
Youth, Financial Literacy, and Learning: The Role of In-School Financial Education in Building Financial Literacy

Introduction

Although we know that youth are making more and more financial decisions at younger ages and will also need financial skills and knowledge to be successful as adults, available information suggests that youth financial literacy is poor (Sherraden et al., 2011). For example, scores on the national Jump\$tart Coalition's biannual test for high school students have been consistently low since its debut in 1998, and survey questions on the 2006 test showed that students were generally apathetic towards setting and managing financial goals (McCormick, 2009; Mandell, 2009)

Understanding how youth of all ages develop financial literacy is critical to understanding how schools might help improve low levels of financial literacy. Children experience developmental strides in understanding economic and financial concepts and acquire information from their family, their peers, and the media, as well as in school. We briefly review research on this topic in order to inform a review of how in-school financial education has been evaluated and what additional research is needed to improve in-school financial education.

We note that definitions of financial literacy vary from a measure of a host of individual characteristics, preferences, and competencies related to the ability to manage one's personal finances to a more narrowly-defined competency mainly on financial knowledge (Remund, 2010; Howlett et al., 2008). We focus on financial knowledge as a key component of financial literacy, but include information about how financial knowledge interacts with other characteristics to shape financial literacy.

How youth develop financial literacy outside of school

One body of literature has focused on how children acquire an understanding of economic, and often financial, concepts with age, including concepts such as banks and saving. It has been shown that children make

great strides in economic understanding between the ages of 6 and 12, such that children's understanding is "essentially adult" around age 12 (Webley, 2005). For example, a series of small studies using games have shown that 6-year-olds may understand that it is good to save, but may view money saved as money lost. By age 9, children may understand that they can save with a bank to protect their money (Webley, 2005). By age 12, children are better able to use strategies to resist the temptation to spend, and are able to understand concepts such as interest (Webley, 2005; Otto, 2009). A similar development in understanding has been observed for concepts such as understanding money, prices, and supply and demand (Webley, 2005).

This literature finds that much of the progress children make by age 12 may be attributable to age-related cognitive development, such as acquiring the ability to understand multiple causation or arithmetic (Webley, 2005). However, direct experience and socialization (including teaching) are also important. Children's economic independence increases greatly from the time that they are very young until they reach age 12 and beyond, and cross-cultural studies have shown differences in understanding rooted in experience. Research on economics education (and some research on financial education, discussed below) demonstrates that it is possible to teach children economic or financial concepts (Webley, 2005). Children may also acquire information (and misinformation) from their peers and the media on financial topics such as advertising and spending (John, 1999; Sherraden et al., 2011). In particular, the role of the family in financial socialization is of great importance and merits additional discussion,

Very young children first learn about financial concepts through watching and modeling their parents (Otto, 2009). Webley and Nyhus (2006) note that certain personal characteristics closely related to savings, such as ability to delay gratification, are shaped early in childhood. Parents likely play a key role. Using Dutch

panel data, Webley and Nyhus (2006) found an association between parental orientations (such as future orientation) and children's economic behavior as children and adults. Research has also found better savings behavior to be associated with an "authoritative" (supportive, but structured) parenting style (Otto, 2009; Ashby et al., 2011). This tendency holds across ethnic and socioeconomic backgrounds (Ashby et al., 2011). While personal characteristics such as future orientation do not fit under financial literacy as defined strictly by financial knowledge, they do influence individuals' ability to act on financial knowledge. For example, in a simulated 401(k) take-up game, Howlett et al. (2008) found large differences between college students with varying levels of personal focus on the future, despite having been provided with the same financial information.

In addition to modeling behavior, parental teaching about money, often in conjunction with providing an allowance, affects children's financial literacy. Parents communicate with younger children and adolescents about topics such as money management, comparison shopping, and the need to save for expensive purchases (Moschis, 1985). Grinstein-Weiss et al. (2009) found a significant correlation between reported parental teaching of money management and higher future credit scores. In general, allowances have been associated with better monetary knowledge, but why some parents rather than others elect to provide an allowance is poorly understood (Ashby et al., 2011; Otto, 2009).

A particular concern is that if parents lack certain financial knowledge or skills, they cannot provide related instruction or model behaviors for their children (Sherraden, 2010). One qualitative British study found that children from lower-income families reported fewer experiences with financial services and were less likely to see their parents visit banks or to make payments other than with cash (Loumidis & Middleton, 2000). This issue extends as children grow old enough to manage money more independently. While youth generally ask for financial advice from their parents before turning to any other source, low-income youth are less likely to have parents that are able to give advice about finances (ASEC, 1999; Sherraden, 2010). JumpStart surveys with high school students have found financial literacy levels to be correlated with personal factors including socioeconomic background (Sherraden et al., 2011; Mandell, 2009).

The role of in-school financial education in building youth financial literacy

In-school financial education may be a tool to improve low levels of youth financial literacy and to reach all youth, including those who have had fewer opportunities to learn about the financial world outside of school than others. Numerous financial education curricula are used nationwide. There are family-based and out-of-school financial education programs (such as through 4-H or Girl Scouts), but most youth financial education occurs in schools (McCormick, 2009). In-school financial education makes reaching all children easier and allows for drawing on experienced teachers. In addition, a school setting allows for financial education to be integrated into other topics, such as math (Beverly & Burkhalter, 2005).

Overview of standards and content

While national consensus on standards for youth financial education has not emerged, a wide variety of national and state standards are available to guide the provision of financial education (McCormick, 2009). Personal finance is included to some extent in the education standards of 46 states, with most weight on the high school grades (Council for Economic Education, 2012). In partnership with over 150 national organizations and entities, the JumpStart Coalition for Personal Finance Literacy maintains standards for K-12 personal finance education. Standards, such as the JumpStart Coalition's standards, describe what children and adolescents should be expected to know at given grade levels. By high school graduation, students are expected to have the financial knowledge and skills to successfully manage their financial lives and to know how to draw on additional information as needed. Several themes are common to most financial education standards. With complexity adjusted according to grade level, these include knowledge of money and asset management through banking, investment, and credit, understanding taxes, understanding concepts such as the time value of money and risk-pooling in insurance, and understanding how to act on financial knowledge to plan, implement, and evaluate financial decisions (McCormick, 2009). Standards may integrate financial education into existing math, social studies, consumer sciences, and economics lessons.

Scope of programs

Access and exposure to financial education varies from state to state and age group to age group. The number of states with mandatory personal finance education standards is growing (36 in 2011, up from 28 in 2007), and financial education is more likely to be required in

high school than in younger grades (Council for Economic Education, 2012). In 1999, 62 percent of 16 to 22 year olds in a survey reported having been offered a personal finance course, and a third of them reported having taken it --- 21 percent of all students (ASEC, 1999). Outside of specific courses, some financial education is often bundled with high school economics courses. Children may also participate in financial education lessons during earlier grades, where they may be either mandatory or elective for teachers to provide (Sherraden et al., 2011). Indeed, financial education is often delivered as a series of lessons rather than as an entire course. There are several commonly used or encountered financial education curricula, such as the Council for Economic Education's Financial Fitness for Life (FFFL) curriculum, or the entrepreneurship-focused Junior Achievement program, which matches outside volunteers with classrooms and reaches several million K-12 students per year (Sherraden et al., 2011; Jacob et al., 2000). Teachers may, however, construct lessons from a variety of sources in order to meet relevant standards or to match other subject content in their curriculum.

Evaluating in-school financial education

Here we summarize what is known about the effectiveness of in-school financial education before discussing areas for future research. It would be difficult to draw conclusions from the few studies in this area or even to compare results across studies. Future research could do more to identify the key components of successful curricula identify more useful outcomes for study.

Younger children

Studies of financial education programs at the middle and elementary school level have generally been positive, but only a few, generally small, studies have been conducted (Sherraden et al., 2011). Most have serious limitations. One study with a single third-grade class divided into treatment and control groups found gains on a pre- and post-test associated with having been read a storybook containing financial literacy concepts (Grody et al., 2009). A study with 58 third graders found that students who received 20 hours of teaching about banks scored higher in interviews than a control group, including 4 months after the curriculum concluded (Berti & Monaci, 1998). In another very small study, elementary school students enrolled in a matched savings program and who received a financial education curriculum scored significantly higher on a financial literacy test than a control group (Sherraden et al., 2011; the study used well-known Financial Fitness

for Life (FFFL) materials). A pre- and post-test study with over 300 second and third-graders using the Money Savvy Kids curriculum also found significant positive results, but there was no control group and many answers keys had to be discarded. Some of the participants may simply have been too young to fill them out correctly (Schug & Hagedorn, 2005). It is also unclear how teachers were recruited for this study.

At the middle school level, Harter and Harter (2009) tested the FFFL curriculum for elementary and middle school grades and found significant improvements compared to control groups. Teachers were recruited, rather than selected, for participation. Campbell-Smith et al. (2008), using pre- and post-tests for the Financial Fitness for Life curriculum in Mississippi, found significant test improvements among a group of 160 students. The organization Junior Achievement's Economics for Success program was evaluated for about 500 middle school students nationally, with results indicating gains on a pre- and post-test (Diem et al., n.d.). Neither the Campbell-Smith et al. (2008) nor the Diem et al. (n.d.) evaluations employed control groups, and it is unclear how classrooms and teachers were selected for participation.

Mixed results regarding the effectiveness of financial education for high school students have led some to propose beginning financial education in the elementary grades (McCormick, 2009). Evidence that this could improve financial education includes a study of an economics curriculum which found similar gains on an economics test across several elementary and middle school grades. The authors concluded that the older students could have achieved more cumulative learning if they had begun the curriculum during younger grades (Sosin et al., 1997). Suiter and Meszaros (2005) also point out that younger children could benefit from financial education as they increasingly make independent financial decisions and are subject to encouragement to spend from peers and the media. Nevertheless, it would be impossible to conclude that financial education in the elementary or middle school grades is effective based on the limited research described above.

High school level

Financial education has been more extensively evaluated among high school students than younger students. Here, evidence supporting financial education as a means to build financial literacy is mixed, and studies are often limited by small sample sizes, unclear selection of participants, or self-reported data. For

example, the 21 percent of respondents in the 1999 ASEC survey who self-reported having taken a personal finance class evaluated their own knowledge and skills higher than other students, but did not report different financial behaviors (ASEC, 1999). A small study of high school graduates five years after graduation found no significant positive impacts associated with having taken a financial education course (Mandell & Klein, 2009). Walstad et al. (2010) administered a curriculum for high school students and found gains as compared to a control group, regardless of certain student characteristics, but it is unclear how teachers and classes were selected. Harter and Harter (2009) tested the FFFL curriculum with tenth graders and found significant gains in scores as compared to a control group, but teachers were recruited rather than selected for participation. Finally, an evaluation of the National Endowment for Financial Education's high school financial education curriculum conducted by Danes et al. (1999) found that students tested significantly higher on financial knowledge questions and reported improved financial behaviors, including 3 months post-curriculum, but the study lacked a control group.

Another line of research into high school financial education has explored the possible effects of high school financial education on financial behaviors years later, generally finding no or small effects (Bernheim et al., 2001; Cole and Shastry, 2008; Peng et al., 2007; Grimes et al., 2010). For example, Bernheim et al. (2001) found higher adult savings associated with having gone to high school in a state with mandated financial education using a Merrill Lynch telephone survey data set. However, Cole and Shastry (2008), using Census data, found no connection between having gone to high school in a state with mandated financial education and whether a person reported having any investment income on the Census.

Evaluating in-school financial education: Summary

Unfortunately, there is too little evidence thus far to make conclusions about the effectiveness of financial education programs for youth (Sherraden et al., 2011; McCormick, 2009). The evaluations described here suffer from weaknesses including small sample sizes, lack of a control group, unclear selection of teachers or classes into the study, and short time periods of study. Because of the variety of financial education interventions tested and the variety of different evaluations used, it is also difficult to compare results across the evaluations. Moreover, the type of knowledge

and attitude outcome measures that were commonly used may not shed much light on actual improvements in present or future financial behavior, which is presumably a main desired outcome of financial education. Finally, most studies fail to specify the mechanisms by which a financial education curriculum is expected to improve knowledge or behavior (several exceptions include Danes et al., 1999, which argues that schools should play a role in financial socialization; Campbell-Smith et al., 2011, which speculates that financial education could improve future orientation by revealing tools and opportunities; and Berti and Monaci, 1998, which argues that elementary-age children's existing beliefs should be examined and challenged with new information).

Areas for additional research

Future research could address some of the weaknesses observed in the evaluations observed here. Studies should employ larger sample sizes, include control groups, and avoid selection problems. Given that it could be infeasible to conduct very long term studies tracking students and their future behavior, research could explore what outcomes measurable in the shorter term would better capture present and future (adult) improvements in financial skills or behavior associated with youth financial education (Sherraden et al., 2011). Research could explore and be more explicit about the mechanisms by which financial education is expected to improve financial literacy.

Research should seek to identify the key components of successful curricula (including, given limited teacher time, the minimum length of a successful curriculum) and which teaching tools might improve outcomes. For example, one such tool could be the provision of access to financial services, such as bank accounts in school. Such programs are popular, but understudied (Sherraden et al., 2011). Researchers should identify issues that could limit some students' financial learning even given an ideal curriculum, such as a lack of problem-solving or arithmetic skills (Lopez-Fernandini & Murrell, 2008; Berti & Manuci, 1998).

Finally, research is needed into how to improve personal factors that influence financial learning and literacy, such as student motivation and focus on future outcomes (Mandell & Klein, 2009; McCormick, 2009, citing Meier & Sprenger, 2008). For example, we know that the weight one places on future outcomes is strongly associated with improved savings behavior, but

very little is known about exactly how children and adolescents acquire a given level of future orientation (Webley & Nyhus, 2006).

The future of in-school financial education

Despite a need for additional research in this area, some consensus exists on steps that should be taken to improve in-school financial education at all grade levels. These steps include:

Provide teachers with support and training

Teacher knowledge and attitudes are critical to delivering effective financial education (Lucey & Giannangelo, 2006). Unfortunately, studies show that teachers from almost all disciplines may struggle with important financial education content and could benefit from additional training (McCormick, 2009). For example, Sosin et al. (1997) found that elementary and middle school teachers taking a graduate level course on teaching economics reported significant gains in their enjoyment of and confidence in teaching an economics curriculum. Teacher time is very limited and financial education should be designed with this in mind (such as through integration with other classroom subjects) (McCormick, 2009).

Consider integrating financial education with hands-on practice

In-school banking programs such as Save for America, Illinois Bank at School, and independent bank or credit union partnerships with schools offer children the chance to practice managing money with their own accounts (Johnson & Sherraden, 2007). Though understudied, especially among younger children, such banking (or financial inclusion) programs may provide an effective form of experiential education that could complement standard financial education and help provide children of all backgrounds experience with financial services (Sherraden et al., 2011; Johnson & Sherraden, 2007; Rand & Slay, 2008).

Demonstrate the importance of financial education by improving/introducing standards and improving program evaluation

To help ensure that financial education is more widely and effectively taught, state boards of education should understand their state's existing financial literacy standards and introduce standards where they are lacking (McCormick, 2009). The development of common assessment tools across states and investment in improved program evaluation would also demonstrate

the importance of financial education and help improve financial education based on rigorous evaluations (McCormick, 2009).

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