Expert Invitation to Panel Discussion

Invite from BMCC a developmental mathematics instructor, an app developer and a financial literacy specialist to participate in a panel discussion.

Hello. My name is Edward. I am a doctoral student at Teachers College, Columbia University, and am conducting research on *Instructional Apps to Promote Financial Literacy* (IRB Protocol Number 16-067).

and research

The purpose of the study is to develop instructional apps to promote the financial literacy of developmental mathematics students (e.g., helping students to start thinking about repaying their student loans, if any). The goals of the study are for students to keep track of how much money they may be borrowing from the government, and for students to plan how they can repay what they borrowed. To achieve these goals, students will be asked to compute their yearly cost of tuition, how much money they can afford to pay back each month, and how long it will take for them to pay the government back. Then, the students will, essentially, be asked to refine their monthly payment using a mobile app.

Thus, each instructional app consists of two parts: (1) a set of questions (yearly cost, how much students can afford, length of repayment, etc.) and (2) a mobile app [to refine the monthly payment. Students do not answer the questions in the app; and the app is not used to answer all the questions, only some of them. Simply put,] the questions are supplemented by the app, and they involve some arithmetic. I created and tested one such instructional app, and am here to invite you to test it out more with me – within four weeks, at a convenient location for you, in between or after your work hours. Beforehand, though, we will have to run through some formalities [i.e., informed consent–specifically, information about the study and participant's rights, ableit the form's headers suggest otherwise, and option to receive the app over-the-air]. Then, I will provide each of you the set of questions, along with an iPhone with the app installed on it; if you opted to receive the app over-the-air, access the app using TestFlight.

I will kindly ask that you answer some of the questions by hand and some of them using the mobile app. Ultimately, I would like to know what you think about the instructional app and how you would improve it. You will receive a $20 gift card to Amazon as payment for your participation. Your participation will also contribute to the world's scientific body of literature, on the teaching of practical mathematics skills with mobile computing devices. Running through formalities should take no more than 10 minutes, and the study [i.e., panel discussion] should take no more than 30 minutes.

Thank you.

Meet with each expert, who expresses interest in participating in the panel discussion, one week before hosting it, either in between or after their work hours, in their offices. Encourage and allow the experts to read the informed consent forms on their own; ensure they sign and date the forms; provide them a copy of the forms; retain my copies of the forms; and schedule a convenient time and date for them to participate. If meeting over Skype, suggest using a computer with the web client.

Panel Discussion of *Student Loan* App

Materials Required

- ✓ iPhones with the app installed on them, or iPhones with TestFlight
- ✓ Handouts for each subject

Collect informed consent forms and ensure the experts sign and date them. Distribute all handouts, and as you do, discuss:

> *Transitional statement: six months after students graduate college, they will be required to start repaying their student loans, if any, and to do so monthly; to pursue the purpose of this study, we will focus on helping students to start thinking about that. Imagine, right now, that you are a student. We will work on keeping track of how much money you may be borrowing from the government, and planning how you can repay what you borrowed.*

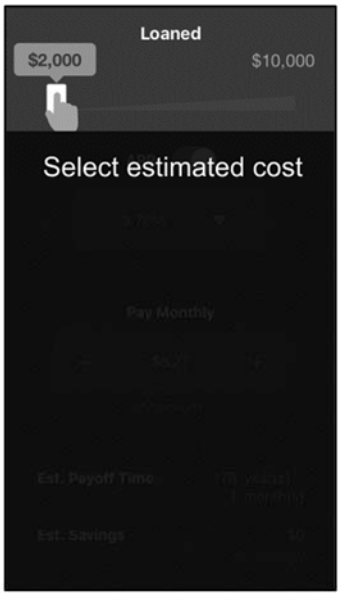
Skim #1-6; mention that they need not use real numbers, only numbers that are reasonable. They are permitted to use calculators, work in groups of two and round their results.

> *Please get started. I will provide you an iPhone with the app installed on it, as you approach question 4. If you opted to receive the app over-the-air, access the app using TestFlight. Meanwhile, if you have any questions or concerns, please feel free to ask or inform me, respectively, and I will be here to help. [Wait 10-15 minutes. Gently ask experts to share feedback for each part, that is the app itself, and the list of questions.] After you complete the set of questions and feedback form, you are welcome to keep the set of questions, but please return the feedback form to me. Return the iPhone to me, as well, if you borrowed mine.*

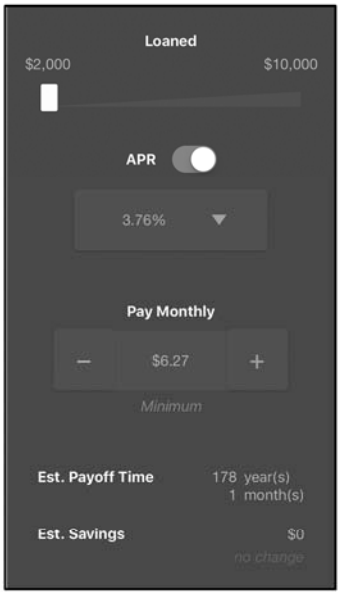
[Distribute gift cards. If any expert completes the bonus questions, mention that you hope students will identify the answer to #6 as a *sweet spot*.]

App Overview

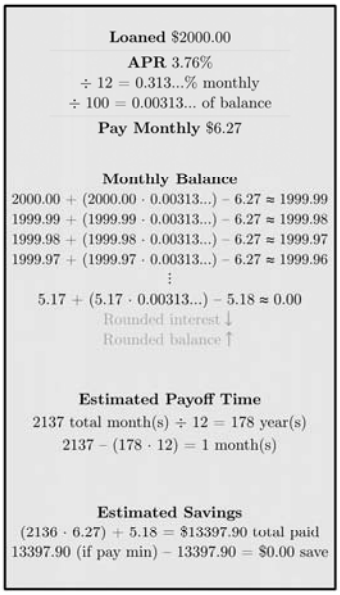
Splash Screen Illustration (replica)



Main Screen



Mathematics Screen



A splash screen loads, once the app loads, to illustrate how one can utilize the app. The researcher did not start the splash screen illustration with a title. However, whenever one moves the thumb of the Loaned slider, presses on the thumb of the APR switch, selects a different percentage, or clicks on either the minus or plus button, the Pay Monthly, Est. Payoff Time, Est. Savings and change in Est. Savings amounts are automatically updated. One can swipe leftward to view the mathematics, and swipe rightward to return to the main screen. One can reset the Pay Monthly, Est. Payoff Time and Est. Savings amounts by pressing and holding on the minus button. 3.76% is the Direct Loan rate for July 1, 2016 to June 30, 2017. The build is 2.2.2 (116), which is a beta build. “2.2.2 (116)” stands for major version 2, minor version 2, revision 2 and build 116.

Discussion (Part 1) - ~~app~~

Directions: please answer the following questions WITHOUT using the app.

1. What is your yearly cost of tuition? (excluding fees) **$_____**

Feel free to use the following chart to help you:

BMCC TUITION RATES (as of Fall 2015)	**Full Time** 12-18 credits/ equated credits	**Part-Time**
Residents of New York City who are:		
Matriculated Students	$2400 per semester	$210 per credit
Non-Matriculated Students	$265 per credit	$265 per credit
Non-Residents of New York City who are:		
Residents of New York State with B-81 on file	$2400 per semester	$210 per credit
Residents of New York State without B-81 on file	$320 per credit	$320 per credit
Out-of-State Residents	$320 per credit	$320 per credit
International Students	$320 per credit	$320 per credit
Non-Matriculated Students	$420 per credit	$420 per credit

Source: www.bmcc.cuny.edu/bursar > Tuition & Fees Per Semester

"Matriculated" means to be enrolled in a degree program.
"B-81" is a Certificate of Residence.

Assume you borrow money from the government to pay for your degree. Six months after you graduate college, you will be required to start paying the government back monthly.

2. How much money can you afford to pay back each month? **$_____**
A reasonable guess is fine.

3. How long will it take to pay the government back? (excluding interest)

_____ year(s) _____ month(s)

Examples:
5,000 ÷ 200 = 25 months = 2 year(s) 1 month(s)
7,650 ÷ 250 = 30.6 months ↑31 months = 2 year(s) 7 month(s)
3,132 ÷ 300 = 10.44 months ↑11 months = 0 year(s) 11 month(s)

Discussion (Part 2) – app√

Directions: please answer the following questions USING the app.

4. How long will it take to pay the government back? (**including** interest)

_____% interest _____ year(s) _____ month(s)

Tips to help you get started:

- Move the thumb of the slider/seekbar to select an estimated cost nearest to yours.
- Press [▼] to select the interest rate of your loan:
  If you are unsure, choose 3.76%, since direct loans are more popular.
  If you have more than one type of loan or you have multiple loans, select the rate for the biggest one.
- Press [–] or [+] to select a monthly payment nearest to yours.

5. Compared to #3, is your result for #4 reasonable? Why or why not?

(yes/no) _____

(explain) _____

Feel free to swipe left to see how the app calculates its numbers, and feel free to consult a partner.

6. Increase your monthly payment gradually. How much *should* you pay monthly, so that your repayment does not take so long?

Many answers are possible.
A single amount or range of amounts is fine.

$_____

If you ever struggle to make payments, you can contact your lenders and negotiate with them.

Bonus questions.

7. Reduce your monthly payment to the minimum, and look at how long it will take to pay the government back. Do you see why lenders set time limits, typically 10 years?

(yes/no) _____

8. From the minimum payment, press [+] once. How much money can you save? **$**_____

9. Press [+] some more times. Does paying *a lot more* make much difference? *(yes/no)* _____

Hint: law of diminished returns.

Feedback Form

Directions: please read the statements carefully, fill in circles completely, and be as descriptive as possible.

Brief Overview

and research

***Purpose of Study**: develop instructional apps to promote financial literacy of developmental mathematics students (e.g., helping students to start thinking about repaying their student loans, if any).*

***Goals of Study**: keep track of how much money you may be borrowing from the government, and plan how you can repay what you borrowed.*

***Objectives of Study**: compute your yearly cost of tuition, how much money you can afford to pay back each month, and how long it will take for you to pay the government back. Then, essentially, refine your monthly payment using the app.*

	Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
		1	2	3	4	5	
1	The app connected material with a real-world example.	○	○	○	○	○	○
2	The app made it easier to learn essential ideas.	○	○	○	○	○	○
3	The app was not useful for learning how to manage costs of student loans.	○	○	○	○	○	○
4	The app did not cover material that is relevant to me.	○	○	○	○	○	○
5	The app was confusing for me to use.	○	○	○	○	○	○
6	The app helped me learn better how to manage costs of student loans.	○	○	○	○	○	○

Final Question

How would you improve the app and its associated course material (i.e., list of questions)?	
App:	**Course material:**

OPTIONAL

Would you like to share any feedback verbally? (If so, please do so now.)