

Financial Education and Mobile Technology

February 23, 2010

Board of Governors of the Federal Reserve System

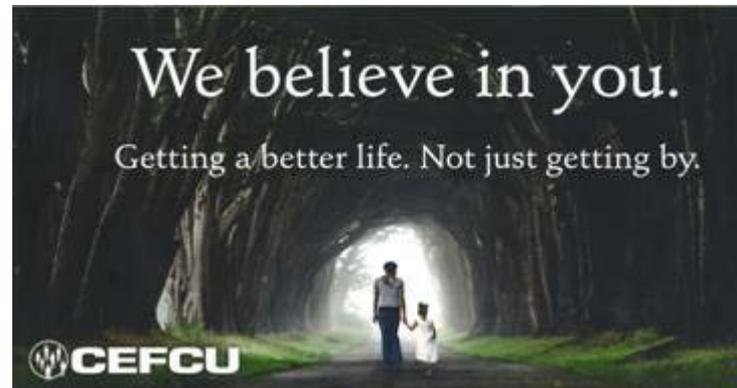
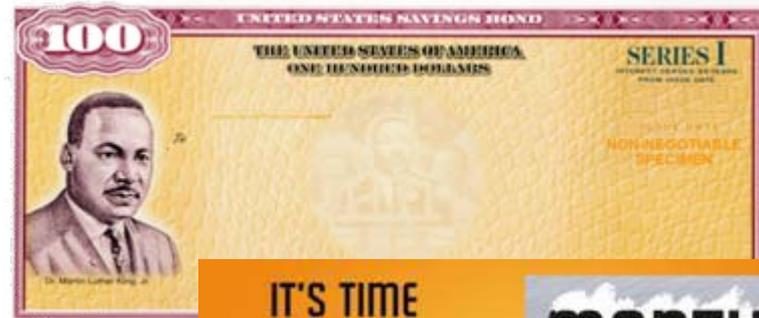
Washington DC



Doorways to Dreams (D2D)

Doorways to Dreams (D2D) Fund (www.d2dfund.org) founded in 2000 by Harvard Business School Professor & Senior Associate Dean, Peter Tufano

- National non-profit 501(c)3 headquartered in Roxbury, Massachusetts
- mission to increase access to financial services, especially asset-building tools, for working poor Americans
- Focus on
 - Innovation
 - Scale
 - Real-world testing



Financial Education

Need:

- Knowledge level low
 - Fewer than 1/3 of young adults answer correctly basic questions on interest rates, inflation & diversification (Lusardi, Mitchell & Curto, 2010)
- Financial readiness poor
 - 46% of Americans are unsure they can come up w/ \$2k in 30 days, from savings, borrowing or otherwise (Tufano, Lusardi & Schneider, 2009)
- Need for educated consumers is rising
 - must navigate more choices, responsibility (e.g., retirement plan shift from defined benefit to defined contribution)
 - Most vulnerable consumers generally are least well prepared

Status of Field:

- **Content:** often comprehensive, focused on building knowledge and skills
- **Delivery:** typically group-based in person, or self-study (offline / online)
- **Effectiveness:** literature review showed modest or inconclusive results from 27 studies of financial education (Collins & O'Rourke, 2009)

Financial Education & Mobile Technology

Mobile Technology

- Personal / portable
- Interactive
- High-tech (smart phones)



Implications for Financial Education

- Delivery
 - reach consumers anytime, anywhere
 - allow timely, on-demand information “pulls”
 - access to consumers with greatest need (young, lower-income)
- Content
 - interactive
 - personalized, relevant
 - From simple (text message) to complex (smart phone app)

An Alternative Vision: Financial Entertainment

“D2D’s vision is financial entertainment. Taking cues from business and entertainment, we need to work with and for consumers in the development of engaging new media that teach them how to better manage their money.”

Financial Entertainment is:

- fun / engaging
- convenient
- accessible
- relevant / timely

We envision a library of casual video games, each teaching simple financial lessons such as:

- Wise use of credit & debit cards (*Celebrity Calamity*)
- Personal budgeting (in development, *Groove Nation*)
- Basic calculations, like compound interest
- Assessing financial service offerings
- Awareness of expensive pitfalls (e.g., check cashing, payday lending)





Why Video Games? Four Elements of Learning

Learning to Learn

- Games teach users how to play as they pass through each level by introducing new concepts or degrees of difficulty
- Levels are just hard enough for the user that they encourage learning and adaptation of new skills, evolve in complexity and result in simultaneous feelings of pleasure and frustration

Practice & Feedback

- Levels allow for distributed practice across time, which reinforces skills
- Users can learn at their own pace- games typically allow users to play levels until skills are acquired
- Repetition- users can replay levels that they may have already mastered to reinforce their skills

Engaging & Motivating

- The graphics, sound, and action of a game stimulate players, drawing them in and motivating them to learn to play
- Users are motivated to win the game, and therefore require that they learn new skills required for successful game completion

Transferable Skills

- Users are often forced to make good decisions under stress, make moral choices, take risks, and deal with an onslaught of data
- Higher Order Thinking Skills such as problem solving, strategic thinking, and interpretative analysis are often required to play

D2D's First Game: *Celebrity Calamity*



In this casual game, players become the financial manager for up-and-coming celebrities who spend beyond their means. Players must effectively use a bank account, debit card, and credit card to be successful.

While focused on fun, the game's explicit learning objectives include:

- Paying more than the minimum credit card payment;
- Minimizing credit card finance charges;
- Avoiding all fees including bank overdraft, credit card late payment, and credit card over-limit; and
- Making good annual percentage rate (APR) choices.

The game also includes a number of implicit learning objectives, such as raising awareness of spending behavior and the value of saving money.

Next Step: Celebrity Calamity (and its successors) for smart phones

Measuring Success

How we measure success:

- **Engagement:** Given the opportunity, will and how much will a target audience choose to play a financial education game? How does this compare to take up of other financial education and decision making tools?
- **Knowledge & Skills:** Does the game teach? What does it teach? Does it teach some concepts better than others?
- **Self-Confidence / Self-Efficacy:** Does game play improve financial skills self-confidence?
- **Behavior Change:** What impact does the play of financial education casual games have on real world behavior?

Other issues:

- **Role of Frequency:** What, if anything, can we learn about the impact of game play repetition and frequency on outcomes?
- **Impact Persistence:** How long will positive outcomes persist?

Key Questions

Whether mobile devices fulfill their promise in the financial education arena hinges on several key questions:

- Adoption – how quickly will consumers, especially vulnerable consumers, adopt (smart) phones?
- Distribution – how do we reach large numbers of mobile device holders with financial education offerings?
- Content – what engaging, effective content can be developed across the range of mobile devices, from simple to smart phones?
- Impact – will the personal, portable, interactive nature of mobile devices lead to greater:
 - Reach
 - repetitive engagement
 - timely engagement

Contact Information

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