mandatory semester course in every high school. I would be willing to be part of the process in making this happen including designing the curriculum.

I think all high school students should be required to have at least one basic course covering simple yet important topics about personal finance, especially credit/DEBT.

I think financial literacy education should be a required course for graduation for all students (even the college-bound and the work study ones).

I think financial literacy is an important topic and should be a required subject taught in Ohio high schools.

I think financial literacy should be a required course for all high school students.

I think it should be mandatory for all graduating seniors.

I think it should be required of all students before graduating.

I think that a personal finance course is needed in all high schools, especially for juniors and seniors.

I wish it was required at my school.

I would like to see a course in financial literacy required of all seniors. I believe that it should be taught through the Business Department, just like it would be in college.

I would like to see it as a requirement to graduate. This may cut down on the amount of bankruptcies in the US.

I'm not sure when, but I thought it was supposed to be becoming required in Ohio for High School graduation.

In Ohio, financial literacy education has been in the news recently as state lawmakers want to make this topic a required course for high school graduation. I completely agree.

Is Ohio going to mandate a financial literacy course for high schools in the near future?

It is very important that we continue to work on making personal finance a required course in our high schools.

It needs to be mandated by the state.

It should be a required elective in all schools. It should also be taught as a separate class, not as one whose topics are included in other social studies classes which water down the meaning and students fail to grasp the importance of money.

“

I believe this type of class should be required.

”

It should be a requirement in high school

It should be mandatory for all high school students.

It should be required for every high school student.

It should be required to graduate from high school. Currently, it is offered in two different elective courses in our high school: in the business dept, and in Home and Family Services dept.

Many states have personal finance courses in high school but Ohio does not. I would like for Ohio to make it mandatory.

Needs to be a requirement for all high school students now!

Needs to be a requirement for graduation

OH should require Personal Finance for graduation (.5 credit). The CORE falls short; Current Economics standards are inadequate if the hope is it can be integrated here.

Personal Finance should be a required class for a high school juniors and/or seniors.

Personal Finance should be a required High School class taught in the Business Department.

Should be mandatory for all students

“

I wish it was required at my school.

”

Should be required.

Students need more and it SHOULD be a required course for all students.

There are too many schools that do not provide a personal finance course and/or have cut them from the curriculum. This course should be mandatory for graduation. The students that need this information the most are the students not getting it.

This course needs to become a requirement to graduate! It has to be taught properly however with hands on involvement or

the course will be dry and students will lose interest.

This course should be mandatory in the State of Ohio.

This needs to be a required course for all high school students and most adults.

This needs to be taught in more schools and should be a required subject matter.

This should be a required course in ALL school districts.

This should be a required course through the business department not the social studies department by all schools in Ohio immediately.

Curriculum

Any textbook suggestions (grade 9-12) would be welcomed.

I believe we need to include more financial literacy education into the curriculum of a college prep school in math.

I find the Family Economics and Financial Education website out of Arizona to be extremely valuable in lesson planning. In looking to the future, if there is a required Financial Literacy course in high schools, instead of adding to the already demanding...

I have taught financial education for many years and I am always looking for materials to update the current things that I do. I like to find activity based activities other than computer activities that can be used to teach those concepts in classroom.

I plan on teaching more personal finance but I do need more materials.

I really like to use the NEFE High School Financial Planning Program. I think that it is necessary to teach this in the schools.

I teach basic skills and need just basic resources like sample checks, etc and everyone wants to charge for them.....why not provide them for free?

I think it's unbelievable that the state is putting checking

account management into the social studies curriculum.

I would certainly like to have any teaching materials and/ or lessons that your organization may offer. Thanks.

“ I plan on teaching more personal finance but I do need more materials. ”

I would love to have a written curriculum for teaching personal finance at the high school level in an FCS program. Since this information is not readily available in text books and changes rapidly, I would also like access to hands on technology so that...

I would really be nice to have a list of web site on personal finance that is geared for high school students. Also, ones that have projects for students that encourage critical thinking and collaboration.

It is hard to find a good textbook that covers all of the topics you want to cover in a personal finance class. I use the text as a basis and spend endless hours getting supplemental materials to cover the topics that I feel are important.

It would be great to receive free classroom materials from financial institutions.

It would be nice if state standards were available as guidelines.

It would be nice to have an organized curriculum with excellent handouts and activities for this class. Something based on the computer and students could track stock market etc...

Materials are helpful in providing more opportunities to teach these skills to our students (and us in many cases)!

More materials, more workshops are needed... I enjoy teaching personal finance, but don't have the time or resources to give it proper attention.

Often, I have use EconEdLink to get projects for my students. Plenty of websites to help teach the subject; www.mrseibert.com and look under finance.

The financial education program I teach is sponsored by an organization known as WECO and the NEFE. My students are eligible to receive an additional \$1,500 for educational purposes if they save \$750 in 3 years.

The Take Charge of Your Finances curriculum should be adopted for use by Ohio, other states have. Why reinvent the wheel? I get regular updated emails and there is so much material and ready to use with some study. It is excellent for my students.

This year I am using "Making the Right Money Moves" sponsored by Kemba Financial. I copied web sites to use currently from your survey for further use. I'm not into using the web regularly, I do need more info in some areas. This is NOT my favorite topic to teach.

Up to date statistics in a concise table or format that can be used on over heads or power points are the most helpful sources. All sources need to be something that can be picked up quick and a dedicated topic.

General concerns

I find it interesting that there seems to be so much emphasis recently on financial education, yet business teachers have no state standards. Is personal finance a priority or not?

I have a real concern that the new state standards have aligned the financial literacy class with social study standards. This will allow many schools to use their current economics class which is far from a personal finance curriculum.

My concern is that with the new state mandated "personal finance" in our curriculum, individual school districts will not pay any attention to what department is teaching the material.

My only concern is that due to recent changes in high school graduation requirements is that some of our course work will not be deemed as being important to our students. The areas

you surveyed are EXTREMELY important to our young people

Survey

Excellent exploration of these thoughts on personal finance!!!

Thanks for bringing them to my attention!

Hope this helps. Share info w/ us & anything that might help us do a better job.

I appreciate this survey - I certainly hope it can be utilized to benefit high school teacher's efforts to teach personal finance.

Interesting survey!

It's hard to remember the answers to the questions in the survey when you're not "in the moment".

Recommendations

Financial literacy should be taught by the business department. It should be valued with equal importance to the other math required by the OGT. THIS is real-life math that will be used beyond HS.

“

Financial literacy education needs to be taught by business educators.

”

I believe a personal finance class should be taught in the Business Education Department and not in the Math or Social Studies Departments.

I understand the new state treasurer Richard Cordray is interested in promoting Financial Literacy as required curriculum in Social Studies or Math. This is ridiculous, Business teachers should be the only ones allowed to address this subject...

I feel that this material should be taught by certified business education teachers.

I hope that Consumer Science will be included in programs authorized by the legislature to teach Financial Literacy.

I would like the Ohio Financial Education Component for the new graduation requirements to be required to be taught in FCS classes, or at least have FCS MENTIONED as an elective or an option for the personal finance requirement instead of in Social Studies

If the law requires students to take a class in personal finance to graduate from high school, then Family and Consumer Science teachers should be allowed to teach it not just Social Studies Teachers.

Personal finance should be taught by business teachers not home economics or social studies.

This is content that is appropriate for Family Consumer Science Teachers more than Social Studies teachers.

Appendix 4:

Continuing education in financial literacy

The following lists present an analysis of providers of continuing education that have been used by the respondents of our survey. We further present the topics of the continuing education efforts. The lists are presented by academic content area.

Business Education

Institutions used for continuing education in personal finance

5th/3rd Bank
 ACTE Convention
 Akron Public Career Education
 Ashland Chemical Corp.
 Association for Ohio Business and Technology Educators
 Better Business Bureau
 Chad Foster
 Chase Manhattan Bank Corp.
 Citi Group
 COACE
 COCEE (2 times)
 Columbus Dispatch
 Dave Ramsey
 Dayton Urban League
 E-Tech Ohio exhibitor
 E-Tech Technology Conference
 Federal Reserve Bank of Cleveland (2 times)
 Great Oaks Institute of Technology
 Huntington National Bank
 Jobs for Americas Graduates
 Local Credit Union (2 times)
 Mount Vernon Nazarene University
 NBEA
 NCEE
 New York Stock Exchange
 OBTA (2 times)
 ODE
 Ohio Business Teachers Association (2 times)
 Ohio CPA group (2 times)
 Ohio Department of Commerce
 Ohio Institute of Insurance
 Ohio Insurance Program - Cleveland, Ohio
 Ohio Jump\$tart Coalition (5 times)
 Ohio Univ. Credit Union/State of Ohio

Richland County Chamber of Commerce
 SOITA
 TACCU
 Tiffin University (3 times)
 Toledo area credit union
 University of Cincinnati (5 times)
 University of Dayton (2 times)
 University of Findlay
 University of Phoenix (4 times)
 Walsh University
 Wright State University
 Wright State University, Insurance Institute of Ohio

Topics of continuing education in personal finance

Accounting I and II
 Accounting Related
 Banking in today's society
 Big League Business
 Building Capacity for Financial Education
 Building Your Capacity for Financial Literacy
 Business & Marketing Conclave
 Business Externship
 Business of Ohio
 Business/Personal Finance
 Economics Education
 Effective Content Area Teaching Methods
 Entrepreneurship
 Externship for Business Teachers (2 times)
 Financial Literacy for Teens
 Financial planning
 Global Business
 Global Economy
 How to become a millionaire
 Insurance (3 times)
 Introduction to the Market
 Macroeconomics

Managerial Finance
 Managing your finances
 Microeconomics
 Money and Banking
 Personal Finance and Savings
 Personal Finance
 Personal Time Management
 Professional Approach to HS Business
 Real Life Finance for Students
 Research and Evaluation I
 Stock market game
 Stock market simulation
 Teachers Seminar at New York Stock Exchange
 Teaching Insurance
 Teaching Personal Finance (2 times)
 Teaching the Stock Market Game
 Today's money problem
 Understanding Insurance
 Virtual Economics

Family and Consumer Sciences

Institutions used for continuing education in personal finance

Academic Innovations
 ACTE (2 times)
 Akron University
 American Association of Family and Consumer Sciences
 Annual Vanguard-Sentinel FCS Conference
 Art Institute of Pittsburgh
 Ashland University (2 times)
 BGSU
 CEA Conference (2 times)
 Dave Ramsey
 Dayton Public Schools WOEI
 Depco (2 times)
 Family Economics & Financial Education (FEFE, 5 times)
 Family, Career & Community Leaders of America (3 times)
 Federal Reserve Bank of Cleveland High Schools That Work
 Financial Institutions (2 times)
 Greene County Career Center
 Jumpstart Coalition (2 times)
 Keifer Investments
 Local credit union
 Montana State University (2 times)
 Montana University

NCEE
 NEFE (2 times)
 NIE Lima News/Wright State University (3 times)
 ODA Continuing Education
 OEA
 Ohio Association for Career Technical Education
 Ohio Association for Teachers of Family and Consumer Sciences (OATFACS; 13 times)
 Ohio Association of Family and Consumer Sciences OAFCS (5 times)
 Ohio Board of Education
 Ohio Deferred Comp.
 Ohio Family & Consumer Science Conferences & ODE (7 times)
 Ohio Family & Consumer Science Conferences (18 times)
 Ohio Insurance Institute (3 times)
 Ohio State Auditors office
 Ohio State Treasurer's office
 Ohio State University Extension (2 times)
 Ohio State Vocational Conference
 Ohio Vocational Family & Consumer Sciences conference (2 times)
 San Diego (2 times)
 Sinclair College
 Stockpartners.com
 STRS (2 times)
 Take Charge America
 Tech Prep Consortium
 Toledo Area Credit Unions
 Toledo Blade (2 times)
 TPS Credit Union
 University of Akron (2 times)
 University of Cincinnati
 University of Cincinnati Economic Center (2 times)
 University of Cincinnati/Great Oaks (3 times)
 US Army Reserve
 Walsh College/Communicate Institute
 Wright State University (8 times)

Topics of continuing education in personal finance

Career Choices
 Career Development
 Career Education
 Consumer Basics
 Consumer Economics
 Consumer Finance
 Credit Scams

Earning, Learning, Investing	AP Central (2 times)
Economic concepts	Attorney Generals Office (2 times)
Economics	Dave Ramsey
Education for Character	Dayton on line
Educators in Industry (2 times)	Federal Reserve Bank
Family Financial Security	Federal Reserve Bank of Cincinnati
Finance 101	Fisher School of Business
Finance Education	High Schools That Work
Finances	Local broker
Financial Education	National Teachers of Economics
Financial Education Literacy	NCSS
Financial Fitness-National Program	Northern Kentucky University
Financial Literacy (4 times)	OCSS
Financial Peace	ODE
Financial Planning for Student projects	Ohio University Charlene Kalenoski
How the Economy Works (2 times)	Ohio University Kongwook Choi
I'd Rather be a Bull than a Bear	School Employees Lorain County Credit Union
Identify Theft (3 times)	University of Akron (2 times)
Insurance for Teachers (5 times)	University of Cincinnati (3 times)
Insurance Basics for Teachers (4 times)	University of Cincinnati Center for Economic Education (2 times)
Investing	University of Dayton (2 times)
Investing 101	University of Rio Grande
Marketing & Advertising	Wright State University (2 times)
Money Management (2 times)	
Money Smart	
Payday Loans	<i>Topics of continuing education in personal finance</i>
Personal Finance (4 times)	10 Things You Didn't Know About Money
Personal Financial Literacy	Basic Insurance
Planning for Retirement	Diversification
Planning for your Future	Econ 103
Predatory Lending	Econ 104
Retirement	Economic Applications in the Classroom
School Stock Market Program	Economic Forces That Work
Take Charge of Your Finances (6 times)	Economic in history
Teaching Economics	Economic with Geography
Teaching Insurance for Educators (2 times)	Economics America (2 times)
Teaching Personal Finance	Educational Finance
Teaching Teens Financial Literacy	Finance
Technology in Industry	How market forces work?
Utilizing Media	Insurance
	Mathematics and Economics
	Microeconomics
	Personal Finance in Schools (3 times)
	Problem-Based Economics
	Simulations
	Stock market game
<i>Social Studies</i>	
<i>Institutions used for continuing education in personal finance</i>	
Abbejean Kehler	

Teaching Economics in the Classroom (3 times)

Teaching market economics

Total Money Makeover

Using NCEE Economics lessons

Vital Connections (2 times)

Your personal finance

*Mathematics, Science, Technology,
and Agricultural Sciences*

Institutions used for continuing education in personal finance

Dave Ramsey - Financial Peace (5 times)

Hondros College

Mid State Credit Union (4 times)

OAAE/ODE/Ag Ed Service

OAAE/OSU/Ag Ed Service

OSU Marion

Wright State University (2 times)

Topics of continuing education in personal finance

Budgeting

Buying an Auto and Home

CBI

Credit Card and Credit Score

Dumping Debt

Economics 516-01

Economics 514

Hands-on Training

Identity Theft

Loans

Real estate finances

Record Keeping

Super Savers

Topics in personal finance for women

Understanding Insurance