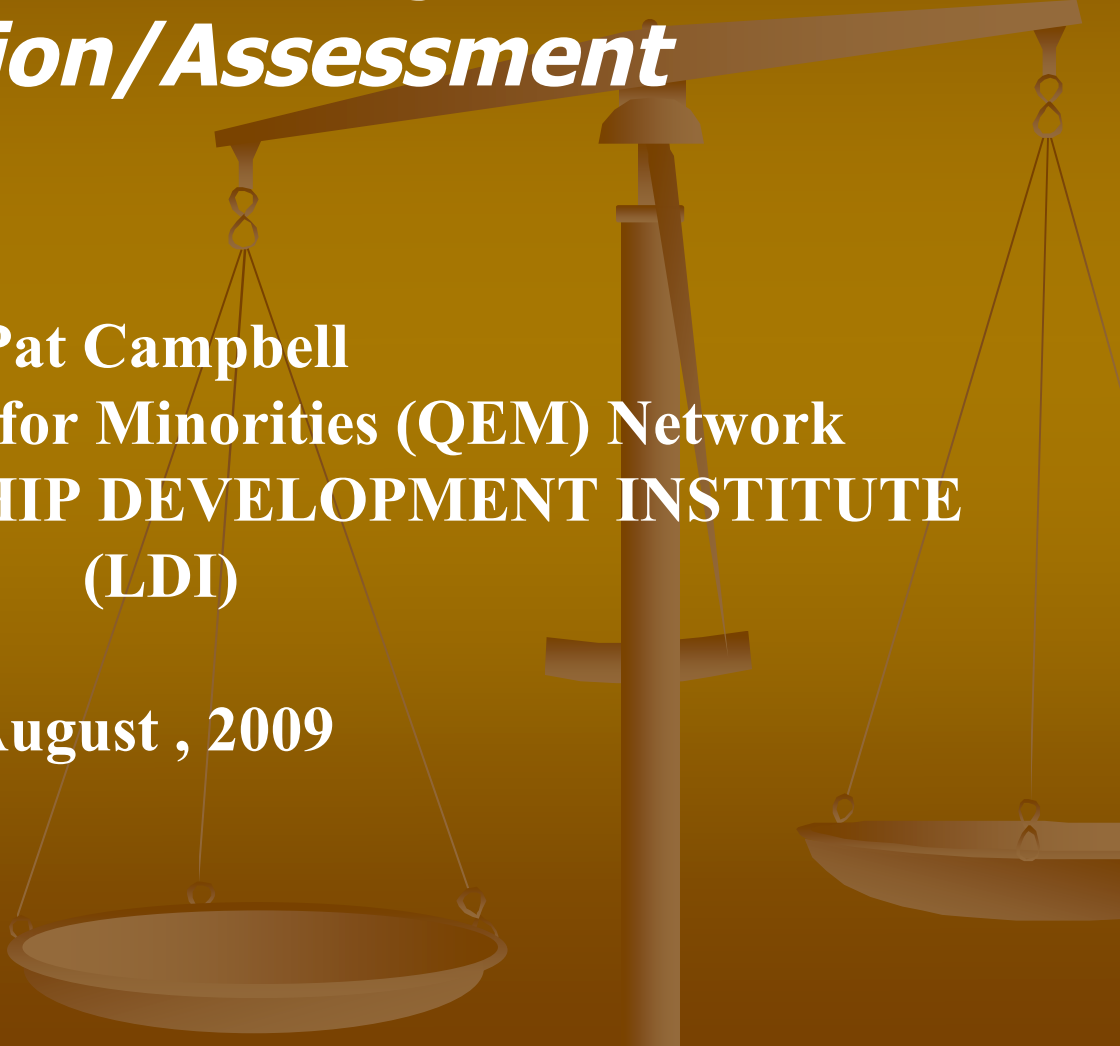


Using Mixed-Methods and Survey Research in Project Evaluation/Assessment



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Evaluation Basics: Soup, Cooks, Guests & Improvement

When cooks taste the soup, it's ***formative evaluation***; the collection of information that can be used to improve the soup. If necessary, the cook's next step is to explore strategies to fix the problem. The cook makes some changes and then re-tastes the soup, collecting more formative evaluation data.

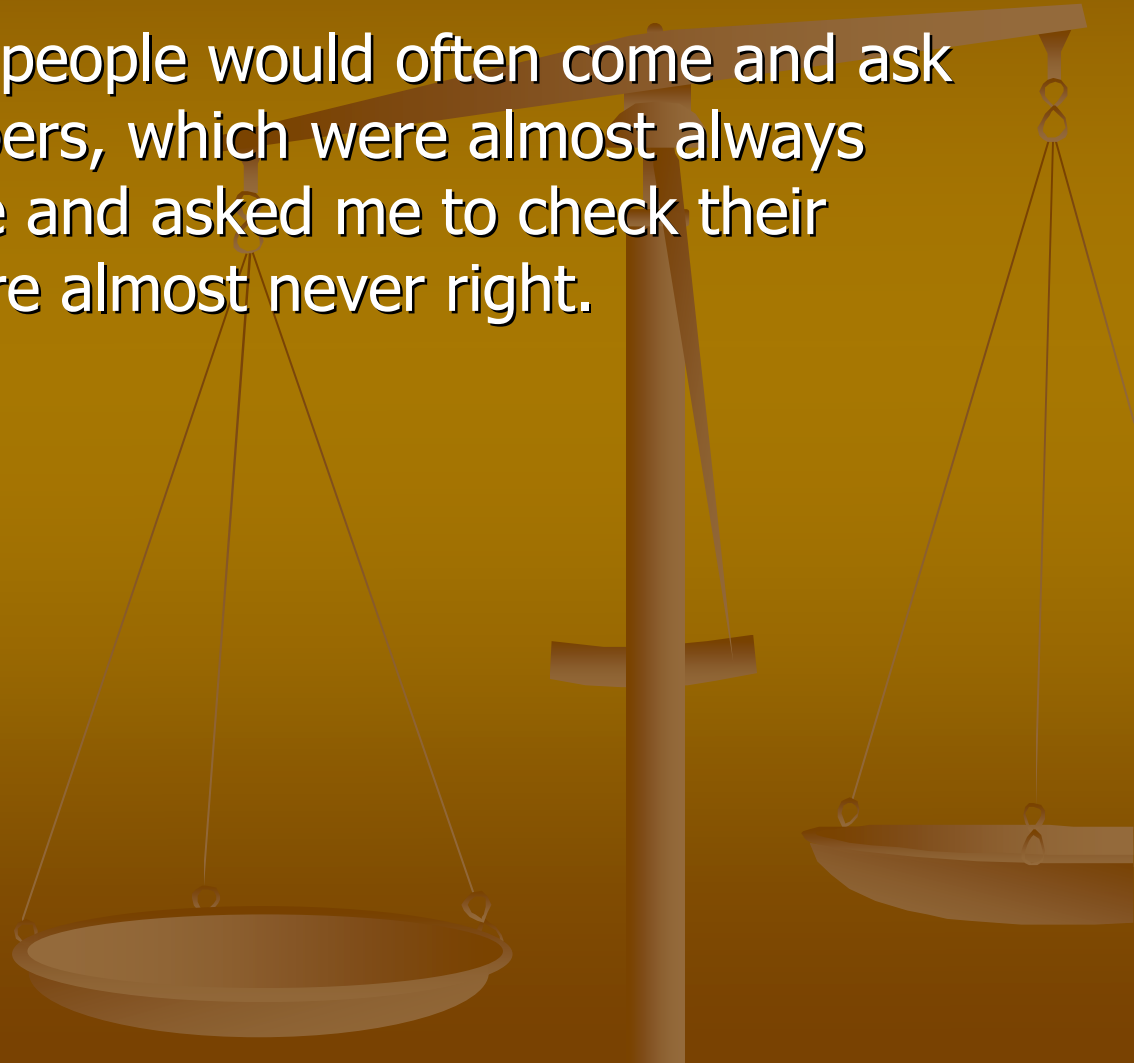
When the guests taste the soup at the table, they're doing ***summative evaluation***. They are collecting information to make a judgment about the overall quality and value of soup. Once the soup is on the table and in the guests' mouths, there is little that can be done to improve that soup.

Thanks to Bob Stake for first introducing this metaphor.

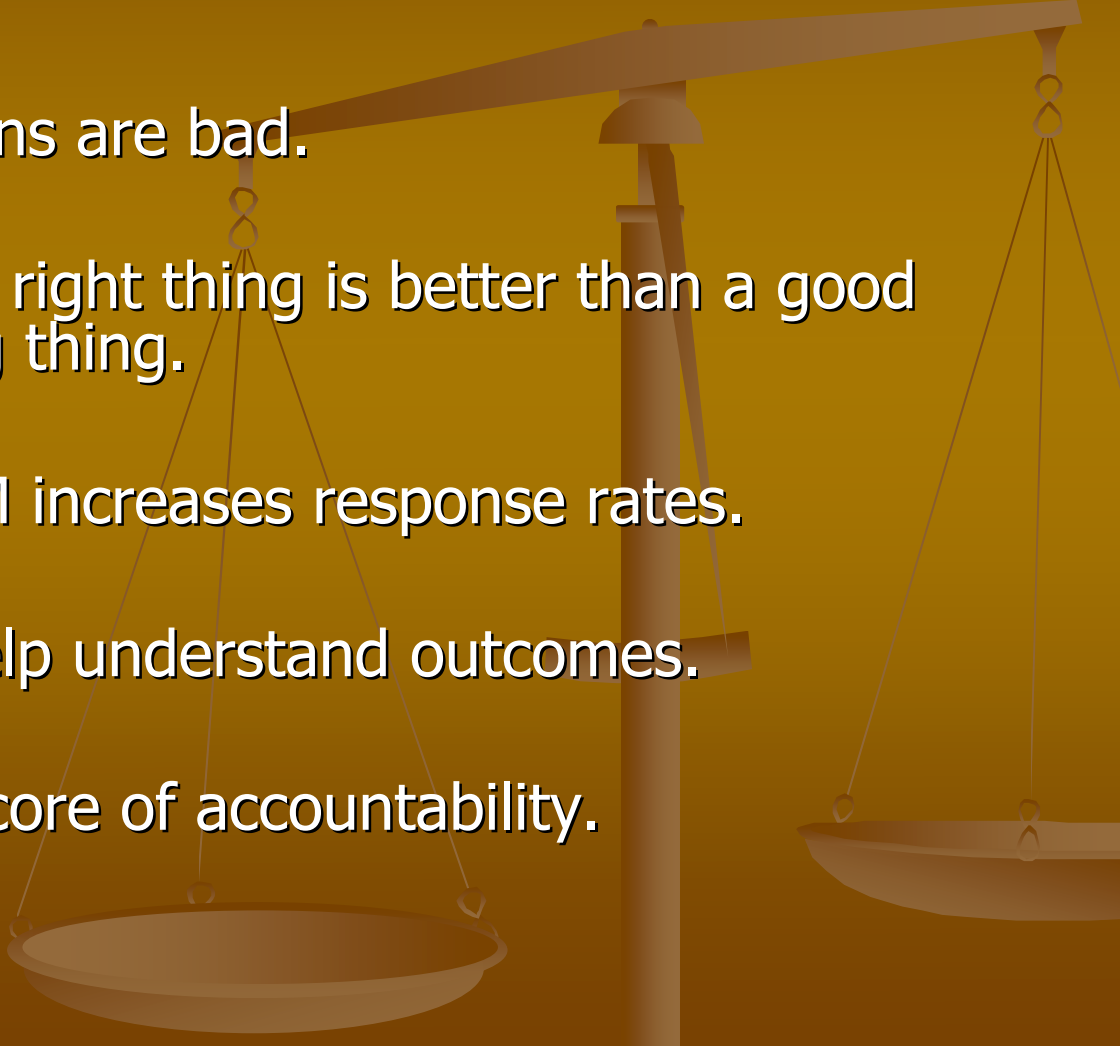
Challenging Assumptions

When I was a physicist people would often come and ask me to check their numbers, which were almost always right. They never came and asked me to check their assumptions, which were almost never right.

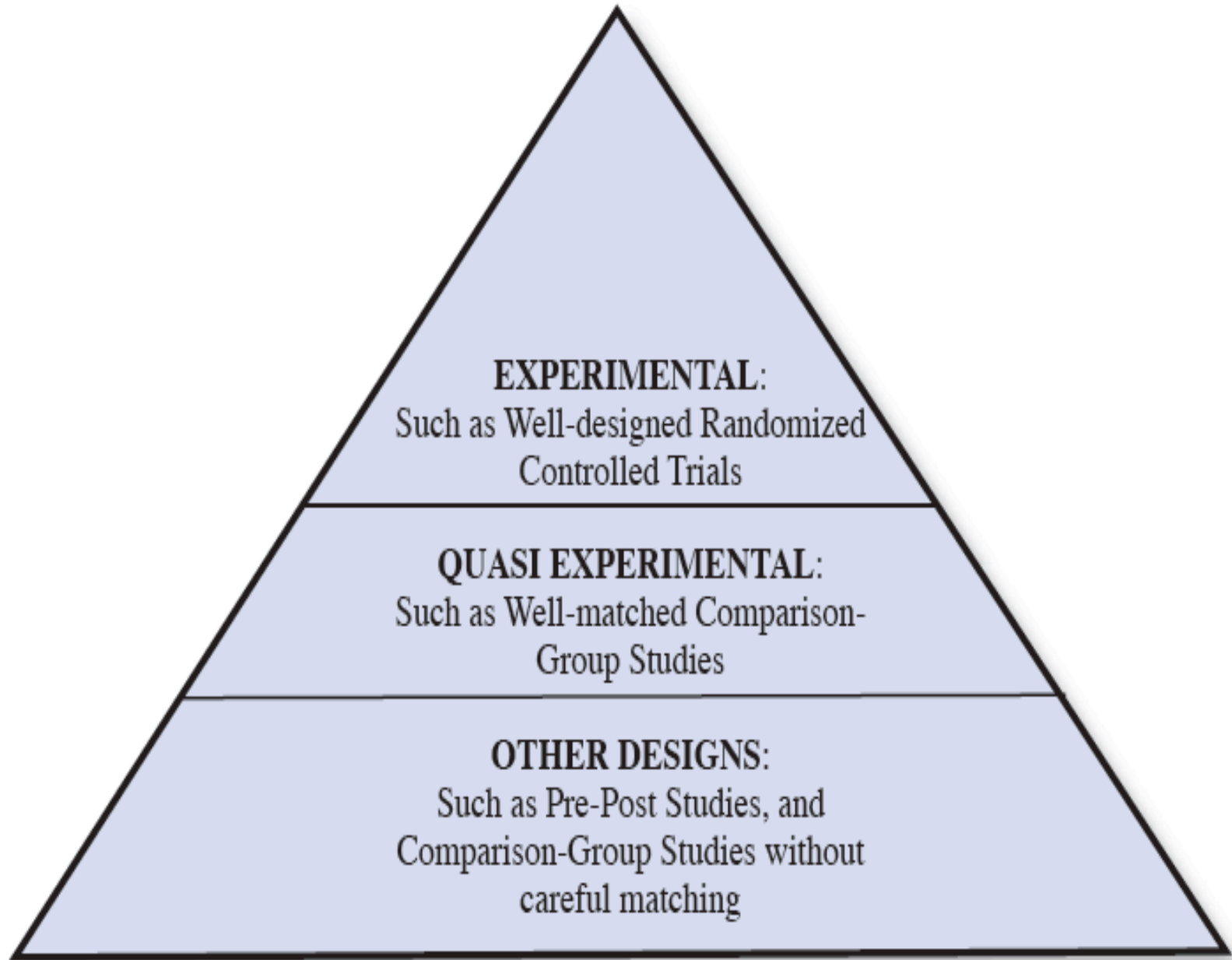
Eli Goldratt



Pat's Evaluation Assumptions

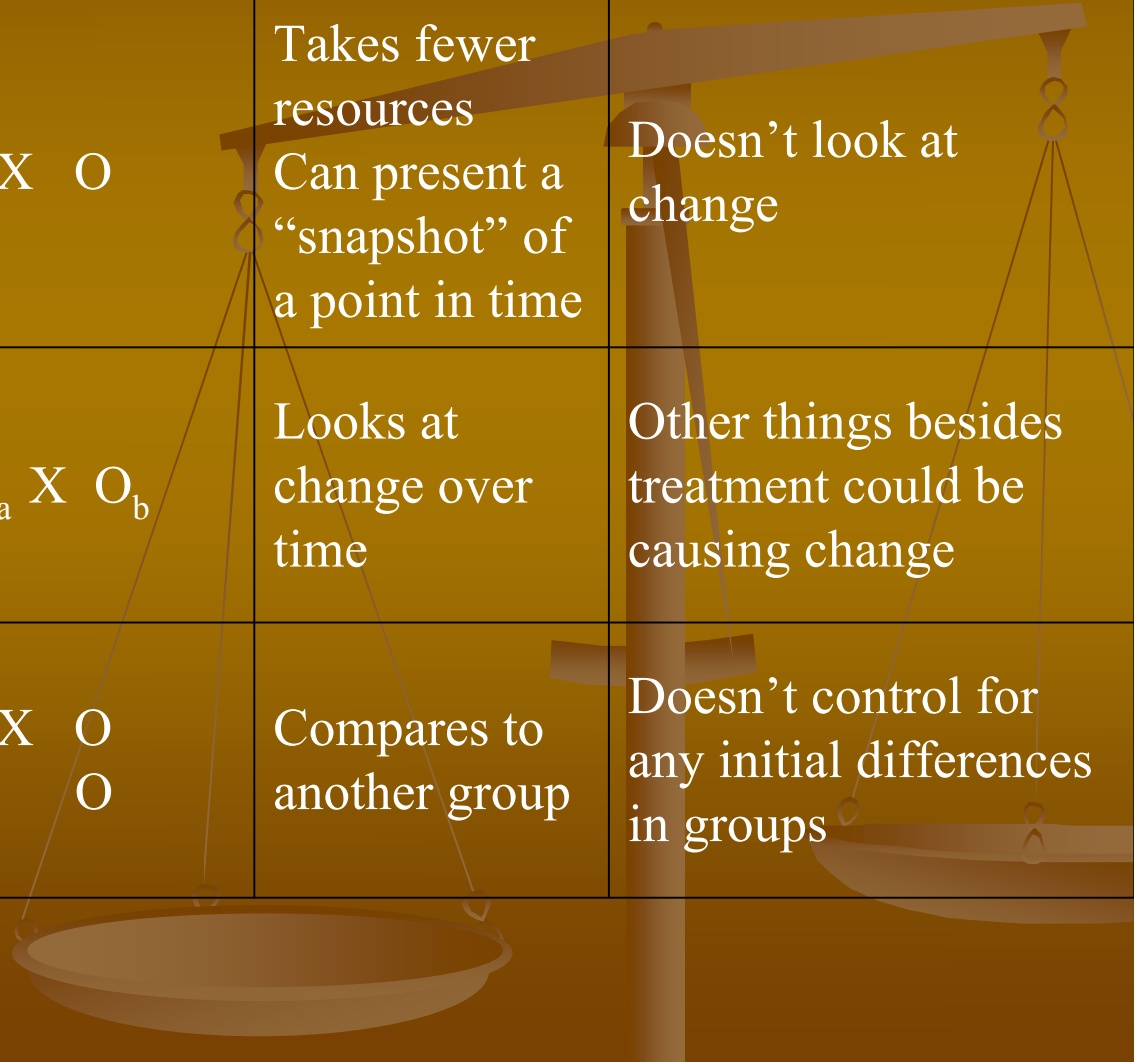
- The core evaluation question is “What works for whom in what context?”
 - “Black hole” evaluations are bad.
 - A bad measure of the right thing is better than a good measure of the wrong thing.
 - Acknowledging WIIFM increases response rates.
 - Process is a tool to help understand outcomes.
 - Outcomes are at the core of accountability.
- 

Hierarchy of Study Designs



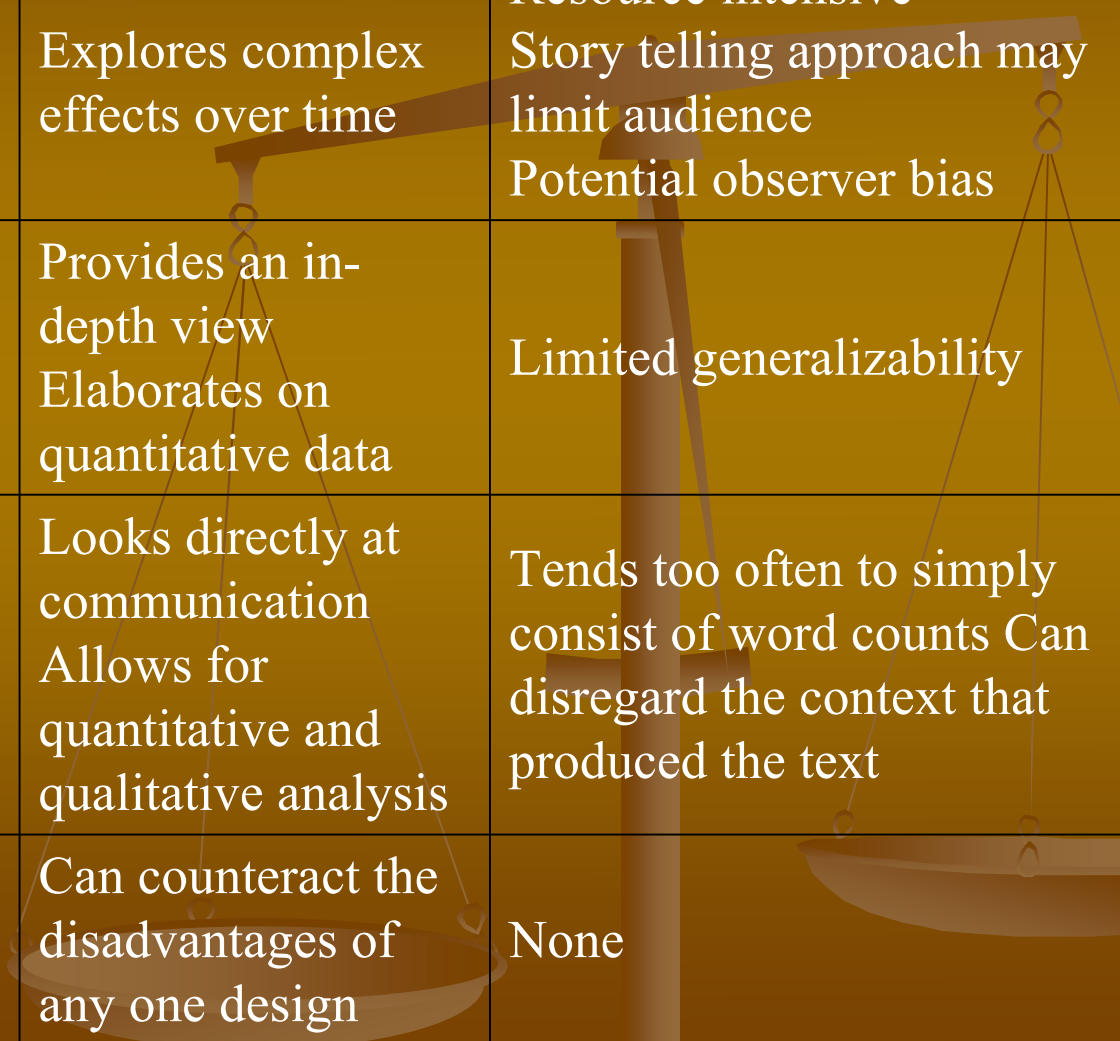
The Right Design for the Question

Study Type	Design	Representation	Advantages	Disadvantages
Quantitative Case Study	One-shot Post-test only Design	X O	Takes fewer resources Can present a “snapshot” of a point in time	Doesn't look at change
Quasi-experimental Study	One-shot Pre-test-Post-test Design	O _a X O _b	Looks at change over time	Other things besides treatment could be causing change
Quasi-experimental Study	Post-test Only Intact Group Design	X O O	Compares to another group	Doesn't control for any initial differences in groups



The Right Design for the Question

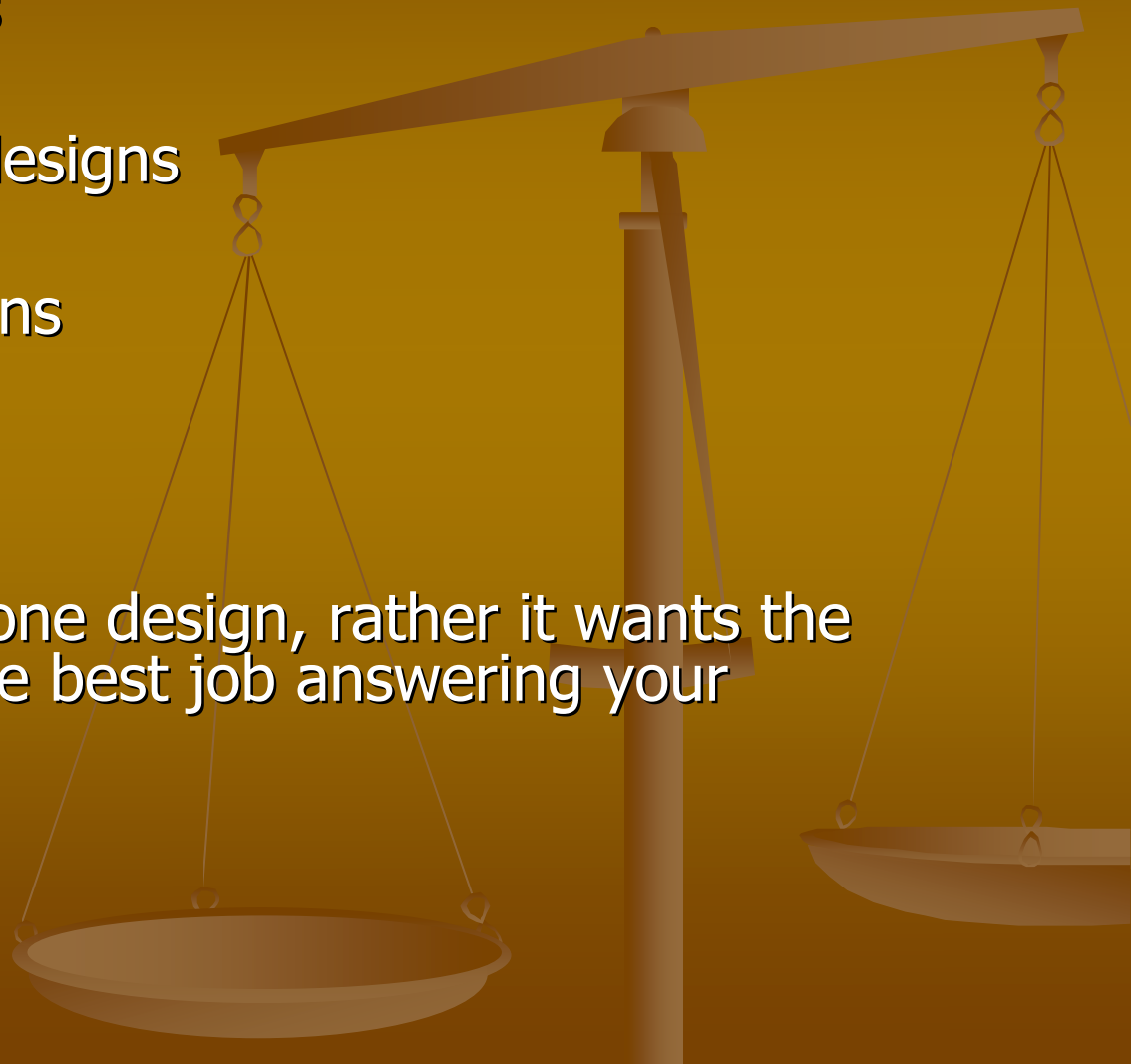
Study Type	Design	Advantages	Disadvantages
Ethnography	Participant observer examination of group behaviors and patterns	Explores complex effects over time	Resource intensive Story telling approach may limit audience Potential observer bias
Case Study	Exploration of a case (or multiple cases) over time	Provides an in-depth view Elaborates on quantitative data	Limited generalizability
Content Analysis	Systematic identification of properties of large amounts of textual information	Looks directly at communication Allows for quantitative and qualitative analysis	Tends too often to simply consist of word counts Can disregard the context that produced the text
Mixed Methods Study	Use of more than one of the above designs	Can counteract the disadvantages of any one design	None



Compared to What? Evaluation Designs

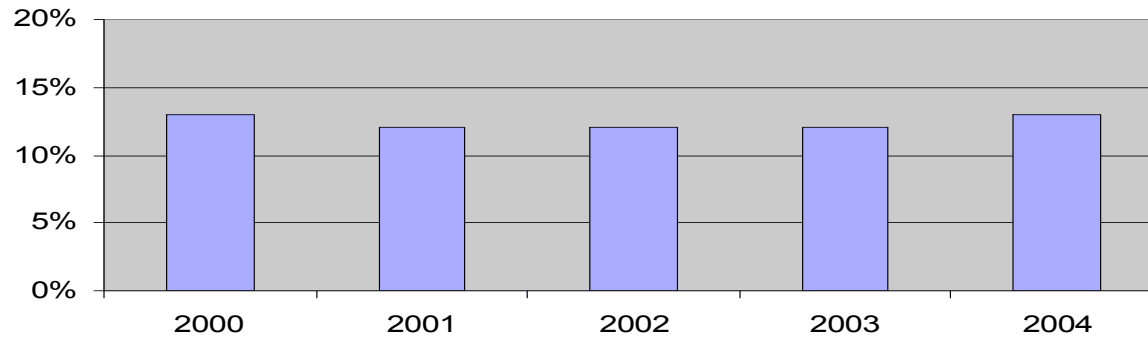
- Experimental designs
- Quasi-experimental designs
- Mixed methods designs
- Case studies

NSF does not promote one design, rather it wants the design that will do the best job answering your evaluation questions!

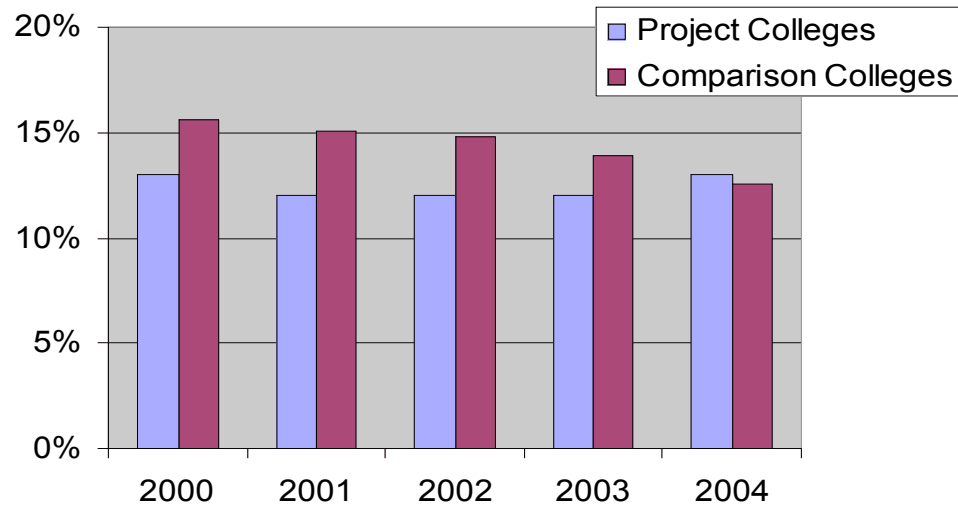


Compared to What? Why Bother

Percent of Under-Represented STEM Students in 17 Project Colleges



Percent of Under-Represented STEM Students in 17 Project and 17 Comparison Colleges



Web-based Sources of Comparisons

WebCASPAR database (<http://caspar.nsf.gov>) provides free access to institutional level data on students from surveys as Integrated Postsecondary Education Data System (IPEDS) and the Survey of Earned Doctorates.

The Engineering Workforce Commission (<http://www.ewc-online.org/>) provides institutional level data (for members) on bachelors, masters and doctorate enrollees and recipients by sex by race/ethnicity for US students and by sex for foreign students.

Comparison institutions can be selected from the Carnegie Foundation for the Advancement of Teaching's website, (<http://www.carnegiefoundation.org/classifications/>) based on Carnegie Classification, location, private/public designation, size and profit/nonprofit status.

Some Web-based Sources of Resources

OERL, the Online Evaluation Resource Library.

<http://oerl.sri.com/home.html>

User Friendly Guide to Program Evaluation

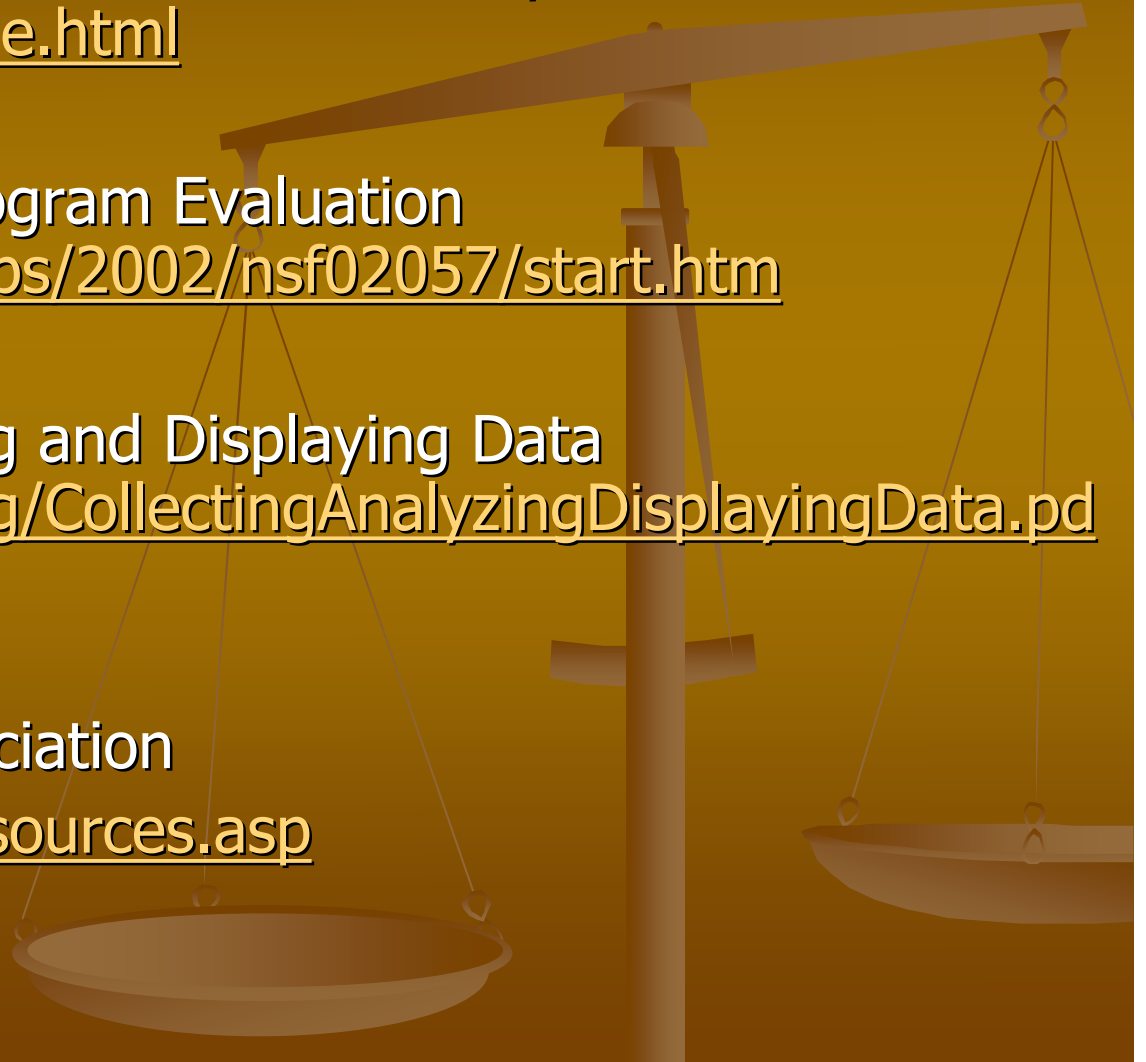
<http://www.nsf.gov/pubs/2002/nsf02057/start.htm>

AGEP Collecting, Analyzing and Displaying Data

<http://www.nsfagep.org/CollectingAnalyzingDisplayingData.pdf>

American Evaluation Association

<http://www.eval.org/resources.asp>

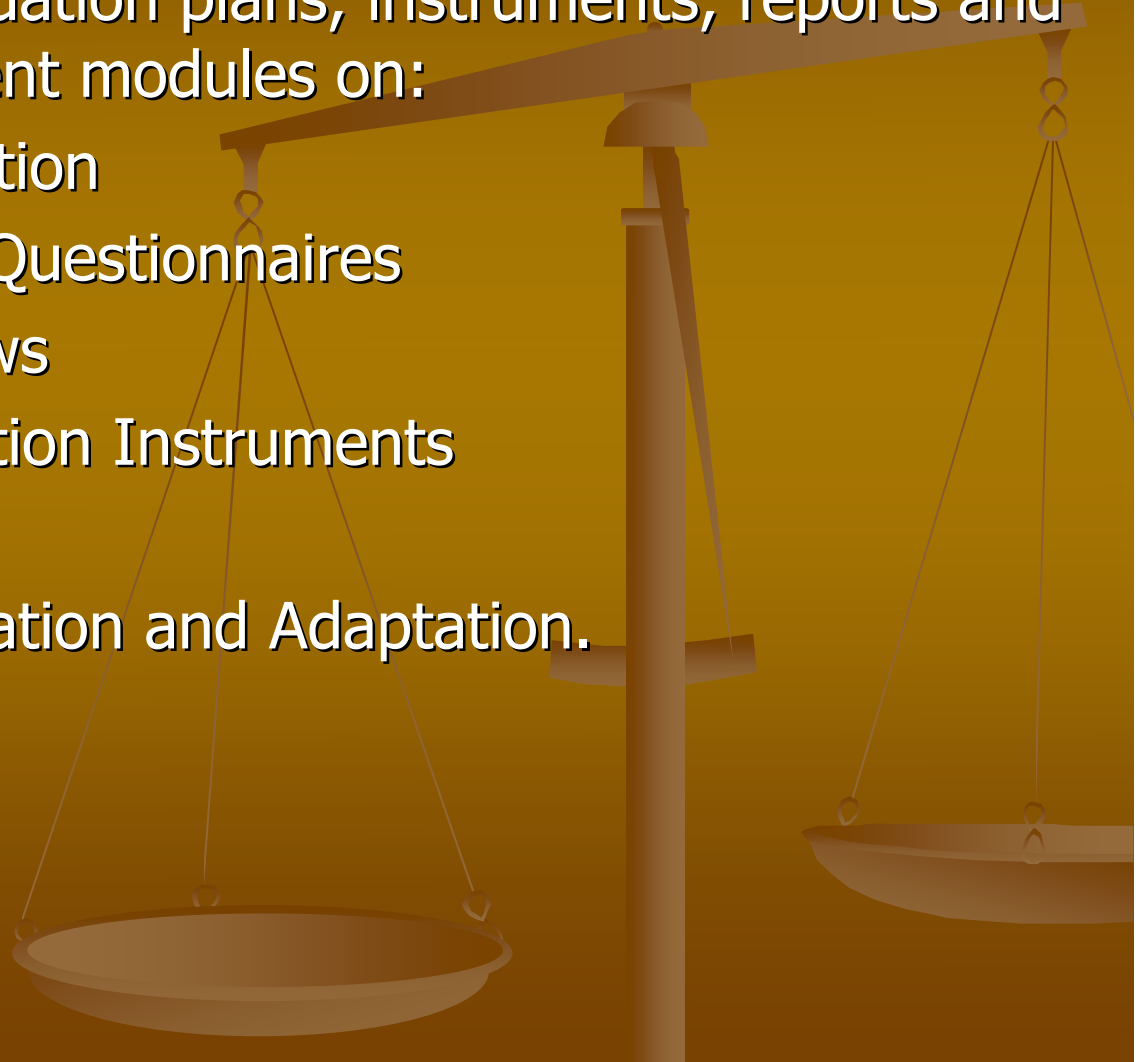


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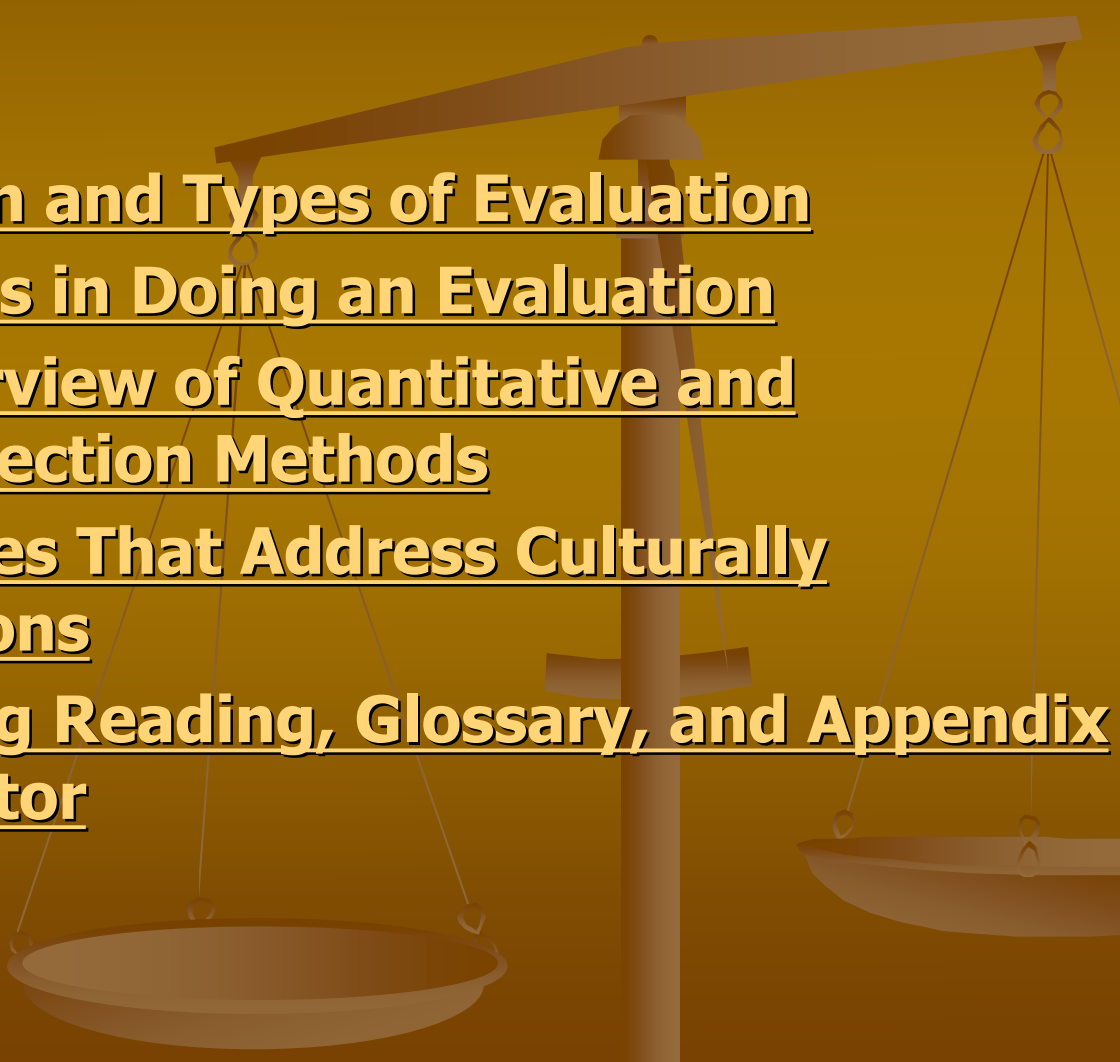
Includes NSF project evaluation plans, instruments, reports and professional development modules on:

- Designing an Evaluation
- Developing Written Questionnaires
- Developing Interviews
- Developing Observation Instruments
- Data Collection
- Instrument Triangulation and Adaptation.



User Friendly Guide to Program Evaluation

<http://www.nsf.gov/pubs/2002/nsf02057/start.htm>

- Introduction
 - Section I - Evaluation and Types of Evaluation
 - Section II - The Steps in Doing an Evaluation
 - Section III - An Overview of Quantitative and Qualitative Data Collection Methods
 - Section IV - Strategies That Address Culturally Responsive Evaluations
 - Other Recommending Reading, Glossary, and Appendix A: Finding An Evaluator
- 

AGEP Collecting, Analyzing and Displaying Data

<http://www.nsfagep.org/CollectingAnalyzingDisplayingData.pdf>

I. Make Your Message Clear

II. Use Pictures, Where Appropriate

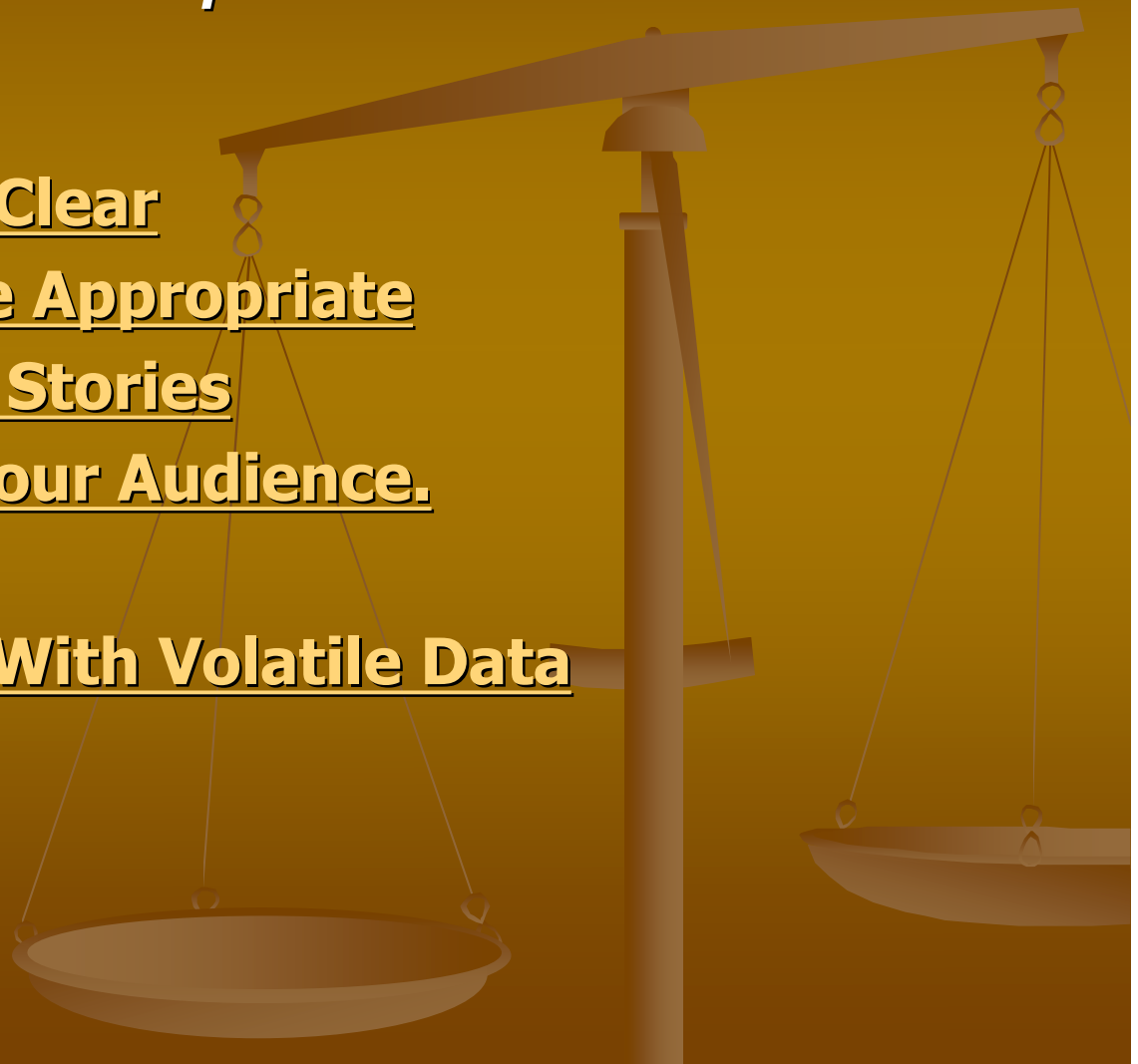
III. Use Statistics and Stories

IV. Be Responsive to Your Audience.

V. Make Comparisons

VI. Find Ways To Deal With Volatile Data

VII. Use the Results



Some Things to Consider When Choosing a Design

The balance between the level of investment in the evaluation and the level of investment in and the intensity of the intervention (they should be roughly commensurate).

The appropriateness of the fit between the design of the program or “intervention” and the requirements of more rigorous evaluation methodologies. The timing of the evaluation also has an impact the design to be selected.

The level of evidence expected given the nature of the intervention.

