

Financial Literacy Courses in U.S.'s K-12 Education

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction

As of 2022, 22.7% of high school students in the U.S. have graduated after taking a personal finance course and only 8 out of 50 states have guaranteed access to personal finance courses to high school students (“State of Financial Education Report 2021-2022,” 2022). As students graduate from their kindergarten through 12th grade education, they will be faced with many challenges as a young adult. A big factor when considering these challenges is their financial well-being and the decisions they will make. Some of the common financial problems that young adults face after high school includes paying back student loans, increasing levels of debt, and learning to invest (Fontinelle, 2022). One way for students to prepare for these obstacles is to gain a better understanding of financial literacy and make more informed financial decisions when they are in school.

According to the Congressional Research Service (2021), financial literacy is the knowledge that is used to make well-informed financial decisions to support personal goals. With the changes that are happening, including “retirement of the baby boomers; the emergence of new financial products; and increasing costs for health care, higher education, and retirement”, it is even more important to have an understanding in financial literacy (Government Accountability Office, Washington, DC., 2012). When considering Americans specifically, only 64.3% are financially literate, with those who have a college degree being significantly more financially literate than those without one (Newall & Diamond, 2022). In addition, it is alarming that only about one third of Americans have a working understanding of some of the important terms and concepts in finance, including interest rates and financial risk (McMillon & Bryant, 2022). It is even more important for financial literacy to be taught starting at a young age so that the knowledge in financial literacy can develop into making responsible decisions in adulthood

(Jayaraman, Jambunathan, & Adesanya, 2021). Courses in school can be one of the ways that students can learn these skills.

There is a low number of high school graduates who are financially literate because teachers lack financial literacy and the ability to teach finance to students, school boards and districts realize that the finance is a complex topic that not many students take, and students lack exposure to finance topics from the people around them. My literature review will explore the background information, introducing the issue with the lack of finance courses in K-12 education in the U.S. After that, my analysis of articles and the current education curricula through the lenses of the Social Construction of Technology (SCOT) framework to show how each relevant social group may contribute to the overall issue of the lack of finance courses. These perspectives will provide a new insight into why financial literacy courses are not offered and discover new ways to allow students to gain the necessary finance knowledge throughout their K-12 education. On top of this, the findings from this paper will inform teachers, school districts and boards of education about the importance of learning finance topics so that they can ensure that more programs are available at different levels of schools.

Literature Review

High school graduates are not prepared to make well-informed financial decisions. Although it is expected that high school graduates will be ready for their career after school, whether they decide to go to college or start working, “the average student graduating from high school lacks the basic skills needed to manage personal finances. Many have no idea how to handle the basic principles involved with earning, spending, saving and investing” (U.S. Chamber of Commerce, 2020). According to the U.S. Chamber of Commerce (2020), many students graduating from high school do not have the skills necessary to manage their personal

finances. Financial literacy will not only teach students to be more financially successful in the future, it will teach them to accomplish more goals related to aspect of finance, whether that is paying for lunch or paying off debt (Rose, 2021). With the lack of courses available in school for students to obtain proficiency in financial literacy, it is difficult for students to have the time outside of school to become financial literate on top of extracurricular activities.

It is important for students to start learning about finance earlier on. Teaching financial literacy earlier on can lay the foundation and lead to responsible finance related behaviors, like saving, in one's adulthood (Buccioli and Veronesi 2014). This can be helpful so that students can practice the skills they have learned while they are in school and take the skills that they have developed when they graduate to apply it in their futures. Being well informed in finance topics can allow the younger generation "to fight fraud and take charge of their finances" (Tschache, 2009). Not only is it important for students to be aware of this, state governments can help promote a student's learning as well. Research has found that "implementing a state mandate for personal finance education led to improved credit scores and reduced delinquency rates" (Ross, 2022). However, although "the number of states adopting standards for financial literacy education has increased, but these states limit adoptions to high school and middle level curricula" (Henning & Lucey, 2017). This makes it harder for students to build up the foundation that they need in finance early on.

The curriculum taught each year is based on the standards that are decided by the board of education. Based on the standardized testing used in Virginia public schools, these tests and standards "represent a broad consensus of what parents, classroom teachers, school administrators, academics, and business and community leaders believe schools should teach and students should learn" (Barnett, n.d.). This means that the curriculum and tests are developed

based on the consensus of everyone involved in a student's learning. According to the Virginia Board of Education, the board's main duties include "Setting statewide curriculum standards; Establishing high school graduation requirements" and many others. Despite this, the amount of high school students who have access to finance courses is still the minority.

To understand this issue from different perspectives, I will be using the Social Construction of Technology (SCOT) framework by Pinch and Bijker (1984) to analyze the topic. This framework analyzes a technology by looking at how different relevant social groups, groups of people with a common shared meaning of a technology, have an influence on the way a technology is being used or implemented. I will use this framework to identify the relevant social groups to see how they view and contribute to the issue of the lack of finance courses in K-12 education.

Methods

The research question this paper will answer is why aren't more financial literacy courses offered in K-12 educations in the U.S.? To answer the research question, most of the analysis will be done through literature reviews and close readings. I gathered secondary sources, including academic journal entries, agency reports, and journalistic accounts, to see how different social groups view the teaching of finance in K-12 education. Some of these social groups are early education teachers and school districts and boards of education. It is important to analyze these social groups because they are the ones that can affect a student's education, whether that is through encouraging a student to take a course, teaching a course, or implementing new programs to expand a student's education career. I have also included the viewpoint of a student in my analysis to see if they understand the importance of learning finance, whether from their friends or parents, or can advocate for more finance programs at their

schools. Through this analysis, I will be able to understand how these groups contribute to the problem of the lack of finance courses and how their actions can affect each other.

Results

Teachers

There is a lack of finance courses being taught in different levels of education, especially in early education. Although most finance courses are seen in high school curricula more than middle or elementary school curricula, it is in early education that students should start learning about finance topics. To ensure that the education that students receive on financial literacy is effectively learned, it “is partly determined by the quality of teachers” (Compen, De Witte, Declercq, & Schelfhout, 2022).

One reason for why there is a lack of finance courses is because early educators are not qualified to teach students about finance. While it is concerning that the financial literacy levels of high school students are low, it is even more concerning that the low financial literacy can also be seen in early childhood teachers. This is a “cause for concern and highlights an urgent and serious need for financial literacy education to be provided to early childhood educators in their teacher preparation programmes” (Jayaraman, Jambunathan, & Adesanya, 2021). Because of the low financial literacy in these teachers, there is a lack of early education teachers who are qualified to teach the subject to students, leading to not a lot of finance courses being offered or students “being taught about financial literacy by teachers who are not specifically trained in this important area” (Jerrim, Lopez-Agudo, & Marcenaro-Gutierrez, 2022). In addition, teachers are paid based on “years of service and education” (Lavy, 2007). This dissuades teachers from pursuing a new subject other than what they already have expertise in. If more early childhood

educators are financially literate or decides to pursue a career in finance, they will be more likely to be prepared to teach it to their students or become interested in the topic of finance to pursue a career to teach it.

Another reason why there is a lack of finance courses is because there is a lot of materials to teach students in early education. Some might argue that “elementary teacher education programs are already burdened by multiple demands, and financial literacy is not at the forefront” (Henning & Lucey, 2017). Some teachers may think that finance may be a topic that is difficult for younger students to pick up and understand why it is important, “until educational institutions provide a continuum of opportunities to students starting at an early age, children (and adults) will continue to struggle with the broader concepts and skills that encompass financial literacy” (Gold, 2022). To make it possible for schools to offer more finance courses and address the issue of the lack of finance courses, more qualified teachers are needed. Early education teachers may think that it is difficult to integrate finance into their curriculum. However, finance can “easily be included in the already enacted curriculum” (Gold, 2022).

Overall, teachers, as a group, are supportive of teaching financial literacy and are willing to become more knowledgeable in finance to teach it to students. A study by Henning & Lucey (2017) “suggests that teacher educators and preservice teachers are generally supportive of promoting financial literacy” (10). To some teachers, finance is “a real world application for modelling the mathematics currently occurring in the classroom” (Gold, 2022). This means that teachers think that finance can prepare students to learn about some future responsibilities they will need to take on going into their lives after school. To others teachers, learning about finance can be a way for students to learn about ways to prevent debt from accumulating and decrease the socioeconomic gap of the future generations. Since teachers know the importance of learning

about finance even if they are not prepared to teach it, it is a sign that “they would be open and willing to learn basic finance content in order to become better prepared” (Jayaraman, Jambunathan, & Adesanya, 2021). If more teachers become certified to teach finance while they are in training, this means that more finance teachers can be hired by schools so that students can consider taking one in their K-12 education.

School Districts

Although teachers have a positive view of teaching finance, school districts and boards of education, as a social group, do not spend a lot of resources on finance courses. This makes it difficult for teachers who want to become certified in finance because they may have trouble finding a position or a school that they can teach at, resulting in not enough finance courses in school curricula. Besides the eight states that require students to take a personal finance course, “only 9.3% of the students are guaranteed access to a personal finance course” (Ross, 2022). Depending on the state, the percent of students who have access may be even smaller, meaning that the school districts in those states do not prioritize finance as a course in their curricula, resulting in a lack of finance courses.

One reason for why school districts and boards of education do not spend as much resources in finance may be because not a lot of students take finance to begin with. Leaders in education “want to focus resources on the core subjects of math, reading, history, and science, but per-pupil spending tends to be much higher for electives, extracurricular activities, and sports” (Greene, 2010). This is not because the electives receive more funding, it is because electives, finance included, “tend to have fewer students per class than required core subjects” (Greene, 2010). One way to help in this aspect is to slowly introduce students to the topic of

finance so that they will be more likely to take a finance course and eventually popularize finance as a topic to learn in school.

Since finance is not a topic seen in many core subjects, or even electives, it is harder for school districts and boards of education to incorporate it into the curriculum because of how complex some of the finance topics has become. If more schools decide to develop a program for finance, it will be necessary for schools to cover those topics, an example being banking. Banks is one of the main areas of finance (“Finance Career Options,” 2022). With bank holding companies being “very complex, with hundreds or thousands of subsidiaries”, it’ll be even more difficult to figure out what content should be in the curriculum to teach students from a year-to-year basis (Flood, Kenett, Lumsdaine, & Simon, 2017). For school districts to incorporate finance into K-12 education and to help with topics that continue to evolve, guidelines should be created to aid schools in teaching students what they need to know, whether that is teaching the fundamentals of complex topic or making the topic an elective.

Students

Moving away from the people that can affect a student’s education, it is also important to look at what students, as a social group, think about finance topics. While not all high schools offer finance courses and others do not require taking a finance course as a requirement to graduate, high school students may not know that finance is an important aspect that everyone should know something about. Not only that, if a finance course is not offered at a student’s school, it is difficult for students to find resources to learn about finance unless someone specifically looks for finance courses online. To add to this, only 23% of students talk to their parents about money (Pelletier, 2017). This is even less likely to be a topic of discussion with a student’s friends. This indicates that students will not be able to learn about personal finance

from people closest to them either, resulting in their reliance to learn about this topic from classes at school. But since there is not that many classes offered in school, students will not be able to develop their financial literacy.

Some may argue that students do not need to learn about finance until later in their lives when they start earning money, it is alarming that “only 24% of Millennials (ages 18 to 34) surveyed could answer four out of five questions correctly in a financial literacy quiz. By comparison, 48% of Baby Boomers (born between 1946 and 1962) were able to answer four out of five correctly” (Pelletier, 2017). To this end, students now are not well equipped with the knowledge on finance as they should be as a high school graduate, some are unsure where to start or do not know that finance is an essential topic to learn, whether that is for “understanding financial aid, loans, debt, credit, inflation, budgeting and credit scores” (Pelletier, 2017). This adds to the problem because students do not know about finance topics at an early age to advocate for the creation of finance programs in their schools, whether that is in the form of a formal finance program or an extracurricular activity. As a result, to help these students gain a better understanding of these topics and to ensure that future generations of students can manage their own financial well-being, all the relevant social groups should work together to create a better education system with more opportunities to learn the essential topics that they need for their futures, especially when it comes to finance.

Conclusion

To ensure that more high school graduates understand the essential topics in finance in order to develop the skills needed to make well-informed finance decisions, it is important that students have access to finance courses while they are in school. However, one obstacle that prevents students from obtaining their knowledge in finance is the lack of finance programs in

K-12 education. To make sure students can easily access finance courses in school, school districts and boards of education can help by shifting the curriculum to make finance more widely available for students or make it a required course. With the lack of teachers certified to teach finance, more teachers can help by taking a course on finance or pursuing a career to teach finance in the future. Through reading this paper and other online article, students may be more motivated to try a finance course online or at their schools.

For future researchers who want to continue this topic of research, areas to look at include identifying subjects that are more often included in the K-12 curriculum and what areas are considered when determining what is in each year's curriculum. Another topic to look at is if there is a difference in how students think about learning finance topics depending on if they are in high school or in elementary school or what their education background is like. A third topic to research more on is the difference between the U.S.'s finance education and other countries' finance education, including difference in what these countries consider as important subjects to learn at different levels of education and how their culture may impact the courses in their curricula. While this paper focuses on what different social groups think about finance courses, researching the subjects above may reveal additional insights to consider when it comes to why there is a lack of finance courses in the U.S.'s K-12 education.

The value of financial understanding is immense as it has the potential to impact an individual's career trajectory and prospective on financial decisions, whether that is deciding to major in finance in college or making better decisions about daily spendings or choosing to take out a loan. Limited knowledge of finances also contributes to widening the socioeconomic gap and propagates differences in income levels to future generations. To ensure that future generations of students and adults are more well prepared with the knowledge that they need to

make better decisions, the education system should address the lack of finance courses in the U.S.'s K-12 education and make sure that students are able to receive the essential lessons before graduating high school.

References

Barnett, F. (n.d.). Middle School Academics. Retrieved February 13, 2023, from

<https://sbo.nn.k12.va.us/middleschool/academics.html>

Buccioli, A., & Veronesi, M. (2014). Teaching children to save: What is the best strategy for lifetime savings? *Journal of Economic Psychology*, 45, 1–17.

<https://doi.org/10.1016/j.joep.2014.07.003>

Compen, B., De Witte, K., Declercq, K., & Schelfhout, W. (2022). Improving students' financial literacy by training teachers using an online professional development module. *Education Economics*, 31(1), 77–101. <https://doi.org/10.1080/09645292.2022.2035322>

Congressional Research Service. (2021). *Financial Literacy and Financial Education Policy Issues*. Retrieved from <https://crsreports.congress.gov/product/pdf/R/R46941>

Flood, M. D., Kenett, D. Y., Lumsdaine, R. L., & Simon, J. K. (2017, September 29). The Complexity of Bank Holding Companies: A New Measurement Approach [Office of Financial Research]. Retrieved April 21, 2023, from

<https://www.financialresearch.gov/working-papers/2017/09/29/complexity-of-bank-holding-companies/>

Finance Career Options. (2022, August 8). Retrieved April 21, 2023, from Career Planning and Placement website: <https://ilitchbusiness.wayne.edu/career-planning/resources/finance.php>

- Fontinelle, A. (2022, April 24). The Biggest Financial Hurdles Young People Face. Retrieved October 23, 2022, from Investopedia website: <https://www.investopedia.com/financial-edge/0712/the-biggest-financial-hurdles-young-people-face.aspx>
- Gold, L. A. (2022). Financial literacy in the Ohio K–2 classroom: A mixed methods study. *Education 3-13*, 50(6), 722–736. <https://doi.org/10.1080/03004279.2021.1905018>
- Government Accountability Office, Washington, DC. (2012). *Financial Literacy: Strengthening Partnerships in Challenge Times* (No. PB2012105048; p. 25). Retrieved from <https://ntrl.ntis.gov/NTRL/dashboard/searchResults/titleDetail/PB2012105048.xhtml>
- Greene, J. P. (2010, October 14). How Schools Spend Their Money. Retrieved April 19, 2023, from Education Next website: <https://www.educationnext.org/how-schools-spend-their-money/>
- Henning, M. B., & Lucey, T. A. (2017). Elementary Preservice Teachers' and Teacher Educators' Perceptions of Financial Literacy Education. *The Social Studies*, 108(4), 163–173. <https://doi.org/10.1080/00377996.2017.1343792>
- Jayaraman, J. D., Jambunathan, S., & Adesanya, R. (2021). Preparedness of early childhood teachers to teach financial literacy: Evidence from the US. *Education 3-13*, 50(8), 1121–1136. <https://doi.org/10.1080/03004279.2021.1939399>
- Jerrim, J., Lopez-Agudo, L. A., & Marcenaro-Gutierrez, O. D. (2022). The link between financial education and financial literacy: A cross-national analysis. *The Journal of Economic Education*, 53(4), 307–324. <https://doi.org/10.1080/00220485.2022.2111383>

- Lavy, V. (2007). Using Performance-Based Pay to Improve the Quality of Teachers. *The Future of Children*, 17(1), 87–109. <https://doi.org/10.1353/foc.2007.0007>
- McMillon, D., & Bryant, J. (2022, June 10). Financial Literacy Education Could Help Many Americans. *TIME*. Retrieved from <https://time.com/6186290/americans-financial-literacy/>
- Newall, M., & Diamond, J. (2022, April 27). Over one in three Americans are not considered financially literate. Retrieved October 25, 2022, from Ipsos website: <https://www.ipsos.com/en-us/news-polls/money-masters-financial-literacy>
- Pelletier, J. (2017). *Is your state making the grade? | 2017 National Report Card on State Efforts to Improve Financial Literacy in High Schools*. Champlain College.
- Pinch, T. J., & Bijker, W. E. (1984). The Social Construction of Facts and Artefacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other. *Social Studies of Science*, 14(3), 399–441.
- Rose, S. (2021). 7 Expert Perspectives on Why Financial Literacy Is Important. *OppLoans*. Retrieved from <https://www.opploans.com/oppu/articles/why-is-financial-literacy-important/>
- Ross, J. (2022, May 17). Mapped: Personal Finance Education Requirements, by State. Retrieved October 25, 2022, from Visual Capitalist website: <https://www.visualcapitalist.com/students-receiving-personal-finance-education-by-state/>
- State of Financial Education Report 2021-2022. (2022, April). Retrieved October 22, 2022, from <https://www.ngpf.org/state-of-fin-ed-report-2021-2022/>

Tschache, C. A. (2009). Importance of Financial Literacy and Financial Literacy Content in Curriculum. *Montana State University*.

U.S. Chamber of Commerce. (2020, September 3). Financial Literacy: K-12. Retrieved October 24, 2022, from <https://www.uschamber.com/workforce/education/financial-literacy-k-12>

Virginia Board of Education. (n.d.). Retrieved February 13, 2023, from Virginia Department of Education website: <https://www.doe.virginia.gov/data-policy-funding/virginia-board-of-education>