

# Issue Briefs

2009-12

Family Financial Education



## *Video Games and Financial Literacy*

The following games can be used to enhance financial literacy. Background on using real games in financial learning from recent literature on the topic follows the game list.

### *EverFi.*

[www.everfi.com](http://www.everfi.com)

EverFi is a web-based simulation game designed for individuals ages 16-24 that covers a wide range of financial topics. This link:

<http://www.everfi.com/images/screenShots/EverFi>

[LifeMap.jpg](#) provides a screenshot. EverFi contains many "virtual worlds" and interactive activities including a tour of the NY Stock Exchange and a used-car dealership. EverFi offers a five-hour series of Web tutorials. This is a SimCity-style game in which they control characters' spending habits, rewarding good choices and suffering the consequences of bad ones.

### *Doorways to Dream's (D2D's) Celebrity Calamity*

[www.celebritycalamity.com](http://www.celebritycalamity.com).

The game is designed for low-to moderate-income females ages 18 to 32. Students practice paying off credit card bills, learn how much they really pay for items when they pay interest, and pick up a basic understanding of how to use credit. This game's primary focus is credit management. From D2D's website (based on n =44): "These preliminary, small sample tests revealed that after 60 to 90 minutes of game play, players showed increases of 15-30% in financial self-confidence. In addition, key knowledge questions reflective of core game teaching points showed 50-70% increases. At the same time, these same players rated Celebrity Calamity as 4.27 (out of 5) for fun." Doorways to Dreams found that 55 percent of the players understood the meaning of annual percentage rate before playing, but afterward the figure climbed to

86 percent. Less than half of players understood finance charges before playing, while 82 percent did so afterward. And women said they felt more confident about handling finances after playing

### *Practical Money Skills*

<http://www.practicalmoneyskills.com/games/trainingcamp/>.

This website contains seven free games that can be embedded at no cost in other websites. The most widely used is Financial Football, a joint venture between Visa and the NFL. The game is accompanied by a classroom curriculum designed for high school students. Teams compete by answering multiple-choice questions to earn yardage and score touchdowns. Financial Football has been distributed by 23 state governments to every public high school in those states. Building on the success of Financial Football, Visa recently released Financial Soccer (Financial Football outside of the US), an interactive FIFA-themed video game that tests users' knowledge of personal finances. Financial Soccer offers single player and head-to-head game play options and is being translated into a dozen different languages. This free game features three difficulty levels – children, teens and adults – and has companion lesson modules for classroom use. Visa will roll out Financial Soccer in over 12 countries in the months leading up to the 2010 FIFA World Cup™. The 5 other games on this website are Countdown to Retirement, Smart Money Quiz Show, Road Trip to Savings, Ed's Bank, and Cash Puzzler. All seven games are based on the Practical Money Skills for Life program, which is Visa's widely used financial education program. The program contains comprehensive money management resources and lesson plans tailored for use at home and in the classroom.

### *Ekomini*

[www.ekomini.com](http://www.ekomini.com)

Ekomini counts deposited coins through an online bank. The program is designed for children. Using a web-enabled coin-saver (piggy bank) kids deposit their money, see the amount deposited and how much has accumulated.

### *Wells Fargo's Stagecoach Island*

<http://blog.wellsfargo.com/stagecoachisland/>

Virtual world game originally developed through Second Life in 2006. Users can connect with friends and learn money management. It has four neighborhoods: Isla Del Sol, Desert Hollow, Sapphire Springs, and Olympic Valley as well as a Learning Lounge with a virtual ATM. Users can earn money (shells) and save to buy land and start building a home. Users work virtual jobs, use credit cards, and take out home loans.

### *CentsCity*

<http://www.centscity.com/>

This program is unique because it allows parents to embed rewards in the program. (This could be something free such as more television viewing time or items purchased through the site). The program is designed for ages 8-14. Focused on managing money (i.e. creating a budget, checking versus savings account, and balancing a checkbook), borrowing money (i.e. owning a credit card, paying for college, and rent vs. mortgage), and growing money (i.e. buying & selling stocks, owning a business, and understanding compound interest). CentsCity is aligned with national standards published by the National Coalition of Teachers of Mathematics (NCTM) and the Jump\$tart Coalition for Personal Financial Literacy (National Standards in K-12 Financial Education Standards; 3rd Edition, 2007).

### *FINRA's Moneytopia*

<http://apps.finra.org/moneytopia/moneytopia.html>

FINRA created Moneytopia: The Big Dream for servicemen and women and their spouses ages 18 to 24, although anybody can play

the game. The goal of Moneytopia is to make sound financial decisions and achieve financial goals over a multiyear period.

Moneytopia takes players through 40 years of financial decisions, including where to live, what clothes to buy, where to invest, and what bills to pay. To win, players must keep careful track of their finances, pay their bills on time, and manage all of the small day-to-day items that can impact their finances.

Players can use cash, credit cards, or high-cost payday loans to pay their bills.

Occasionally, players must deal with surprise expenses such as a wedding or the birth of a child. An investment advisor offers financial tips throughout the game.

### *T. Rowe Price Associates and Disney's The Great Piggy Bank Adventure.*

The Great Piggy Bank Adventure is a virtual board game that focuses on the importance of wise financial planning. The game is designed for children ages 8 to 14, and parents are encouraged to play the game along with their children. Players learn about important financial concepts and use these lessons to complete the game and achieve their dream goals. The game's lessons cover setting goals, saving and spending wisely, the impact of inflation, asset allocation and diversification. Players strive to collect as many truffles as possible to reach their financial goal. Players can invest in three piggy banks representing cash, bonds and stocks. The returns vary with each round but are based on actual, historic returns in their respective markets.

### *Community Bank's (Bank of America) Sir Save-a-lot's Kingdom.*

<http://www.kids-save.com/home>

Children list items they want to save for and, if they wish, can upload pictures of those items. If they have more than one item they're saving for, they can allocate a percentage of savings to each item by using a simple priority slider. Users can see how much they have saved toward their goal with a progress bar that also allows them to transfer money from one goal to another. The game is designed to provide positive reinforcement to children as they do chores

and save toward the savings goals their family has decided upon. Each time children log on, they record the completion of chores and whatever money they earned from their parent(s). The game automatically allocates this money to their goals based on the priority slider, and all allocations can be viewed in the log. The program also features an online game that teaches children about saving and budgeting. This game, known as Sir Save-a-lot's Kingdom, allows children from around the world to compete with each other by making virtual saving and spending decisions that affect the growth of their village. Thus, the program features both an online banking feature and an interactive game.

### ***Background on Real Games and Financial Learning***

**Mandell, Lewis (2008), "Financial Literacy in High School," forthcoming in Annamaria Lusardi (ed.), *Overcoming the Saving Slump: How to Increase the Effectiveness of Financial Education and Saving Programs*, University of Chicago Press.**

Mandell says "The stock market game is the only school-based educational program that is consistently related to higher financial literacy scores. Starting with the 2000 Jump\$tart survey, when it was first measured, students who played a stock market game in class do 3-4 percentage points better than all students. On a mean score base just above 50 percent, this translates to a 6-8 percent increase in financial literacy. Although reasons for the success of this activity are not clearly known, playing such an interactive game appears to stimulate general interest in personal finance. The 2006 survey shows that students who played a stock market game in class outscored the average in every subject category, not just in areas related to saving and investments" (p. 268)... "The stock market game again is found to be important: 40.2 percent of all financially literate students played a stock market game in class" (p. 271).

**Mandell, Lewis and Linda Schmid Klein (2007): "Motivation and financial**

**literacy." *Financial Services Review*, Vol. 16, 2007, pages 105-116.**

"Playing a stock market game is consistently related to higher literacy scores, presumably because the fun and interactivity of playing such a real-time game provides the intrinsic motivation necessary for learning." "For high school students, motivation is a key factor to becoming financially literate and trained instructors who teach personal finance interactively through activities such as a stock market game or other simulations are certainly a start."

**Lusardi, A., 2008, *Financial literacy: An essential tool for informed consumer choice?***

"However, a specific school-based educational program that is consistently related to higher financial literacy scores is the stock market game. Those who play a stock market game in class do three to four percentage points better than all students on financial literacy tests. This may provide some guidance on how literacy courses could be improved upon." "Courses can be customized and tailored to various needs and levels of financial knowledge. Moreover, as the evidence on the effectiveness of the stock market game in high schools seems to suggest, it may be important to find ways to make courses engaging and to stimulate interest in acquiring financial literacy."

**Walstad, WB & Buckles, S. 2008. *The National Assessment of Educational Progress in Economics: Findings for General Economics. American Economic Review*.**

After examining factors that affect 12<sup>th</sup>-graders' scores on a general economics assessment test, the authors write (and note this is a top economics journal). "The activity list included participating in Future Business Leaders of America, DECA (a marketing group), Junior Achievement, economics-related clubs, academic competitions, a stock market game or simulation, a student-managed school store, and a student-managed credit union or bank. Of the list, the only activity that shows a positive and significant relationship with test scores was participation in a stock market

game or simulation, either as part of a class or as an extracurricular activity. Presumably this activity reinforced economic ideas that they learn in a general economics course."

**Cebula, R. & Toma, M. 2002 The Effect of Classroom Games on Student Learning and Instructor Evaluations. *Journal of Economics and Finance Education*.**

The authors evaluate the impact of incorporating The Stock Market Game on student performance and teacher evaluations in eight upper level Money and Banking university courses. "A test is conducted in which, ceteris paribus, student examination scores were observed to increase in the sample that included a financial market portfolio project...The results in the present analysis suggest that students comprehended more of the material, and assigned higher scores to their evaluation of the instructor...It is worthwhile to note that very little other course material was altered or 'crowded out' as a result of including the investment project...These findings are tentatively attributed to the fact that it became readily apparent to the students how useful the classroom material could be in the 'real world.'"

**Learning Point Associates (FINRA Grant to evaluate the Stock Market Game)**

[http://www.learningpt.org/smg/SMG\\_Study.pdf](http://www.learningpt.org/smg/SMG_Study.pdf)

The Stock Market Game impacts student achievement in investment knowledge and math: "Learning Point's year-long study found that elementary school students in Grades 4-6 who played The Stock Market Game scored on average above the 55th percentile on the mathematics tests, while students who did not play the game scored on average above the 43rd percentile. Students in Grades 7-10 who played the game scored on average above the 54th

percentile, while students who did not play the game scored on average above the 46th percentile. Students who played The Stock Market Game also significantly outperformed their peers in their knowledge of financial concepts. In tests to measure investor knowledge, elementary school students who played the game scored on average above the 68th percentile, compared to an average score above the 42nd percentile for students who did not play the game. Students playing the game in both middle and high school scored on average above the 58th percentile, while their peers scored above the 42nd and 40th percentiles respectively."

The study used a randomized controlled trial in 600 classrooms nationwide. Half of those classrooms played The Stock Market Game and half did not. 2,700 students were surveyed using self-reports. Learning Point also conducted a nationwide survey of teachers of The Stock Market Game.

**O'Neill, Barbara. 2008. Financial Simulations for Young Adults: Making the "Real World" Real. *The Journal of Extension*.**

<http://www.joe.org/joe/2008october/2008december/tt4.php>

This article describes 11 youth money simulations including Mad City Money. "Simulations are a useful tool for teaching personal finance concepts. Keys to a successful simulation experience are easy to replicate materials, realistic scenarios, clear instructions for participants, and a thorough debriefing where students discuss their experiences and what they learned. Simulations provide an opportunity for students to appreciate the economic impact of a post-secondary education and to practice financial management skills such as check writing and budgeting. In addition, they are interactive, which makes learning fun.



*The University of Wisconsin-Extension (UWEX) Cooperative Extension's mission extends the knowledge and resources of the University of Wisconsin to people where they live and work. Issue Briefs are an ongoing series of the Family Financial Education Team. This brief was drafted by J. Michael Collins, Assistant Professor in Consumer Finance and Extension State Specialist.*

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