Financial Literacy and Financial Education in High School

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A dramatic increase in interest in financial literacy has occurred over the past 20 years (Braunstein & Welch, 2002; Hilgert, Hogart, & Beverly, 2003; Lusardi & Mitchell, 2014). One reason is that adults are now being asked over their life-cycle to assume greater responsibility for the management of personal finances such as living with a limited budget, choosing affordable housing, using credit, protecting assets and identity, and saving for retirement (Agarwal, Driscoll, Gabaix, & Laibson, 2009; Hastings, Madrian, & Skimmyhorn, 2013). Further interest in financial literacy arose from problems in the national economy, such as what occurred with the financial crisis of 2008 and its aftermath, and from a continual national focus on personal finance issues as evident in concerns with the burden of student loans, rising credit card debt and personal bankruptcies, and inadequate saving for retirement (Gale, Harris, & Levine, 2012; Lusardi & Mitchell, 2014).

In light of these changes in the financial landscape, this chapter focuses on the financial education in high school because it can increase financial literacy among youth, which in turn can be useful to people throughout their adult lives. To further explain this point, the chapter begins with a brief discussion of why financial literacy for youth is important and how it benefits society. We then switch to the provision of financial education in the schools through state mandates for coursework and variations in the course delivery of financial education. Part of the chapter also explains the development of content standards and the use of curriculum materials and programs. Some attention too is devoted to testing and assessing financial literacy among high school students. The final part of the chapter reviews key findings from the research literature on the effectiveness of financial education for youth, either through broad-based state mandates or through specific instructional programs.

Rationale

Financial literacy is defined various ways in the academic literature, but what often is common to them is a focus on conceptual knowledge and decision-making, as indicated by a comprehensive definition from Remund (2010):

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> Financial literacy is a measure of the degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finances through appropriate, short-term decision-making and sound, long-range financial planning, while mindful of live events and changing economic conditions (p. 284).

The challenge for adults, of course, is to obtain a financial education that develops this financial literacy for an uncertain and changing economic world (Hastings, Madrian, & Skimmyhorn, 2013). If financial education is of value for adults to be more informed and better handle their financial matters, then a logical extension would apply to youth because they will become adults who are charged with making important financial decisions and need some preparation for the financial world they will experience as adults (Lusardi, Mitchell, & Curto, 2010).

Over the past few decades there has been growing recognition of the need for financial education in schools as a possible way to develop financial literacy and improve financial behavior (National Association of State School Boards of Education, 2006). For students who do not attend college, financial education in high school may be the only financial education they receive, so financial education in high school should provide basic concepts and skills that can be useful later in life. Even students who continue to post-secondary education may never take a college course in personal finance, so financial education in high school may be their only exposure to personal finance concepts and decision-making.

Some evidence to support the value of early financial education comes from an economic model and simulation described by Lusardi and Mitchell (2014). The results show that providing financial knowledge to the least educated before they enter the labor market increases their well-being by about 82 % of their initial wealth. For college graduates, providing financial knowledge produces a change of about 56 % of their initial wealth. This economic model assumes that individuals only invest in financial education early in life, such as in high school and do not seek financial knowledge thereafter. Thus, even though some individuals may choose not to invest in financial literacy later in life, improving financial literacy early in life, as in high school, is socially optimal—it makes everyone better off.

Coursework

Recognition of the value and importance of financial literacy for youth has certainly influenced curriculum and instruction in schools throughout the USA. The change is most evident in survey data from the degree of inclusion of financial education in the school curriculum (Council for Economic Education, 2016). From 1998 to 2016, the number of states with content standards for personal finance education in the schools increased from 21 to 45. The number of states requiring implementation of those standards increased from 14 to 37. The number of states requiring a personal finance course or economics course with personal finance content be taken before graduation from high school grew from 1 to 17. Finally, the number of states that required testing of students in personal finance rose from 1 to 7.

Although the state data show significant improvement in the penetration of personal finance into the school curriculum, the change needs to be understood in a more realistic perspective. Personal finance can be taught as a separate or stand-alone course in the school curriculum with a great deal of financial content, but whether it actually is taught that way is more questionable. The evidence to support this skepticism comes from the High School Transcript Study conducted periodically by the National Center for Education Statistics (NCES) at the US Department of Education. The closest two categories for a personal finance course in this NCES classification scheme would be courses in "consumer education" or "consumer economics." These courses, however, were taken by only 7.9 % of high school students in 2009, the latest year for available transcript data (Walstad & Rebeck, 2012). It is likely more students receive financial education in high school than is indicated by this small percentage, which suggests personal finance is also taught in other courses within the

high school curriculum. The most likely targets for this infusion of personal finance content would be courses in economics, business, and career or vocational education.

Another point to keep in mind is that a high school course in personal finance is not a standardized course in the same way as mathematics courses in algebra and geometry or science courses in biology and chemistry. Mathematics or science courses in the high school curriculum are often similar in the content covered and show little change from high school to high school. We know surprising little, however, about what content is covered in high schools courses or units in personal finance because it is likely to vary considerably by state, school district, or even high schools within a school district (Loibl & Fischer, 2013). Compounding the standardization issue is the influence of the teacher. In a personal finance course or unit of instruction, teachers sometimes have more discretion over what they teach than they have over the content they teach in such core and well-defined subjects as mathematics or science. It is also not known how content coverage and emphasis changes from teacher to teacher when a course or unit is taught.

Content Standards and Curricula

Over the years several nonprofit organizations published content guides for kindergarten through twelfth (K–12) grades. The primary purpose of these guides is to describe for school teachers, district administrators, and developers of educational materials the core knowledge and essential skills related to personal finance that high school students should possess by the time of high school graduation. The JumpStart Coalition for Personal Financial Literacy (Jump$tart) was the first organization to publish a content framework with its *National Standards in K–12 Personal Finance Education* that appeared in 1998. That guide, now in its fourth edition, divides the content into six sections: (1) spending and saving; (2) credit and debt; (3) employment and income; (4) investing; (5) risk and insurance; and (6) financial decision-making (Jump$tart, 2015). Each section begins with *knowledge* statements that briefly describe what students should know at four levels of K–12 grade instruction: completion of kindergarten, by fourth grade, by eighth grade, and by twelfth grade. The set of knowledge statements is followed by a *standard statement*. In addition, below each standard statement are *benchmarks* that briefly state the skills that show students' ability to apply financial knowledge to decisions and actions for that standard.

The stated purpose of this document is to:

> delineate the personal finance knowledge and ability that young people should acquire throughout their kindergarten through 12th grade school years (K–12) to emerge as independent adult consumers, fully prepared to make wise financial decisions for a lifetime of economic well-being. (Jump$tart, 2015, p. 1).

While the purpose and organization of the document makes sense, the amount of material is overwhelming, as indicated by the totals in different categories. The six sections have a total of 93 knowledge statements. Then, there are 26 standard statements distributed across the six sections. In addition, for each standard there are numerous benchmarks, about 350 in total. Given the scope and detail it is doubtful that even a well-designed curriculum for K–12 schools could cover all this personal finance content, skill development, and decision-making to achieve what the guide intends. Nevertheless, portions of the document may be useful for teaching parts of courses in personal finance and in helping educators think about a K–12 personal finance curriculum.

A more compact approach to writing standards was published by the Council for Economic Education (CEE), a nonprofit organization that supports teacher training in economic and personal finance education and develops curriculum materials for teachers and schools. The *National Standards for Financial Literacy* (CEE, 2013) divides the personal finance content into six standards or sections: (1) earning income; (2) buying goods and services; (3) saving; (4) using credit; (5) financial investing; and (6) protecting and insuring. For each standard there is an overarching statement from which the knowledge benchmarks are built. The 144 benchmarks (about 24

per standard) explain what students should know about that standard content by the fourth, eighth, and twelfth grades. Associated with each benchmark are examples of what teachers might do to have students demonstrate their content understanding. A three-part decision-making framework focusing on planning and goal setting, making a decision, and assessing the outcome is incorporated into the content discussion for each standard.

What distinguishes the CEE standards from the Jump$tart standards are several features beyond organization and parsimony (Bosshardt & Walstad, 2014). First, it provides an economics foundation for the six standards because economic concepts are an essential part of financial education. For example, it recognizes that choices about spending or investing have an opportunity cost. Most personal finance teachers have some training in economics, so the economics application can help them better teach the content. Second, it emphasizes financial decision-making by integrating it into each standard instead of treating it as a separate topic. This approach makes explicit the weighing of costs and benefits in decision-making and avoids a normative approach to teaching personal finance that tells students what they should or ought to do. Insights from behavioral economics also are included as appropriate for a standard.

Standards documents from Jump$tart and CEE are not the only source for content or curriculum guidance. Many organizations offer students, teachers, and school administrators curriculum materials or instruction programs with extensive financial content and pedagogical applications. One notable source is the National Endowment for Financial Education (NEFE), which has a *High School Financial Planning Program* that contains six modules on different personal finance topics (planning, borrowing, earning capability, investing, financial services, and insurance) and is widely used by students and teachers. Another notable organization is Junior Achievement (JA) (www.journiorachievement.org), which conducts programs for teaching students about economics, business, and personal finance. Its *JA Finance Park* is a month-long program for students that introduces them to personal financial planning and has them apply their budgeting skills in a visit to a finance park. Other educational resources for financial education are available from different nonprofit groups, multiple financial institutions and businesses too numerous to list. Jump$tart has a searchable clearinghouse for finding many educational resources (http://www.jumpstart.org/jump$tart-clearinghouse.html). In addition, the US Treasury has a "MyMoney.gov" web site with content divided into five categories (earn, borrow, save and invest, spend, and protect) and links to teacher resources. Many of the banks in the Federal Reserve System provide educational material for teaching about economics and personal finance (https://www.federalreserveeducation.org). The instructional problem for educators is not the lack of resources or programs for financial education, but deciding what content to teach and what resources to use.

Testing and Assessment

One major question people often have about personal finance is what do high school students know about it. Answering this question requires the development of a reliable and valid assessment instrument and administration to a nationally representative sample of students. To answer this question for most major subjects taught in the school curriculum, the US Department of Education through its NCES conducts the National Assessment of Educational Progress (NAEP) to show what students know or should be able to do in an academic subject by the time of high school graduation. The closest NAEP test to personal finance would be NAEP economics, which was first administered in 2006 and again in 2012 (NCES, 2013; Walstad & Buckles, 2008). No separate NAEP testing has been conducted in personal finance because NAEP has limited resources and personal finance is viewed as a more specialized subject in the high school curriculum.

In response to this national testing void, nonprofit organizations have sponsored the development of surveys or tests in personal finance.

One major initiative came from the Jump$tart Coalition with its *Personal Financial Survey* (Mandell, 2008). The survey contained 31 multiple-choice questions testing high school student understanding of the personal finance topics of income, money management, saving and investing, and spending and credit. The survey was first conducted in 1997 and then biannually in 2000–2008 (personal communication, Lewis Mandell, August 30, 2015). It provides a standardized test measure to monitor the progress made in the financial literacy of high school students over time. The results from each administration of the survey showed that high school students could answer correctly only about half the questions, and over time the national sample of students showed little improvement in test scores (Mandell, 2008).

As is the case with any achievement test, the Jump$tart test is not without its limitations. An assessment of the test was conducted using the 1997 and 2000 test data (Lucey, 2005). That review found that the reliability for the overall test was acceptable, but it was low for the few items on each subscale. It also reported that the evidence on the validity of the test was questionable because of limited expert review in test development and lack of content coverage based on published standards. Also suspect was the use of the data to make longitudinal comparisons because some of the test items changed over the years (Lucey, 2005). The characteristics of the samples and sampling procedures also differ somewhat from each year's administration and the response rates were relatively low (15.8–21.3 %) (Mandell, 2008). Perhaps in response to some of this criticism, the Jump$tart Coalition decided in 2010 to fund the development of a new test that is currently being pilot tested.

What this test discussion reveals is that more extensive research is needed for the population measurement of student achievement in personal finance at a point in time and for making valid comparisons over time. For these purposes, more reliable and valid tests are such ones as NAEP or the Programme for International Student Assessment (PISA). Although there is no NAEP test on financial literacy there is a PISA test. In 2012, this PISA financial literacy test was administered by the Organization for Economic Co-operation and Development (OECD) for the first time in 13 OECD countries (Australia, the Flemish Community of Belgium, the Czech Republic, Estonia, France, Israel, Italy, New Zealand, Poland, the Slovak Republic, Slovenia, Spain, and the USA) and five partner countries (Colombia, Croatia, Latvia, the Russian Federation, and in Shanghai, China). About 29,000 students took the financial literacy test in 18 nations including the USA. The published findings show wide variations in scores among students within nations and large disparities in financial literacy across nations (e.g., Shanghai was first with a score of 603; the USA was ninth with a score of 492, and Columbia last with a score of 379).

The four main content areas for the PISA test were money and transactions, planning and managing finances, risk and reward, and the financial landscape. Test questions were aligned with four process categories: identify financial information, analyze information in a financial context, evaluate financial issues, and apply financial knowledge and understanding. The context for the financial literacy questions included education and work, home and family, individual and society. The PISA assessment also includes information on financial education practices and strategies across different countries. The dataset collects additional information on student socioeconomic background, experience with and access to financial services, student attitudes, mathematical ability, and reading ability. The PISA test on financial literacy offers researchers a unique, multi-country dataset for analyzing financial literacy within and across nations that has yet to be fully studied.

One other recent test project for advancing financial education is worth noting. The CEE developed an online test center (http://www.councilforeconed.org/resource/online-assessment-center) with a searchable test bank of questions that can be used by teachers to assess student understanding in economics and personal finance. The personal finance questions in the test bank are coded using the CEE's *Financial Literacy*

standards and benchmarks. Included in the test portal are three standardized tests for personal finance: high school (grades 11–12); middle or high school (grades 8–9), and elementary or middle school (grades 5–6). The questions for these tests were constructed by a national committee of experts to align them with the CEE's *Financial Literacy* standards and were field tested with students. The three tests are designed to serve as common classroom tests that teachers can use to measure student achievement and compare the results with a large national sample. They also give researchers standardized and flexible test instruments that can be used for assessing students learning within a classroom, which is not possible with the PISA.

Research on State Mandates for Instruction

As programs in financial literacy for high school students have expanded over the past two decades, so has research on the effectiveness of this financial education. One important line of research has investigated the effects of state mandates for personal finance courses in high school to determine if the instruction has a long-term effect on financial behaviors later in life when the youth who received the instruction become adults. In an early and significant study, Bernheim, Garrett, and Maki (BGM) (2001) used survey data from household respondents, ages 30–40, and found that state mandates for financial education had a positive effect on the rate of saving (a flow) and wealth accumulation (a stock). Cole, Paulson, and Shastry (2013), however, replicated the BGM analysis using similar and different specifications, different datasets, and different dependent variables (e.g., "any investment income") and found no effect of state mandates on investment behavior. A study using Jump$tart test data found that the characteristics of the state mandate for schools mattered because more specific course mandates for personal finance education had a more positive effect on student financial knowledge whereas those mandates that were broad-based did not (Tennyson & Nguyen, 2001). A recent study used a panel of credit report data to examine the effects of state mandates on credit scores and delinquency rates in three states and showed that students exposed to financial education in the mandate states had higher credit scores and lower delinquency rates (Brown, Collins, Schmeiser, & Urban, 2014).

Although the above results from mandate studies are generally positive, there is room for skepticism. The results can be mixed because of the complexities for this type of longitudinal analysis. The timing of when mandates actually become effective varies because legislation first must be passed and then school districts must respond with curriculum changes. Not all financial education mandates are the same in terms of content coverage or emphasis so there are aggregation issues for the analysis. The mobility of the sample before and after the mandate takes effect may affect the outcomes. The measurement of financial behaviors through surveys can be imprecise and different for each study. Exogenous factors, such as differences in the economic characteristics of states, may influence the findings. The above analytical issues make it difficult to conduct a mandate study with careful controls that produces robust findings, even if from a policy perspective the research question is an important one to answer.

A more problematic line of research in financial education is the use of test scores to assess student achievement over time. The scores from the Jump$tart test from 2000 to 2006 were compared for those students who had taken and who had not taken a full-semester high school course in personal finance, but no significant difference was found in the scores for the two groups (Mandell, 2008). It is difficult to use such test data for evaluating the effectiveness of financial education because of insufficient controls related to course content, test measurement, teacher preparation, and amount of instruction (Walstad, Rebeck, & MacDonald, 2010). As previously noted, unlike most high school courses in mathematics or science, there can be widespread national differences in the content taught in personal finance courses (Loibl & Fischer, 2013). The test also includes only 31 items that may not closely match the content

that is taught. Furthermore, the quality instruction in a national sample can vary because teachers may not be well-trained to teach the material (Way & Holden, 2009).

Curriculum Studies

Given the challenges with broad-based and long-term national studies of the effects of financial education, studies that focus a specific financial education curriculum may produce more valid and useful results. These "micro" studies consistently show positive contributions from financial education to financial knowledge, financial literacy, and other outcomes assessed by constructed variables. The reasons most likely have to do with the fact that they allow for more control over factors that mitigate or distort the effects of financial education. One control advantage is that content to be taught is well-defined. There also is a better match between the course or unit content and any constructed outcome measures. In addition, there are more opportunities to ensure that teachers are properly prepared to teach the curriculum in the same way. Some type of pretesting and posttesting too can be included in the evaluation to check for changes in student learning or behavior. It is also possible to test students in a control group to compare outcomes with students in a program or treatment group.

What follows are four examples of research studies that evaluated specific curricula and show significant and positive effects from financial education on the financial knowledge and other financial outcomes after controlling for some of the above factors. See McCormick (2009) for examples of other studies. The first example is the comprehensive evaluation of the *High School Financial Planning Program* (HSFPP) (Danes, Rodriguez, & Brewton, 2013). Using a post-, then pre-, evaluation, the study found positive and significant effects from HSFPP on self-reported measures of financial knowledge and financial behaviors at the end of the instructional period among 4794 students taught by 212 teachers in 130 schools. What is especially noteworthy of this evaluation is it controlled for the nesting of students, teachers, and classroom characteristics. It found that in addition to knowledge gained, the learning context within and between classrooms influenced improvement in financial behavior.

The second example covers several evaluation studies investigating the effectiveness of *Financial Fitness for Life* (FFL), a personal finance and economics curriculum for high school students that is also available for lower grades (Morton & Schug, 2001; Gellman & Laux, 2011). A 50-item multiple-choice test was developed for assessment purposes for the overall content and each of its five financial education themes. The construct validity for the test was evaluated by having high school teachers in three states—who had been trained to use the FFL curriculum—administer the test to 524 students who were taught with the FFL curriculum, and to a control group of 335 similar students in the same schools who did not receive this instruction. The positive results for students receiving FFL instruction held even after accounting for other factors such as gender, race and ethnicity, income, and type of community (Walstad & Rebeck, 2005).

Another FFL study used FFL test items for three themes (saving, spending and credit, and money management) (Harter & Harter, 2009). In the semester prior to attending a training workshop on the use of FFL materials, the recruited teachers for the study used different financial education materials and posttested their students. Then after attending the FFL workshop and teaching the FFL curriculum, the teachers pretested and posttested their students. The regression analysis that controlled for general student ability, grade level, gender, and race showed a positive and significant improvement in test scores for FFL students compared with students taught with other financial education materials.

As a third example, consider an experiential study investigating the relationship between previous exposure to financial education and timely support for a financial decision (Carlin & Robinson, 2012). The sample was drawn from 2357 Los Angeles students, ages 13–19, who participated in the *JA Finance Park*. This role-playing simulation involves learning about personal budgeting by assuming a randomly assigned

fictional-adult identity. For the park experience students create a personal budget for various consumer expenditures—housing, health insurance, cell phone plan, recreation, and credit management. The budget is based on their calculated net monthly income from their fictional-adult identity. During the park experience students go to about 17 kiosks to make transactions in budget categories and seek to achieve a balanced budget reflecting their preferences. The study compared the budget outcomes of two groups of students—one not trained in financial literacy and one trained, who received 19 h of classroom instruction on personal finance (financial institutions, credit, taxes, and budgeting). The results show that classroom training affected student budget behavior at the park because those students with training tended to save more today, used credit more sparingly, and planned more for the future than did students in the not trained group. The other issue is one of timely decision support. In one case, involving payments for housing, students receive advice from kiosk volunteers to more quickly amortize their loans for mandatory home improvement (spend more upfront today to save more in loan interest cost). Students who had received financial literacy training were much more likely to reduce their interest costs. According to the authors, this outcome occurs most likely because financial education primes students to act on the advice or it recalls past training (Carlin & Robinson, 2012).

A fourth example is an evaluation study that investigated the effects of *Financing Your Future* (FYF) on student knowledge and understanding of personal finance (Walstad, Rebeck, & MacDonald, 2010). The content for the DVD-based curriculum is clearly described and specified so that different teachers provide the same instruction to each student. After training, teachers are familiar with the content and know how to teach it. The financial knowledge test employed to assess student achievement was developed to be a valid measure of knowledge of the content taught with the instructional materials, and the scores were found to be reliable. In addition, data was collected from students on both a pretest and a posttest to assess differences in students' final level of financial knowledge after controlling for starting levels. A unique feature of this evaluation is its use of a quasi-experimental design with pretest and posttest data on 800 students in either a FYF-treatment group or a control group. The fixed-effect regression analysis showed that financial education does make a positive and significant contribution to a high school student's knowledge of personal finance after controlling for factors such as course type, gender, grade in school, future education or work plans, work history during high school, credit card use, and teacher effects.

Although the above studies that evaluated different curricula have their advantages in the potential control over key variables and confounding factors that can influence the results, they too have their limitations. The primary one is that the results are specific to the particular personal finance curriculum studied and the sample of teachers and students used to assess it. From a research perspective, the issue is one of external validity because the results may not be generalizable to a larger population of high school students. The issue can be addressed somewhat, but is not eliminated by aggregating findings across studies. In this respect, it is encouraging that taken together the four studies described above show generally positive findings for the effects of financial education.

Finally what should be given more attention in research on financial education in high school is the difference in the purpose of financial education for high school youth and adults. In high school, the primary purpose of teaching most core subjects (e.g., math or science) is to improve subject-matter understanding, and not to change attitudes or behaviors because they are more uncertain and controversial. It is these achievement outcomes that are appropriately measured and tested by schools, states, and across nations, such as with PISA. The same goal applies to financial education in the schools. Its primary purpose is to improve content understanding of a broad range of financial matters that may be encountered in life and not to indoctrinate students with certain financial attitudes or behaviors. Of course, changes in financial attitudes and behaviors that may occur

from financial education instruction or course mandates are worth investigating as secondary or long-term outcomes, but these outcomes are not the immediate or necessarily the primary purpose of high school financial education.

High school financial education has been widely studied and there have been major developments. More states are incorporating personal finance in their standards or as graduation requirements. Many programs have been developed as a means to improve the financial literacy to young people. Future research on the topic should include the long-term effects of financial education and more information about how financial education affects financial behaviors. Careful research using sophisticated data and research techniques is needed to improve research in this area.

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