



## THE EFFECTIVENESS OF FINANCIAL LITERACY PROGRAMS IN SCHOOL: A SYSTEMATIC REVIEW

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### ABSTRACT:

School-based financial literacy programs have diffused broadly, but their effectiveness in reality is surprisingly complex. This systematic review aggregates empirical evidence from experimental and quasi-experimental studies to clarify whether these educational interventions are effective in implementing their intended impacts. The findings reveal a chronic paradox: programs consistently improve financial understanding and attitudes among students, but it is much more challenging to translate this knowledge into actual financial habits. Meta-analytic evidence shows large gains in knowledge (+0.33 standard deviations) but not in behavioral change (+0.07 standard deviations). Follow-up studies over longer periods of time show that early financial education can lay the basis for later decision making, yet immediate behavioral change remains evasive. Demographic factors have a heavy impact on program success, with lower socioeconomic students, foreign-born households, and low-track schooling history showing inconsistent response patterns. Quality of implementation varies wildly by site with results being significantly influenced. The review mentions promising approaches like experiential learning experiences, differential interventions for specific groups, and integration within existing curricula rather than as distinct courses. Unrealistic expectations for short-term behavior change can complicate program planning. Future research should prioritize long-term follow-up studies, implementation factors should be examined more critically, and better behavioral measures of outcome should be constructed to assist evidence-based program planning.

### KEYWORDS:

**FINANCIAL LITERACY EDUCATION, SCHOOL-BASED INTERVENTIONS, FINANCIAL BEHAVIOR, EDUCATIONAL EFFECTIVENESS, YOUTH FINANCIAL EDUCATION, BEHAVIORAL CHANGE, SYSTEMATIC REVIEW.**

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### INTRODUCTION

Financial literacy is somewhat of a buzzword within the education community, possibly not unfairly so. Young adults navigate increasingly complex financial systems—college loans to mobile payment systems—without extensive formal education. In response, schools have offered a number of financial literacy programs, but their effectiveness is, at the very least, complex.

The theory sounds straightforward enough: teach kids about money, budgeting, and financial decision-making, and they'll make better decisions as adults. But the world of measuring and achieving actual effects is far from as simple as first imagined. This systematic review takes into

account what we currently know about school-based financial literacy interventions, according to empirical studies attempting to measure their true impact. Methodology

This review merged within a range of databases, seeking studies that had assessed outcomes for school-based financial literacy programs. Experimental and quasi-experimental designs were prioritized, with recognition that true educational research often involves compromises in methodology. Both recent meta-analyses and individual studies are included within the review to provide complete consideration of evidence available.

## LITERATURE REVIEW AND FINDINGS

### MIXED EVIDENCE ON PROGRAM EFFECTIVENESS

The literature on teaching financial literacy presents an intriguing paradox. While classroom-based financial education programs uniformly demonstrate improvements in the financial knowledge and attitudes of students, the application to actual real-world financial behavior is maddeningly out of reach. This gap between knowing and doing is perhaps the largest obstacle for financial education research.

More current meta-analytical studies confirm this pattern, reporting financial education interventions to result in large gains in financial knowledge (+0.33 standard deviations) but much smaller effects on empirical financial behaviors (+0.07 standard deviations). These findings are consonant with what many educators suspect—knowledge transmission does not always imply behavior modification.

Amagir et al. (2018) conducted perhaps the most comprehensive systematic review up to now, comparing financial literacy programs in a number of countries and age ranges. What they found was that students demonstrate stronger awareness of financial terminology, but short-term behavior change is little documented. That means that there is some deficit in current program models that fills in the gap between knowledge and behavior.

### KNOWLEDGE GAINS VS. BEHAVIORAL CHANGE

The gap between knowledge gain and behavior change needs more attention. While some scholars maintain that school programs are "very effective policy tools to increase financial knowledge," especially when gains in learning are contrasted with other education interventions, this optimism has to be balanced by the enduring problem of behavioral transfer.

Evidence indicates that adults who were taught financial education as children exhibit more sound financial management skills than those who were not. The longitudinal approach provides hope, albeit one that brings into question the timeframes used in measuring in most studies. It is possible that the complete effect of financial education takes place only after several years of initial teaching.

The Consumer Financial Protection Bureau's thorough analysis of youth financial literacy acknowledges this subtlety, noting that "research findings about the effectiveness of youth financial education are mixed." Such a realistic assessment is proof of the field's growing maturity and receptiveness to considering complex outcomes over pursuit of simplistic success stories.

### DEMOGRAPHIC AND CONTEXTUAL FACTORS

Financial literacy programs are not in a vacuum. Higher levels of financial literacy consistently have been found among lower educational pathway students, students with limited math ability, immigrant students, low socioeconomic background students, students whose

mothers have no university education, and students who do not engage in discussing money at home. These findings indicate that one-size-fits-all systems may be inherently suboptimal.

The socioeconomic factor is particularly interesting. Economically disadvantaged students might know how to live with little money but lack understanding about such abstracts as investment or credit ratings. Conversely, students from high-income households might understand the abstracts but do not know how to live without money. These different starting points require different instructional approaches.

Cultural factors also come into play. Immigrant students may have backgrounds with different banking systems, saving practices, or attitudes towards debt. Financial literacy programs that fail to take these cultural settings into account may be unbeneficial or even counterproductive.

### PROGRAM DESIGN AND IMPLEMENTATION CHALLENGES

Effective financial education programs must be capable of assessing target audience needs with economy, target the right at-risk populations, possess specific goals, and be grounded in effective evaluation measures. On paper, it sounds reasonable but in practice is hard to do. Most programs struggle with simple design issues: Do they shoot for short-term applied skills or longer-term abstract thinking? How do they balance abstract knowledge with applied experience?

Implementation context makes a gigantic difference. A financial literacy program taught by a math teacher is quite different from one taught by a social studies teacher or by a guest finance professional. Interfacing with existing curriculum, time commitment available, and school culture all factor into impacting program success.

Although some courses have experimented with innovative approaches, including simulation games, peer-to-peer learning, and live projects, the comparative evidence base for the relative strengths and weaknesses of different pedagogical approaches remains limited, and it is difficult for teachers to make decisions towards best approaches.

### INTEGRATION WITH BUSINESS AND MANAGEMENT PERSPECTIVES

While this review focuses on school-based financial literacy, cross-overs to broader business and management literature provide context. Mehta's study of the structure of tax revenues shows how fiscal policy decisions shape the economic environment students will be exposed to in the future (Mehta, n.d.). Understanding such macro-economic contexts helps educators design programs preparing the adult of the future for financial sophistication.

The Ahmed and Mehta (2023) research on online purchasing behavior demonstrates the evolution in consumer behavior, particularly information seeking and

decision-making processes. The results of their research on the effects of reviews on purchasing behavior demonstrate that curriculum for financial literacy also needs to cover how to analyze sources of financial information and make decisions in an uncertain environment.

Choudhary and Madhwani's (2013) research on the impact of economic recession on hospitality and tourism industries provides a practical case for the effect of economic cycles on jobs and financial stability. Such research highlights the need for education on economic volatility and adaptive financial planning for students.

Chaplot's (2018) research on the impact of strategic management on organizational performance yields individual financial management lessons. Strategic planning, measurement for performance, and adaptive management concepts are just as relevant for personal money choices as they are to organizational environments.

The change management strategies in medium-sized business organizations, as elaborated by Mehta and Hiran (2023), are in tandem with what individuals encounter in trying to change their financial behavior. Their observations on change management processes have the potential to help inform how the responses of financial literacy programs to behavior change are directed.

Dave and Paliwal (2016) consumer attitude study of health food drinks demonstrates the complexity of the purchasing decision and the influence of advertising on consumer choice. The research demonstrates the requirement for financial education interventions to include advertising literacy and critical analysis skill.

Sharma et al. (2022) examined pandemic impacts on financial metrics, with an example from real life of how worldwide shocks affect financial planning. Their elaborate analysis highlights the need for students to be educated about financial resilience and crisis preparedness.

Finally, Chaplot (2017) study on work satisfaction aligns with financial literacy since it depicts the association of career satisfaction with financial well-being. It is assumed in this research that financial literacy classes would be enhanced if they included career planning and financial benefits in the workplace training.

Future priorities for research include longitudinal effort to establish long-term effects of early money education and exploration of digitalization in finance literacy. This is among the most significant gaps in the current research. Research has a tendency to concentrate on short-term outcomes, typically several months following program completion. However, the best measure of the effect of financial education would be how financial education affects individuals years or decades later.

The sparse number of longitudinal studies suggests that early money education may have deferred but profound effects. Adults with money education as students are more self-assured about money choices and some higher-order

financial conduct. These studies often struggle with attribution—distinguishing between program effect and family influence, life experience, or other school interventions.

Institutionalization of the program is also included in sustainability. The majority of effective pilot programs do not scale or maintain quality when disseminated widely. Effectiveness of the program is generally diluted through transitioning from research settings into regular classroom instruction, which suggests that implementation science ought to attract more attention in this regard.

### **DIGITAL AND TECHNOLOGICAL INTEGRATION**

Modern education about finance must cope with environments that shift at a frenetic rate. Online payments, cryptocurrency, digital banking, and robo-investing websites are creating new prospects and challenges that traditional financial education may not sufficiently address.

Digitalization of financial literacy is as an opportunity and a challenge. Technology can provide targeted learning, simulate complex financial scenarios, and track pupil progress in sophisticated ways. However, it also requires significant investment in equipment, training, and ongoing technical support that most schools cannot afford.

The COVID-19 pandemic accelerated digital adoption in education generally, and financial literacy programs have begun incorporating more online elements. However, the effectiveness of digital versus traditional delivery methods remains understudied, particularly for different student populations.

### **INTERNATIONAL PERSPECTIVES AND CULTURAL CONSIDERATIONS**

Financial illiteracy is a non-American problem but is a widespread phenomenon across a majority of countries, even those with advanced financial markets. The global scenario suggests that challenges in financial literacy are transnational but assume significantly different forms.

Comparisons between countries produce interesting variation in program design and efficacy. Financial literacy is integrated into mathematics in some countries, social studies in others, and freestanding courses in others. These different designs present natural experiments for the comparison of pedagogy.

Both attitude toward money and learning achievement are strongly shaped by culture. Words such as debt, saving, and investment have different meanings across cultures, and effective programs need to navigate these with care.

### **DISCUSSION**

The evidence compiled provides a complicated picture of financial literacy instruction in schools. Programs are routinely shown to succeed at knowledge transfer but lag behind in changing behaviors. That trend isn't necessarily a cause for pessimism—it might simply be an illustration of unrealistic hopes of what classroom education can do.

Perhaps most heartening findings stem from more

long-term research that shows financial education provides a foundation for subsequent learning and decision-making. Teens who receive financial education may not immediately change their behaviors, but they appear to be better able to learn from money experience and good advice when making big money decisions.

The population variations in program effectiveness mean that differentiated strategies will be needed. One-size-fits-all programs likely under-serve the students who most need financial education. Population-specific interventions tied to specific population needs hold out more promise than generic curricula.

This disconnection between knowledge and practice highlights also the necessity of experiential learning activities. Programs enabling experimentation with financial decision-making through low-stakes settings appear more effective than theoretical ones. Yet, developing valid experiential learning experiences within school constraints remains an issue.

### IMPLICATIONS FOR PRACTICE

Education professionals need to approach the field of financial literacy programming with realistic expectations and careful attention to implementation quality. Simply adding financial content to existing curricula is not likely to achieve meaningful results. Successful programs require dedicated time, trained teachers, appropriate materials, and consistent follow-through.

Evidence is that programs should aim at depth and not breadth, with core concepts having abundant scope for application and practice. Participation in mathematics and social studies courses may prove more effective than single subjects, but it has to be well-coordinated and teachers made expert.

Assessment strategies should extend beyond knowledge tests to include measures of behavior and long-term follow-up where appropriate. Schools must also look to collaboration with community groups and financial institutions to provide real-world learning experiences and reinforcement continuously.

### LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This review is cognizant of several limitations of the research literature. The majority of studies have limited follow-up durations, small numbers, and narrow outcome measures. Prevalence of behavior measures based on self-report has the potential for introducing bias, and the lack of standardized assessment instruments leaves it problematic to compare across studies.

Future research needs to focus on longitudinal designs in which participants are followed years following program termination. Program implementation factors must be studied more closely as well, with identification of particular design features and methods of delivery that account for effectiveness.

Their interaction with other societal and educational factors needs to be considered. How are financial literacy education, mathematics education, social studies, and

family financial socialization related? An understanding of these interactions could mean more integrated and better programs.

### CONCLUSION

School-based financial literacy programs have solid evidence for improved knowledge and, to a certain degree, attitudes toward handling finance among students. There is less evidence for long-term changes in behavior, yet it suggests that programs can establish the groundwork for future financial learning and decision-making.

The relevance of sound financial education in preparing youth with financial resilience and independence does not dissipate, even while we grapple with design and implementation issues. Rather than abandoning financial literacy education due to inconsistent changes in behavior, the industry must aim to improve program design, implementation quality, and evaluation practices.

The most promising approaches appear to incorporate targeted interventions that address population needs, provide experiential learning experiences, and have realistic expectations about immediate behavioral change. Financial literacy instruction success, like overall education success, will rely on consistent effort, planned execution, and prolonged waiting.

As economies become more sophisticated and financial systems more complex, demand for good financial literacy education never wanes. The issue is not whether to provide it, but how to design and deliver programs that do indeed prepare young people for independence and security. The research basis, as imperfect as it is, provides valuable guidance for those who are prepared to take seriously the possibilities and the pitfalls of financial literacy education.

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