Improving Evaluation and Metrics in Youth Financial Education
Conference Proceedings

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INTRODUCTION

The field of financial education is at a unique crossroads. Economic conditions and public opinion have created pressure on policymakers to improve individual financial capability. At the same time, the expectations for demonstrated “return on investment” (ROI) are high in this era of shrinking budgets for public education. Past efforts to evaluate youth financial education have varied significantly in terms of methodology, metrics, program delivery, and target audience, resulting in a body of research that is often considered inconclusive.

In response to these challenges, the Federal Reserve Bank of San Francisco, the Take Charge America Institute at the University of Arizona, and the Federal Reserve Bank of Minneapolis invited a small group of researchers and practitioners to discuss how to improve the evaluation and metrics of youth financial education programs. The meeting focused specifically on youth – which we defined as individuals under the age of 25 – in an effort to distinguish this effort from others that have discussed financial education research more broadly. ¹ The goal for the meeting was to help create a research agenda that would move the field towards the development of clearly defined outcomes for youth financial education, metrics for capturing ROI, and quality standards for curriculum and delivery that would serve as “best practices” for educators seeking to offer effective financial education interventions.

The convening took place on October 28-29, 2010 in San Francisco, California and included 29 individuals representing academia, government agencies, foundations, and nonprofit organizations. The day and a half meeting was broken into five key topic areas: (1) Understanding How Youth Learn; (2) New Frontiers in Financial Education Evaluation; (3) Measuring Program Success: Choosing Metrics and Indicators; (4) The Landscape of Youth Learning: Social Context, Peer Networks and Technology; and (5) Influencing Policy: Achieving Universal Coverage of Financial Education. Each session topic began with brief

* The views expressed in this paper are those of the authors, and not necessarily those of the Federal Reserve Banks of San Francisco or Minneapolis or the Federal Reserve System.

¹ For example, the National Endowment for Financial Education spearheaded “The Quarter Century Project: 25 Years of Research in Financial Education,” which brought together leading financial educators and researchers from non-profit organizations, government agencies, and academic institutions to discuss the findings from a quarter century of research in financial education. The documents from this initiative are all available online at http://www.nefe.org/ResearchandStrategy/NEFESalonsThinkTanksandSymposiums/TheQuarterCenturyProject25YearsofResearch/tabid/934/Default.aspx.
remarks from an expert in the area, followed by a facilitated group discussion among participants. At the conclusion of the meeting, participants developed a list of recommendations based on the themes and ideas presented over the course of the discussions.

This report shares these recommendations with the wider field of financial education in an effort to broaden the conversation beyond those at the meeting. Although the recommendations presented below are neither exhaustive nor inclusive of all the rich debate and discussion that occurred during the meeting, we believe they provide a strong set of ideas that might help to guide funders, researchers and practitioners as they seek to strengthen research in youth financial education.
RECOMMENDATIONS FOR IMPROVING YOUTH FINANCIAL EDUCATION RESEARCH

- Building on existing standards, develop a core set of metrics that can assess the effectiveness of financial education programs for youth.

- Develop methods for calculating the Return on Investment (ROI) for youth financial education programs.

- Develop a better understanding of what matters in the delivery of financial education, including the quality of teaching, curriculum materials, and depth of exposure, and incorporate these elements into the research design.

- Integrate relevant lessons from other disciplines, especially in the areas of learning theory and youth development, into the field of youth financial education research.

- Establish common research methodologies and improve communication across researchers to develop generally-accepted findings from research on youth financial education.

- Reduce common barriers to conducting youth financial education evaluation research.

- Expand the scope and availability of data and advocate for greater data accessibility.

- Improve our understanding of cultural diversity among youth and how cultural differences shape early experiences with money and financial decisions.

- Evaluate new delivery mechanisms (beyond the classroom) for youth financial education, including technology platforms and peer-to-peer training models.

- Conduct research that assesses the role that financial products play in promoting financial capability.
RECOMMENDATIONS FOR IMPROVING YOUTH FINANCIAL EDUCATION RESEARCH

Building on existing standards, develop a core set of metrics that can assess the effectiveness of financial education programs for youth.

The goal of establishing a core set of standards and metrics in financial education is far from new, and a large number of collaborative initiatives (including work by the President’s Advisory Council on Financial Capability, the Jump$tart Coalition, and the U.S. Treasury and OECD) have worked both in the U.S. and internationally to move toward this goal. Yet consensus remains elusive, and efforts have tended to focus on broad definitions of financial education, without a specific emphasis on youth. The failure to establish a common set of metrics imposes significant costs on the field, limiting our ability to compare results across programs and demonstrate the return on investment of financial education programs.

In his presentation, William Walstad, Professor of Economics at the University of Nebraska–Lincoln, shared how the field of economic education faced a similar challenge in the 1960s when it began to develop content standards for high school economics courses. A national committee of well-respected economists convened to develop the standards and the committee’s recommendations were highly influential because of the academic rigor and attention they brought to the subject. The process of achieving consensus was lengthy and often contentious, but in the end the establishment of these standards and associated metrics was critical for the development of curriculum and mandates for economic education in high schools.2

Participants agreed that establishing a core set of standards and metrics was critical for the financial education field as well, but noted important distinctions between the fields of economics and personal finance. Financial education is more cross-disciplinary than economics, with overlap in the academic fields of economics, social studies, math, consumer economics, and career and technical education. Consequently, it lacks a clear departmental “home.” The large number of stakeholders involved in the provision of financial education (such as

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financial institutions and nonprofits that provide youth financial education) also adds complexity, since these groups need to be part of the consensus process.

Conference participants agreed that the field should not reinvent the wheel and that subsequent discussions should focus specifically on “metrics,” and not “standards.” Mike Staten pointed out that there will never be a perfect list of standards that will align with all stakeholders’ needs, and that standards are likely to evolve over time and across Administrations. Indeed, there was consensus that existing efforts – such as the Treasury’s development of core competencies and the Jump$tart Coalition’s K-12 standards – should serve as a platform for the development of metrics. Laura Levine from the Jump$tart Coalition offered its K-12 standards as a starting point, and shared that they had recently developed a new high school personal finance survey instrument which could serve as a baseline for common metrics.

A key priority that emerged within the group was the need to develop a process that would allow for further dialogue on how to creatively develop metrics and outcome measures. The regional structure of the Community Affairs function at the Federal Reserve could play a role in gathering input and consensus on proposed metrics from local financial education providers. Another possible entity to lead such a process could be the new Office of Financial Education in the Consumer Financial Protection Bureau (CFPB).

**Develop methods for calculating the return on investment (ROI) for youth financial education programs.**

Another priority that emerged for the participants at the conference was research that can demonstrate the return on investment (ROI) for various financial education programs. Improving the ability to quantify the value of investments in financial education for youth could have far reaching impacts, including strengthening efforts to expand access. For example, early childhood education researchers have successfully quantified ROI and have been able to leverage the findings to engage both the public and private sectors in efforts to

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3 For purposes of this discussion, the term “standards” refers to general guidelines for what financial education should enable students to know and do (e.g. understand how savings impacts financial well being) while “metrics” refers to specific measurements of the outcomes of financial education (e.g. monthly savings).


5 http://www.jumpstart.org/national-standards.html
expand access.  The recent recession and financial crisis have only increased the need for improved ROI quantification as funders and policymakers place even greater emphasis on behavior change and measurable results. Conference participants expressed their desire to elevate the importance of ROI in the context of evaluation and stressed the need to develop a framework to estimate ROI.

In addition to the development of core metrics noted above, estimating ROI will also require the development of metrics that can capture behavior, not only in the present, but also behaviors that carry over to adulthood. During the meeting, there was considerable discussion around the challenges of measuring behavioral outcomes, especially in the context of youth. For example, observation of changes in financial behaviors, such as an increase in savings or the utilization of a budget, often requires longitudinal data collection, which can be extremely difficult among youth populations. In addition, other factors are likely to influence financial decision making and behavior over time, making it difficult to isolate and measure the impact of the financial education treatment.

The meeting also raised concerns that financial education metrics often get reduced and oversimplified to specific outcomes that may not accurately capture the value of the intervention. For example, participants agreed that financial education programs for youth and the related evaluation research often focus on savings as an outcome. However, savings outcomes can be heavily influenced by whether or not the youth has access to a financial institution, and also by the youth’s family and socioeconomic context. In the case of very low-income households, there may be a tradeoff between savings and the purchase of some necessary good, such as food or healthcare; the individual may be making a wise financial choice by not saving, but it would not be reflected in the research outcomes.

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Participants also expressed a desire to develop alternative measures of financial capability and success beyond savings, such as self-efficacy, defined as the feeling of being able to deal effectively with a situation, or a measure of the relationship between the individual and the community. There are useful international models of youth financial education that incorporate broader measures of financial connectedness to the world beyond the individual. For example, Brazil uses a classroom-based financial education curriculum that teaches students to see how their individual financial decisions fit into a larger context that extends to the community and even the nation as whole. Participants supported this type of approach that layers social responsibility into financial responsibility and were interested in developing ways to measure these types of alternative outcomes.

**Develop a better understanding of what matters in the delivery of financial education, including the quality of teaching, curriculum materials, and depth of exposure, and incorporate these elements into the research design.**

The youth financial education field has generally neglected to incorporate measures of either teaching or curriculum quality into its evaluation research. There is a gap in our understanding of how teachers are conveying the material, the strengths and weaknesses of various curriculum materials, and the importance of both the length of exposure as well as the timing of when material is introduced. Educational theory suggests that all these elements matter in terms of knowledge retention and its influence on behavior. Failure to control for variation in these factors weakens research on the effectiveness of financial education.

During the meeting, participants focused significant attention on teacher effectiveness, whether in formal classroom instruction or in less formal settings. Education theory stresses the impact of the student/educator relationship on student learning, particularly for adolescents. Frank Worrell, Professor of Cognition and Development at the University of California Berkeley Graduate School of Education, pointed out that relationships are critically important for adolescents. Students have to be willing to work with the teacher in order for

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learning to take place, and yet teachers cannot assume that effective relationships are automatic.

To enhance research on the effectiveness of financial education, the research community needs to identify appropriate metrics for the quality of teaching, including relevant aspects of the student-teacher relationship. In addition, surveys have demonstrated that many teachers have not mastered the personal finance content themselves, and this seems likely to affect their teaching ability and choice of topics to cover. Thus, metrics of teacher content knowledge would also be valuable.

Studies on teacher effectiveness exist in the education research literature and may provide practical guidance for financial education research. Conference participants also suggested that there is a need to partner with teachers to better understand their approaches and motivations in teaching financial education. Including teachers in the process, and gathering feedback, can help researchers better understand how to capture the impact of educator effectiveness on youth financial education.

In addition to the role of the teacher, participants discussed the need to incorporate other learning theories into our evaluation of both curriculum and the timing/length of the coursework. When does financial education matter most? What curricula are the most effective? For example, constructivism is the idea that learning occurs through an individual’s interaction and experience with their surrounding environment. A constructivist learning model puts the teacher in the role of facilitating an exploration by the student through hands-on learning, simulations, collaborative experiences, experiments, discussion, field-based projects and service learning. This theoretical model is very applicable to the case of financial education, yet it has rarely been explicitly used in youth financial education research. Evaluating different theoretical models and approaches can lead us to a better understanding of which components matter most for the effective transfer of financial knowledge and behavior.

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Way, W. L. and Holden, K. Teachers’ Background and Capacity to Teach Personal Finance: Results of a National Survey (available at www.nefe.org/tntfinalreport).
Integrate relevant lessons from other disciplines, especially in the areas of learning theory and youth development, into the field of youth financial education research.

Experts in the field of youth financial education evaluation may be well versed in issues of personal finance, economics, and evaluation methodology, but there appears to be a knowledge gap in terms of education theory, particularly around how youth learn. Worrell’s presentation made it clear that there is significant overlap across disciplines and that key principles in education theory can be applied to youth financial education. The financial education research field could benefit from a deeper understanding of how youth learn, retain, and act upon information and education, and the role of teachers, social influences and peers in the cognitive development in adolescents. Integrating relevant lessons from other disciplines can be an efficient strategy for the field, as researchers don’t have to spend time “re-learning” these lessons. However, participants also cautioned that we can’t assume that all lessons are directly transferrable, given the unique nature of financial education and related behavioral choices.

Participants agreed that they wanted to learn more from other disciplines to help develop sound theoretical models for how financial education can influence youth’s knowledge, skills and behaviors. Participants suggested that helpful contributions to the field would include: (1) a paper that reviews key lessons on youth learning from other disciplines and explores how they overlap with challenges present in youth financial education, and in particular the challenges for at-risk youth (2) a literature review of teacher effectiveness and evaluation studies from other fields; and (3) an article that explores the relationship of financial literacy to other fields such as reading literacy and psychology.

Establish common research methodologies and improve communication across researchers to develop generally-accepted findings from research on youth financial education.

One of the major limitations of existing studies in youth financial education is that they don’t lend themselves to generalizable findings and field-wide

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conclusions. More understanding is needed of the overall effectiveness of interventions, the relative impact of independent variables, and the strength of relationship between variables. Participants expressed concerns that current research methodologies are often quite varied. Each study uses different metrics, target populations, and treatments, and many studies may not comprehensively report all variables. These factors can make it difficult to draw conclusions that have widespread acceptance and research support, and limit the ability of the field to conduct meta-analysis of existing studies.15

One recurring suggestion among participants was to set standards for data collection and research, with one attendee pointing out, “we need to know what’s coded into evaluation so we can aggregate across studies.” It was suggested that funding agencies could play a role in setting data collection standards by imposing requirements for symmetry across data sets. While this may create some challenges for researchers, there was consensus among participants that they wanted more overall consistency across variables to allow for streamlined data collection and comparison. This suggestion is closely related to the first recommendation to establish a core set of metrics, as well as the recommendation for the field to develop a better theoretical model, sometimes referred to as a logic model, which would clearly delineate the expected links between youth financial knowledge and behavior.

Reduce common barriers to conducting youth financial education evaluation research.

Conducting financial education research on youth, particularly in a school setting, is costly and more challenging than evaluating similar programs for adults. Research protocols for interviewing and gathering data on youth, while valuable, are often cumbersome. Researchers must navigate processes to obtain both institutional and parental approval, and even if these steps are successfully completed, the research results themselves may be controlled or restricted because of potential political ramifications. One frequently cited challenge among conference participants was the institutional review board (IRB) process, which requires researchers to obtain approval from an ethical oversight committee before they can proceed with their research projects. Participants pointed out that the IRB process is time consuming and because each institution has its own IRB requirements, it is especially challenging to work with multiple partners across organizations, such as for a national comparison

study. One suggestion from the group was to develop IRB guidelines for the field of youth financial education that could be implemented across multiple institutions, making the research process more streamlined while still preserving important ethical and privacy protections.

Expand the scope and availability of data and advocate for greater data accessibility.

Another commonly cited barrier to conducting youth financial education evaluation is the lack of publicly available data for analysis. The private sector collects valuable data that could greatly inform the field’s research, but this proprietary data is often too expensive or not available to researchers. Participants expressed interest in developing research partnerships with the private sector to improve access to this data. On the public sector side, participants agreed that the public sector under-invests in its own data, limiting the capacity of researchers to analyze the impact of publicly funded initiatives. Alternatively, the public sector may collect valuable data, but may not make it easily accessible to researchers.

Participants suggested that the new CFPB could play a role in improving access to data by aggregating public consumer finance related data and making it available to researchers interested in these questions. Participants also expressed interest in additional convenings that could explore how to creatively link existing data with outcomes of interest. For example, consumer credit score data is underutilized in financial education research. Credit score data is objective and a strong indicator of financial behavior—is there a way to link this information with data on what youth knew when they left high school? Making these kinds of connections would allow us to measure the functional relationship between what youth know and how they behave, even into adulthood. Participants expressed interest in developing other examples outside of the credit arena that could form the basis for new research studies in youth financial education.

Improve our understanding of cultural diversity among youth and how cultural differences shape early experiences with money and financial decisions.

Mainstream youth financial education curricula are often created with the implicit or explicit expectation that students will have the background typical of a white, middle class demographic. As a result, the lessons may be less effective
for low-income or minority youth. Participants emphasized the importance of recognizing that youth do not come into financial education as a “blank slate.” The way they learn and act upon financial education lessons is shaped by the cultural norms, family influences, and social context in which they live. From a teaching perspective, the field must recognize that youth may come from households with “suboptimal” financial practices. One participant gave the example of a family where the parents used the child’s social security number to open multiple credit accounts and did not maintain the accounts in good standing, leaving the child with a severely damaged credit record. Worrell emphasized that in these types of situations, the teacher has to be careful to withhold judgment and focus on teaching positive alternatives. This acknowledgment of the family’s situation, coupled with suggestions for positive alternatives, prevents youth from feeling that their families are being attacked and may make them more willing to accept the lesson.

Despite the importance of cultural diversity and social context in shaping youth’s financial decisions, we do not have sufficient research that teases out the important differences among different youth populations. Participants suggested that more research and funding be directed to studies that can help us better understand cultural relationships with money among different youth groups, e.g. by age, gender, race and ethnicity, and immigration status. A better understanding of these differences would help to inform the development of more effective financial education programs and provide additional guidance to teachers working with these populations.

Leverage and evaluate new delivery mechanisms beyond the classroom for youth financial education, including technology platforms and peer-to-peer training models.

Classroom-based education is often proposed as the primary delivery mechanism for youth financial education and significant effort is directed toward achieving state mandates for financial education. However, participants agreed that mandates, while important, currently suffer from

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implementation challenges that limit their effectiveness. One participant explained that mandates are too often a “paper victory,” rather than an influential policy change that increases access to financial education for youth. Mandate requirements vary across states, ranging from voluntary inclusion of personal finance topics into educational standards, to personal finance course requirements for graduation. Quite often there is limited funding to support the implementation of mandates, and the actual impact on students may be limited.

As a result of the challenges to implementing widespread classroom-based financial education, there is growing interest in trying out and evaluating alternative delivery mechanisms. One example is the use of technology in reaching youth with financial education. There has been a rapid expansion in the development of online games and applications for social network platforms related to financial decision making.\(^\text{18}\) Participants agreed that the use of technology is well suited for reaching today’s youth, but they pointed out that the impact of these games/applications is not well understood. Some of the questions raised include: What’s being taught from a content perspective? What types of people are using them? Are they intended to increase knowledge or lead to changes in behavior? It is clear that more research needs to be done in this area. Participants were interested in building these innovations into future research and wanted to explore ways to develop research partnerships with technology developers. One suggestion was to try to connect with developers at industry conferences, such as “Finovate,” a conference series that showcases financial and banking technology innovation, in order to establish research partnerships.\(^\text{19}\)

Another model for youth financial education delivery is peer-to-peer training. Margaret Libby of Mission SF Community Financial Center described the “Youth Trainers for Economic Power” program, which relies on a peer-to-peer model for high school-aged students.\(^\text{20}\) Interviews with youth participants suggest that the youth are more engaged when they learn from their peers and more likely to try to emulate positive behaviors exhibited by relevant peer role models. These findings are consistent with Frank Worrell’s remarks about the importance of relevance for adolescent learning. The peer training model has demonstrated some anecdotal success, but a research gap remains around the effectiveness of these approaches.

\(^{18}\) For example, see http://www.piggymojo.com, an online tool that helps users manage spending, or http://www.payoff.com, a tracking tool that allows users to set financial goals and stay on target to pay off debt.

\(^{19}\) http://www.finovate.com/

\(^{20}\) http://www.mission.coop/about/financial-center.html
There is a clear opportunity to develop larger scale research projects around these new delivery mechanisms. Such studies could help the field begin to better understand the potential role, and possible limitations, of these delivery mechanisms for reaching youth with financial education.

**Conduct research that assesses the role that financial products play in promoting financial capability.**

While the basics of youth financial education have not changed drastically over time, ongoing changes in the financial services sector means that youth are constantly exposed to new products and services. Participants expressed concern that youths’ financial lives have become more complex, but they are not well equipped to make savvy financial decisions. One example is the complexity of student loan offerings; students may not understand the differences between federal and private loans and may incur significant levels of debt as a result of their lack of familiarity with the loan features.

Financial products—whether they’re savings and checking accounts or more complicated mortgage loans or investment vehicles—are therefore an important mediating factor that influences the link between knowledge and behavior. Given this link, more research is needed that explores how financial products are related to financial capability. The research community needs to partner with financial institutions to assess the effectiveness of experiential learning with real financial products, or analyze the impact of increased financial access for youth. In addition, research around youth exposure to and utilization of safe vs. predatory products could help inform financial education efforts.

Margaret Libby shared an example of financial education directly linked to financial products designed for youth. Mission SF offers peer-led financial education training in conjunction with a youth savings account. The peer training covers the basics of budgeting and saving, with an emphasis on goal setting, and tracks savings to the youth accounts over the duration of the program. Libby emphasized the importance of linking financial education to opportunities to apply the skills immediately. Researchers and financial institutions can develop partnerships to further develop and analyze these types of education and product pairings.
CONCLUSION

This conference could only scratch the surface of the depth of issues involved in the measurement and evaluation of youth financial education, but these ten recommendations reflect some of the most pressing issues facing the field. The field is constantly struggling to understand the complexity of human behavior and the very real challenge of not just educating, but also motivating people to make better financial choices. While financial education for youth can offer significant benefits, we must be careful not to oversell the field’s ability. Researchers must consider the potential impact of financial education in the context of multiple factors, such as social and cultural influences, technology, the role of regulation, and the changing nature of the financial landscape.

At the same time, tremendous resources and time are devoted to the field, and participants agreed that more work needs to be done to accurately capture the field’s impact and demonstrate ROI. Participants agreed that the community of researchers has to come to consensus on certain measures and methodologies, and improve communication to share findings and knowledge across the field. As new research and programmatic and policy efforts unfold, particularly the creation of the Office of Financial Education in the new CFPB, it is vital that the field continue to pursue greater clarity and communication around the implementation of these recommended strategies.