Annamaria Lusardi
Kim Rheinlander
Dorothy Wallace

BUILDING FINANCIAL LITERACY CONTENT IN COLLEGE COURSES
Our project:

- Review of existing materials and programs in financial literacy
- Conducted four workshops at Wellesley/Colby-Sawyer/Bowdoin/Dartmouth colleges
- Three modules suitable for college students
- Instructor notes targeting the needs of future teachers
- Draft syllabus for an adult financial literacy course.
- Seven short videos for faculty development
Review of materials

- 7 textbooks, 3 math for future elementary teachers, 4 quantitative reasoning texts
- 2 trade books
- 27 individual modules from various sources
- 7 complete curricula
And what did we learn?

- Discrepancy in language use
- Mathematics texts use math language
- Financial community avoids mathematics
- Economists have their own words
- Ordinary people use none of these (additional review of youtube)
- Our materials will use them all.
Four workshops

- Wellesley
- Colby-Sawyer
- Bowdoin
- Dartmouth

- What materials will quantitative reasoning instructors be willing to use? How should they be designed? The workshops helped us answer these questions.
Modules now available online

Money Matters
The Financial Literacy Initiative at Dartmouth College
A project of Center for Mathematics and Quantitative Education at Dartmouth and the Center for Financial Literacy

The Financial Literacy Initiative at Dartmouth College advocates a quantitative approach to financial literacy for college students, K-12 students, future teachers and adult learners. The initiative supports this approach through contextually rich curriculum modules for classroom use, short video presentations for faculty development or classroom discussion, and case studies. All materials are freely available through online publication. Links to these are found below.

Modules:

Understanding Credit Card Offers Discounted on a typical department store offer a 10% off the price of your purchase for opening a credit card. This module poses the question: Is it a good deal? Students will use online calculators and spreadsheets to explore the workings of interest, various payment strategies, and competing card offers.

How much will I take home? Based on the first pay stub a new teacher will receive, this module leads the student to understand all of the withheld pay, what it is for, and why it is withheld. In particular, it looks at voluntary contributions to 401K plans and asks students to consider the present and future implications of making small contributions early in the career.

Jetta or Jaguar? Buying your ideal car. In this module students will compare car purchases, including estimating and budgeting for all related expenses (insurance, repairs, gas), depreciation, and various loan options. A spreadsheet reveals the relationship of principal remaining on a car loan to depreciation, and the "upside down" loan.

Video presentations for faculty development and classroom discussion:

Money Matters – VIDEO: Improving Financial Literacy and Quantitative Reasoning
Money Matters – VIDEO: Financial Literacy in the Quantitative Reasoning Classroom
Corrina Taylor, Director of the Quantitative Reasoning Program at Wellesley College and leader in the Quantitative Literacy movement, explains how a focus on financial literacy complements and strengthens a course in quantitative reasoning. In the second video, Dr. Taylor discusses some lessons in financial literacy that are part of her course in quantitative reasoning at Wellesley College.

Money Matters – VIDEO: Savings and Debt
Money Matters – VIDEO: Investment and Insurance
Erin Gaze, Director of the Quantitative Reasoning Program at Bowdoin College, describes basic financial calculations concerning savings and debt that students can use to understand their financial situation. He also points out the relevance of these calculations to the middle school mathematics curriculum. In the second video, Dr. Gaze describes basic financial calculations concerning investments and insurance that students can use to understand their financial situation.
Credit cards, paycheck, car purchase

Money Matters
The Financial Literacy Initiative at Dartmouth College

Understanding Credit Card Offers
According to a 2009 Sallie Mae study, 84% of college students have at least one credit card and, on average, more than four credit cards. These young people carry a mean balance of over $3,000 and only 10% manage to pay the full balance every month. It is no wonder that 84% of college undergraduates say they need more financial education, in either high school or as first year college students.

Where did all these credit cards come from? In this module we lead students to explore the merits of various credit card offers, starting with the common offer of a reduced price for purchases at the checkout counter in return for opening a credit card with the department store. Students receive many credit offers as undergraduates, and one key to good financial practice is the ability to make smart decisions about when to use credit and which card to choose.

• How to use this module
• Outline of module

Contributors:

MGED is part of The National Numeracy Network and is partially funded by The National Science Foundation, The Woodrow Wilson National Fellowship Foundation, and Dartmouth College.
Credit Card Offers - 2

Here is the experience of one young woman.
Instructor support

- Spreadsheets
- Worksheets
- Discussion questions
- Links to data, online calculators, etc.
- Directions for further investigations
- Future faculty development (materials and workshops) planned
Explicit links to math topics: an example

- **Credit Card Offers - 12**
- The true cost of a loan (such as the loan a credit card company makes to you when you make a purchase) is an example of **exponential growth** if you don't make your payments and **linear growth** if you pay only the exact interest due each month.
- Use the spreadsheet to see what happens to the graph, and the total amount that must be paid, in each of these situations.
Notes to engage the future teacher

- In courses whose enrollment is primarily future teachers this module can open a discussion of number size and the mental number line.
- What is a big number? Is a $1000 a lot of money or a little? How about the interest, does it feel like a lot or a little? Young and old carry a mental number line that is more or less logarithmically scaled.
- To a young person, 10,000 and 100,000 seem much closer in size than 10 and 100. Where the compression of scale begins depends on the stage of development.
Other online videos for faculty development and discussion

- Improving Financial Literacy and Quantitative Reasoning
- Financial Literacy in the Quantitative Reasoning Classroom
- Savings and Debt
- Investment and Insurance
- Good Car/Bad Car
- Risky Car Deal
- A Little Today
Adult financial literacy syllabus

- Under construction
- Three cross referenced syllabi
- By math content
- By context
- By economics concept
Year 2:

- Complete set of modules to support a course
- Special attention to adult learners
- Special attention to future teachers
- Evaluation of modules, construction of assessment tools
Who will benefit?

- College students
- K-12 teachers
- Teacher educators
- 2 year colleges
And also:

- Employer provided financial education
- Adult learners
- Library-based courses
Thank you!

Please visit: http://www.math.dartmouth.edu/~mqed/FinancialLiteracyProject