ASSESSING THE EFFECTIVENESS OF *FINANCIAL FITNESS FOR LIFE* IN EASTERN KENTUCKY

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Abstract: In 2005, the Center for Economic Education at Eastern Kentucky University partnered with Eastern Kentucky University and the Kentucky Council on Economic Education to test the effectiveness of the NCEE curriculum, *Financial Fitness for Life*, in an underprivileged region of Kentucky. We recruited local teachers at three different levels to teach the curriculum to their students and use a test instrument developed by NCEE to measure learning. We find that the use of *FFFL* does increase student performance on a posttest assessment when compared with a pretest of those same students. When demographic statistics are added, an analysis-of-variance model comparing test results from a control group when *FFFL* is not used and the test group when the curriculum is used does show an increase in learning when using *FFFL* instead of whatever other curricula, if any, were used.

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As shown in a number of studies, most notably the annual surveys of high school seniors conducted by the JumpStart Coalition, financial knowledge and abilities of today's students are deficient. Also, today's youth are faced with more and more choices involving financial management, and financial literacy is important for them to make good life decisions. Because of the results of the JumpStart Coalition surveys in recent years showing that high school seniors' financial literacy is low, there has been increasing interest in teaching financial concepts as more states have begun teaching financial literacy in public schools. Encouragingly, the 2004 survey showed that, for the first time since 1997, high school students are demonstrating more knowledge about financial matters. This positive turnaround continued to be evident in the JumpStart Coalition's 2006 survey results as well. Perhaps this can be attributed to the implementation of financial curricula such as NCEE's *Financial Fitness for Life (FFFL)*. The survey results showed that having parents involved plays an important role in financial education, and one of the differentiating components of the *FFFL* curriculum is that it includes a Parent Guide containing activities and discussion prompts that involve parents in their children's financial education. In this study, we tested the effectiveness of this curriculum in improving students' knowledge of economic and financial concepts.

We focused on an economically challenged area of the Commonwealth of Kentucky where financial education is greatly needed. According to the 2004 JumpStart Coalition survey results, students whose parents did not have college degrees did worse on the survey as did students who reported that they were not college bound. We targeted an area of the state where a large percentage of the parents are not college educated and where students are unsure of future

educational plans. According to a 2004 FDIC report, people who have less formal education and lower household incomes need more financial education. This is the group that we targeted in our study.

We recruited teachers and students in upper elementary, middle- and high-school grades. In 5th, 8th, and 11th grades, economic and financial concepts are covered on Kentucky's standardized tests. Thus, teachers in these grades would likely be most interested in implementing a new economics curriculum and devoting the class time required to cover the concepts. Personal finance concepts such as budgeting and goal setting are covered in the Kentucky practical living core content. Today's teachers are focused on high stakes assessment and teaching specific core content to improve their school's scores. Offering training and materials that could help them succeed would be a significant benefit to them. Also, we anticipated that teaching the *FFFL* curriculum would improve schools' practical living scores on Kentucky's standardized tests. While not testing for improved practical living scores explicitly due to data constraints, the hypothesis of this study is that utilizing *FFFL* will improve students' financial literacy as measured by an assessment instrument developed by NCEE specifically constructed to test *FFFL* content.

In an overview of studies on the effectiveness of financial literacy programs, Braunstein and Welch (2002) find that financial education has been somewhat successful, depending on the goal. The more specific education programs have been more successful than general financial education programs, and *FFFL* provides students with specific tools needed to make good financial decisions, increasing financial literacy.

We test the effectiveness of *FFFL* on student learning as exhibited by scores on test instruments that were developed by NCEE. These tests are titled *Financial Fitness for Life:*

High School Test (FFFL-HS Test), *Financial Fitness for Life: Middle School Test* (FFFL-MS Test), and *Financial Fitness for Life: Upper Elementary Test* (FFFL-UE Test). These tests were developed and administered in trials during 2002-2004. A National Advisory Committee was formed to develop each test. Field testing was done in 2003, and the final versions were used in Texas during the 2003-2004 school year. Each test contains "theme tests" that correlate with the themes in the *FFFL* curriculum. There is a 10-question, multiple-choice test for each theme. For detailed information about the tests, refer to the following 2005 NCEE publications: *FFFL High School Test Examiner's Manual*, *FFFL Middle School Test Examiner's Manual*, and *FFFL Upper Elementary Test Examiner's Manual*. In these manuals, the preparers report satisfactory validity and reliability results for the entire test. The authors also discuss the possibility of using a subset of the questions – for classes where it is not possible to cover every lesson in the *FFFL* curriculum. They show that the tests are still reliable if teachers use only some of the theme tests and not the entire test. This is what we did in our study because our teachers were not able to teach the entire curriculum during the testing period.

Methodology and Analysis

During spring, 2005, we identified and recruited teachers for participation in the project. Through introductory sessions held either in person or online through a Blackboard course website, the requirements and rewards for participation in the study were explained to them. The teachers also previewed the curriculum. In addition, we asked the teachers if they foresaw any significant changes in the composition of the classes they taught that spring and the classes they would teach in the fall of 2005 in terms of student academic ability and demographic characteristics. If teachers expected to change the grade level they taught, they did not stay in the study. After the introductory sessions were completed, we had 40 teachers participating in

the study (one of whom taught both middle- and high-school and planned to use *FFFL* with both groups).

At the introductory sessions we also discussed which lessons would be most useful and relevant. Following these discussions, we chose eight lessons for each group to teach. The high school teachers in our study were required to teach the following lessons from the *FFFL* curriculum: 8, 9, 12, 14, 17, 20, 21, and 22. Therefore, teachers gave a test composed of the theme 3, theme 4, and theme 5 subsets of the FFFL-HS Test since the required lessons came from those themes in the curriculum. The middle school teachers in our study were required to teach the following lessons from the *FFFL* curriculum: 6, 8, 10, 11, 12, 14, 15, and 17. Therefore, the teachers gave a test composed of the theme 3, theme 4, and theme 5 subsets of the FFFL-MS Test. The elementary teachers in our study were required to teach the following lessons from the *FFFL* curriculum: 4, 5, 7, 8, 10, 11, 12, and 14. Therefore, the teachers gave a test composed of the theme 2, theme 3, and theme 4 subsets of the FFFL-UE Test.

The tests described above were sent to the participants during the spring, and they were asked to pretest the students they were currently teaching – before they received training and copies of the *FFFL* curriculum. We received pretest results from 15 elementary teachers and 21 middle- or high-school teachers while 4 teachers dropped out of the project without giving their students the pretests. For each of the participating teachers' students, we obtained the results of an in-class examination, an assessment from the teacher of each student's overall academic ability, and self-reported demographic information. These data describe the control group. We initially planned to get student scores on a standardized test as a measure of student academic ability, but we were not able to do that for such a wide range of grade levels because the scores would not be comparable across grades. In Kentucky, each grade takes a different test, and the

results – even for just the elementary grades, for example – were not comparable between grade levels. Therefore, we asked the teachers to report, for each student, whether the student's academic ability was below average, average, or above average. This provides some indication of each student's academic ability.

During the summer of 2005, we held workshops to train the teachers in the use of the *FFFL* curriculum and provided grade-appropriate copies of the curriculum to all of the participants. We repeated the training on two different days in two different locations in order to accommodate teachers who were spread over a large geographic area in eastern Kentucky. Thirty-three participants completed the summer training.

In the fall, these teachers taught from the curriculum, being certain to include at least the eight specific lessons chosen by the project leaders. These students were given the examination as a pretest and again as a posttest, and the same data as the spring semester were collected.

At the end of the study, we asked questions about students' and teachers' attitudes toward the curriculum in order to gauge "likeability" and "usefulness." While these data are not particularly useful for statistical analyses, they are helpful for potential funders and future users of the curriculum.

Once the teachers completed participation in the study and submitted the results from the final test, each received a $250 stipend. Twenty-seven teachers ultimately completed the project – 9 elementary teachers, 7 middle-school teachers, and 11 high-school teachers.

We perform a test of the difference in mean test scores on the pretest and posttest instruments for the students in the fall (*i.e.*, the test group) to see if there are significant improvements. These results provide descriptive results that could be used by KCEE and others promoting financial literacy. The statistical methods we employ are the same as those used in

Harter, Becker, Watts (2004) where mean results on surveys administered in 1995 and 2000 are compared and discussed.

We use ordinary least squares regression to investigate the effect of using the *FFFL* curriculum on students' test scores. For the dependent variable, we combined scores on the spring pretest (the control group) with the scores on the fall posttest (the test group). We regressed this variable on the following variables:

- a student academic ability variable that equals 0 if average or below average and 1 if the student is above average;
- a student gender variable that equals 1 if the student is female and 0 if not;
- a student race variable that equals 1 if the student's race is white and 0 if not; and,
- an FFFL dummy variable that equals 1 if the student is in a class that used the FFFL curriculum and 0 if not.

This research method follows the work of others who have tested whether a particular teaching method or resource, such as new technology, is beneficial. For example, Agarwal and Day (1998) find that internet use does have a positive effect on both TUCE III scores and final grades in introductory economics. Rankin and Hoaas (2001) study whether computer-assisted instruction improves student performance, finding no such improvement. They also find no effect on student attitudes and teaching evaluations. We (Harter and Harter, 2004) test the effectiveness of online quizzes, finding no link between the use of the technology and student performance on examinations.

A difference in this study of the effectiveness of the *FFFL* curriculum is that all of our independent variables are categorical variables. Because of this, we also use an analysis-of-variance model to examine whether student test scores are influenced by student characteristics of gender, academic ability, and race as well as having been in a class where *FFFL* was used.

Results

The primary result of the study is that the *FFFL* curriculum does increase student scores on the assessment instrument. We find this result when examining only the test group and doing a difference of means test. In order to gauge whether there was an improvement in scores on the posttest versus the pretest during the fall of 2005, the difference of means test shows that there was a statistically significant improvement for all three levels of our study. For the elementary classes in the fall experimental group, we compared the pretest mean of 12.79 with the posttest mean of 18.06. The t-statistic for the difference of means test is 17.01 with a p-value of 0.000. For the middle-school classes in the fall experimental group, we compared the pretest mean of 11.67 with the posttest mean of 13.21. The t-statistic for the difference of means test is 6.75 with a p-value of 0.000. For the high-school classes in the fall experimental group, we compared the pretest mean of 11.39 with the posttest mean of 14.11. The t-statistic for the difference of means test is 9.07 with a p-value of 0.000. Thus, *FFFL* does cause an increase in financial literacy. The student scores are presented in Table 1.

Determining that result is one of two main objectives of the study. The other is to test whether *FFFL* improves financial literacy more than whatever other curriculum, if any, the teachers were previously using. In order to investigate this question, we must combine test results from the spring control group with test results from the fall experimental group. Student descriptive statistics are given in Tables 2-4 (Table 2 for elementary students, Table 3 for middle school, and Table 4 for high school). As expected, we did get a large percentage of 5^{th}-grade teachers in the elementary group; however, we were surprised to see so many 7^{th}-grade students in the middle-school group and so many 9^{th}- and 10^{th}-graders in the high-school group. This might best be explained by the discovery that financial concepts are integrated into students' studies in a variety of ways in Kentucky – through activities led by guidance counselors and

librarians as well as through more traditional business education, social studies, and civics classes – and at various grade levels.

We encountered a problem with combining the spring and fall test scores for all three sets of data (elementary, middle, and high) because we are not able to demonstrate convincingly that the samples are sufficiently similar for statistical results to be valid. We used Pearson's Chi-Squared tests to investigate whether the student characteristics for our control and test groups were similarly distributed and found differences between the spring group and the fall group. In fact, we found that the distribution of what grades the students were in was statistically significantly different for all three sets of data. There were statistically significantly more 3rd graders, more 7th graders, fewer 12th graders, and more 9th graders in spring than fall. Also, there were statistically significantly more females in the spring for the middle-school data.

We suspected that some of these differences were attributable to the fact that there were eight teachers who gave the spring pretest and then dropped out of the study. So, we confined our analyses to data from only those teachers who completed the entire study. We conjectured that the control group and the test group would be more similar under those circumstances. In fact, as part of our introductory questionnaire, we asked the teachers if they foresaw any significant differences in the make-up of the classes they were teaching in spring and the classes they would teach in fall. All of the participants answered, "No." And, if teachers switched grade levels, for example, they did not stay in the study. We tried to assure that the test group and control group would be similarly distributed in terms of student abilities and demographics.

After confining the data to teachers who participated in both spring and fall, we repeated the Pearson's Chi-Squared tests and still found differences. In the elementary group, there were still statistically significantly more 3rd graders in the spring group. In the middle-school group,

there were still more 7th graders in the spring and more females in the spring. In the high-school group, there were still more 9th graders and fewer 12th graders in the spring.

Next, we investigated each grade level as an individual group. We omitted 4th, 11th, and 12th grades because these groups were small. We omitted the 3rd-grade group because there were still statistically significantly more "above average ability" students in fall than in spring. We omitted the 5th-grade group because there were statistically significantly more white students in the fall than in the spring. We also omitted the 9th-grade group because there were statistically significantly fewer males in the fall group than in the spring group. That left us with 3 groups to investigate– 7th grade, 8th grade, and 10th grade.

Results from the OLS regressions are reported in Table 5. As expected, academic ability is a strong, significant predictor of test score for all three grade levels. For the seventh-grade students, being in a class that used the *FFFL* is a positive predictor of test scores and is significant at the .023 level. This is also true for the eighth-grade group – *FFFL* is significant at the .036 level. Also, being white is a positive, significant predictor of test scores for this group. For the tenth-grade group, *FFFL* is positive and significant at the .000 level. The large and significant constants in these regressions suggest that there are also other influences on test score, but we can conclude that *FFFL* is clearly a significant influence as well.

As described earlier, because all of our independent variables are categorical, we also use Analysis of Variance (ANOVA) tests to examine the differences in test scores by different groups – according to race, gender, academic ability, and whether or not the class had been taught the required lessons from the *FFFL* curriculum. We use the same dependent variable as in the OLS regressions, scores on the spring pretest (control group scores) and scores on the fall posttest (test group scores). The independent variables are as follows:

- a student academic ability variable that equals 0 if the student is below average, 1 if the student is average, and 2 if the student is above average;
- a student gender variable that equals 1 if the student is female and 0 if not;
- a student race variable that equals 0 if the student's race is "American Indian or Alaska Native," 1 if "Asian," 2 if "Black or African-American," 3 if "Native Hawaiian or Other Pacific Islander," 4 if "White," and 5 if "Some Other Race";
- an FFFL dummy variable that equals 1 if the student is in a class that used the *FFFL* curriculum and 0 if not.

The ANOVA test specifically tests for the difference between the means of two or more groups, and these results are provided in Table 6. Again, it is evident that the two variables by which mean test scores differ are academic ability and use of *FFFL*. For the 8th-grade group, test scores also differ by race. These results reinforce the regression results.

We also asked students and teachers for their opinions about the lessons and the *FFFL* curriculum. The teacher variables are given in Table 7. Of particular importance are the teachers' attitudes about the curriculum. Of the 27 teachers who completed the study, 25 teachers were satisfied or very satisfied with the curriculum (92.59%). Only one elementary teacher and one middle school teacher were dissatisfied with the curriculum, and all others seemed to like it. One of the teachers who was not satisfied stated that the lessons seemed inappropriate for her students because the content was too advanced. This problem could be easily solved if she used lessons from a different level of the *FFFL* curriculum. We specifically instructed the teachers to use the appropriate level of curriculum for the grades they taught during the study since we were testing the effectiveness of the curriculum on student learning for the intended grade levels.

We also requested that the teachers ask their students questions about their attitudes toward the lessons. Some asked the questions orally and counted responses as a "show of hands" while others had students write their responses. The first question was "Did you like the lessons?" Students responded using a scale of 1 to 4 where 1 meant that they did not like the

lessons at all while 4 meant that they liked the lessons very much. The second question was "Do you think the material covered in the lessons will be useful in your life?" Students responded using a scale of 1 to 4 where 1 meant that they thought the lessons would not be useful at all while 4 meant that they thought the lessons would be very useful.

Of the elementary students, 86% liked the *FFFL* curriculum or liked it very much, and 89% thought the lessons were useful or very useful. Seventy-two percent of the middle school students liked the *FFFL* curriculum or liked it very much, and 69% thought the lessons were useful or very useful. At the high school level, 67% of the students liked the *FFFL* curriculum or liked it very much, and 80% thought the lessons were useful or very useful.

The *FFFL* curriculum increases students' financial literacy. Teachers seem to like the curriculum, and students also seem to like it.

Conclusion

The primary objective of the study has been to test the effectiveness of the *FFFL* curriculum. We do have evidence that this curriculum does increase financial literacy. We also show that, at least for 7^{th}-, 8^{th}-, and 10^{th} grade students, this increase is higher than what results from whatever other curriculum, if any, the teachers were previously using to teach financial concepts.

There are several reasons why this study is important. The result that the *FFFL* curriculum is an effective method of increasing financial literacy is useful for teachers, parents, and students, as well as for supporters of economic education in our state. These results can be used when pursuing funding for additional economic and financial literacy programs.

Subsidiary benefits (that are not testable within the constraints of this study) are that teachers will continue to use the curriculum in the future and impact more students than those

involved in our study and that students will make better financial decisions throughout their lifetimes. Also, teachers and students will become more comfortable with the concepts.

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Table 1A
Elementary Students' Test Scores

Variable	Number of Observations	Mean	Standard Deviation
Elem Spring Pretest (Control Group)	651	15.14	5.34
Elem Fall Pretest (Experimental Group)	335	12.79	4.47
Elem Fall Posttest (Experimental Group)	346	18.06	6.19

Table 1B
Middle-School Students' Test Scores

Variable Name	Number of Observations	Mean	Standard Deviation
Middle Spring Pretest (Control Group)	400	11.86	4.68
Middle Fall Pretest (Experimental Group)	314	11.67	4.26
Middle Fall Posttest (Experimental Group)	356	13.21	5.60

Table 1C
High-School Students' Test Scores

Variable Name	Number of Observations	Mean	Standard Deviation
High Spring Pretest (Control Group)	605	12.20	4.83
High Fall Pretest (Experimental Group)	433	11.39	3.80
High Fall Posttest (Experimental Group)	447	14.11	6.43

Table 2A
Student Descriptive Statistics for Spring, 2005
Elementary Control Group – Grades 3, 4, or 5

Variable	Frequency	Percent
Ability		
Below Average	144	22.40
Average	201	46.81
Above Average	198	30.79
Total	643	100.00
Special Education		
Not Special Ed	542	87.56
Special Ed	77	12.44
Total	619	100.00
Grade		
3rd Grade	108	17.28
4th Grade	86	13.76
5th Grade	431	68.96
Total	625	100.00
Gender		
Male	313	50.24
Female	310	49.76
Total	623	100.00
Race		
Amer. Indian/Alaska Native	6	0.96
Asian	5	0.80
Black or African-American	33	5.27
Native Hawaiian/Pacific Islander	0	0.00
White	549	87.70
Some Other Race	33	5.27
Total	626	100.00

Table 2B
Student Descriptive Statistics for Fall, 2005
Elementary Test Group – Grades 3, 4, or 5

Variable	Frequency	Percent
Ability		
Below Average	87	25.44
Average	155	45.32
Above Average	100	29.24
Total	342	100.00
Special Education		
Not Special Ed	310	90.91
Special Ed	31	9.09
Total	341	100.00
Grade		
3rd Grade	46	13.61
4th Grade	20	5.92
5th Grade	272	80.47
Total	338	100.00
Gender		
Male	171	51.51
Female	161	48.49
Total	332	100.00
Race		
Amer. Indian/Alaska Native	1	0.30
Asian	1	0.30
Black or African-American	14	4.22
Native Hawaiian/Pacific Islander	0	0.00
White	307	92.47
Some Other Race	9	2.71
Total	332	100.00

Table 3A
Student Descriptive Statistics for Spring, 2005
Middle-School Control Group – Grades 7 or 8

Variable	Frequency	Percent
Ability		
Below Average	75	18.80
Average	227	56.89
Above Average	97	24.31
Total	399	100.00
Special Education		
Not Special Ed	345	89.15
Special Ed	42	10.85
Total	387	100.00
Grade		
7th Grade	225	57.11
8th Grade	169	42.89
Total	394	100.00
Gender		
Male	180	45.57
Female	215	54.43
Total	395	100.00
Race		
Amer. Indian/Alaska Native	3	0.76
Asian	1	0.25
Black or African-American	6	1.53
Native Hawaiian/Pacific Islander	1	0.25
White	371	94.40
Some Other Race	11	2.80
Total	626	100.00

Table 3B
Student Descriptive Statistics for Fall, 2005
Middle-School Test Group – Grades 7 or 8

Variable	Frequency	Percent
Ability		
Below Average	63	18.53
Average	214	62.94
Above Average	63	18.53
Total	340	100.00
Special Education		
Not Special Ed	307	90.29
Special Ed	33	9.71
Total	340	100.00
Grade		
7th Grade	169	48.01
8th Grade	183	51.99
Total	352	100.00
Gender		
Male	190	53.82
Female	163	46.18
Total	353	100.00
Race		
Amer. Indian/Alaska Native	4	1.13
Asian	2	0.57
Black or African-American	7	1.98
Native Hawaiian/Pacific Islander	0	0.00
White	331	93.77
Some Other Race	9	2.55
Total	332	100.00

Table 4A
Student Descriptive Statistics for Spring, 2005
High-School Control Group – Grades 9, 10, 11, or 12

Variable	Frequency	Percent
Ability		
Below Average	127	21.27
Average	314	52.60
Above Average	156	26.13
Total	597	100.00
Special Education		
Not Special Ed	535	89.77
Special Ed	61	10.23
Total	596	100.00
Grade		
9th Grade	271	45.62
10th Grade	192	32.32
11th Grade	52	8.75
12th Grade	79	13.30
Total	594	100.00
Gender		
Male	293	48.91
Female	306	51.09
Total	599	100.00
Race		
Amer. Indian/Alaska Native	5	0.83
Asian	10	1.67
Black or African-American	38	6.34
Native Hawaiian/Pacific Islander	3	0.50
White	526	87.81
Some Other Race	17	2.84
Total	599	100.00

Table 4B
Student Descriptive Statistics for Fall, 2005
High-School Test Group – Grades 9, 10, 11, or 12

Variable	Frequency	Percent
Ability		
Below Average	74	16.67
Average	244	54.95
Above Average	126	28.38
Total	444	100.00
Special Education		
Not Special Ed	409	92.53
Special Ed	33	7.47
Total	442	100.00
Grade		
9th Grade	180	41.19
10th Grade	137	31.35
11th Grade	36	8.24
12th Grade	84	19.22
Total	437	100.00
Gender		
Male	208	47.49
Female	230	52.51
Total	438	100.00
Race		
Amer. Indian/Alaska Native	3	0.68
Asian	12	2.73
Black or African-American	23	5.24
Native Hawaiian/Pacific Islander	1	0.23
White	386	87.93
Some Other Race	14	3.19
Total	439	100.00

Table 5A
OLS Regression Results for 7th-Grade
Dependent Variable: Post-test Score on Themes 3, 4, and 5 of FFFL-MS Test

Number of Observations = 385
Adjusted R-squared = 0.11

Variable	Coefficient Estimate	t-statistic	p-value
Above Average Academic Ability	3.209	6.611	0.000
Female	0.055	0.131	0.896
White	1.135	1.192	0.234
FFFL	0.973	2.276	0.023
Constant	8.940	9.160	0.000

Table 5B
OLS Regression Results for 8th-Grade
Dependent Variable: Post-test Score on Themes 3, 4, and 5 of FFFL-MS Test

Number of Observations = 337
Adjusted R-squared = 0.14

Variable	Coefficient Estimate	t-statistic	p-value
Above Average Academic Ability	4.644	6.808	0.000
Female	-0.045	-0.085	0.932
White	2.979	2.880	0.004
FFFL	1.125	2.105	0.036
Constant	9.223	8.326	0.000

Table 5C
OLS Regression Results for 10th-Grade
Dependent Variable: Total Score on Themes 3, 4, and 5 of FFFL-HS Test

Number of Observations = 319
Adjusted R-squared = 0.14

Variable	Coefficient Estimate	t-statistic	p-value
Above Average Academic Ability	3.880	6.221	0.000
Female	-0.100	-0.191	0.849
White	0.683	0.749	0.454
FFFL	2.129	4.089	0.000
Constant	10.966	11.911	0.000

Table 6A
ANOVA Results for 7th-Grade
Dependent Variable: Post-test Score on Themes 3, 4, and 5 of FFFL-MS Test

Number of Observations = 385
Adjusted R-squared = 0.13

Variable	Degrees Freedom	F-Statistic	Prob > F
Overall Model	8	8.11	0.000
Academic Ability	2	28.44	0.000
Gender	1	0.08	0.774
Race	4	0.50	0.738
FFFL	1	4.04	0.045

Table 6B
ANOVA Results for 8th-Grade
Dependent Variable: Post-test Score on Themes 3, 4, and 5 of FFFL-MS Test

Number of Observations = 337
Adjusted R-squared = 0.20

Variable	Degrees Freedom	F-Statistic	Prob > F
Overall Model	8	11.49	0.000
Academic Ability	2	35.29	0.000
Gender	1	0.38	0.537
Race	4	2.95	0.020
FFFL	1	5.21	0.023

Table 6C
ANOVA Results for 10th-Grade
Dependent Variable: Total Score on Themes 3, 4, and 5 of FFFL-HS Test

Number of Observations = 319
Adjusted R-squared = 0.18

Variable	Degrees Freedom	F-Statistic	Prob > F
Overall Model	9	9.02	0.000
Academic Ability	2	27.81	0.000
Gender	1	0.19	0.667
Race	5	1.87	0.099
FFFL	1	14.60	0.000

Table 7A
Descriptive Statistics for Elementary Teacher Variables

Variable	Frequency	Percent
Spring Financial Education		
Did no financial education	4	44.44
Did financial education but did not use FFFL	5	55.56
Total	9	100.00
Required Lessons		
Covered All Required Lessons	8	88.89
Did not Cover All Required Lessons	1	11.11
Total	9	100.00
Extra Lessons		
Covered No Additional Lessons	7	77.78
Covered Some Additional Lessons	2	22.22
Total	9	100.00
Number of Days Between Finishing Lessons and Giving Posttest		
3 or fewer	7	77.78
7	2	22.22
Total	9	100.00
Counted Posttest as a Grade		
Did Not Count	8	88.89
Did Count	1	11.11
Total	9	100.00
Parent Guide		
Did Not Use Parent Guide	7	77.78
Did Use Parent Guide	2	22.22
Total	9	100.00
Teachers' Rating of FFFL Curriculum		
4 – Very Satisfied	4	44.44
3 – Satisfied	4	44.44
2 – Dissatisfied	1	11.11
1 – Very Dissatisfied	0	0.00
Total	9	100.00
Teachers' Rating of FFFL Training		
4 – Very Satisfied	5	55.56
3 – Satisfied	2	22.22
2 – Dissatisfied	2	22.22
1 – Very Dissatisfied	0	0.00
Total	9	100.00

Table 7B
Descriptive Statistics for Middle-School Teacher Variables

Variable	Frequency	Percent
Spring Financial Education		
Did no financial education	6	85.71
Did financial education but did not use FFFL	1	14.29
Total	7	100.00
Required Lessons		
Covered All Required Lessons	6	85.71
Did not Cover All Required Lessons	1	14.29
Total	7	100.00
Extra Lessons		
Covered No Additional Lessons	4	57.14
Covered Some Additional Lessons	3	42.86
Total	7	100.00
Number of Days Between Finishing Lessons and Giving Posttest		
3 or fewer	4	57.15
4	1	14.29
5	1	14.29
6	1	14.29
Total	7	100.00
Counted Posttest as a Grade		
Did Not Count	5	71.43
Did Count	1	14.29
Did Count but only as Participation	1	14.29
Total	7	100.00
Parent Guide		
Did Not Use Parent Guide	7	100.00
Did Use Parent Guide	0	0.00
Total	7	100.00
Teachers' Rating of FFFL Curriculum		
4 – Very Satisfied	3	42.86
3 – Satisfied	3	42.86
2 – Dissatisfied	1	14.29
1 – Very Dissatisfied	0	0.00
Total	7	100.00
Teachers' Rating of FFFL Training		
4 – Very Satisfied	3	42.86
3 – Satisfied	4	57.14
2 – Dissatisfied	0	0.00
1 – Very Dissatisfied	0	0.00
Total	7	100.00

Table 7C
Descriptive Statistics for High-School Teacher Variables

Variable	Frequency	Percent
Spring Financial Education		
Did no financial education	3	27.27
Did financial education other than FFFL	8	72.73
Total	11	100.00
Required Lessons		
Covered All Required Lessons	10	100.00
Did not Cover All Required Lessons	0	0.00
Total	10	100.00
Extra Lessons		
Covered No Additional Lessons	7	70.00
Covered Some Additional Lessons	3	30.00
Total	10	100.00
Number of Days Between Finishing Lessons and Giving Posttest		
3 or fewer	6	60.00
4	1	10.00
5	2	20.00
14	1	10.00
Total	10	100.00
Counted Posttest as a Grade		
Did Not Count	4	40.00
Did Count	3	30.00
Did Count but only as Participation	3	30.00
Total	10	100.00
Parent Guide		
Did Not Use Parent Guide	10	100.00
Did Use Parent Guide	0	0.00
Total	10	100.00
Teachers' Rating of FFFL Curriculum		
4 – Very Satisfied	7	63.64
3 – Satisfied	4	36.36
2 – Dissatisfied	0	0.00
1 – Very Dissatisfied	0	0.00
Total	11	100.00
Teachers' Rating of FFFL Training		
4 – Very Satisfied	8	72.73
3 – Satisfied	3	27.27
2 – Dissatisfied	0	0.00
1 – Very Dissatisfied	0	0.00
Total	11	100.00