

## **Bureau of Engraving and Printing Tactile Feature Program: Conference/Focus Group Interview Protocol Script**

### **INTRODUCTION**

Thank you for agreeing to answer questions about tactile features to be incorporated into future U.S. Currency. Let me tell you what this is about.

I am from the Bureau of Engraving and Printing; the BEP produces all of the nation's paper currency, which is then issued by the Federal Reserve. The Bureau of Engraving and Printing is planning to add tactile symbols to paper money so that blind people can use their sense of touch to denominate different sample coupons, that is, determine whether the sample coupon is a \$5, \$10, or \$20, for example. We are still doing research, trying to find the best way to make these symbols. I'll be asking you to handle different samples with raised tactile symbols on them; you will be helping us by determining which symbols are the most perceptible to you.

### **Paperwork Reduction Act Notifications**

Before we get started, I have to provide you several notifications required under the Paperwork Reduction Act (PRA). The questions being asked and your responses constitute a collection of information that is subject to the requirements of the PRA.

- The purpose of this information collection is to determine which tactile features may be the most effective in providing a means of assisting blind and visually impaired individuals in denominating U.S. paper currency.
- The information provided during this collection of information will be reviewed by the BEP, the Department of The Treasury, The Federal Reserve Board, The Federal Reserve Bank – Currency Technology Office, and the US Secret Service. The information will help these agencies analyze and collaborate on what type of tactile features are most effective.
- We estimate it will take 20-25 minutes for you to answer the questions being asked today.
- You are advised that your participation is completely voluntary, there is no obligation for you to provide responses, and you can decide to end the interview at any time.
- I want to assure you that the BEP is not going to collect any personally identifiable information from you today. You will not be asked your name, address, phone number, social security number, birthday, or any other information that could be used to personally identify you.
- BEP will do its best to maintain your answers as non-public information. The BEP may, however, share the results of this information collection with other agencies for the purposes of tactile feature development. In addition, BEP is obligated to provide records in response to requests submitted under the Freedom of Information Act. Again, please note that no information that can identify you personally will be collected today.
- BEP is obligated to inform you that today's information collection must be conducted under a valid control number issued by the Office of Management and Budget (OMB).

The information collection being conducted today has been approved by OMB pursuant to a fast-track approval process. The fast-track nature of the process means that BEP does not yet have an OMB Control Number to provide. Once the number is available, it will be posted to the OMB Office of Information and Regulatory Affairs Information Collection Review Dashboard, available at [www.reginfo.gov](http://www.reginfo.gov).

## INTRODUCTION TO RESPONDENT TASKS

*In all tasks, sample notes are always presented with the symbols up and to the respondent's left side.*

Today I have with me many samples with symbols on them. The symbols are in the form of rectangles in the upper-left corner of the samples, which you can feel with your fingers. I have several different sets of these sample notes, which differ with respect to how the rectangles were made. You are going to help us study an important question—what is the best way to make these symbols that will go on paper currency?

So what I'm going to do is run you through a series of tasks with these test samples. For each task, we'll do it several times because I'm going to be handing you different samples and asking you questions about them.

- Here is one of the sample coupons we will be using (*3 symbols*). You should feel three small rectangles in the upper left-corner. Now here is another one (*two symbols separated*). You should feel two rectangles, but spaced apart. In addition to the rectangles you'll feel in the upper-left corner, you'll notice a label that we've stuck on the right-hand side. That's just a label that makes it easier for me to tell the sample coupons apart, but you can ignore it.
- In many of the tasks, I'll be asking you to hold a sample coupon for a certain number of seconds (like 7 seconds or 3 seconds). When we do this, we'll start with you holding the sample coupon the exact same way each time. This involves holding the sample coupon with your right hand between thumb and forefinger (*pause for R to get into this position*), and with your left-hand the thumb and fore-finger in the lower corner of the sample coupon, away from the rectangles. And we'd like you to keep the sample coupon up off of the table. This is what we call the starting position, okay?
- I'm using an electronic timer to keep track of the number of seconds. You'll hear it make one beep when I start the timer and then repeated beeps when the time is up. And when you hear that your time is up, I'd like for you to immediately drop the sample coupon on the table, and I'll move it out of the way before handing you another sample coupon. So let's practice – I have the timer set for 3 seconds (*start timer*).
- As we go through these tasks, it may feel a lot like a test. Remember, we are not testing how well you do with the sample coupons, we are testing how well the various sample

coupons do with you, an important distinction. Some of these tasks may seem very easy, some may be harder. We expect people will make mistakes – this is actually what will help determine which set of sample coupons is best.

*The test sample coupons are arranged on the table in front of the interviewer in this way:*

<i>A1</i>	<i>B1</i>	<i>C1</i>
<i>A1M</i>	<i>B1M</i>	<i>C1M</i> (if 2-dollar sample coupon is used)
<i>A2</i>	<i>B2</i>	<i>C2</i>
<i>A3</i>	<i>B3</i>	<i>C3</i>
<i>A4</i>	<i>B4</i>	<i>C4</i>
<i>A2S</i>	<i>B2S</i>	<i>C2S</i>
	<i>R1</i>	

*R1 means a new \$1 sample coupon with no tactile cues.*

*NOTE: If at any point R starts feeling the sample coupon before the time interval begins, pause and say:*

Stop, please. You are starting a little too quickly. Please don't start feeling the sample coupon until you hear the beep signaling that I started the timer.

*NOTE: If at any point R is still feeling the sample coupon after the time interval ends, pause and have R practice with dropping the sample coupon:*

Okay, we need to pause here for a moment. You may not have realized it, but I noticed you continued feeling the sample coupon for a little bit beyond the 3/7 seconds. Let's practice this again. I'll start the timer, you feel the rectangles and drop the sample coupon immediately when you hear the repeated beeps, okay?

*NOTE: Use a timer such as <http://www.radioshack.com/product/index.jsp?productId=15318596>*

**Task 1: Introductory task to familiarize the respondents with the banknotes and testing process**

*\*\*ENTER 7 SECONDS INTO TIMER*

For this first task, I'll give you a sample coupon to hold in the starting position. You will use your fingers to find the symbols. After 7 seconds, I'd like you to drop the sample coupon and tell me whether or not the sample coupon had any rectangles on it. All right? Let's start – here's the first sample coupon.

*[Make sure R is in the correct starting position for each trial]*

Did the sample coupon have any rectangles on it? (Please say 'yes' if the sample coupon has any rectangles, no matter how many, say 'no' if the sample coupon has no rectangles on it at all).

	<b>Correct</b>	<b>Incorrect</b>
A4	●	●
A2S	●	●
R1	●	●
B2	●	●
C1	●	●
R1	●	●

**Task 2: Banknotes one at a time, 7 seconds: accuracy**

In this task, I'll be handing you different sample coupons. Each of these sample coupons will have 1, 2, 3, or 4 rectangles on it, or it may have no rectangles at all on it. If it has 2 rectangles, they may be close together or spaced apart. You'll drop the sample coupon after 7 seconds and tell me how many rectangles are on it.

Here's the first sample coupon. How many rectangles were on it?

*[Make sure R is in the correct starting position for each trial]*

	<b>Correct</b>	<b>Incorrect</b>
B2S	●	●
R1	●	●
C4	●	●
B4	●	●
C1	●	●
C2S	●	●
B1	●	●
C2	●	●
A1	●	●
A3	●	●
C3	●	●
A2	●	●
A2s	●	●
B3	●	●
B2	●	●
A4	●	●

**Task 3: Banknotes one at a time, 3 seconds: accuracy**

*\*\*ENTER 3 SECONDS INTO TIMER*

This task will be much like the last one, only this time you'll drop the sample coupon after 3 seconds. Then tell me how many rectangles are on it, okay? How many rectangles were on it?

*[Make sure R is in the correct starting position for each trial]*

	<b>Correct</b>	<b>Incorrect</b>
A3	●	●
C4	●	●
C2S	●	●
A2s	●	●
B4	●	●
C1	●	●
B3	●	●
C2	●	●
A2	●	●
B1	●	●
A1	●	●
B2S	●	●
C3	●	●
A4	●	●
B2	●	●
R1	●	●

### Task 4: Banknotes one at a time, number of rectangles: speed

This task is a bit different. I'm going to put a stack of sample coupons in front of you. What I'd like for you to do is pick up one sample coupon at a time. Feel the sample coupon any way you like, but do not hold the sample coupon against the table. Then tell me how many rectangles are on the sample coupon. Do this, one sample coupon after another, until you reach the last sample coupon in the stack. I'd like you to do this as quickly as you can, but I need you to be accurate too, okay? After each stack I'll ask you to rate how easy or difficult it was. All right then, say the word "Go" when you are ready to begin. When you say "Go," I will start timing you and you should pick up the first sample coupon.

*(Do this 4 times: the first is a practice trial, then once for each tactile cue type. Time each stack separately. Start the timer the moment that the respondent says "Go." Stop the timer the moment that the respondent states the number of rectangles on the final sample coupon in the stack. After each stack, ask the respondent to rate the difficulty on a 1-5 scale.)*

	Correct	Incorrect
C1	●	●
C2	●	●
C2S	●	●
C3	●	●
C4	●	●

**Time:** \_\_\_\_\_

**STACK C (practice):** On a scale from 1 to 5, where 1 is very easy and 5 is very difficult, how easy or difficult was it to count the number of rectangles?

\_\_\_\_\_



	Correct	Incorrect
A3	•	•
A4	•	•
A1	•	•
A2	•	•
A2S	•	•

Time: \_\_\_\_\_

**STACK A:** On a scale from 1 to 5, where 1 is very easy and 5 is very difficult, how easy or difficult was it to count the number of rectangles? \_\_\_\_\_

	Correct	Incorrect
B3	•	•
B2S	•	•
B2	•	•
B1	•	•
B4	•	•

Time: \_\_\_\_\_

**STACK B:** On a scale from 1 to 5, where 1 is very easy and 5 is very difficult, how easy or difficult was it to count the number of rectangles? \_\_\_\_\_

	Correct	Incorrect
C4	•	•
C2	•	•
C1	•	•
C2S	•	•
C3	•	•

**Time:** \_\_\_\_\_

**STACK C:** On a scale from 1 to 5, where 1 is very easy and 5 is very difficult, how easy or difficult was it to count the number of rectangles? \_\_\_\_\_

**Task 5: Banknotes two at a time, preference**

**\*\*NO TIMING ON THIS TASK**

For this task, I will hand you two sample coupons, one after the other. Now these two sample coupons will have the same number of rectangles on them, but there are differences between them. In each pair, the rectangles on one sample coupon should stand out a little more compared to the other sample coupon. Each time I'd like for you to tell me which sample coupon has rectangles that stand out more: the first, or the second. The differences may be very slight, but if you're not sure please give me your best guess, okay? *(The two sample coupons have the same number and placement of symbols, but the substance used to make the symbols is different.)*

I will not use the timer.

Which one had rectangles that stand out more? [*Do not accept "same" answers*]

		<b>First</b>	<b>Second</b>
C1	B1	●	●
A2	B2	●	●
A2S	C2S	●	●
C3	A3	●	●
B4	C4	●	●
B2S	A2	●	●
B1	B1	●	●
A1	B1	●	●
A2	C2	●	●
B2S	C2S	●	●
C3	A3	●	●
C4	B4	●	●

### Task 6: Banknote Orientation

Now I will put stacks of sample coupons in front of you again. This time, I have arranged the sample coupons so that sometimes the rectangles are on the right, and sometimes on the left. Sometimes the rectangles are on the front of the sample coupon, and sometimes on the back. Sometimes the rectangles are at the top of the sample coupon, and sometimes at the bottom. Also, you'll notice that the sample coupons have many labels on them, not just one like before. Please ignore the labels, just like you have been doing.

Here is your task: Pick up the sample coupons from the stack one sample coupon at a time. Find the rectangles on the sample coupon. Then, put each sample coupon down with the rectangles facing upward in the upper left corner. I'd like you to do this as quickly as you can, but I need you to be accurate too, okay? After each stack I'll ask you to rate how easy or difficult it was.

All right then, say the word "Go" when you are ready to begin. When you say "Go," I will start timing you and you should pick up the first sample coupon. Okay?

*(Do this 4 times: The first is a practice trial, then once for each tactile cue type. Time each stack separately. Start the timer the moment that the respondent says "Go." Stop the timer the moment that the respondent places the final sample coupon on the table. After each stack, ask the respondent to rate the difficulty on a 1-5 scale.)*

#### First (practice): Stack B

	Correct	Incorrect
UP-UL	●	●
UP-UR	●	●
UP-LR	●	●
DOWN-UR	●	●
DOWN-LL	●	●
DOWN-LR	●	●
DOWN-UL	●	●
UP-LL	●	●

Time: \_\_\_\_\_

**STACK B:** On a scale from 1 to 5, where 1 is very easy and 5 is very difficult, how easy or difficult was it to stack these sample coupons correctly? \_\_\_\_\_

**Second: Stack A**

	Correct	Incorrect
UP-LR	●	●
UP-UL	●	●
UP-LL	●	●
DOWN-UR	●	●
DOWN-LR	●	●
DOWN-UL	●	●
DOWN-LL	●	●
UP-UR	●	●

**Time:** \_\_\_\_\_

**STACK A:** On a scale from 1 to 5, where 1 is very easy and 5 is very difficult, how easy or difficult was it to stack these sample coupons correctly? \_\_\_\_\_

**Third: Stack C**

	Correct	Incorrect
UP-UR	●	●
DOWN-LR	●	●
UP-LR	●	●
DOWN-UR	●	●
DOWN-UL	●	●
UP-UL	●	●
DOWN-LL	●	●
UP-LL	●	●

**Time:** \_\_\_\_\_

**STACK C:** On a scale from 1 to 5, where 1 is very easy and 5 is very difficult, how easy or difficult was it to stack these sample coupons correctly? \_\_\_\_\_

**Fourth: Stack B**

	Correct	Incorrect
DOWN-LR	•	•
DOWN-UL	•	•
UP-LL	•	•
UP-UL	•	•
UP-LR	•	•
DOWN-LL	•	•
UP-UR	•	•
DOWN-UR	•	•

**Time:** \_\_\_\_\_

**STACK B:** On a scale from 1 to 5, where 1 is very easy and 5 is very difficult, how easy or difficult was it to stack these sample coupons correctly? \_\_\_\_\_

## **Initial, Exploratory Analyses**

### **Task 1:**

Throwaway; do not analyze

### **Tasks 2, 3, 4, and 6:**

Variables:

- Proportion correct for condition A
- Proportion correct for condition B
- Proportion correct for condition C

Analyses (t tests):

- Condition A versus condition B
- Condition B versus condition C
- Condition A versus condition C

### **Task 4 and 6:**

Variables:

- Time required for condition A
- Time required for condition B
- Time required for condition C
  
- Difficulty rating for condition A
- Difficulty rating for condition B
- Difficulty rating for condition C

Analyses (t tests):

- Condition A versus condition B
- Condition B versus condition C
- Condition A versus condition C

Variables to study practice effect:

- Time required for practice iteration
- Time required for corresponding iteration later
  
- Difficulty rating for practice iteration
- Difficulty rating for corresponding iteration later

Analysis to study practice effect (t test):

- Practice iteration versus later corresponding iteration

**Task 5:**

Variables:

- Number of “votes” for condition A
- Number of “votes” for condition B
- Number of “votes” for condition C

Analyses (t tests):

- Condition A versus condition B
- Condition B versus condition C
- Condition A versus condition C