

# Practical and Implementable: Collaborative Techniques in Financial Education

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## Abstract

Budgeting and investment growth are fundamental concepts of everyday adult life, but stigmas and social barriers surrounding the discussion of personal finances pervade understanding and education systems around the world. The average student continues to walk out of secondary school with limited awareness of how to navigate their finances or where to seek support for those decisions. Expecting parents with limited understanding to be this guide perpetuates generational inequalities. While it is the responsibility of public education systems to fill this financial knowledge gap for the economic benefit of society, companies often overlook that a financially educated workforce creates a greater market for the private sector's financial institutions. This overlap of public-private goals and the rise of corporate social responsibility in all elements of global business has created an environment suited to partnerships with significant financial literacy synergies. Through a series of international case studies, public-private partnerships are demonstrated to increase teachers' comfort with financial programs and benefit students' learning approaches. These cases use modern training techniques such as gamification, case studies, and simulations to inspire further collaboration among business and financial curricula creators.

Keywords: Financial Education, Financial Planning, Education Policy, Public-private Partnership

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## 1. Introduction

In 2021, global household debt reached a new record of \$303 trillion from the previous 2020 record of \$226 trillion,<sup>1</sup> sparking a one-year debt surge unseen since the second world war and surely weighing psychologically on governments, businesses, and individuals in all corners of the world. The post-pandemic era has become synonymous with supply difficulties, rising costs of living, and increased digital awareness, especially in the

realm of education and learning. This perfect storm of stress and willingness to experiment with out-of-the-box educational materials creates an opportunity for policymakers to redefine the methods and standards for financial education in their learning environments. Collaboration between public and private entities is key to ensuring that the quality of that education is relevant and applicable to industry standards in investments and payment systems.

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<sup>1</sup> Victoria Masterson, "What Does 'Global Debt' Mean and How High Is It Now?"

Financial literacy and decision making is a critical part of a well-rounded education as its impacts run deeply into health, relationships, and overall quality of life, yet only one in three adults understand basic financial concepts worldwide.<sup>2</sup> When covered at all, the concepts in many school curricula are taught within the scope of mathematics and relate only to budgeting and savings. Curricula like this create the perception that finances are synonymous with mathematical deduction and unfit for students more passionate about other subjects. While calculations are necessary to finance, those involved in financial decisions can be easily done with a calculator. It is the short and long-term critical thinking associated with the concept that is the real goal of financial education itself. A holistic financial education comprises four key components,<sup>2</sup> with basic numeracy being only one of them. The other three are compound interest, inflation, and risk diversification, which are principles that can be taught and understood independent of mathematics. The cases presented aim to highlight how technological innovations and public-private partnerships can be used together in classrooms to further financial understanding.

In academia, there continue to be discussions as to whether investments in and impacts of financial education yield statistically significant results.<sup>3</sup> Within the current policy climate, however, global policy

leaders, such as the United Nations Sustainability Goals and the Organisation for Economic Co-operation and Development, openly encourage financial education investments. For this reason, the following examples of financial education mechanisms will follow the assumption that the benefits of such programs are impactful and relevant. There is also considerable research<sup>4</sup> suggesting that financial education in early childhood has greater impacts on desired financial behaviors into adulthood than later education. This seems to be situational and dependent on program structure, as will be explored further within the cases.

While there are many issues and barriers to the implementation of effective, personal, financial curricula, the greatest emphasis will be placed on two of them: teachers' lack of training and confidence regarding personal financial concepts, and the increasing pace at which laws and products related to the financial industry evolve. Educators' comfort with financial concepts is critical, yet a 2022 study of Ontario, Canada's financial education efforts cited an insufficient curriculum and lack of teacher-training as top reasons for inadequate financial education.<sup>4</sup> The stigmas surrounding the discussion of personal finances and the number of disclaimers needed to legally protect anyone giving advice make it a topic difficult for educators to justify discussing without formal materials on which to base

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<sup>2</sup> Klapper, Leora, Annamaria Lusardi, and Peter van Oudheusden. "Financial Literacy Around the World"

<sup>3</sup> Carpena, Fenella, and Bilal Zia. "The Causal Mechanism of Financial Education: Evidence from Mediation Analysis"

<sup>4</sup> Henderson, Gail E, Pamela Beach, and Andrew Coombs.

"Financial Literacy Education in Ontario: An Exploratory Study of Elementary Teachers' Perceptions, Attitudes, and Practices"

their lessons. While this challenge is recognized and government processes are creating resources, there are several existing activities, trainings, and programs from local businesses that teachers should be encouraged to add to lessons.

It is worth noting that there are potential conflicts of interest by allowing private corporations' materials into the public education system, and these cases do not advocate for local educational laws to be broken or for specific products to be sold as part of the suggested public-private partnerships. In some of the cases mentioned, the company brand and logo were present throughout the educational process, while in others, the brand chose to remain transparent. The end result of each experience was a greater financial awareness than there was before. According to the World Bank: "Studies show that broader access to and participation in the financial system can reduce income inequality, boost job creation, accelerate consumption, increase investments in human capital, and directly help poor people manage risk and absorb financial shocks,"<sup>5</sup> meaning that educators should bare in mind the extensive upside of encouraging individuals to use financial institutions as they control corporate biases. It is up to the discretion of the policy maker to choose the limits of such a partnership, and there is no one-size-fits-all approach to such a situation. Different regions, education levels, budgets, and goals will impact whether or not the private

sector will add value to the classroom, but ignoring this possibility will inevitably result in countless untapped and underutilized resources that could benefit students.

The cases exhaust all types of economies in each corner of the world to demonstrate that there is an opportunity for collaboration regardless of the current state of financial literacy or educational attainment. This piece intends to inspire business leaders and governments alike to actively create and transform their financial education programs and to engage students who would otherwise grow up unaware of their own financial capabilities.

## **2. The United States of America: TD Bank WOW! Zone Financial Education Resources**

The Wow! Zone, created by Toronto Dominion Bank,<sup>6</sup> is a resource base for teachers to bring interactive financial, educational materials to their classrooms. The importance of equipping teachers with the necessary tools to confidently teach financial concepts cannot be understated. The website breaks down lesson plans into grades appropriately suited to the age group of the target students. There is also a place to register a classroom for a guest speaker or tour of a banking branch, bringing the downloadable lesson to life. According to the bank, their volunteers instruct "an average of 320 hours to teach over 7,600 students each month"<sup>7</sup> in classrooms across the country, providing guidance to both teachers and students sharing their financial expertise.

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<sup>5</sup> Klapper, Leora, and Dorothe Singer. *The Opportunities of Digitizing Payments*.

<sup>6</sup> "Financial Education Resources." TD Bank WOW! Zone.

<sup>7</sup> "Education and Financial Literacy." TD Ready Commitment.

Another notable addition to the platform is the virtual stock market game platform<sup>8</sup> that simulates trading US stocks at real prices in real-time. This platform can be used not only by individual investors looking to practice their trading, but also by high schools and university business schools around the world to complement classes in corporate finance. The platform allows teachers to create classrooms and students to compete within the class and view their rankings, giving them access to built-in learning resources in addition to the practical learning that comes with doing the trading themselves. The exact imitation of the real market in real-time makes the learning unquestionably practical for real-world skill building and applicable to day-to-day life, unlike many gamification platforms which use metaphors or factual memorization to accomplish their intended learning goal.

In contrast to mainstream financial resources provided to clients of financial institutions, these were built with the classroom in mind and provide resources for all types of learning methodologies and interests. With this initiative, TD Bank recognized that a comparatively small investment supporting teachers would have a ripple effect that supports all the students they teach moving forwards, year after year, as their increased financial awareness improves their financial teaching skills and awareness of teaching materials. In a

PricewaterhouseCoopers US-wide survey,<sup>9</sup> lack of appropriate curriculum - mentioned by 78 percent of respondents - was cited as the top barrier to financial literacy in American school systems. In the same survey, 64 percent of respondents cited using free supplemental resources online, and over a third purchased resources with personal funds; TD's Wow! Zone aims to tackle this curriculum insufficiency at the source. This example of company initiative requires no strict partnerships and makes the resources available to anyone across the globe free of charge in an educational area recognized to be lacking resources.

Business and financial policy leaders who are aware of curricular limitations and are looking to create financial planning materials in the future should consider targeting a segment to educational staff. In addition to providing guidance to teachers, these initiatives build brand awareness and trust, critical to the clients in their communities.

### **3. Rwanda: Visa-Government Partnership to Encourage Electronic Financial Services**

In 2011, the Government of Rwanda and Visa announced a Charter of Collaboration highlighting 12 initiatives identified by both parties to create a "fully-inclusive financial system"<sup>10</sup> and further Rwandans' financial literacy and understanding of electronic

<sup>8</sup> "TD Bank Virtual Stock Market Game." Virtual Stock Market Simulator.

<sup>9</sup> *Bridging the Financial Literacy Gap: Empowering Teachers to Support the next Generation*. PwC US.

<sup>10</sup> "Banking, Financial Services; Visa-Rwanda Partnership to Drive Electronic Financial Services." *China Weekly News*

financial services. Both the government of Rwanda and Visa had tangible policy goals to advance their public-private partnerships. Their collaborative efforts began a series of campaigns around the country to help people of all ages better understand finances and demystify electronic exchanges.

For the country of Rwanda, it was a step in their journey to becoming a middle-income country by 2022 and transitioning their economy from primarily goods-based to service oriented. Having Visa's digital payment infrastructure available to their citizens and tourists made for increasingly secure and efficient payments in a formerly cash-driven economy. For Visa, it was a successful business venture and experiment that would begin a series of campaigns<sup>11</sup> to bring electronic payments into developing countries around the world, thanks in part to Rwanda's framework and success. Elizabeth Buse, the Visa group president leading the project, emphasized Visa's role in "training to improve economic literacy and improve banking standards."<sup>12</sup> The National Bank Governor of Rwanda, Claver Gatete, agreed that "well-developed financial systems are essential for sustained economic growth."<sup>12</sup>

True to Rwandan culture, a pivotal part of the financial education programming was done through nationwide street performances and theater productions, allowing the population to feel entertained, safe, and humored while increasing their understanding

of finances and payments. These performances were accompanied by radio-programs and the launch of Visa's Financial Football application that allowed anyone with a mobile device to be quizzed on financial concepts as they played a virtual football game. The question results determined the teams' advancement and playing, and the game is still being played around the world today. A year into the initiative, the partnership was estimated to have reached 40 000<sup>13</sup> Rwandans with its programs. Both parties were so satisfied with the results that they agreed to extend it for an additional three years.

The rise in Rwanda's economic position since 2011 is a testament to a combination of policies and initiatives, but skilled integration of public-private partnerships have certainly played a role in its development as well. Policymakers and businesses looking to grow their own financial service sectors and resources in underserved regions should look to successful examples like this one to understand the opportunities at their disposal. In the words of the Honourable John Rwangombwa, Minister of Finance and Economic Planning during the Visa partnership, it was "a stellar example of the positive impact when there is mutual understanding on how national needs can match commercial interest in a mutually constructive way."<sup>13</sup>

#### 4. Slovakia: Moja Família

<sup>11</sup> Mccurdy, J, Christopher Perry Simone, Manuel Herrera, and Holly Heckathorne. "MVisa: Penetrating the Electronic Payments Market in Sub-Saharan Africa"

<sup>12</sup> "Visa to Modernise Rwanda Payments." *BiztechAfrica*.

<sup>13</sup> "Rwanda Reaps the Benefits of Electronic Financial Services." Visa Investor Relations News Details.

In 2021, the state of Slovakia's financial literacy rates, particularly in schools, were assessed, yielding surprising results. Despite the fact that the recent National Standard of Financial Literacy had been approved and projects launched, the evidence shows that there continued to be "insufficient financial education in Slovakia."<sup>14</sup> The study noted that the subject of financial literacy, although accepted by the national policy strategy as important, fails to be a compulsory learning requirement in the public education system, as it does in many countries. This decision leaves it in the hands of each teacher to choose to implement elements of financial education into their curriculum or not, and with limited time, they often parse it into nothing more than math problems. The crux of the findings, though, was that there is no correlation between the quantity of financial exercises or education and a student's financial literacy. Financial literacy only follows *quality* educational content. Producing this content with diverse activities, teacher supports, and technology implementation to encourage the use of online banking services was the greatest indicator of financial literacy of all other products' use.<sup>14</sup> The key to sustainable and effective financial literacy in Slovakia lies in better-supporting teachers.

The game *Moja Família*, created by financial services company OVB, is a creative Slovakian program aiming to support teachers and engage students with a national

competition. The game is interactive and technologically advanced, with chatbots and messaging built-in, and the company provides free training for teachers<sup>15</sup> to optimize their usage of the game. It encourages elementary school students to care for a virtual family of four, prompting them to make critical decisions around budgeting while balancing health, happiness, and unexpected circumstances. The added element of personal responsibility, albeit for virtual figures, adds a layer of realism to the activity unseen in classroom math problems. While the game contains both competitive and non-competitive options based on the teacher's discretion, the 2022 National Competition featured fifty-six classes and awarded the top class a cash prize.

Throughout the game and from the children's perspective, OVB commits to a no-advertising policy, keeping the platform free of branding and specifying that only the teachers have access to students' data. This shield between students and the brand is an example in which corporate biases are mitigated while learning quality remains; it is a possible inspiration for policymakers to whom the potential determinants of advertising on children's financial literacy outcomes were a particular concern. OVB continues to have the right to mention its affiliation with the game in all external advertising, reporting, and teacher interactions. The project has continued smoothly for twelve years<sup>16</sup> as

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<sup>14</sup> Böhm, Patrik, Gabriela Böhmová, Viktória Šimková, and Jana Gazdíkova. "The Impact of Secondary Education on the Level of Financial Literacy: The Case of Slovakia."

<sup>15</sup> "Čo Je to Moja Família?" Finančná gramotnosť pre ZŠ.

<sup>16</sup> "Moja Família." Finančná Gramotnosť.

of 2022, improving both teacher and student experiences.

## 5. Brazil: Case-Based High School Curricula

In 2010, when Brazil set out its National Strategy for Financial Education, it classified it as a multi-sector cooperation and ensured that the strategy's governance committee was composed of both private and public sector representatives. The notable difference between Brazil's strategy and that of many other countries is that it chose to center its creativity and resources in its school curriculums instead of in a less-incentivized, more abstract form of educational material creation. The private-sector participants contributed somewhat to the creation of resources but contributed more significantly to the projects' funding.<sup>17</sup> They were at the table to agree to initiatives and be on top of the newest policy development ideas. The funding is diversified across a range of businesses and financial services sectors to mitigate conflicts of interest with respect to the project outcomes. This proximity of policy to funding availability is a case that other governments could follow in situations such as financial curriculum creation, where the interests of the government and the financial institution are closely aligned. This decision-based utilization of corporate social responsibility and public-private alignment has contributed to a highly effective

high school financial literacy curriculum actively changing the lives of Brazilian students and families.<sup>18</sup>

The typical in-school financial education program in Brazil is a year and half long. It is woven with realistic case studies into not just Mathematics, but also the Science, History, and Portuguese curriculums; additional learning materials include interactive class exercises, at-home activities with parents, role-playing, and event planning. These activities, in combination with extensive educator training, web tools, and handbooks, ensure that teachers are confident in their lessons. Only then is a classroom environment created where key messages can be properly and consistently emphasized.

A WorldBank study<sup>18</sup> of the success of the Brazilian curriculum, one of the most diverse and large-scale studies of its type done in history with the participation of 20 000 students in six Brazilian states, yielded positive financial and savings outcomes. Not only did the program impact high-achieving students, but it had a significant impact on average and below-average students as well, moving the entire normal distribution of financial literacy test scores up and to the right. The evidence even had a statistically significant impact on the lives of parents and families, with graduates of the program more likely to participate in household budgeting and financing decisions. The positive externalities of this study are evident but are not as widely

<sup>17</sup> Forte, Claudia. *National Strategy for Financial Education: Working towards a Better Brazil*.

<sup>18</sup> Bruhn, Miriam, Luciana de Souza Leão, Arianna Legovini, Rogelio Marchetti, and Bilal Zia. "The Impact of High School

Financial Education: Evidence from a Large-Scale Evaluation in Brazil."

present in similar studies throughout the history of financial education; the authors of this study attribute these findings to this program being “delivered in a comprehensive manner and over a significant period of time.”<sup>18</sup> Those authors speak to the relevance of consistency and repetition within financial education accompanied by real-life cases integrated across multiple subjects. Brazil’s success with their behavioral changes in upper adolescents should serve as a framework for policymakers to better understand how to integrate the concepts into their curriculums and distribute the length of learning.

## 6. Conclusion

In the event of another global financial hardship in 2023 and beyond, societies around the world will once again feel the implications of financial unawareness and its impact on everyone. While this will be painful, it will also be an opportunity to rediscover the importance of personal financial management, and the emphasis surrounding the topic will prompt the creation of new educational materials. As the topic is top-of-mind, it is important for policy makers to be aware of the benefits of public-private partnerships so they can better serve undereducated communities. For those building financial literacy strategies for corporations or governments, the following summary synthesizes the key outcomes of the cases.

- The support of teachers is fundamental to the support of their students’ learning outcomes. It is the confidence and understanding of the person at

the front of the classroom who will have the greatest impact on each student’s ability to carry those lessons out of the classroom and implement them as adults.

- Educators should make the classroom’s financial problems an extension of the problems facing adults in the real world. This comparison can be accomplished through the use of case studies, imitations of actual financial instruments, and by giving students a sense of tangible rewards in their work, among other methods.
- A deep understanding of any subject matter requires time, repetition, and reflection. In a world where financial education is famously a pop-up class or one-off session, there needs to be greater effort placed on long term integration of financial materials into student’s educations.
- Integrating financial concepts into every part of the curriculum allows students to grasp the nuances and fundamentality of financial decision making in everything they do. This foundation positions them to implement these frameworks into all aspects of their lives from personal well-being to long-term payoffs that could never come from mathematical-deduction alone.

The above cases inspire creativity and partnerships to improve the quality of financial education worldwide, and are a call to both public and private organizations to involve themselves in improving the quality of their community’s education. As awareness of the importance of financial education grows within both the education



and financial services sectors, greater opportunities for partnerships will be allowed with substantial technological improvements.

## Bibliography

Klapper, Leora, Annamaria Lusardi, and Peter van

Oudheusden. "Financial Literacy Around the World," 2014. [https://gflec.org/wp-content/uploads/2015/11/Finlit\\_paper\\_16\\_F2\\_singles.pdf](https://gflec.org/wp-content/uploads/2015/11/Finlit_paper_16_F2_singles.pdf).

"Banking, Financial Services; Visa-Rwanda Partnership to Drive Electronic Financial Services." *China Weekly News*, November 20, 2011. <https://global-factiva-com.myaccess.library.utoronto.ca/redirect/default.aspx?P=sa&an=CHWKNW0020111216e7ck0007u&drn=&cat=a&ep=ASE>.

*Bridging the Financial Literacy Gap: Empowering Teachers to Support the next Generation*. PwC US, 2016. <https://www.pwc.com/us/en/about-us/corporate-responsibility/assets/pwc-financial-education-report.pdf>.

Bruhn, Miriam, Luciana de Souza Leão, Arianna Legovini, Rogelio Marchetti, and Bilal Zia. "The Impact of High School Financial Education: Evidence from a Large-Scale Evaluation in Brazil." *American*

*Economic Journal: Applied Economics* 8, no. 4 (2016): 256–95.

<https://doi.org/10.1257/app.20150149>.

Böhm, Patrik, Gabriela Böhmová, Viktória Šimková, and Jana Gazdíková. "The Impact of Secondary Education on the Level of Financial Literacy: The Case of Slovakia." *Problems of Education in the 21st Century* 79, no. 1 (2021): 13–33.

<https://doi.org/10.33225/pec/21.79.13>.

Carpena, Fenella, and Bilal Zia. "The Causal Mechanism of Financial Education: Evidence from Mediation Analysis." *Journal of Economic Behavior & Organization* 177 (2020): 143–84.

<https://doi.org/10.1016/j.jebo.2020.05.001>.

"Education and Financial Literacy." TD Ready Commitment. TD Bank. Accessed December 3, 2022. <https://www.td.com/ca/en/about-td/ready-commitment/education-and-financial-literacy>.

"Financial Education Resources." TD Bank WOW! Zone. TD Bank. Accessed December 3, 2022. <https://www.td.com/us/en/personal-banking/wowzone>.

Forte, Claudia. *National Strategy for Financial Education: Working towards a Better Brazil*. São Paulo: Riemma Editora, 2021. <https://repositorio.uft.edu.br/bitstream/11612/3020/1/National%20strategy%20for%20financial%20education%20%28ENEF%2C%20Portuguese%20ac>

ronym%29%20-%20working%20towards%20a%20b  
etter%20Brazil%20-%20vers%C3%A3o%20ingl%C3  
%AAs.pdf.

du/cgi/viewcontent.cgi?article=1006&context=glb  
m400.

Henderson, Gail E, Pamela Beach, and Andrew Coombs.

“Financial Literacy Education in Ontario: An  
Exploratory Study of Elementary Teachers’  
Perceptions, Attitudes, and Practices.” *Canadian  
Journal of Education/Revue canadienne de  
l’éducation* 44, no. 2 (2021): 308–36.  
<https://doi.org/10.53967/cje-rce.v44i2.4249>.

“Moja Família.” Finančná Gramotnosť. OVB. Accessed  
November 13, 2022.

[https://www.financnagramotnost.sk/moja-  
familia/](https://www.financnagramotnost.sk/moja-familia/).

Klapper, Leora, and Dorothe Singer. *The Opportunities of  
Digitizing Payments*. Washington, D.C.: World  
Bank, 2014.

[https://openknowledge.worldbank.org/handle/109  
86/19917](https://openknowledge.worldbank.org/handle/10986/19917).

“Rwanda Reaps the Benefits of Electronic Financial  
Services.” Visa Investor Relations News Details.  
Visa, 2012. [https://investor.visa.com/news/news-  
details/2012/Rwanda-Reaps-the-Benefits-of-  
Electronic-Financial-Services/default.aspx](https://investor.visa.com/news/news-details/2012/Rwanda-Reaps-the-Benefits-of-Electronic-Financial-Services/default.aspx).

“TD Bank Virtual Stock Market Game.” Virtual Stock  
Market Simulator. TD Bank. Accessed December 3,  
2022. <https://virtualstockmarket.tdbank.com/>.

Masterson, Victoria. “What Does ‘Global Debt’ Mean and  
How High Is It Now?” *World Economic Forum*,  
May 16, 2022.

[https://www.weforum.org/agenda/2022/05/what-  
is-global-debt-why-  
high/#:~:text=In%202021%2C%20global%20debt%  
20reached,a%20global%20financial%20industry%20  
association.](https://www.weforum.org/agenda/2022/05/what-is-global-debt-why-high/#:~:text=In%202021%2C%20global%20debt%20reached,a%20global%20financial%20industry%20association.)

“Visa to Modernise Rwanda Payments.” *Biztechafrica*,  
2011. [https://www.biztechafrica.com/article/visa-  
modernise-rwanda-payments/1570/](https://www.biztechafrica.com/article/visa-modernise-rwanda-payments/1570/).

“Čo Je to Moja Família?” Finančná gramotnosť pre ZŠ.  
OVB, 2022.

[https://www.mojafamilia.sk/web/financna-  
gramotnost-pre-zs/](https://www.mojafamilia.sk/web/financna-gramotnost-pre-zs/).

Mccurdy, J, Christopher Perry Simone, Manuel Herrera,  
and Holly Heckathorne. “MVisa: Penetrating the  
Electronic Payments Market in Sub-Saharan  
Africa,” 2018.

<https://doi.org/https://digitalcommons.bucknell.e>