

Evidence-Based Decision Making

Assessment is any effort to gather, analyze, and interpret evidence which describes, institutional, divisional, or agency effectiveness¹. In other words, assessment enables us to determine the level of effectiveness of our programs and services. The definition of “effectiveness” varies by our goals.

Data Dialogue²

Data  Dialogue  Action

In evidence-based decision making we gather data, have a dialogue about our data, and then act on what we have learned to make decisions. The three principles below can help guide your response to data collected.

1. Open sharing of results and the process for utilizing the results- Be as open and transparent as possible. To gain the advantage of this step, communicate early.

- Plan for who gets the results right away, and who gets them after some dialogue.
- Plan for dialogue about survey results. Who engages in dialogue sessions?
- Who will draft and then approve action plans?
- Decisions made should clearly connect to your results.

The point of having a dialogue about the data is to get individuals talking and collaboratively planning to utilize strengths and plan for improvements. Therefore, it is not necessary or advisable to have all of the answers or solutions planned before sharing the results.

2. Active involvement (dialogue) in interpretation of results and selecting area of focus- Interpretation of the results is most effectively done through a dialogue process. It is important to include diverse perspectives in the dialogue. Below are some questions you can use to think about the data you have collected and have a discussion.

Discussing Data:

- What surprises you about the data?
- How does this data fit (or not fit) with other data sources you have?
- If you were to pick one thing to dig into and learn more about, what would it be?
- What are we doing well?
- What should we celebrate?
- What should we change?
- For areas of strength, consider:
 - Are there specific policies, practices, programs (both informal and formal) that support this component within your department?

¹ Upcraft, M. L., & Schuh, J. H. (1996). *Assessment in student affairs: A guide for practitioners*. San Francisco, CA: Jossey-Bass.

² Information adapted from Work at Iowa 2012: http://www.uiowa.edu/hr/working/wairpt_cg.html

- How can you continue to build on/support these elements?
- In what ways do the areas of strength match the department's areas of focus over the past couple of years?
- What you have done to communicate this value to your staff members?
- For areas of growth, consider:
 - If you feel there is a mismatch between respondent perception and reality, how can you better communicate your efforts in this area to stakeholders?
 - In what ways are the areas for growth aligned or not aligned with the department's focus over the past couple of years?

Representative Sample:

- Do we have the full breadth of social identity groups and perspectives participating in this assessment? (who is missing?)
- What could we do to capture the perspectives of those individuals knowing that they already have chosen not to respond to our assessment?
- How might our unconscious attitudes and assumptions about these populations be playing out in the decision not to target our efforts to get more responses from them?
- How might making conclusions based on this data inadvertently advantage some and disadvantage others?

3. Shared responsibility for developing a plan, measuring progress on the plan, and achieving results-

Provide an opportunity for individuals to engage in the action planning process. This will further engage them and distribute responsibility for change.

- Begin with a celebration of successes, particularly as it relates to important organization initiatives and efforts over the past year.
- Finalize the plan for who is responsible for what and when it will occur: when and how will they communicate? This could be a new working group or already established committee or work group.
- Establish key steps with deadlines, and ways to measure success, such as tailored follow-up (pulse) surveys.
- Share the goals and the action steps broadly within the organization.

Assessment versus Research³

Assessment guides good practice while research guides theory

- *Assessments are conducted to help guide our practice. The findings from an assessment have implications for a single institution.*
- *Research guides theory and is used to test concepts. The findings from research have larger implications for all universities.*

³ Upcraft, L.M. & Schuh, J.H. (2002). Assessment vs. research: Why we should care about the difference, *About Campus*. Retrieved from: <http://onlinelibrary.wiley.com/doi/10.1002/abc.71/pdf>

Assessments don't adhere strictly to the standards of research

- Research is conducted based on strict standards in ideal circumstances. In the real world it is difficult or impossible to conduct assessments based on the same standards as research.
- Assessments are bound by resource, time, and design limitations and occur within organizational and political contexts. We often don't have the time or resources to implement the "perfect" assessment design before a decision has to be made or a problem solved. Investigators must also take into account that assessment always occurs within an **organizational** and **political** context when designing and implementing an assessment.
- Investigators should be clear with their audience on the limitations of their assessment.

Good practice includes collecting data to drive decisions, but even the best data should be paired with our expertise and other data points to make decisions.

Implementing Change⁴

In the book *Good to Great*⁵, Jim Collins compares companies that went from being good to being great with companies that failed to make the same leap. Upon looking at these companies Collins concluded that the good-to-great companies, "confront the brutal facts," "have a culture of discipline," and were transformed through a *cumulative* process. At first glance, the book has little to do with assessment – the word "assessment" doesn't even appear, in fact. But the good-to-great companies share some characteristics related to organizations with strong cultures of assessment. The idea of a culture of disciplined thought and reflection, the claim that the lack of resources does not mean a lack of disciplined thought (it makes rigor all the more important), and confronting the brutal facts and doing "autopsies" on projects without placing blame are common in both good-to-great companies and assessment.

Assessment is ultimately about making sound decisions based on good evidence. In *Good to Great* language, it's about disciplined thought. The concept of "autopsies without blame" is also relevant to assessment. One of the barriers to good assessment is the fear that our results will show our programs or services aren't effective – and perhaps, that we'll lose status, resources, etc. The reality is that a culture focused on improvement, not perfection, is our goal. Autopsies without blame involve sharing assessment data, looking at it honestly, and finding ways, together, that we can improve.

At the same time we need to foster a culture of discipline. We need to *act* on our assessment findings. We need to ask ourselves the question, according to Collins, "Once you know the right thing, do you have the discipline to do the right thing and, equally important, to stop doing the wrong thing?" Assessment gives us the ability to stop programs or practices that "we've always done that way" if we have evidence that they aren't meeting our goals. We need to take advantage of this opportunity.

⁴ Retrieved from the University of Iowa Assessment Handbook: <http://vp.studentlife.uiowa.edu/assets/Updated-Assessment-Handbook.pdf>

⁵ Collins, J. (2001). *Good to great: Why some companies make the leap... and others don't*. New York, NY: HarperCollins Publisher Inc.

Finally, we should always celebrate the small successes. Assessment is a cyclical, cumulative process. Transformations do not happen in an instant and every small success we encounter should be celebrated, especially as a stepping stone to a good-to-great transformation.

Statistics Primer

Statistics is a methodology for collecting, analyzing, interpreting, and drawing conclusions from information. At the core it is a methodology for interpreting and drawing conclusions from collected data.⁶

Terms:

- **Population:** consists of all members of a group (can be small or large)
- **Sample:** subset of a population (used when a population is large)
- **Parameter:** numerical summary of the population
- **Statistics:** numerical summary of the sample that can be used to make inferences about parameters⁷

What do we do with our data?

- Summarize it
- Draw inferences from it

Descriptive statistics: summarize data

- Frequencies, percentages, proportions, ratios
- Shapes of distributions
- Measures of central tendency
 - Mean, median, mode
- Measures of variability
 - Range, standard deviation, variance
- Correlation

Inferential statistics: inferring characteristics of the population (parameters) from the characteristics of the sample (statistics)

Correlation and Causation

- Correlation \neq Causation
- The correlation (extent to which variables are related) between two variables does not imply one causes the other (causation). Two events that occur together do not automatically have a cause and effect relationship.
- Example: Alcohol and sexual abuse

⁶ Isotalo, J. Basics of statistics. Retrieved from: <http://www.mv.helsinki.fi/home/jmisotal/BoS.pdf>

⁷ Pirczak, F. (2010). *Making sense of statistics: A conceptual overview*. Glendale, CA: Pirczak Publishing.

There are no perfect data!

Every data source has limitations; it may be that the data was collected in the spring semester versus the fall or that more women than men completed it. This information is just one data source from a particular point in time. To get a fuller picture, see how you can connect the data you collected to other data sources. Can you look at your data in relation to national statistics? Can you connect your survey with focus groups you conducted the semester before?

Sampling⁸

Bias exists whenever some members of a population have a greater chance of being selected for inclusion in a sample than other members of the population. **Convenience sampling** increases the odds that some members of a population will be selected to include in the sample while reducing the odds that other members will be selected. Subjects are selected because of their convenient accessibility. **Self-selection bias** (volunteerism) is also an issue when sampling and can create an additional source of bias because those who decided not to participate have no chance of being included in the sample.

To eliminate bias in the selection of individuals some type of **random sampling** is needed. In **simple random sampling** each member of the population is given an equal chance of being selected. In **stratified random sampling** the population is divided into sub-populations (such as men and women) and a random sample is drawn from each sub-population. The purpose of this type of sampling is to obtain a sample that is representative in terms of the sub-populations.

The larger the random sample is, the more precise the results are. Statisticians define precision as the extent to which the same results would be obtained if another random sample were drawn from the population. The best ways to increase precision are to increase sample size and use some type of random sampling.

Sample size calculator: <http://www.surveysystem.com/sscalc.htm>



⁸ Pirczak, F. (2010). *Making sense of statistics: A conceptual overview*. Glendale, CA: Pirczak Publishing.