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# Recommendations for Improving Youth Financial Literacy Education

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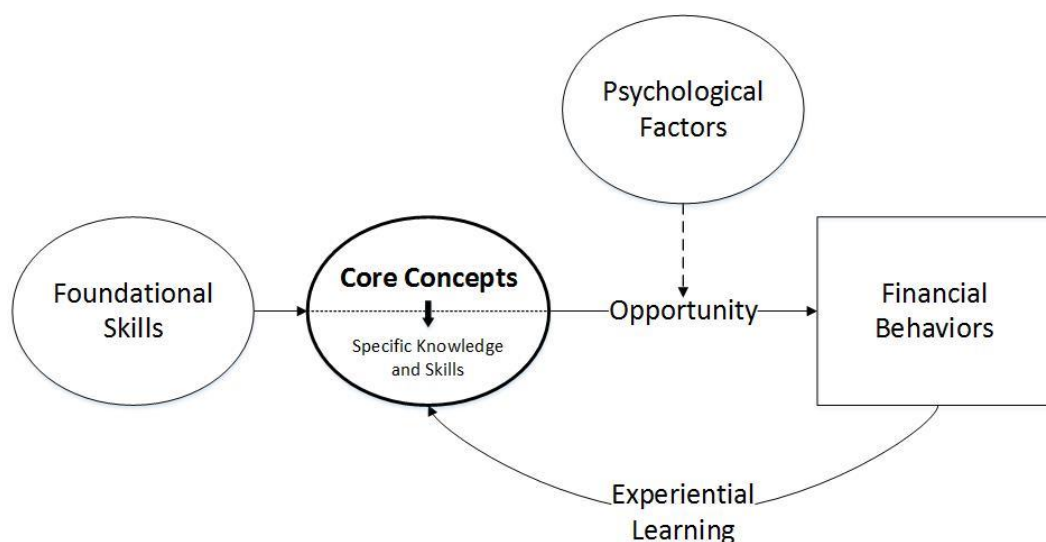
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## Introduction

We have conducted a [review](#) of the most recent, high-quality research on financial literacy education efforts and observed three clear patterns. First, there are overall low levels of financial literacy among American youth, with large numbers of students unprepared to navigate the many financial decisions that they will encounter during their lifetimes; this has serious, deleterious consequences for individuals, and implications for the U.S. economy. Second, there is significant room for improvement, with many students currently underserved by financial education courses and programs. And third, there is a lot that we do not know about how to best facilitate the acquisition of financial literacy.

Fortunately, our review of existing literature reveals much about what can be done to improve the current situation. Our recommendations fall into three categories. The first is conceptual: we propose that financial literacy be treated as a complex, dynamic construct. By this we mean that it is composed of multiple elements that develop and interact with one another over time (Figure 1). We believe that this perspective provides a useful framework for considering the goals and effects of financial education. Second, we make recommendations based on available evidence about promising avenues for designing and deploying effective financial education initiatives. And finally, we conclude with suggestions for advancing the evaluation of financial education; if adopted, we believe that these would allow for greater insight into how to effectively and efficiently build financial literacy among American youth.

**Figure 1: Conceptual diagram of financial literacy as a complex, dynamic construct**



## Early Financial Education

In K-12 public schools, students do not typically receive financial education until the end of 11th or 12th grade, and as we discuss in our [review paper](#), more than a dozen states with financial literacy standards for high school have no such standards for earlier grades. Yet there are a number of arguments for starting financial education before the end of high school—and even as early as elementary school. By their teenage years, many young people have some income of their own and make decisions about how to use their money. A 2017 survey by TD Ameritrade finds that half of adolescents hold jobs for some or all of the year, and on average earn around \$450 per month.<sup>1</sup> Around a third have credit cards, and collectively, teenagers spend billions of dollars each year.<sup>2</sup> Early experiences with financial decision-making—as well as interactions with family and friends—can shape lifelong financial preferences, attitudes, and behaviors. Early, formal financial education can be “preventative,” acting as a barrier against and corrective for detrimental misconceptions and habits before an individual is faced with substantive financial decisions.

Additionally, even if specific financial knowledge and skills are less relevant to young children in elementary school, they may still benefit from age-appropriate education that promotes the acquisition of foundational skills that affect financial behaviors and well-being (Figure 1). For instance, among adults, self-efficacy—confidence in one’s own abilities—has been tied to a range of financial outcomes, including the quantity of individual savings and investment holdings.<sup>3</sup> Numeracy—or mathematical competency—is positively associated with financial knowledge<sup>4</sup> and, more generally, with greater deliberation in judgements and careful decision-making.<sup>5</sup> These findings are robust to controls for other predictors of financial literacy, like income and education. Drever et al. (2015) argue that financial literacy education for children five years old and younger should also focus on “executive function,” which encompasses the abilities to consciously control impulses (i.e., self-control), adjust behavior dynamically when faced with new challenges, and hold multiple pieces of information in one’s head simultaneously.<sup>6</sup> Executive function

shapes the ability to set financial goals, budget, spend money wisely, and weigh the risks and benefits of potential investments. One study that followed children from birth through age 32 found that those who had greater self-control between ages three and 11 were, in adulthood, more likely to own a home and have investments and retirement funds. Adults who had poor self-control as children were more likely to report having money management and credit problems. These findings were robust to controls for socioeconomic status and IQ, and were even observed among siblings who grew up in the same home environment.<sup>7</sup> Because executive function develops enormously during the first decade of life, educational approaches that seek to develop it at an early age may benefit financial literacy later in life. For example, early education could reinforce how “waiting” (i.e., saving and investing rather than immediate spending) can result in greater rewards. Scheinholtz et al. (2012) add that early financial education should emphasize the concept of time and its relation to decision-making as a foundational skill.<sup>8</sup> This is essential for long-term planning and accomplishing financial goals.

Curricula for elementary school children should also serve as an age-appropriate introduction to core concepts about money (e.g., the use of bills and coins, the purpose of money) and markets (e.g., how goods and services are exchanged), and how institutions facilitate the interaction between individuals and the exchange of goods and services.<sup>9</sup> As shown in our conceptual figure of financial literacy (Figure 1), familiarity with core concepts influences the ability to attain specific knowledge and skills and, ultimately, to successfully make sound financial decisions. Research on a number of financial education programs for children in elementary school—and even for those in preschool—support the idea that young children are capable of grasping certain basic, core financial concepts.<sup>10</sup> Less common in these programs is a deliberate, curricular emphasis on the development of foundational skills like self-efficacy, executive function, and long-term strategizing. We believe that both these elements are important components of financial literacy and should be incorporated into education programs.

## Participatory Learning

Many experts agree that financial education that includes opportunities for student participation, discovery, and exploration—in other words, “participatory learning”—can have a strong, positive impact on financial literacy.<sup>11</sup> This matches with our understanding of financial literacy as a multifaceted, dynamic construct in which knowledge and conceptual understanding are built up through repeated decision-making and action. We believe that participatory learning can have a powerful impact on the development of financial literacy in two ways. The first is by providing an important context for knowledge and skills, which in turn can affect the psychological factors we identify as a part of financial literacy acquisition. Specifically, research suggests that participatory learning can positively influence financial literacy by increasing students’ aspirations (e.g., educational and career goals) and motivation to engage in sound financial decision-making (e.g., saving for retirement).<sup>12</sup> Second, participatory learning provides opportunities to engage in financial decision-making, allowing students to learn through trial and error in controlled settings (the “experiential learning” pathway in Figure 1). Having this kind of exposure may be particularly vital for students from low-income and underbanked families who are less likely to have savings and investment accounts, access to credit, and insurance.<sup>13</sup> For these students, programs that provide active engagement with financial decision-making can compensate for a lack of opportunities to do so elsewhere, thus helping to address disparities in financial literacy that exacerbate economic disadvantages.

One approach to participatory learning is through school banking programs. Such programs—which involve partnerships between educators, financial institutions, and, in some cases, state governments—help students open savings accounts and learn about how banks and consumers interact. As part of the *Save for America* (SFA) program, established in 1982, schools partner with a local bank or credit union that opens savings accounts for interested students and bears the costs of the program. On a weekly “deposit day” students make contributions to their account in amounts as small as five cents, which volunteers (often PTA members) bring to the bank. Students receive account statements regularly and earn interest on their balance.<sup>14</sup> Hundreds of banks and millions of students have participated in the SFA program since its inception. On a state level, both Illinois and Missouri introduced school banking programs in the 1990s and early 2000s—the *Bank at School* and *Dollar\$ & \$ense* Program, respectively—that were overseen by state treasurers and were functionally similar to the SFA program. Participating financial institutions in these two programs were required or encouraged to visit schools and run student field trips to banks, and teacher-taught curricula accompanied the banking aspect of the program.<sup>15</sup> A similar, modern bank-at-school platform, *School Savings*, utilizes a cloud-based electronic system that tries to make monitoring and tracking deposits, balances, and savings easier for parents and students. To date, *School Savings* has been used in 7,000 schools by over 3 million students.<sup>16</sup>

Sherraden et al. (2011) present evidence from a small-scale, quasi-experimental, school-based savings program that highlights some potential benefits and challenges of school banking programs.<sup>17</sup> The *I Can Save* (ICS) program provided kindergartener and first graders with a savings account and an initial \$500 seed deposit. All family contributions were matched one-to-one up to a total of \$1,500, and final account balances were transferred to 529 college savings accounts. In addition to the matched savings account and in-class curricula, ICS included a financial literacy afterschool club for students and workshops for parents, both of which were incentivized with the potential to earn additional deposits. While students who participated in the ICS program scored higher on a financial literacy test than students who did not participate, the authors do note some challenges: it took some time to define the relative roles of each team on the project (school, nonprofit, research staff) and funding issues for the nonprofit led to challenges in program oversight.<sup>18</sup> This suggests success requires careful coordination between parties and assurance of long-term funding streams.

However, the use of real money to teach budgeting and saving does not require bank involvement per se, either. For younger children especially, a simple piggy bank-type program that allows students to allocate allowance according to their financial goals has been shown to be effective in improving knowledge and attitudes about personal finance when paired with a formal, in-class curriculum.<sup>19</sup> Although the school banking programs described above might successfully improve students’ financial literacy through hands-on practice, in order to be successful they require a substantial investment of resources and time, as well as coordination between schools, parents, financial institutions and other parties. For these reasons, some schools and program administrators may be hesitant to engage in such intensive financial education initiatives. Other approaches to participatory learning may be more easily implemented. These include program field trips outside the classroom,<sup>20</sup> games and activities with simulated money or financial profiles,<sup>21</sup> and tasks in which students research future careers to determine implications for financial decision-making and goals.<sup>22</sup> The goal of these methods is to make personal finance education fun and interesting for young people and relatable to their lives and future choices.

For example, the *Keys to Success* curriculum provides students opportunities to engage in participatory learning without having to leave the classroom. Students choose a career early in the course, reflecting on educational requirements, entry-level wages, and their personal interests, strengths, and weaknesses. Throughout the program, students learn about key financial literacy topics such as budgeting, saving, and investing through the lens of their career choice, considering both the opportunities and constraints associated with their choice.<sup>23</sup> In the *My Classroom Economy* (MCE) program, students learn to spend, budget, and save by participating in a stylized micro-economy with “classroom currency.” Students earn bonuses and fines for good and bad classroom behavior, rent or purchase their desks, and spend classroom money in auctions. At higher grade levels, teachers can incorporate concepts like bills, taxes, and insurance. Batty et al. (2016) analyze the effects of a ten-week MCE program for 4th and 5th grade students.<sup>24</sup> Compared to students in a randomly assigned control group, pre-post surveys showed that MCE participants reported talking more about financial management outside of school, had larger gains in financial knowledge, and were more likely to budget. Although many of the reported significant effects were small, this program did not involve any formal instruction on financial literacy. While the authors suggest this is an advantage because it does not require teachers to have specific knowledge or training, the MCE program paired with a financial literacy curriculum taught by trained teachers could be even more effective.

In most of the programs described above, and in many others that have reported positive results, participatory and experiential components supplement—rather than replace—traditional teacher-led instruction. These two types of learning are synergistic: participatory learning both enhances students’ interest in teacher-led instruction and helps them understand how what they learn translates to real-world behavior, while the traditional, lecture-style instruction provides students with knowledge and skills that may be difficult to acquire through participatory learning alone.

## Parental Involvement

Parents play an important role in how children develop financial norms, attitudes, knowledge, and behaviors, perhaps even more so than other factors such as youth work experience or financial education itself.<sup>25</sup> Children frequently identify their parents as both their primary and most preferred source of financial information,<sup>26</sup> and parents both implicitly and explicitly teach their kids about finances, often providing them with their first experiences and interactions with money. By participating in adult financial behaviors—like accompanying a parent to the bank to deposit a check—children receive early context and familiarity with money and financial institutions that can inform their financial literacy later on. Early-age experiences such as receiving an allowance or having a savings account as a child, for example, have been tied to lower rates of financial anxiety and greater individual financial responsibility in young adulthood.<sup>27</sup> Therefore, it is not surprising that there is a strong association between parents’ financial behaviors and children’s financial literacy. Data from the National Longitudinal Survey of Youth (NLSY) show that young people whose parents did not have a college degree, stock holdings, or retirement savings were 16 percent less likely to correctly answer questions about risk diversification.<sup>28</sup> Other work has found a relationship between parents’ financial behaviors during a child’s adolescence and facility with debt management nearly a decade later in early adulthood.<sup>29</sup>



Financial education programs should recognize the importance that parents have in their children's financial literacy development. Parents can be powerful allies to programs and teachers, providing real-world context and reinforcing what children learn in the classroom. The positive effects of financial education can be enhanced by making parents aware of the critical role they play in their child's financial literacy and by soliciting their support and participation. One simple way to include parents is through take-home tools and resources, like parent guides and participatory child-parent activities, which provide families the opportunity to bolster the knowledge and skills their children learn through the program. The *Financial Fitness for Life* program<sup>30</sup> and the *Parents and Teachers as Wealth Coaches Project*,<sup>31</sup> for instance, include parent guides with discussion prompts and suggestions for conversations about personal finance, family activities that parallel the program curriculum, and suggested books and web links.

A more intensive way to involve parents in the financial education of their children is through parent workshops or seminars that parallel the instruction children receive. This approach may be particularly effective for children from socioeconomically disadvantaged families, in which parents tend to have lower levels of financial literacy. They may also raise parents' confidence and interest in financial literacy, and increase the likelihood that they engage with their children on financial topics and behaviors. For example, Bruhn et al. (2013) report on a 17-month, randomized control financial education program in Brazil that involved around 20,000 high school students.<sup>32</sup> The curriculum, which was incorporated into high school courses like mathematics and history, included take-home exercises that were designed to be completed with parents, such as making household budgets and researching interest rates. Additionally, parents were invited to a one-time financial education workshop. Post-program parent surveys revealed that students in the treatment group showed a modest increase in their propensity to discuss finances at home with their parents and participate in household budgeting. Furthermore, the authors observed a "trickle-up" effect: parental financial knowledge and saving behavior actually rose by a small amount, even though the program—with the exception of the workshop—targeted children. An obvious barrier to incorporating workshops is that financially vulnerable parents—who serve to benefit the most—historically have lower rates of participation than parents with higher income and educational attainment<sup>33</sup>; policymakers and program administrators should therefore consider ways of counteracting this.

Another promising way to promote parental involvement in the long-term financial literacy of their children is through the use of child development accounts (CDAs), savings accounts established at birth or the beginning of grade school that can be used toward college or retirement. CDAs have traditionally encouraged saving by providing an initial seed deposit, matching parental/participant contributions, and requiring no minimum balance. Evidence suggests that CDAs promote accumulation of assets and improve individual saving rates, and that the incentive structure is a key driver of these positive financial behaviors.<sup>34</sup> In addition to pecuniary benefits, CDA programs have the potential to change parental and child attitudes toward savings. Elliot (2013) argues that they create a "college-saver identity," whereby young people internalize saving strategies and goal orientation, which in turn results in higher rates of college enrollment.<sup>35</sup> A number of proposals call for scaling up CDA programs with auto-enrollment and universal coverage on a local, state, or national level—which may particularly benefit low-income and minority families, who typically have lower rates of savings and knowledge about savings tools.<sup>36</sup> While a national CDA initiative introduced into the House of Representatives in 2010—which called for a national Treasury fund to automatically deposit \$500 into a savings account for each child at birth—never garnered sufficient support,<sup>37</sup> smaller scale programs have taken hold at municipal and state levels (e.g.,

the Alford Scholarship Foundation in Maine and the “Kindergarten to College” program in San Francisco).<sup>38</sup>

Similar, local CDA initiatives may have a positive influence on financial literacy by getting parents involved in their children’s financial education. For example, the *I Can Save* (ICS) child savings program described earlier encouraged parents to take an active interest in their children’s financial experience by matching parental contributions and depositing additional bonus money each time parents attended a workshop.<sup>39</sup> This design was popular among parents, with one remarking that the program “didn’t just bring [my daughter] in, it brought us as a family. It brought us as a team and taught us all things that we can use.”<sup>40</sup>

## Teacher Training

Regardless of how well youth financial education programs are designed, success is heavily dependent on the quality of instruction that children actually receive. Unfortunately, teachers often feel unprepared to competently deliver financial literacy material, despite generally believing in its value. Way and Holden (2009) report findings from a multi-state survey of K-12 teachers—about 30 percent of whom had taught financial literacy concepts—that offer some interesting insights.<sup>41</sup> Although a large majority believed financial education should be a high school requirement (89 percent), 88 percent said they were unfamiliar with the Jump\$tart National Standards or felt unqualified to teach them, and few (30 percent) had ever been taught financial literacy concepts through either formal or informal training. Moreover, teachers reported feeling particularly unprepared to teach more technical topics like risk management and insurance. Similarly, Sasser and Grimes (2010) surveyed Oklahoma high school teachers who participated in a financial literacy workshop and found that although 37 percent of their sample had taught financial literacy in the past, only 14 percent had ever received any professional development or training for it.<sup>42</sup>

The way many states integrate financial education into other subject courses poses a critical challenge to teacher preparedness. In the absence of formal training, there is little guarantee that a history or math teacher will know much about portfolio diversification, budgeting strategies, or consumer protection laws. Yet few states require teachers to obtain a certification that demonstrates knowledge and competency in financial literacy prior to teaching it. This can be particularly problematic at the primary school level: as we note above, foundational skills are especially vital for later financial literacy attainment, but teachers rarely receive training in how to impart these skills through age-appropriate instruction and activities. Lack of formal training can be exacerbated by the fact that many teachers face their own personal financial challenges, which can negatively affect their confidence and comfort teaching the subject.<sup>43</sup>

Research suggests that including a teacher training component in financial education programs promotes greater teacher confidence, knowledge, and preparedness, which in turn can translate to positive student outcomes. One study found that teacher participation in Council for Economic Education (CEE) economics training workshops that covered state financial literacy standards, curriculum, and available resources, had a strong impact on their financial knowledge, even though most teachers only attended a one-day workshop.<sup>44</sup> Another study showed that participation in a training course developed by Champlain College’s Center for Financial Literacy and the Jump\$tart Teacher Training Alliance resulted

in higher levels of reported financial knowledge and teaching confidence; the students these teachers subsequently taught showed gains in financial literacy as well.<sup>45</sup> Students in Georgia whose teachers participated in a CEE economics education two-day workshop scored higher on the state's end-of-year assessment (which includes personal finance content) than students whose teachers did not receive training.<sup>46</sup> Taken together, this literature suggests that even relatively short workshops and training sessions can improve student outcomes. Furthermore, it shows that effective teacher training is much more than a review of financial literacy content; it often emphasizes an understanding of program structure and pedagogy,<sup>47</sup> state financial literacy standards, and where teachers can find resources and tools to supplement their instruction.<sup>48</sup>

[Our review](#) of public, K-12 financial education efforts indicates a lack of state-level emphasis on teacher training. Most state departments of education do not include financial literacy teacher resources on their websites or offer state-sponsored professional development opportunities, although a few, like Nevada and Utah, have incentivized districts to provide training by offering grants to help cover the costs. Organizations and coalitions like the CEE, Jump\$tart, and the National Endowment for Financial Education often take on a great deal of this responsibility—collectively training tens of thousands of teachers each year through a combination of webinars, national conferences, and local in-person workshops and brief courses. States that are serious about improving K-12 financial literacy owe it to their students and teachers to improve professional development opportunities and resources for teachers. Legislation that includes more rigorous course requirements should include funding for professional development and/or teacher certification requirements that help ensure financial literacy educators are adequately prepared. Similarly, programs developed by nonprofit entities should also consider how best to incorporate appropriate teacher preparation, which can not only improve instructional quality, but also encourage uptake and accelerate implementation.

## Demographic Considerations

### Race and socioeconomic status

Research finds that Blacks and Hispanics—particularly those from low-income families—have lower levels of financial literacy, less interaction with financial institutions, and disproportionately face financial challenges relative to their peers.<sup>49</sup> During the immediate aftermath of the Great Recession in 2010, for example, 50 and 40 percent of Blacks and Hispanics, respectively, had year-end outstanding loans, and were significantly more likely than Whites to take hardship withdrawals.<sup>50</sup> Using data from the *Survey of Consumer Finances*, one study finds that these groups are about 20 percent less likely than Whites to use a formal source of saving or investment advice, and 10 percent less likely to have access to formal banking institutions.<sup>51</sup> Negative past financial experiences, poor credit history, and an inability to meet minimum balance requirements for account opening all contribute to low-income minority communities remaining underbanked. Geographically, traditional banks are also sparsely located in poor, minority neighborhoods. Payday lenders are often left to fill the void, offering short-term, high interest loans that can trigger enduring cycles of debt.<sup>52</sup>

An analysis of the Jump\$tart survey of high school students shows that Black and Hispanic teenagers consistently score lower than other teenagers on measures of financial literacy.<sup>53</sup> Early familial experiences with poor financial practices and limited access to institutions and resources may contribute to these patterns. Because many of these teenagers may not learn about personal finance through their communities or home environments, financial education programs can be crucial for developing financial literacy. And because minority students often have less exposure than their White counterparts to financial education in college or through employer-based programs later in life,<sup>54</sup> programs delivered before the end of high school are especially important.

Youth financial education leaders should be cognizant of how disparities in early exposure to positive financial behaviors through home environments may fall along racial or cultural lines and shape what students know coming in. Program design should reflect these considerations. For instance, some low-income minority students may come from families that have never opened a checking or savings account, and would benefit from education that includes basic information on the purpose of financial institutions, including how and why individuals engage with them in the first place.<sup>55</sup> Public school teachers who instruct on financial literacy—the majority of whom reported being not well qualified to assess such learner needs in one survey—should be better trained to address these needs.<sup>56</sup> Financial education that does not consider the varied socioeconomic and cultural backgrounds of students may fail to capture the motivation and interest of a demographic of learners who might benefit most. Finally, programs should increasingly be deployed in schools that serve low-income and minority students, where they are arguably most needed.<sup>57</sup>

## Gender gaps in financial literacy

Financial literacy is especially important for girls and women. Compared to men, women on average have longer lives (and retirements), are paid less for the same work, and face greater pressure to balance professional careers with the responsibilities of childbearing and child care. Yet studies consistently find that women have lower financial literacy levels than men, even after accounting for marital status, education, and income. Women score lower on tests of financial knowledge, and are less likely than men to seek out a financial advisor, save for retirement, or invest in the stock market.<sup>58</sup> This gender gap in financial literacy is observed throughout women's lives, and is observed for young women as early as high school.<sup>59</sup> Not only do they tend to have low financial knowledge, but some studies find that young women are also less likely than men to rate personal finance as interesting or important, which may negatively impact their motivation to learn about it in the classroom.<sup>60</sup> Additionally, women are less confident in their individual financial knowledge, and are more likely to report not knowing the answers on a financial literacy test than men. For example, on a widely-used triad of multiple choice questions created by Annamaria Lusardi and Olivia Mitchell that covers three core financial concepts—compound interest, inflation, and risk diversification—50 percent of American women respond “do not know” to at least once, compared to just 34 percent of men.<sup>61</sup>

It is not completely understood why girls and young women, despite higher labor force participation rates and educational attainment, have lower financial literacy. It is likely that these gender gaps are in part the result of cultural messaging as well as differences in how family, friends, and teachers discuss financial subjects with boys and girls. Because evidence finds girls are more aware of what financial information

they do not know, they may be particularly receptive to financial education. Indeed, a number of studies found that girls tended to experience larger improvements in financial literacy through education programs.<sup>62</sup>

How then, might education be used to raise the financial literacy of girls? For one, programs and schools may increase girls' motivation, interest, and confidence in financial literacy by utilizing women as leaders, instructors, and role models. For example, currently around 77 percent of public school teachers in the United States are women, and a good portion of the financial literacy instruction happening at the K-12 level is thus led by women. Administrators and program designers can leverage this fact through curricula that emphasize the role of properly-trained female teachers as exemplars of strong financial literacy for girls. Additionally, programs may specifically target girls and young women, although the number of these programs in the United States remains somewhat limited. For example, the nonprofit Jewish Women International operates program called *Life\$avings for Teens*, which includes workshops and resources for teens and a mother-daughter seminar component.<sup>63</sup> Another, Women's Campaign International, runs the *Girls Advocacy and Leadership Series (GALS)* in Philadelphia, a program that incorporates workshops and a weekly speaker series designed to equip teenage girls with financial literacy skills and build confidence and professional success.<sup>64</sup> And on a public policy level, the U.S. Department of Labor's Women Bureau offers *Wi\$eUp*, a free, eight-part online program designed for millennial and generation X women. Greater proliferation of such programs may help bridge some of the gender gap in financial literacy that exists among young people.<sup>65</sup>

## Improving Program Evaluation

Broad, general questions like “Does financial education work?” are overly simplistic and inevitably of limited use to the field. As highlighted in our [review paper](#) and here, there is massive heterogeneity in implementation and target populations, and what works in some cases or for some groups may be ineffective in other contexts. The better questions, which will help us understand how to more effectively increase financial literacy among young students, involve teasing out why programs have observed effects (i.e., what aspects of programs work well, and for whom?). Rigorous evaluation can help answer these questions, and thus provide guidance on program development and implementation. Unfortunately, good evaluation is lacking. According to a recent systematic review of more than 200 financial education programs, only around 10 percent of studies presented results that included an evaluation component.<sup>66</sup> Many state education departments also do little to evaluate the effects of their financial literacy policies. The Council for Economic Education (CEE) reports that of the 37 states they find require school districts to implement financial literacy standards, just seven require standardized testing (CEE, 2018).<sup>67</sup> When evaluation does occur, it is often poorly administered and fraught with issues.

Lyons et al. (2006) identify three main obstacles to evaluating financial literacy programs based on interviews with focus groups of financial educators and stakeholders.<sup>68</sup> First, program leaders are often unfamiliar with how best to conduct an evaluation, and lack expertise and capacity. Nonprofit organizations and public schools, for instance, may not have staff trained in the evaluation process or the financial resources and time required for proper evaluation. Second, evaluation is frequently considered only after the education program has started and not treated as an integral component of the design and implementation process. This can lead to critical data not being collected, weak evaluation design, and

threatens to bias results because program leaders may retrospectively single out outcomes that point to program success. Third, they note that a lack of standardized protocol or approach to evaluation is an obstacle. A dearth of well-validated tools to measure knowledge and attitudes—for young children in particular—is a challenge to evaluating and comparing programs.<sup>69</sup> Additionally, we contend that the willingness and ability of participants to engage in the evaluation process may also hamper evaluation. Students sometimes have limited incentive to be invested in the process, particularly if it requires divulging personal financial information such as how much money they make and save, and parents may be unwilling to provide permission for long-term follow-up.

How can program administrators work toward better and more meaningful evaluation? Perhaps most importantly, a common, high-quality evaluation framework would provide a clear way to assess and compare programs. We propose using Jacobs' (1988) framework of program evaluation as a basis for a standardized protocol.<sup>70</sup> This framework, which others have also identified as applicable to a financial education context,<sup>71</sup> consists of five serial evaluation tiers: 1) pre-implementation; 2) accountability; 3) program clarification; 4) progress-toward-objectives; and 5) program impact. Although these tiers are sequential, they are intrinsically linked, and programs can return to each one as necessary. What follows is an explanation of each tier, and how they apply to a financial education context.

In the first phase, pre-implementation (also referred to as “needs assessment”) program administrators identify the gap between the financial literacy of the target population and the desired goal, highlighting deficiencies in participant financial knowledge, skills, or behaviors. Included in this is the establishment of clear program goals and an explicit focus on specific aspects of financial literacy. Studies often broadly refer to “financial literacy” without being clear in their definition, or include no definition at all.<sup>72</sup> Huston (2010), for instance, analyzes over 50 financial literacy studies and finds that 72% of them include no definition of financial literacy.<sup>73</sup> Establishing an explicit definition early on will help ensure that metrics used to measure financial literacy at later evaluation tiers will be consistent with program goals. In the second phase, accountability, administrators document information on program scope and reach, including costs, type of education provided, and the number of participants served. This phase helps create a constituency among stakeholders and justify program expenditures. Third, program clarification involves formative evaluation—assessing the program while it is ongoing—to ensure that goals are being met and education is proceeding as intended. This tier emphasizes the importance of program staff collectively scrutinizing their own responsibilities and tasks to ensure they are meeting program objectives, as well as documenting who is responsible for what (i.e., process data).

The final two tiers in the framework are somewhat distinct from the first three in that the focus is on measurement of program effects. In the fourth, progress-toward-objectives, individuals are evaluated at the conclusion of the program to determine its overall effect on financial literacy. A pretest-posttest methodology, for example, can demonstrate how the financial literacy of participants changed from before the intervention to its completion. When survey tools are used for this phase, reliability—the test's degree of consistency—should be measured and reported. Jacobs (1988) emphasizes that evaluation efforts at the fourth tier should emphasize differential effects: What kinds of students particularly benefited from the program, and what aspects of the program were most beneficial? For example, how did financial knowledge scores differ by child race, family income, gender, or initial attitudes toward financial literacy? Fifth, the program impact tier, involves comparing the “treated” population of students who received the financial education to an “untreated” control group. Experimental design in financial education evaluation is not commonplace and can be logistically difficult given funding constraints or resistance

from providers, but should be used whenever possible.<sup>74</sup> Quasi-experimental analysis, in which the group that receives the intervention is compared to a group of students who do not, can be applied when randomized experimentation is not feasible, provided that this analysis follows established statistical best practices.

When measuring programs effects, we wish to stress three points. First, operational definitions of financial literacy used to measure program success should tie directly to the goals established in the pre-implementation tier and should be clearly articulated. Do outcomes center on behavior, knowledge, attitudes, or some combination of these? While one study may measure participants' performance on a quiz of financial concepts like compound interest or portfolio diversification, another might look at behavioral change based on time spent discussing finances with parents. When possible, we encourage program administrators to consider evaluating more than just one element of financial literacy as defined in Figure 1, and to be clear about which elements are and are not being evaluated (e.g., the Evaluation Teaching Model presented by Vitt and colleagues).<sup>75</sup> Without explicit definitions, studies risk using interchangeable terminology for very different constructs.

Second, evaluative efforts should occur over longer timeframes. A Federal Reserve Bank of Cleveland's Community Affairs survey found that fewer than half financial education programs—both child- and adult-focused—evaluated participants later than immediately after program end.<sup>76</sup> Evaluations over longer timeframes are key to understanding what actually “sticks,” especially because young people quickly forget much of what they learn in formal settings.<sup>77</sup> A systematic review by Fernandez and coauthors (2014) concludes that while immediate effects are sometimes observed, few financial education programs have substantial effects on behaviors when participants are evaluated more than 18 months later.<sup>78</sup> Therefore, immediate evaluation at program conclusion with no follow-up threatens to overstate true effects.

Third, program evaluation can benefit from not just relying on subjective measures of financial literacy, but objective measures as well. Many programs rely heavily or exclusively on self-report, subjective data—e.g., asking students if they agree with the statement “I am confident I will be able to manage my money when I'm out on my own.”<sup>79</sup> While subjective measures are certainly useful in assessing individual attitudes, confidence, awareness, and motivation,<sup>80</sup> they may be prone to a fair amount of bias compared to objective measures. For example, participants often have an exaggerated sense of what they learned, especially in the immediate, post-program period. And if they believe administrators expect a particular outcome, participants may also give responses skewed toward that expected response (i.e., those that indicate positive effects). This bias can be magnified by social norms such as stigma attached to poor financial behaviors.<sup>81</sup> While not immune to respondent bias, objective measures are often better suited to capturing financial knowledge and behavior.<sup>82</sup> Because a primary goal of financial education among youth is to promote positive behavior change, measures of behavior are important to include in evaluation. For younger children with few financial resources of their own, this is arguably less applicable. Yet even simple behaviors, like time spent discussing financial topics with parents, can provide some measure of program impact.<sup>83</sup> For older teens, particularly those tracked longitudinally into young adulthood, other objective measures may provide a snapshot of financial behaviors, such as savings and checking account balances; income; holdings of stocks, bonds, real estate, and other assets; credit scores; or outstanding credit card debt.

An additional benefit of the use of a standardized evaluation protocol based on the Jacobs five-tiered approach is it allows us move away from program design that is detached from empiricism and toward a mindset of constant evaluation and adjustment. Viewing evaluation as a cyclical and iterative process—whereby findings from the evaluation are used to inform design and implementation—can help program designers and policymakers retain practices that have a positive impact on financial literacy and adjust or eliminate those that do not.<sup>84</sup>

## Conclusion

We make several observations and recommendations for researchers, educators, policymakers, and program specialists who wish to improve levels of financial literacy among American youth. First, we provide a conceptual framework of financial literacy as a multifaceted, dynamic construct. This framework may be useful for others who are interested in studying or advocating for financial literacy programs. We use this characterization during our review of existing evidence on the effects of financial education efforts to identify places where improvements could have the most positive impact. Based on this review, we suggest that more can be done to provide age-appropriate early financial education that develops foundational skills like self-efficacy, numeracy, and executive function as well as introduces core financial concepts. We also recommend an expansion of participatory learning to supplement and amplify traditional instruction; simulation activities, field trips, and youth banking programs can motivate students and provide vital experience engaging in financial decision-making. We believe that more be done to build up the capacity of two important participants in financial education: teachers and parents. Even relatively minor investments in teacher preparation and parental outreach may result in large dividends for children's financial literacy. We recommend that financial education efforts be designed and implemented with existing needs and disparities in mind. There are clear and persistent gaps in financial literacy along racial, socioeconomic, and gender lines; programs that are specifically targeted to address these gaps are likely to be highly effective. Finally, we identify a dearth of rigorous program evaluation—a serious impediment to improving financial education. To address this issue, we suggest a specific framework for engaging in evaluation from program design through assessing long-term effects. Knowing what works and for whom is essential to improve financial literacy levels among American youth.



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