Does Just-in-Time Instruction Improve Financial Literacy?

by Lewis Mandell, Ph.D.

Those of us who consider the widespread financial ignorance of youth to be one of the most troubling indicators of future economic problems in the U.S. have had high hopes for incorporating personal finance curricula in the K-12 education system. However, despite increasing public awareness of the problem and improved responsiveness of legislators and school officials, there is little evidence that financial management instruction has improved the overall level of financial literacy.

Four Jumpstart surveys since 1997, encompassing more than 10,000 high-school seniors, have shown little overall difference in financial literacy test scores between those who have taken an entire semester's course in financial management and those who have not.

The just-in-time hypothesis

One hypothesis to explain this puzzling phenomenon is that much of what is taught about financial management in high school is not immediately relevant to students and is consequently quickly forgotten. For example, few high-school seniors will buy a home for several years and may be forgiven for not paying attention to mortgage information, particularly when the industry is changing rapidly. Similarly, because the 2004 Jumpstart survey showed that only 16% of high-school seniors had a credit card in their own names, it's not surprising that the other 84% might disregard credit card information.

Advocates of "just-in-time" financial management education believe that lessons should concentrate on topics that are of immediate importance to students. If someone is driving a car and paying for its insurance, he or she would presumably be motivated to learn how to shop for this expensive but necessary product. And those students who have credit cards in their own names should be more interested in minimizing card costs and protecting their personal creditworthiness than those who have no card or who have a card in their parents' names. Even high-school students who don't own cars or credit cards should be more motivated to learn about these topics because their peers' use makes them highly desirable.

Of the 31 questions in every Jumpstart survey, only 11 relate to financial realities that high-school seniors have already experienced or might recognize as likely to be faced in the near future. These relevant topics fall into seven categories: credit cards, debit cards, financial institution accounts, investments, automobile insurance, employment, and higher education financing.

Testing the just-in-time effect

For each of the 11 Jumpstart questions, I compared the responses of students who'd taken a course in financial management with those who had not. I also compared the responses of those students who'd had firsthand experience with one of the seven types of financial topics listed above and those who had not.

The expectation was that, among students who'd actually purchased auto insurance or signed up for credit cards in their own names, I'd find that those who'd taken a course in financial management would do better on questions about that product than students who had not studied the subject. If this had turned out to be true, there would be reason for financial management educators to focus on just-in-time instruction.

Unfortunately, the Jumpstart data show no such benefit. Although some of the Jumpstart data appear to support the just-in-time hypothesis,

Fig. 1 Proportion Correct by Financial Institution Account Use and Full Money Management Course
(Question 26)

Type of Financial Institution Account Used	Course (Group A)	No Course (Group B)	Difference A vs. B	Supports Just-in-Time Instruction
Savings, no checking	29.2%	21.9%	25.0%	Yes
Checking, no savings	28.2	22.2	21.3	Yes
Both checking and savings	28.8	23.0	20.1	Yes
All Students	**27.4**	**22.6**	**17.5**	
No financial institution account	21.1%	23.4%	- 10.9%	

on the whole they are not promising. Consider the following examples.

Supportive results

The results of four of the 11 key Jumpstart questions showed that students who received just-in-time instruction *improved more* than the overall population. The following example is typical of those questions that did support the just-in-time hypothesis.

Topic: Bank accounts. (Question 26) If you had a savings account at a bank, which of the following would be correct concerning the interest that you would earn on this account?

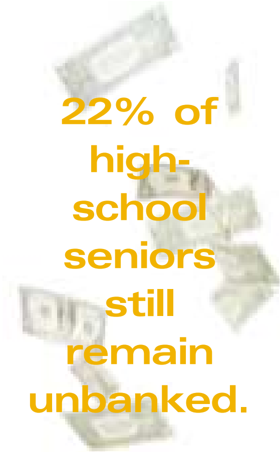
a) You cannot earn interest until you pass your 18th birthday.

b) Income tax may be charged on the interest if your income is high enough. *(24% answered correctly)*

c) Sales tax may be charged on the interest that you earn.

d) Earnings from savings account interest may not be taxed.

Students who had one or more bank accounts did substantially better



22% of high-school seniors still remain unbanked.

(25% higher score, Fig. 1) as the result of taking a financial management course than the overall student group (only 17.5% higher score). Furthermore, students who had no bank account benefited little from money management instruction and did worst of all, scoring 10.9% lower than their “uneducated” counterparts.

Unsupportive results

The results of six of the 11 key Jumpstart questions showed that students who received just-in-time instruction *did not improve* as much as the overall population. The following example is typical of those questions that did not support the just-in-time hypothesis.

Topic: Automobile insurance. (Question 28) If you have caused an accident, which type of automobile insurance would cover damage to your own car?

a) Collision. *(47% answered correctly)*

b) Liability.

c) Term.

d) Comprehensive.

Here, one would expect that students who had to (at least help) pay for auto insurance would learn more from a course in financial management than would nondrivers and those who did not have to pay any of the (high) insurance bills for a young driver. This was not the case. Those with no licenses or no cars profited more from the financial management course (11.7% and 22% higher scores, respectively, Fig. 2) than all groups that drove and had to (help) pay the insurance bill.

Even though students who drove their own cars and helped pay for insurance did better (10.6% higher score) with money management instruction than students overall (only 9.3% higher score), they didn't do as well as the two nondriving groups.

Mixed results

The results of one of the 11 key Jumpstart questions were mixed, as follows:

Topic: Debit cards. (Question 4) Which of the following statements is NOT correct about most ATM (auto-

Fig. 2 Proportion Correct by Auto Use and Full Money Management Course (Question 28)

Auto Use	Course (Group A)	No Course (Group B)	Difference A vs. B	Supports Just-in-Time Instruction
Drives family car and helps pay insurance	32.5%	39.1%	- 20.3%	No
Drives family car and doesn’t help pay insurance	47.2	44.3	6.1	No
Drives own car and helps pay insurance	59.5	53.2	10.6	Yes
Drives own car and doesn’t help pay insurance	47.4	45.3	4.4	No
All Students	**50.5**	**45.8**	**9.3**	
No driver’s license	43.6	38.5	11.7	
Has license but no car	50.4%	39.3%	22.0%	

mated teller machine) cards?

a) You can generally get cash 24 hours a day.

b) You must have a bank account to have an ATM card.

c) You can get cash anywhere in the world with no fee. *(86% answered correctly)*

d) You can generally obtain information concerning your bank balance at an ATM.

Here, instruction helped students who use debit cards solely to obtain cash (3.3% higher score, Fig. 3), but not as much as it helped students who don't even have a debit card (3.9% higher score). At the same time, students who use debit cards most intensely, at the point of sale as well as at the ATM machine, do worse if they have had a course in financial management (scoring 4.4% lower).

Graduating the "unbanked"

In its first four national surveys, Jumpstart asked high-school seniors whether they had a savings and/or checking account. Since 1998, the percentage who said that they had neither has generally declined, from 27.6% (1998) to 25.7% (2002).

The 2004 Jumpstart survey showed the good news of a further decline in this number. However, 22% of high-school seniors still have no relationship with a financial institution. In other words, one of five 17- to 18-year-olds in this country—those who will soon enter adulthood—has personally saved little or nothing.

The fact that a savings account doesn't have the same cachet among teenagers as, say, a Lamborghini Diablo might explain why high-school students without savings accounts don't feel a lot of peer pressure to open them.

Still, the current size of the group of "unbanked" students nearing graduation is a measure of the continuing failure of the K-12 education system to instill a savings habit.

Summary and conclusions

The importance of instructional relevance to learning makes intuitive sense. We know, for example, that just-in-time education is useful for adults who are about to make an important financial decision, particularly education delivered at the point of sale or that obtained by highly motivated consumers.

However, analysis of the 11 Jumpstart questions related to financial decisions that high-school seniors might reasonably expect to make shows little support for the just-in-time educational hypothesis. There is no evidence that courses in financial management, as currently taught in high school, would become more effective in improving financial literacy if they focused on decisions that were more immediately relevant to the students.

Admittedly, we don't know what the 20% of respondents meant when they self-reported that they had completed an "entire course in money management or personal finance." That doesn't tell us what proportion of that group studied all seven of the topics singled out for this analysis. Nor does it assure us that all students received the same amount or quality of information. About all we can say is that the instruction they received left something to be desired in terms of efficacy.

As a teacher, I know that members of my profession typically believe that they should be able to teach any subject if they have the right materials and methods. For personal financial literacy, unfortunately, all we know at this point is that we're not educating high-school students correctly yet, and that relevance by itself is not the answer. ■

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Fig. 3 Proportion Correct by Use of ATM Card and Full Money Management Course (Question 4)

How Debit (or ATM) Card is Used	Course (Group A)	No Course (Group B)	Difference A vs. B	Supports Just-in-Time Instruction
Getting cash from ATM and buying things directly	86.0%	89.8%	- 4.4%	No
Getting cash from ATM only	90.9	87.9	3.3	Yes
All Students	**85.9**	**84.4**	**1.8**	
Don't have debit card	84.2%	80.9%	3.9%	