

An Evaluator's Quick Start Guide to Usability Testing

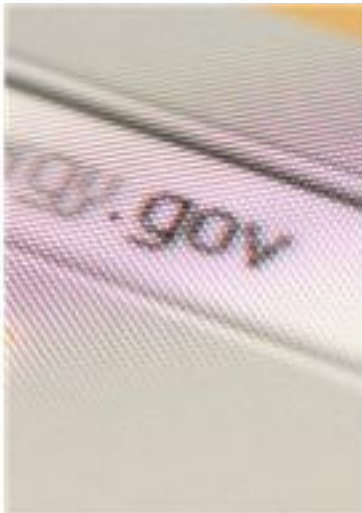
Christine Andrews Paulsen, Ph.D.

Concord Evaluation Group

cpaulsen@concordevaluation.com

Overview

- Many of the programs and initiatives that we evaluate today are technology-based.
- Interventions are delivered via...



websites



mobile devices



software apps

Technology-based evaluations should include usability testing

- To properly evaluate such initiatives, the evaluator must consider the usability (user-friendliness and accessibility) of the technology components.
- “Usability refers to how well users can learn and use a product to achieve their goals and how satisfied they are with that process.”



Why Usability Testing?



- UT methods enable us to gather important **formative** data on technological tools (can be iterative).
- TIP: **Problems addressed early are less expensive to fix.** (High ROI)
- UT methods also help us explain outcomes and impact during **summative** evaluation.

Usability Objectives

UT helps you evaluate:

- Information architecture, organization
- Presentation, visual design
- Navigation
- Accessibility
- Support features
- Special functionality



One-on-One Usability Testing

- This is only one type of usability research method – but, probably the most common.
- **Goal: To observe a sample of “typical” target users attempt to complete tasks while you observe and record data.**
- Relies heavily on the “think aloud protocol” (Ericsson & Simon, 1993)

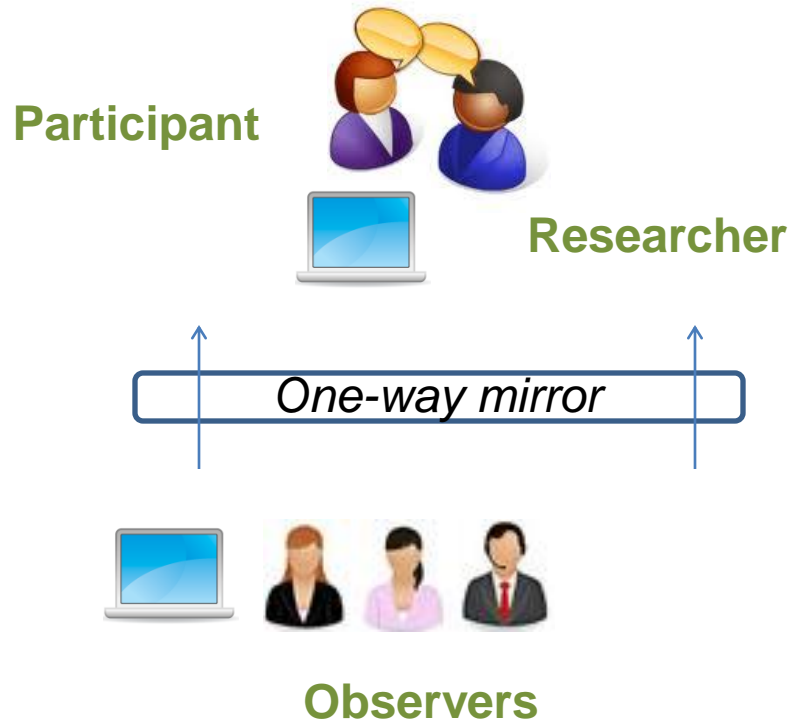
Test Setting



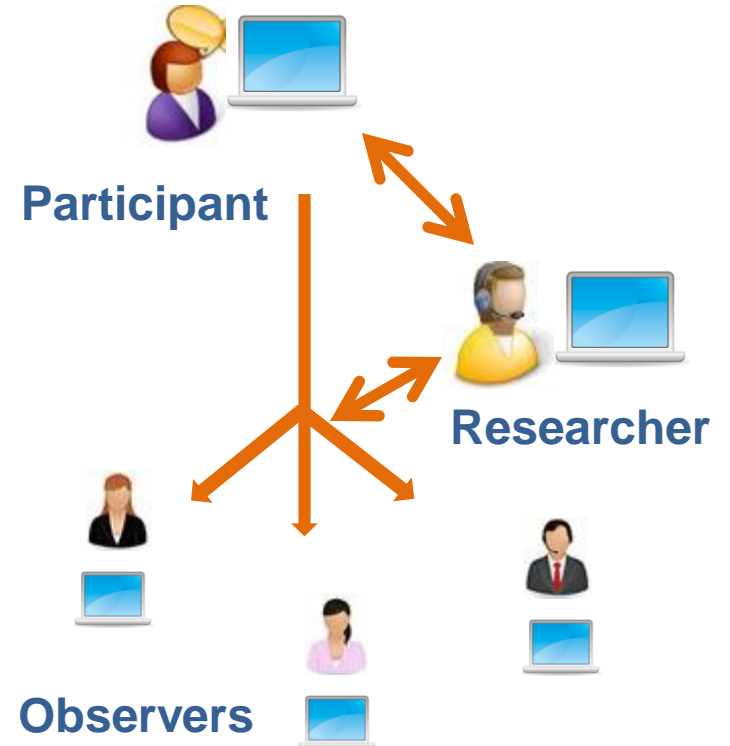
- Can be in-person or remote (online)
- What you need:
 - Testing script
 - Trained researcher
 - Participant
 - Evaluand (the tool/media to be tested)
 - Privacy and no interruptions
 - Recording devices (paper, digital recorder)
 - Optional: A way for observers to watch unobtrusively

Setting, continued

In-person



Remote



UT Test Plan (Script)

- The test plan documents **methods and procedures**, **metrics** to be captured, number and type of **participants** you are going to test, and what **scenarios** you will use. Elements include:
 - Scope (What is Being Tested)
 - Purpose & Objectives
 - Schedule & Location
 - Length of Sessions
 - Equipment
 - Number & Type of Participants
 - ***Scenarios & Task Completion Paths***
 - Metrics (Subjective & Objective)
 - Team Member Roles

TIP: Templates are available at [Usability.gov](https://www.usability.gov)

Scenarios

In collaboration with the client or organization being evaluated...

- Step 1: Make a list of the top 10 tasks users try to complete when using the technology.
 - Example: “Users come to the site to find reports on different topics related to education.”
- Step 2: Develop a list of roughly 10 known issues or problems that could be tested to study whether the issues are usability problems.
 - Example: “Some users have reported that the pages are too long and difficult to read.”
- Step 3: Write a set of 20 scenarios for pilot testing. Good scenarios are brief and easy to understand.
 - Example: “Using the search engine, please locate 5 articles on school safety.”
 - Example: “Imagine you are developing a training on assessment, please use the website to locate a training template.”
- Step 4: After pilot testing, eliminate or revise scenarios that were ineffective. Plan on using 10-15 scenarios for a typical UT.

Analyzing the Data

- Quantitative - Such as completion rates, time on task
 - Analyses depend on sample sizes, data distribution (normal vs. non-normal)
 - Can be parametric or non-parametric
- Qualitative data - Descriptive, look for themes, triangulate with quantitative data for more comprehensive story
- How to interpret...how many errors = UT problem?
 - *Severity trumps quantity*

Additional Notes

- As with any data collection effort, always seek IRB approval for UTs. (Many times UTs are considered exempt/non-research due to their formative nature. Check with your IRB.)
- **Bottom Line: Try to add UT – even if you can only test 1-2 people.**



For More Information

- Dumas, J. & Redish, J. (1999). *A practical guide to usability testing* (Revised ed.). Portland: Intellect Books.
- Ericsson, K. & Simon, H. (1993). *Protocol analysis: Verbal reports as data* (2nd ed.). Boston: MIT Press.
- Usability information and templates: [Usability.gov](http://usability.gov)
- Accessibility: [Section508.gov](http://section508.gov)
- Sample videos: <http://www.youtube.com/watch?v=ITVrWkb36ss>
- Contact me: cpaulsen@concordevaluation.com