STROOP DEMONSTRATION

1-Line Summary
This demo is about the automaticity of reading: for experienced readers, we can’t help but read words in front of us.

Background:
For experienced readers, reading is something that often happens without any conscious thought: we automatically read words and understand their meaning (if we know the words). The Stroop task asks people to ignore the meaning of the words and focus instead on the color of the ink they are written in. The task is hard to do when the word itself refers to a different color than the ink it is written in (when the word “blue” is written in yellow ink) because your automatic access to the meaning of the word (blue) interferes with your goal in the task (to identify yellow).

Introductory Reading: http://en.wikipedia.org/wiki/Stroop_effect
Advanced Readings:

Materials:
The “Stroop Game” can be purchased on the iTunes App store for $1. There are 3 levels to the game – NO interference, LIGHT interference and HEAVY interference. The game itself takes about a minute to play and the player will get a score which is the number of words correct (they identified the ink color).

The Interaction:
The pitch – You’ve got a game that will show something cool about reading.

Using the materials – Have people play the NO interference version first and remember their score. Then have them play the LIGHT (or HEAVY) interference version. For good readers, scores should go down. If you’re tight on time, start with the LIGHT interference level and get people to experience the effect.

Once people have been strooped, encourage them to think about how to make the task easier – What kinds of things can they do to make reading harder? What kinds of people will naturally do better at the task?
Critical take home: You can’t stop yourself from reading the meaning of the words, even when you want to. If you’re a good reader, that just happens automatically.

But wait, there’s more: One cool element of this phenomenon is that it depends on being a good reader. If you’re NOT a good reader, then you take longer to get the meanings of the words and it is easier to accomplish your conscious goals (focus on the ink color). Young children who are still learning or solidifying their reading knowledge show weaker (and sometimes no) interference effects. People who don’t know the language as well also show weaker effects (e.g. some L2 speakers).

And still more: The Stroop Test is used by psychologists to assess a person’s inhibitory control, the ability to suppress an automatic response. In doing the Stroop Test, most of us find that the automaticity of word reading interferes with our ability to name the ink color of the word. That is, we find it difficult not to attend to the word and its meaning, and this causes us to make more errors and to be slower in performing the far less familiar task of naming the ink color. People differ in their inhibitory control, and an individual’s inhibitory control may change if s/he is tired or has drunk alcohol or has been doing a task like the Stroop Test for a while.

In fact, psychologists (even those who don’t care about language or reading), use the Stroop Test to tire people out to test what happens to our willpower when our brains are tired. It turns out that it’s a lot harder to resist temptation after doing the Stroop Test for a while!

And one more thing: Oral language is something that every typically developing child acquires but Reading is something that is culturally specific and not everyone learns how (at times in the past, and in some cultures today, relatively few people in society could read). Even so, this task shows that once reading is a well-practiced skill, it becomes as automatic as any other linguistic skill you’ve got.

Homework:
Ask people to look at any sign around them and tell them to look at it but NOT read it. Since reading is automatic, this is virtually impossible to do. You can note that advertisers make good use of this fact (think about billboards on the highway).

Target Audience:
This works well with groups and is especially effective if you can get a group with people of different ages (since younger children often do better with interference).
Tips From the Field:

- Part of the appeal of this demo is the competitive aspect – people like to play against each other. It’s fine to have multiple people play, but try not to lose sight of the message! The key to understanding the message is seeing the scores DROP from no to light/heavy interference, so try to help people see that connection. For instance, if you have 2 people playing you could have player one do both conditions first and then player 2 do both; or you could have both players do no interference and then both do light.

- Most people will come up with some good answers you can work with about what/who makes the task easier. But if need be, you can prompt them to experiment with the task – try turning the iPad upside down or hold it at a distance; or ask them to squint or take off their glasses, or focus their gaze away from the words.

- People may ask why this is called the Stroop game. It is in fact named after John Ridley Stroop, who was from a small town in Tennessee. You can read more about him here: http://www.arts.uwaterloo.ca/~cmacleod/Research/Stroopbiog.htm

- The Stroop task is pretty famous and you may run into people who have seen it or other versions of it before. That shouldn’t be a problem – reading is so automatic that even if you’re aware that it will interfere in the task, you still have problems.