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October 21, 2011

& Electronic Health Records

yů-zɛ-ˈbí-lə-tɛ
Behavior
Measure + Change Behavior
Psychology
Psychology

Experimental

Human Factors

Usability

Engineering::Physics
as
Human Factors::Psychology
Usability Inherits From Cognitive Psychology

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<th>Methods of measuring behavior</th>
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usability

from O.Fr. usable (1311), from user (see use). Not a common word before c.1840.

The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use

ISO definition
A false statement, with negative (No) response

A true statement, with affirmative (Yes) response

Yes or No?

The circle is above the star
The circle is not above the star

The circle is above the star

- True statements evoke faster responses than false statements
- Affirmative responses are much faster than negative (~ 500 msec)
So Let’s Think About Statements/Responses in CPOE…

Different phrasings are used when you want different responses

**Statement Type**
- True Affirmative
- False Affirmative
- True Negative
- False Negative

**Use When**
- Fast, easy, low-cost-to-user outcome, confirmation only
- Need user to think about the response, high cost to user
- Should almost never use
- Never use, unless trying to deceive user
e.g., Opt out response [ ] Do not send me the newsletter
SAY ≠ DO
The Usability Workbench...

Expert Review

Cognitive Modeling

Formative Usability Testing

Eye Tracking

Summative Usability Testing

The trick is which tool to use when...
- Qualitative
  - Ethnographic research
  - Participatory design
- Attitude
  - Card sorting
- Behavior
  - Eye tracking
  - Formative usability testing
  - Heuristic Evaluation
  - Expert Evaluation
  - Cognitive Walkthrough
  - Summative usability testing
- Quantitative
  - Surveys
Usability is about taking what we know about psychology and human factors and ... designing good tools and ... measuring how well the tools work, and ... doing it again and again...