

AHSIE Data Institute

University of Chicago, Illinois

March 25, 2018

Facilitators:

Archie Cubarrubia, EdD

Gina Johnson, PhD

Jeannie Kim-Han, PhD

Michael Le, MA






Mayra Padilla, PhD

Workshop Outline

1. Introduction of Facilitation Team
2. Overview & Context - Jeannie
3. New visions for IR - Archie
4. Cultures of Inquiry and Evidence - Gina
5. Data 101: Using Data to Improve Student Success - Gina & Jeannie
6. Turning Data into Information - Mike
7. Data Activity - Jeannie & Mayra

BUILDING AN INSTITUTION-WIDE DATA CAPACITY: NEW VISION FOR IR

The Duties & Functions of IR

-  Identify information needs
-  Collect, analyze, interpret, and report data and information
-  Plan and evaluate
-  Serve as stewards of data and information
-  Educate information producers, users, and consumers

<https://www.airweb.org/Resources/Pages/IR-Duties-Functions.aspx>

Statement of Aspirational Practice for Institutional Research

An expanded definition of “decision makers”

Structures and leadership for institutional research

Leadership for the institutional research function

A student-focused paradigm

An Expanded Definition of Decision Makers

Students

- Inform decisions students make
- Students as target audience

Faculty

- Access to data and information to support decisions – policies/structures and individual work

Staff

- Access to data and information to support decisions – policies/structures and individual work

Structures and Leadership for Institutional research

Activating a networked institutional research function:

- **Data and analytic tools** available institution-wide
- Human resources practices identify **data literacy** skills required of employees
- Institutions provide **training** and professional development of data-related skills; support networks of data users and consumers

A Student-Focused Paradigm

Activating a student-focused paradigm:

- Selection and design of institutional research predicated on a commitment for the **success of all students**
- Institutional reports connect all exploration to the **student experience**
- Recognition that students experience an institution **holistically**

WORKING TOGETHER IN A CULTURE OF INQUIRY AND EVIDENCE

Cultures of Inquiry & Evidence

Culture of Inquiry is characterized by asking questions.

Why don't our students succeed?

What interventions have we employed to improve student success?

What impact have these interventions had?

What strategies do successful students employ?

Culture of Evidence is characterized by collecting and analyzing data to begin answering those question, and using results to improve student success.

Using Data Within a Culture of Evidence

1. Identify potential problem areas
2. Gather data related to the problem
3. Share data and information
4. Provide forums for discussion
5. Diagnose or identify possible reasons for the problem (revisiting step 2)
6. Identify promising strategies
7. Add accountability guarantees and implement strategies
8. Measure results
9. Share and use results wisely

Evaluating Outcomes

Evaluation plan **built into early design** of the intervention = clear objectives stated in measurable ways

Balance of **formative** (during the process) and **summative** (end of the process) evaluation

Balance of **cost and benefit** of evaluation

Communicating the News

- Know your audience
- Know your purpose
- Partner with the stakeholders
- Establish the context
- Limit the data
- Help recipients understand the data
- Avoid placing blame
- Allow time for courageous conversations about the data
- Recap and summarize the conversation
- Move forward

DATA 101

USING DATA TO IMPROVE STUDENT SUCCESS

Data Definitions

- Data Definitions - IPEDS/NCES and Campus Alignments
- What are the “normal” data definitions and what do they mean?
- How are they used?
- Mapping the APR data to the larger statewide institutional metrics - CA CC Scorecard, CSU Graduation Initiatives, UC - graduation/retention rates
- Mobility Scorecard - National Conversation level
- Gap Analysis - disaggregated data by URM

Data 101 – Sources of Data

- Student information systems
- Data warehouses
- Other institutional databases
- Transactional data systems

Readily available
for multiple years

- Additional sources:

- Focus group results
- Student learning outcomes data
- Program outcome data
- Survey data
- External data (national/state)
- National Student Clearinghouse data

More likely collected for
a specific purpose and
stored privately

Data 101 – Data Studies

Cross-sectional

- Snapshot of a particular moment in time
- Take less time to conduct
- Results available quickly
- May distort view of what is really going on

Longitudinal

- Same set of subjects over time to study effects
- Provides larger picture of what is happening
- Follows a cohort through a process to understand variables
- Take more time to conduct and access results

Data 101 – Definitions

Available Data

- Review the definitions of the data you are using
- If available, refer to the institutional data dictionary
- If accessing the data through another office, explain the data you need so they can best meet needs

Collected Data

- Determine your data needs before collecting new data
- Record the definitions of the data you collect

Do not get lost in the definitions or let “imperfect” data stop you from your research or evaluation.

Data 101 – Data Types

Qualitative



- Open-ended survey items
- Focus group results
- Exit interviews
- Observation

Quantitative



- Attendance counts
- Percentage survey responses
- Enrollment counts
- Test scores

Examples

TOOLS FOR DATA AND ANALYSIS

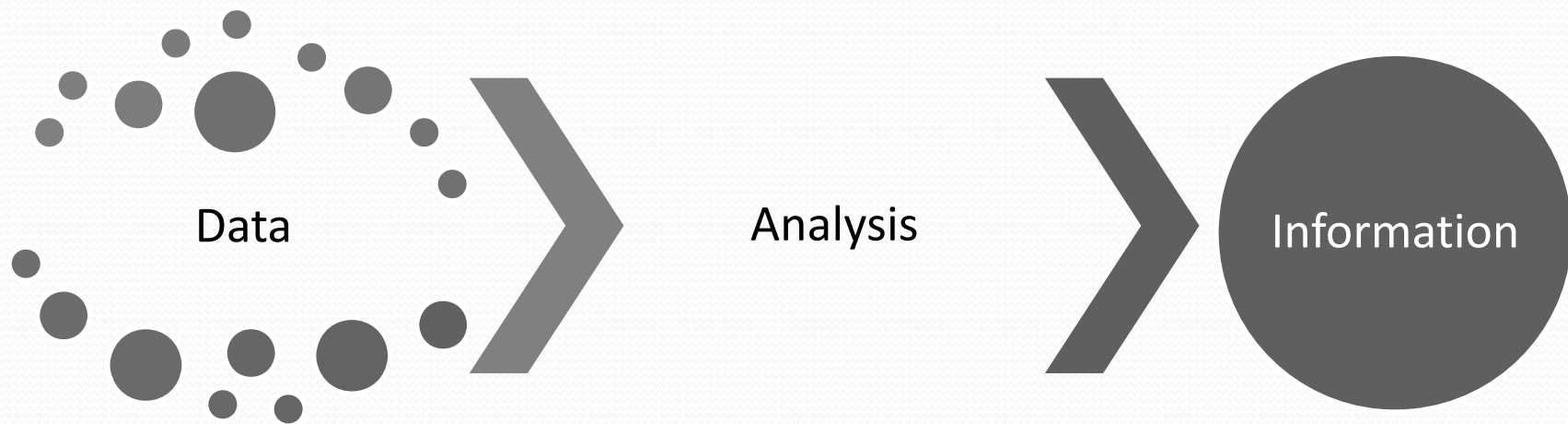
Data Sources

- Pathways Data
- Education
 - Ed Trust
 - Economic Mobility Project
 - <http://www.socialmobilityindex.org/>
 - American College Review
 - National Community College Benchmark Project <https://nccbp.org/benchmarking-institute>
- Census.gov
- Employment & Labor
- State higher education and workforce data (SHEEO resource)
- Health
 - CDC
 - Kids Count Data Project
 - American Health Rankings
- Example Institutions
 - ASU
 - CSUDH
 - Others?

15 minute Break

TURNING DATA INTO INFORMATION

Data vs. Information



Statistical & Practical Significance

Statistical significance does not automatically imply meaningful results in institutional research

- Minor differences in large groups can be statistically significant but unimportant
- Large differences in small groups can lack statistical significance but be important to address

Establish levels of “practical significance” by determining what is important enough to explore further and act upon.

Causation vs. Correlation

It is very difficult to provide evidence of **causation**, particularly when random assignment is not possible, as in most educational settings.

Statistical analyses can provide evidence for **correlation** - factors are related by more than chance.

This concept is particularly important when deciding to require something of students.

Data 101 – Qualitative Methods

Characteristics



- Descriptive
- Explore meaning of quantitative conclusions
- Contextually and humanly framed

Examples



- Theming of open-ended survey items
- Purposeful exit interview questions
- Analysis of data from focus groups



Data 101 – Quantitative Methods

Characteristics



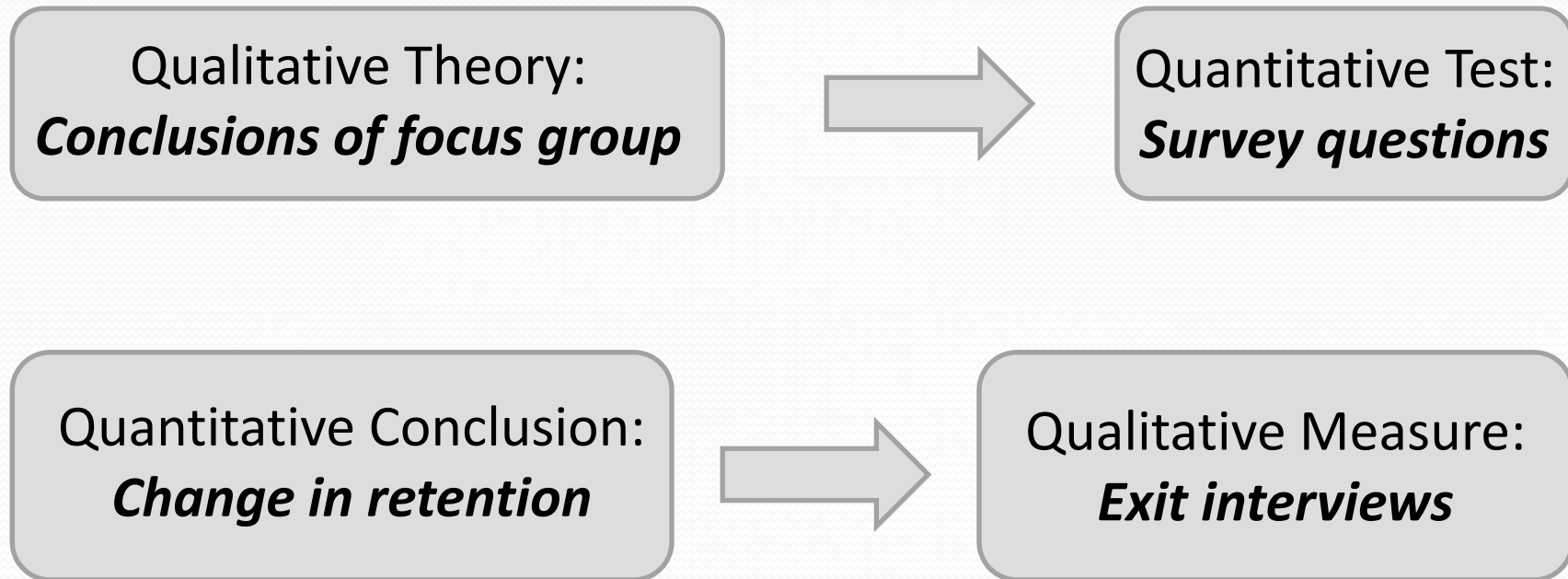
- Predict and control
- Operationalize variables and use instruments to measure
- Descriptive and correlational

Examples



- Change in attendance counts
- Percentage survey responses
- Regression analysis

Data 101 – Complementary Methods



Samples and Populations


- Institutional research is not as concerned with generalizability since many quantitative data are available for the **entire population of students** of an institution.
- Caution should be noted when attempting to generalize from **survey or focus group data**. These data are captured with convenience samples unless a high response rate is obtained. Review of the representativeness of the respondents is important.

Avoiding Analysis Paralysis


Analysis paralysis is the inability to act on available data and information due to:



**Data
anomalies**



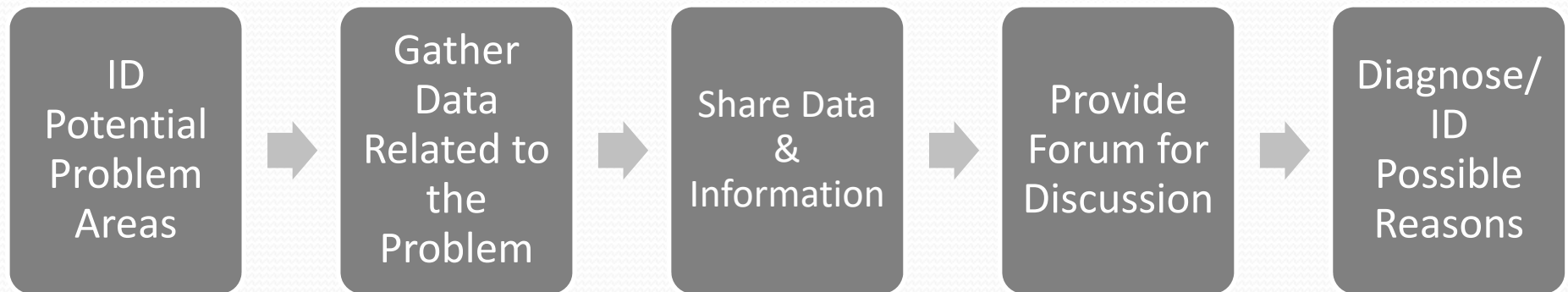
**Missing
data**



**Unanswered
questions**



First 5 Steps of Process



Remaining Steps in Process

6. Identify promising strategies

Literature

Professional associations

Peers

7. Add accountability guarantees and implement strategies

Articulate clear, measurable goals and objectives

8. Measure results

Formative and summative evaluation

9. Share and use results wisely

Fix what is not working and become peer to others for what is



ASSOCIATION FOR INSTITUTIONAL RESEARCH
Data and Decisions for Higher Education

**Data
Activity**



Jeannie | Jeannie.Kim-Han@rcc.edu

Mayra | Mpadilla@contracosta.edu

Gina | gjohnson@airweb.org

Archie | acubarru@mdc.edu

Mike | Michael.Le@Humboldt.edu