

# Examining Web-mediated Experiences

## Balancing Qualitative and Quantitative Methods

### WebSci, Subjectivity and Methodology

One aspect of Web Science is examining Web-mediated experiences. For example:

- How do we experience the mobile web?
- What about the social web?
- How to evaluate web design processes?

Experiences are subjective; modelling them is tough. Mixed methods open up richer insights, but we need to understand methodology as well as method.



Subjectivity in action: this image could represent a happy memory, an arduous trek, or just a useful example of subjectivity...

### Methodology

One might combine:

- Statistical analysis & qualitative coding: corroborate data
- Expert reviews: deeper insight into prior results
- Case studies: build on lab data, 'how' and 'why' questions

More methods = more certainty

There is a perceived 'pressure' in some fields to seek quantitative results, to assume numbers mean rigour. And we may be doing stats badly...

### Methods

	Strengths	Weaknesses
Lab-based study	Specific, controlled, broad	Artificial
Case study	Grounded in practice	Lack of control; indirect data
Questionnaire	Breadth, efficiency	Tough to design, can't follow up interesting responses
Interview	Delve deep	Confirmation bias, time required
Focus group	Efficiency, delve deep	Confirmation bias, individuals may dominate
Expert review	More objective insights	Confirmation bias; finding experts
Teasing Apart with Meta Analysis	Rich, rapid, flexible	Can lack user focus, many choices

Mixed methods isn't as hard as it sounds!

Multiple perspectives; corroborate results; follow up interesting results

You need to know your methods and know your methodology

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#### Further reading:

Mixed methods: multiple perspectives and triangulation

Shneiderman, B., Plaisant, C. 2006. Strategies for Evaluating Information Visualization Tools: Multi-dimensional In-depth Long-term Case Studies. *BELIV 2006*. Venice, Italy: Isomursu, M., Tahiti, M., Vainamo, S., Kuutti, K. 2007. Experimental evaluation of five methods for collecting emotions in field settings with mobile applications. *International Journal of Human-Computer Studies*, 65, 404-418.

Pressure for quantitative results

Shneiderman, B. 2007. Creativity Support Tools: Accelerating Discovery and Innovation. *Communications of the ACM*, 50, 20-32.

Rigour in quantitative and qualitative methods

Fallman, D., Stolterman, E. 2010. Establishing Criteria of Rigor and Relevance in Interaction Design Research. *create10*. Edinburgh, UK.

How we approach statistics

Robertson, J. 2011. Stats: We're Doing It Wrong. *BLOG@CACM*, April 4, 2011. <http://cacm.acm.org/blogs/blog-cacm/107125-stats-were-doing-it-wrong/>

Mixed methods in WebSci

Hooper, C.J. 2010. *Towards Designing More Effective Systems by Understanding User Experiences*. Doctor in Engineering, University of Southampton.