

## PREP FOR CHANGE:

# Improving Financial Capability through Standardized Testing

Doorways to Dreams Fund

May 2013

**Imagine students choosing to learn about personal financial concepts. Studying in a system that encourages high school students to learn how financial decisions can affect their lives and rewarding them when they do so. This scenario could become a reality by leveraging national standardized tests and students' self-interest to change the context of standardized testing to reflect current, applicable issues in personal finance.**

Students across the United States graduate from high school with stunningly low levels of financial capability. Many are unable to make basic financial decisions, do not understand compound interest, and are ill-prepared to tackle the complex financial decisions required of them. Researchers have found that young Americans (ages 18-35) are even less financially capable than older generations. A Financial Industry Regulatory Authority (FINRA) study found that few have financial reserves, with 68% not having an adequate rainy day fund, 23% routinely spending more than their household income, and over a third engaging in non-financial institution borrowing.<sup>1</sup>

There is a vibrant community of financial capability practitioners and policy makers in the United States working towards improved youth outcomes. However, efforts to include financial education in

schools have been met with limited success due to curriculum and budgetary constraints. Additionally, few teachers feel prepared to teach their state's financial education standards with 60% saying they are unqualified.<sup>2</sup> Most educators had little formal training on the subject with only 11.6% of K-12 teachers reporting that they had taken a workshop on teaching personal finance.<sup>3</sup> A new approach that can complement existing efforts is needed to bolster high school students' financial capability.

As D2D Co-Founder Dr. Peter Tufano explored in his 2010 essay in the *Chronicle of Higher Education*, "Leveraging Admissions Tests to Increase Financial Savvy," changing the context of standardized college admissions tests (like the ACT or SAT) or state-wide exit exams could create a student-centered desire to learn about personal finance.<sup>4</sup> The Consumer Financial Protection Bureau is also supportive of this concept<sup>5</sup> building off of previous work on the idea and recommendations from the Department of Treasury.<sup>6</sup> Practitioner, government, and research support have all touted this idea as a practical, doable, and scalable way to increase financial capability among students. This is an important moment to act to impact these tests—they are both in redesign cycles and are open for changes.

<sup>1</sup> FINRA Investor Education Foundation. "FINRA Foundation Releases Nation's First State-by-State Financial Capability Survey." December 8, 2010 Available at: <http://www.finra.org/Newsroom/NewsReleases/2010/P122538> Accessed 3/20/13.

<sup>2</sup> National Endowment for Financial Education. "Are Teachers Making the grade in Personal Finance Education?" May 4 2010, <http://www.nefe.org/NEFENews/PressRoom/PressRelease/UWMADISONRELEASESSTUDYONTEACHERSCAPABILITY/tabid/835/Default.aspx>. Accessed 3/20/13.

<sup>3</sup> Ibid.

<sup>4</sup> Peter Tufano. "Leveraging Admissions Tests to Increase Financial Savvy." *The Chronicle of Higher Education*. Commentary. October 2010. Available at [www.d2dfund.org](http://www.d2dfund.org).

<sup>5</sup> Consumer Financial Protection Bureau (CFPB). "Transforming the Financial Lives of a Generation of Young Americans: Policy Recommendations for Advancing K-12 Financial Education" (April 2013).

<sup>6</sup> U.S. Department of Treasury, Office of Financial Education. "Integrating Financial Education Into School Curricula: Giving America's Youth the Educational Foundation for Making Effective Financial Decisions Throughout Their Lives by Teaching Financial Concepts as part of Math and Reading Curricula in Elementary, Middle, and High Schools." (October 2002).

- **The ACT is currently collaborating with the Common Core State Standards initiative and is redesigning tests to reflect these standards.**<sup>7</sup>

- **The SAT is going through a major redesign to increase alignment with subjects taught in school.**<sup>8</sup>

This paper analyzes the need for financial literacy in high school, how changing the context of standardized test questions could affect students, preliminary research and attitudinal studies from students and educators on this idea, and steps forward.

## THE NEED FOR FINANCIAL CAPABILITY

Student loan debt has exploded in the United States and has become a high stakes public policy issue. The debt adds extra pressure to a generation of young adults that are already struggling in our current economy. It impacts all sectors of the U.S. economy and our ability to resume growth. For example, students that are paying their loans are doing so in place of being able to take out a mortgage or commit to other consumer spending. And many are simply unable to pay back their loans. The average student loan debt for the class of 2011 is \$27,300, with the total amount of student loan debt hitting the \$1 trillion mark in early 2012.<sup>9</sup> Default rates have risen to 9.1% as a national two-year average, with for-profit institutions seeing a three-year average<sup>10</sup> of 22.7%, ruining the credit of many young adults.

<sup>7</sup> ACT. "Common Core Standards." [www.act.org/solutions/college-career-readiness/common-core-state-standards](http://www.act.org/solutions/college-career-readiness/common-core-state-standards). Accessed 5/1/13. **And** ACT. "New ACT Assessment System to be Named ACT Aspire." September 27, 2012. Available at: <http://www.act.org/newsroom/releases/view.php?lang=english&p=2556>. Accessed 5/15/13.

<sup>8</sup> Valerie Straus "SAT exam to be redesigned." *The Washington Post*. February 26, 2013. Available at <http://www.washingtonpost.com/blogs/answer-sheet/wp/2013/02/26/sat-exam-to-be-redesigned/>. Accessed 5/13/13. **And** Scott Jaschik. "A New SAT." *Inside Higher Ed*. February 27, 2013. Available at: <http://www.insidehighered.com/news/2013/02/27/college-board-announces-plans-redesign-sat#ixzz2TNJfoCDg>. Accessed 5/15/13.

<sup>9</sup> Richard Fry. "A Record One-in-Five Households Now Owe Student Loan Debt." *Pew Social & Demographic Trends*. September 26, 2012. Available at: [http://www.pewsocialtrends.org/files/2012/09/09-26-12-Student\\_Debt.pdf](http://www.pewsocialtrends.org/files/2012/09/09-26-12-Student_Debt.pdf).

Part of the rise of student loan debt may be due to students' lack of personal financial knowledge. In a survey of high school seniors, over one-third of students said they were unprepared or unsure of how to manage their own banking and personal finances.<sup>11</sup> This finding mirrors results from tests that D2D performed in 2011. When high school students enrolled in a test prep course were asked about their level of preparation in personal finance, they ranked their preparation at just 1.8 out of 5.<sup>12</sup>

Teachers too, see that their students could improve their financial capability. When D2D surveyed high school teachers in 2012,<sup>13</sup> they were asked about their students' level of knowledge in five areas- personal finance, financial aid for college, debt, budgeting, and credit card use they found the following:

Rank your students' knowledge on the following topics:	Average Response on a scale from 1-5 (1 being no knowledge, 5 being perfect knowledge)
Personal Finance	2.3
Financial Aid	2.6
Debt	2.3
Budgeting	2.1
Credit Cards	2.0

<sup>10</sup> U.S. Department of Education. "First Official Three-Year Student Loan Default Rates Published." September 28, 2012. Available at: <http://www.ed.gov/news/press-releases/first-official-three-year-student-loan-default-rates-published>.

<sup>11</sup> Capital One. *Capital One Survey of High School Seniors Reveals Gender Gaps in Financial Literacy*. June 24, 2009. <http://phx.corporate-ir.net/phoenix.zhtml?c=70667&p=irol-newsArticle&ID=1301899&highlight=>

<sup>12</sup> D2D performed two separate pilot tests in 2011 in partnership with Revolution Prep. Students who were taking an SAT prep class were given a survey asking about the relative importance of different subjects as well as their confidence in their knowledge about them. Students were then exposed to several sections of SAT practice exams which included financial capability questions. Afterwards, students filled out the same survey detailing relative importance and preparation. Each pilot was relatively small (n=118 for the first and n=63 for the second) and test takers only interacted with the material once. In an actual deployment results can be expected to be heightened.

<sup>13</sup> In 2012, D2D ran a small, nationwide survey asking high school educators to answer questions about how their prepared students for standardized tests and the role they played, how they viewed students' knowledge of financial topics, their students interest levels in financial topics, and the best ways to test text context changes in schools. The study was small (n=53) and oversampled inner-city and low income teachers. Although the results should be taken as preliminary, they point to leading evidence about our theory of change.

In no category did teachers rank their students at even average levels of knowledge on financial concepts. Understanding important financial capability concepts like how to use a credit card were thought to be just one step above complete lack of knowledge.

## An Important Time

As high school students graduate they are forced to make some of the largest financial decisions of their lives. Importantly, students must decide the following:

- Will I go to college? If so, what type of college (community, technical, four-year state, private)?
- Will I work instead? If so, what type of job, what type of career?
- Where will I live?
- How will I finance any of the above decisions (student loans, personal loans, credit cards, other unsecured debt)?

These questions can have lifelong repercussions and either help or hinder young adults for decades to come. The ability to evaluate life decisions and their financial consequences is something few high school seniors are prepared to do.

Many of those choosing to attend college enter into student debt contracts that can adversely affect them for many years to come. In a 2010 survey by the College Savings Foundation, it was found that 75% of 16-17 year-old high school students thought it was their responsibility to fund all or part of their higher education costs.<sup>14</sup> However, few had translated that knowledge into actionable plans, with 68% saying they have not researched any type of student loans.<sup>15</sup> Eighty percent of the students who are taking out or considering loans have not calculated the total amount they will need to graduate and even fewer (18%) have calculated their monthly repayment amount.<sup>16</sup>

<sup>14</sup> College Savings Foundation. "High School Students Step Up to Fund Their Own College Costs, Says College Savings Foundation Survey." February 25, 2010. Available at: <http://www.collegesavingsfoundation.org/pdf/HighSchoolSurveyPRFINAL.pdf> Accessed 3/20/13.

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

## HOW WOULD IT WORK?

This uniquely vulnerable time in young adults' lives, coupled with the stress of academic and life decisions, creates the need for a minimally invasive change to encourage financial literacy. Helping students connect what they are learning in the classroom, and while preparing for exams, to real life experiences can create true synergies for students.

The proposed change to a standardized test would only involve changing the context of a test question leaving the content untouched. Entrance exam test questions (ACT/SAT) are written by a large network of teachers and educators that submit questions that are then rigorously tested for fairness and difficulty. Please see the following examples:<sup>17</sup>

**WRITING**

- **Official Test Question**  
The grooved and barbed spears of the box jellyfish, each trailed by a poison thread, is released when the animal is threatened.  
A B C D  
No error E
- **Financial Capability Test Question**  
According to the national census, college graduates earns approximately fifty percent more than high school graduates earn each year. No error  
A B C D E

<sup>17</sup> Revolution Prep, a national test preparation organization, developed and tested Financial Capability SAT questions for D2D. Over 30 questions were tested for validity and cover math, writing, and critical reading content.

## MATH

### • Official Test Question

A salesperson's commission is  $k$  percent of the selling price of a car. Which of the following represents the commission, in dollars, on 2 cars that sold for \$14,000 each?

- (A)  $280k$
- (B)  $7,000k$
- (C)  $28,000k$
- (D)  $\frac{14,000}{100 + 2k}$
- (E)  $\frac{28,000 + k}{100}$

### • Financial Capability Test Question

The interest rate on a payday loan ranges from 15 to 30 percent of the loan, applied every two weeks. If Mark takes out a payday loan for  $n$  dollars and pays off the entire loan plus interest in two weeks, which of the following represents the maximum final amount of money he will have to pay on his loan?

- (A)  $0.015n$
- (B)  $0.03n$
- (C)  $1.015n$
- (D)  $1.3n$
- (E)  $1.45n$

Additionally, if this context change was adopted by the Common Core states<sup>18</sup> as part of their exit exams or through the ACT which some states are now using as their exit exam, the opportunity to influence all levels of students throughout multiple states could just as easily be implemented. If a few states advocate for context changes, it is likely it would filter to others.

<sup>18</sup> The Common Core State Standards have been adopted by 50 jurisdictions (45 states, 4 territories, Washington, D.C., and the Department of Defense Educational Activity) allowing for ample opportunity to share assessment tests developed for a few states (Common Core State Standards. "Common Core State Standards Initiative." Available at: <http://www.corestandards.org/in-the-states>. Accessed 5/07/13. ).

## HOW WOULD THESE CHANGES IMPACT STUDENTS?

Changing the context of test prep question is hypothesized to impact a variety of stakeholders and to impact students' financial capability through multiple channels. D2D has begun to evaluate each piece of the theory of change through running experiments with students and surveying teachers. Some channels are more ambiguous and should be evaluated more thoroughly.

### Students

Changing the context of standardized tests may create opportunities for students to see financial context test questions on standardized tests, on practice exams, through test prep company questions, and in classroom settings. D2D believes that the more students are exposed to this framing the more each of the following changes will occur:

- 1. Students will study financial topics** – Students are motivated to perform well on standardized tests and many spend extra time and money outside of the typical school day preparing for them. As Dr. Tufano commented, "self-interest is extraordinarily powerful."<sup>19</sup> This concept leverages that self-interest and directs it towards studying financial concepts – i.e. if students know that financial concepts appear on the test, they will study them so that they perform well.
- 2. Psychological change** – Repeated exposure to financial concepts can also result in psychological changes in the student. The content plants the seed about financial issues, their level of importance, and their application to life events. Almost immediately, this could impact how students interact with financial issues in their own lives.
- 3. General attitude change** – Through both repeated exposure and learning, students will increase their confidence in understanding financial concepts. This confidence will lead to better-informed financial decisions.

<sup>19</sup> Peter Tufano. "Leveraging Admissions Tests to Increase Financial Savvy." *The Chronicle of Higher Education*. Commentary. October 2010. Available at [www.d2dfund.org](http://www.d2dfund.org).

Working with Revolution Prep, D2D has developed and tested sample financial concept standardized test questions. Findings are preliminary, but show that post-test, students who had the financial concept questions on the math section were over 10% more likely to say that studying personal finance was important to them. Test takers' confidence about their knowledge of personal finance was low before taking the test and remained low after taking the test.

These preliminary findings provide the possibility that as students get repeated exposure to financial concepts, their view of the level of importance and possible impacts of financial capability will continue to grow. Long-term impacts determining the level of psychological change have yet to be determined.

## Parents

Although more difficult to measure, changing the framing of standardized testing may impact parents' knowledge and confidence around financial concepts as well. As many parents seek any advantage to help students boost their scores on standardized testing, they may also learn financial concepts or engage their children in financial issues in the house in order to help teach the students. In fact, studies of education programs in civics and public health demonstrate that student participation can improve parent's knowledge and behavior.<sup>20</sup> This same effect can be seen as a result of student engagement with financial concepts.

While these concepts are from other fields, the spillover effects are likely to exist in financial capability as well. D2D's 2012 teacher survey found that 30% of students prepared for standardized tests primarily at home. Parents' attention to test preparation activities of students and changes in standardized testing will bolster these effects.

## Test Preparation Industry

The test preparation industry is highly competitive and has engaged in strategies to differentiate their material and to improve students' scores. This self-

<sup>20</sup> See for example: Evans et. al. "Can children teach their parents about asthma?" *Health Education & Behavior*. 28(4): 500-11. 2001; Sedighi et. al. "Can Children Enhance Their Family's Health Knowledge? An Infectious Disease Prevention Program." *Iranian Journal of Pediatrics*. 22(4): 493-8. Dec. 2012; Rong et. al. "Effectiveness of an oral health education and caries prevent program in kindergartens in China" *Community Dentistry and Oral Epidemiology*. 31(6): 412-6. 2003.

interest has led to a real-time adaptation of commercial test prep curriculum and teaching to essentially "teach to the test." As new versions of the SAT and ACT are developed, test preparation companies update and upgrade their testing material.<sup>21</sup>

Although a change in context may act differently than the demonstrated adaptations to new content by test prep companies, there is little doubt that the close study of standardized testing would reveal an increased emphasis on financial context questions to students. This would likely spur changes in written material as well as how test preparation is taught to students, creating repeated exposure to financial capability questions for students. We need to continue to understand the process and speed of adopting new context in the test preparation industry to better estimate the impact.

## Teachers and Other Educators

Similar to the effect on the test preparation industry and parents, teachers and other educators will adjust their curricula and teaching methods to incorporate financial concepts. Through active participation in test preparation and continued exposure to the topics, teachers themselves could also see increased knowledge and confidence in financial issues.

Teachers and other in-school preparation may play an outsized role for the majority of students. When D2D surveyed a small-subset of teachers who taught low-income students, most thought test preparation occurred primarily in school. Forty-six percent said that students prepared for tests either in class (21%) or in-school through other programs (25%) over all other sources.

High school teachers may be slow to integrate changes in standardized tests into their teaching. Many high school teachers do not offer frequent test preparation, with 65% saying they do not offer weekly test prep and 39% claiming they never offer it. Fifty percent of teachers surveyed estimate that students receive less than one hour of test prep per week.<sup>22</sup>

<sup>21</sup> Ishani Premaratne. "Test-prep services prepare for upcoming SAT redesign." *USA Today*. March 6, 2013. <http://www.usatodayeducate.com/staging/index.php/toolbox/test-prep-services-prepare-for-upcoming-sat-redesign>. Accessed 5/15/2013.

<sup>22</sup> However, these are preliminary results and could be due to a small sample size and over-surveying of teachers that taught non-core subjects.

Additionally, 49% said they wouldn't notice or don't pay attention to changes in standardized testing material and only 19% are confident that they know when standardized testing material changes. These responses point to the possibility of a slow change through schools or the need to couple changes in testing with outreach to teacher associations and administrators.

## Test Makers and Curriculum Changes

All it takes is one test maker to recalibrate their tests to include a financial capability context to spur industry change and multiply the above effects. For example, the makers of the ACT have been heavily involved in the development of the Common Core State Standards.<sup>23</sup> It is likely that if the ACT were to change the context of their testing (or the reverse- the states were to ask for a financial capability context) this change would filter to other exams.

While impacting the curricula and standards states teach to is notoriously difficult, the interplay between assessments and curriculum development are clear. As noted above, teachers tend to "teach to the test," but more broadly alignment between standards and assessment often occur.<sup>24</sup> It is very possible that changes on assessments could lead to a more integrated curriculum that utilizes financial capability concepts.

## WOULD THIS WORK?

In short, we believe it would and that this idea is practical, doable, and scalable. Students are being bombarded with test prep from multiple sources- test creators, teachers, parents, the test prep industry, and themselves. Exposure to entrance exam standardized tests is surprisingly widespread even amongst low-to-moderate income students.<sup>25</sup> Administrators

and parents feel that test preparation is somewhat or very important to a high degree (56% and 69% respectively).

Changing the context of standardized tests piggy-backs on the incentives that currently motivate teachers, administrators, parents, and students. It leverages a robust infrastructure that has wide reach and the ability to impact students in multiple ways. Additionally, it encourages students to engage with personal finance concepts and may increase their receptiveness to financial information being presented to them at other times, creating a positive feedback learning loop.

Students want to learn-with 43% of teachers noting that their students would be interested or very interested in learning about personal finance concepts. However, there seem to be few qualified teachers and fewer funds available for financial education. Improving financial capability through a low-cost context change could have positive reverberations for high school students.

This change would require little initial effort, as compared to other models to increase financial capability, and would increase impact over time as teachers and students gained more exposure to the new context. It is practical as a way to support students' financial capability and support other financial capability efforts. Finally, due to how tests are distributed, this idea has immediate scale. Students across the United States would start being impacted immediately.

## WHAT ARE THE STEPS FORWARD?

Creating change in standardized testing is not a simple task. The College Board and ACT commit to rigorously testing each new test question to ensure fairness. Changing the content of these exams has historically taken heavy-weight threats or sustained pressure from stakeholders.<sup>26</sup> Changing state-level exit exams has been even more difficult requiring buy-

<sup>23</sup> ACT. "Common Core Standards." Available at: [www.act.org/solutions/college-career-readiness/common-corestate-standards](http://www.act.org/solutions/college-career-readiness/common-corestate-standards). Accessed 5/1/13.

<sup>24</sup> U.S. Department of Treasury, Office of Financial Education. "Integrating Financial Education Into School Curricula: Giving America's Youth the Educational Foundation for Making Effective Financial Decisions Throughout Their Lives by Teaching Financial Concepts as part of Math and Reading Curricula in Elementary, Middle, and High Schools." (October 2002).

<sup>25</sup> Over 40% of the teachers D2D surveyed said that over 60% of their students received free lunch, yet over half said between 70-100% would attend college.

<sup>26</sup> The University of California President Richard Atkinson pressured the College Board to remove analogies from the SAT, threatening to no longer accept the test unless it was changed, resulting in a revamped SAT. (Pringle "College Board Scores with Critics of SAT Analogies." Los Angeles Times. July 27, 2003, Available at <http://articles.latimes.com/2003/jul/27/local/me-sat27>. Accessed 5/03/13.

in from multiple groups that often must work together to achieve their goals. However, this idea has support from national-level leadership including the CFPB and the U.S. Treasury Department.<sup>27</sup> Such national leadership can influence the agenda of test makers and educators.

As support and momentum around this idea continues to build, there are two paths possible to achieving change in the standardized tests: Creating stakeholder pressure (top down) or accessing test question writers (bottom up).

In the first scenario, stakeholders would work with the ACT, CollegeBoard, or through individual state boards of education to ask for more financial context on their exams. The test makers would then put out a call to question writers asking for an emphasis on personal finance contexts while not changing the required content. This approach has the advantage of getting buy-in from the test-makers and improving awareness throughout the ecosystem. This is a strong strategy given new national interest and support of the concept.

The second possibility would be to go directly to question writers. Creating an inflow of good, personal finance-based questions would increase the percentage of these questions on the test. This may also achieve more teacher support and improve how many teachers taught personal finance-based test preparation questions because teachers are the primary test writers and may then familiarize and expose themselves to the content before they appear on exams.

<sup>27</sup> The Consumer Financial Protection Bureau released a May 2013 white paper about financial capability in schools and noted that changing the context of standardized testing was a priority (paper available at: [http://files.consumerfinance.gov/f/201304\\_cfpb\\_OFE-Policy-White-Paper-Final.pdf](http://files.consumerfinance.gov/f/201304_cfpb_OFE-Policy-White-Paper-Final.pdf)) while the Department of Treasury voiced support in 2002 as part of a wider effort at creating integrated financial education curriculum in schools (available at <http://www.eric.ed.gov/PDFS/ED471873.pdf>).

Outside of impacting standardized tests, there is no reason that test preparation companies, parents, teachers, and students could not begin to frame their test preparation activities in a personal finance context. Building the momentum on a personal, school-wide, or business-wide scale could provide additional motivation for the test-makers.

Right now we have a unique moment to build an innovative, scalable, and sustainable way to improve young adults' financial capability. By leveraging the standardized test experience, we have a situation where all actors in the system share similar incentives around improving scores that can also be used to address financial capability.

## Acknowledgements

*This paper, including the ideas and concepts, was prepared by the D2D Prep for Change Team with writing by Amanda Hahnel and editing by Joanna Smith-Ramani. D2D would like to thank Revolution Prep ([www.revolutionprep.com](http://www.revolutionprep.com)) for their generous support in designing and administering SAT questions and Dr. Peter Tufano for sharing his vision of standardized tests that encourage financial capability.*



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