Considering Your (Methods) Options

This project is made possible by a grant from the U.S. Institute of Museum and Library Services.

(Some) Types of Data Collection

- Anecdote recording
- Balanced scorecard
- Benchmarking & comparative indicators
- Critical incident technique
- Customer feedback analysis
- Delphi technique
- Document analysis
- Economic studies
- Environmental scanning
- Ethnographic methods
- Experiments
- Focus groups*
- Interviews*
- Learning Analytics
- Observation*
- Participatory research*
- Peer review
- Rubrics
- Surveys/questionnaires*
- User experience (UX)
- Usage data

*covered in another module

Anecdote Recording

- **Tracking of reported or observed episodes** or impact over time
- Organized recording
  - Date, time (when did the event happen)
  - Setting (where or what context)
  - User experience (what happened)
  - Impact (what difference did the event make)
  - Other (pre-determined) category (e.g., trends, mission-oriented, problem/need to address)
- Usually user reported staff logged, also could be staff observed
- Positive, negative, neutral events
- Can provide **context** for other data

Heather Matzel

Balanced Scorecard

- Performance measures are linked to **strategies** as articulated in a **strategic plan** or similar document.
- Based on answering four questions:
  - How do the users see the library? (**user** perspective)
  - What must the library excel at? (**internal** perspective)
  - Can the library improve and create more value? (**innovation** and **learning** perspective)
  - How does the library look to stakeholders? (**financial** perspective)
- Linking performance measures to questions helps surface relationships among areas and where the benefit of one might come at the cost of another.

Matthews, J. R. (2007). *The evaluation and measurement of library services*. Libraries Unlimited.

Common Balanced Scorecard Perspectives

User perspective • Time • Quality • Performance/service • Cost Who are our users? What value do we provide to them?	**Innovation & learning perspective** • Ability to grow, develop, and introduce new services • Quality of existing infrastructure • Organizational culture • Improvement of staff skills
Internal perspective • Processes • Competencies • Productivity measures • Technological capacity	**Financial perspective** • Demonstrate effective use of funding

Matthews, J. R. (2007). *The evaluation and measurement of library services*. Libraries Unlimited.

Balanced Scorecard Perspectives

- Each **perspective** includes: objectives, measures, targets, and initiatives.
- Setting **targets** can be challenging; targets should stretch beyond existing levels, but not so far that fear or frustration results.
- Measures should be focused on **outcomes** that will be the result of the underlying strategies, not inputs/outputs.
- Provides a framework for **communicating** library strategy.

Matthews, J. R. (2007). *The evaluation and measurement of library services*. Libraries Unlimited.

Benchmarking and Comparative Indicators

Benchmarking generally involves using data for making comparisons to improve an organization's performance.

"Benchmarking is defined as the process of measuring products, services, and processes against those of organizations known to be leaders in one or more aspects of their operations."

—*American Society for Quality*

"Benchmarking is the process of measuring key business metrics and practices and comparing them—within business areas or against a competitor, industry peers, or other companies around the world—to understand how and where the organization needs to change in order to improve performance."

—*American Productivity & Quality Center*

https://asq.org/quality-resources/benchmarking
https://www.apqc.org/blog/what-are-four-types-benchmarking#:~:text=There%20are%20four%20main%20types,take%20to%20identify%20performance%20gaps

Benchmarking and Composite Indicators

Different types of benchmarking can be used to answer various questions.

Performance vs. Practice	
Performance • collecting and comparing **quantitative** data • Often used to identify performance gaps	Practice • collecting and comparing **qualitative** data • Often used to understand people, processes, and technology

Internal vs. External	
Internal • compares performance or practice information from within the organization	External • compares performance or practice information to other organizations

https://www.apqc.org/blog/what-are-four-types-benchmarking#:~:text=There%20are%20four%20main%20types,take%20to%20identify%20performance%20gaps.

Benchmarking and Composite Indicators

Benchmarking process can be outlined as a series of repeatable steps for continuous assessment and improvement.

1. Define the focus of the benchmarking study
2. Form a diverse team and establish goals
3. Establish work plan/process
4. Seek potential partners

1. Collect qualitative, quantitative, internal, and/or external data needed to make comparisons

1. Compare data
2. Identify performance gaps
3. Determine which practices contribute to gaps

1. Develop improvement goals
2. Create action plans to achieve goals
3. Implement and monitor

https://asq.org/quality-resources/benchmarking

Benchmarking and Composite Indicators

Composite indicators can be used to measure multi-dimensional concepts that cannot be captured with a single metric or data point.

> "A composite indicator is formed when individual indicators are compiled into a single index, on the basis of an underlying model of the multi-dimensional concept that is being measured."
>
> —*Organisation for Economic Co-operation and Development (OECD)*

https://stats.oecd.org/glossary/detail.asp?ID=6278#:~:text=OECD%20Statistics,concept%20that%20is%20being%20measured.

Benchmarking and Composite Indicators

OECD's checklist for building a composite indicator:

1. Establish **theoretical framework**
2. Select **data**
3. **Impute missing data** as appropriate
4. Conduct **multivariate analysis**
5. **Normalize** variables
6. Apply **weighting and aggregation**
7. Perform **uncertainty & sensitivity** analysis
8. Analyze results against **underlying data**
9. Compare against **other indicators**
10. **Visualize** results

OECD (2008). Handbook on Constructing Composite Indicators: Methodology and User Guide. OECD Publishing, https://www.oecd.org/sdd/42495745.pdf

Benchmarking and Composite Indicators

PROS		**CONS**	
Can summarize complex, multi-dimensional realities with a view to supporting decision makers	Facilitates communication with stakeholders and promotes accountability	May send misleading policy messages if poorly constructed or misinterpreted	May disguise problems in some dimensions, making them more difficult to isolate and rectify
Are easier to interpret than a battery of many separate indicators	Helps to construct narratives for non-technical audiences	May invite simplistic policy conclusions	May lead to erroneous decision making if dimensions that are difficult to measure are ignored
Can assess progress over time	Enables users to compare complex dimensions	May be misused if index construction is not transparent and/or lacks sound methods	
Reduces the visible size of a set of indicators without dropping underlying information; this makes it possible to include more information	Places issues of performance and progress at center of decision making	Selecting indicators and weights may introduce disagreement	

OECD (2008). Handbook on Constructing Composite Indicators: Methodology and User Guide. OECD Publishing, https://www.oecd.org/sdd/42495745.pdf

Critical Incident Technique

- Used to gather and analyze data about a **memorable event**.
- Respondents remember a time when they interacted with the library then articulate what impact that interaction had on them.
- University of Washington: “Tell us in a few sentences about a time that Libraries staff, services, resources, or spaces had a positive impact on your work.”
- Trinity University: “Think about a time when the university library helped you. What help did you receive and what did that help enable you to do?”
- CLASP project: Participants were asked to recall and describe in their own words: (a) a successful library experience either recently or in the past, (b) an unsuccessful library experience, and (c) the factors that made the experience successful or unsuccessful.

Radford, M. L. (2006). The critical incident technique and the qualitative evaluation of the connecting libraries and schools project. Library Trends, 55(1), 46+.
Oakleaf, Megan, Millet, Michelle S., and Leah Kraus. “All Together Now: Getting Faculty, Administrators, and Staff Engaged in Information Literacy Assessment.” portal: Libraries and the Academy. 11(3). 2011. http://meganoakleaf.info/portaljuly2011.pdf
Belanger, Jackie, Faber, Maggie, and Megan Oakleaf. “3,000 Library Users Can’t Be Wrong: Using One Open-Ended Survey Question to Demonstrate Your Library’s Value,” in Academic Libraries and the Academy: Strategies and Approaches to Demonstrate Your Value, Impact and Return on Investment. Chicago: Association of College and Research Libraries, 2018.
https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/43183/Chapter%209.%20Three%20Thousand%20Library%20Users%20Can%E2%80%99t%20Be%20Wrong.pdf?sequence=1&isAllowed=y

Customer Feedback Analysis

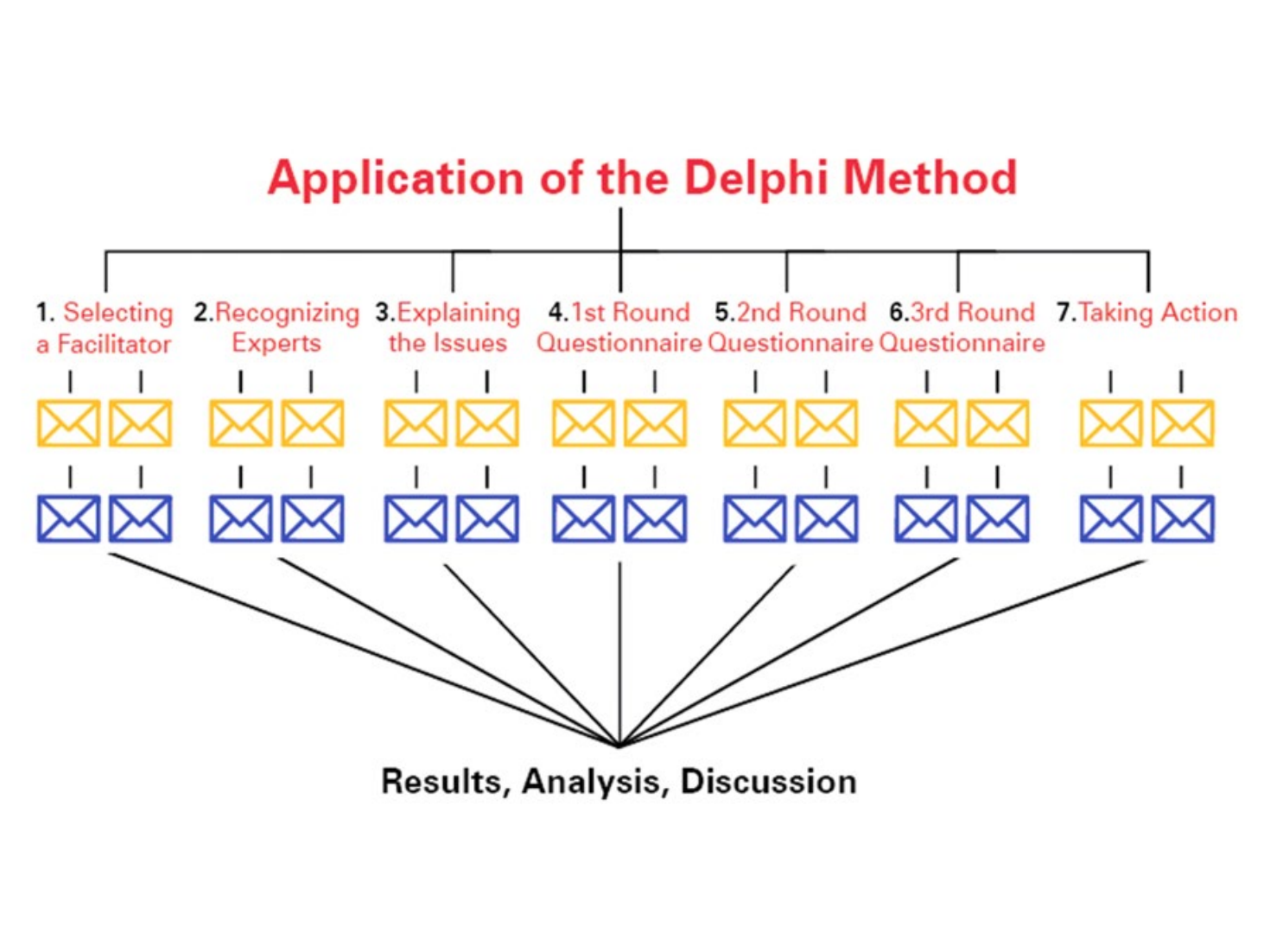
- Means for users to make known their views; elicits both **positive and negative** feedback
- Only useful if data is analyzed, reported, and used for change
- **Feedback form** on library website; comment forms for physical visitors
- Recording of comments and service problems
  - **Problem tracking**
  - **Question tracking** (number of questions about various problems/needs/issues, reference or other service points)
- When possible, reponses appropriate when commenter is identifiable
- Problems/questions that repeat **should be addressed and communicated**

Brophy, Peter. *Measuring Library Performance : Principles and Techniques*, Facet Publishing, 2013.

Delphi Technique

- Method that **elicits, refines, and draws upon the collective expertise** and perspectives of an expert panel; used to obtain expert consensus
- Establish a range of views on a topic, then gather different perspectives to reach a **overall consensus** that the majority of participants agree upon
- **Facilitator** guides process; participants (experts, remain anonymous) contribute substantial time
- **Process**: 1) initial round of questions to experts 2) answers compiled in statement form and sent back to experts who 3) provide additional opinions and perspectives; process continues until consensus emerges
- Purposes:
  - Forecast trends
  - Establish range of views on a topic
  - Gather opposing/different analyses
  - Reach a considered overall synthesis with assent of majority
- Process can **unintentionally weed out innovative or controversial views**

Brophy, Peter. *Measuring Library Performance : Principles and Techniques*, Facet Publishing, 2013.



https://www.tools4management.com/wp-content/uploads/2015/06/Delphi-Method1.jpg

Document Analysis

Document examples:

- User feedback forms
- Strategic planning
- Policies & procedures
- User communications (e.g. chat transcripts)
- External documents (e.g, institutional documents, syllabi, press releases, speech transcripts)

Check documents for:

- credibility (free from errors)
- representativeness (typicality of the document)
- meaning (significance of content)

Establish method for coding.

May employ multiple raters; if so, check for interrater reliability.

Morgan, H. (2022). Conducting a Qualitative Document Analysis. *The Qualitative Report*, 27(1), 64–77. https://doi.org/10.46743/2160-3715/2022.5044

Matthews, J. R. (2007). *The evaluation and measurement of Library Services*. Libraries Unlimited.

Economic Studies

- What is the return on the money spent by the library? (return on investment, ROI)
- How much does the library save the organization?
- Why is a organizational library the best option (rather than an outsourced solution)?
- What is the cost/benefit of the library overall?

What's Your Library Worth

https://ilovelibraries.org/what-libraries-do/calculator/

True Value Project

https://truevalue.ischool.syr.edu/calculator/

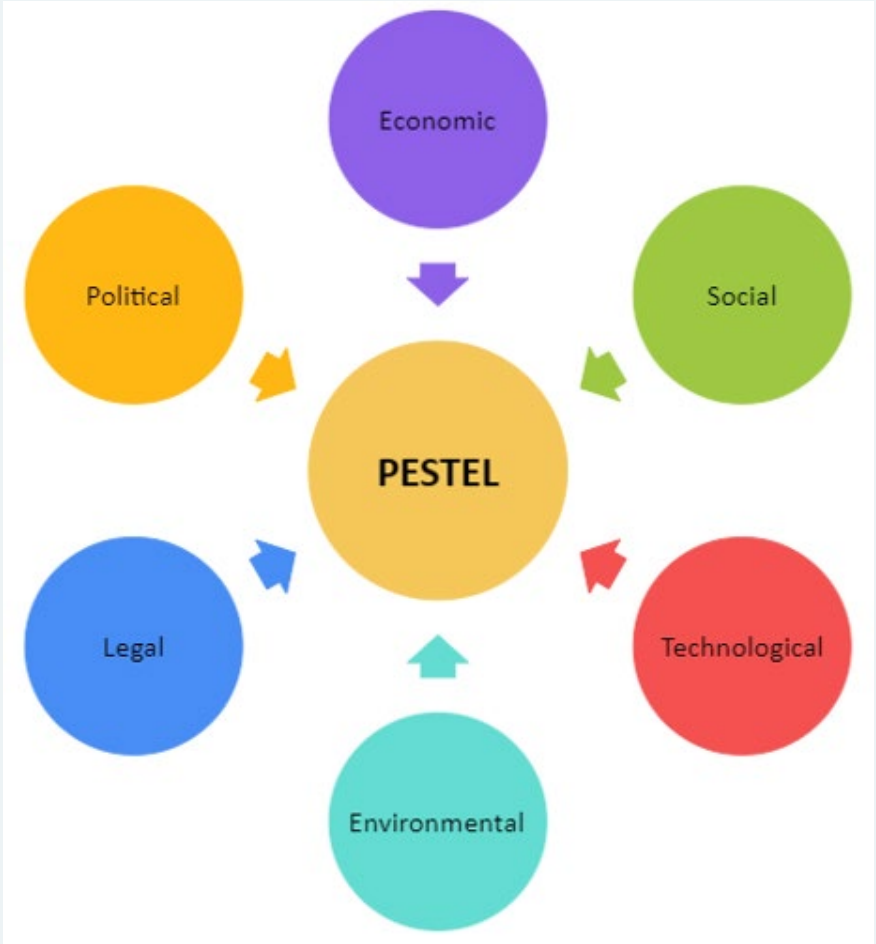
Challenging in academic contexts:

- faculty time/pay not standard
- student time not adequately represented by tuition

Easier to document financial stewardship than return on investment.

Environmental Scanning

- Observe events in library's external environment
- Measure library performance against the organizational or broader environment
- What issues might become **obstacles** or **opportunities**?
- Categories:
  - Demographic/social/cultural issues
  - Legal/political requirements
  - Economic issues
  - Technological change
  - Environmental issues
  - Legal issues
- Methods for gauging and understanding issues
  - Analysis of documentary evidence
  - Analysis of statistical data showing trends
  - Review of related publications
  - Interviews with experts/leaders



Brophy, Peter. *Measuring Library Performance: Principles and Techniques*, Facet Publishing, 2013.
https://www.edrawmax.com/pestel-analysis/

Ethnographic Methods

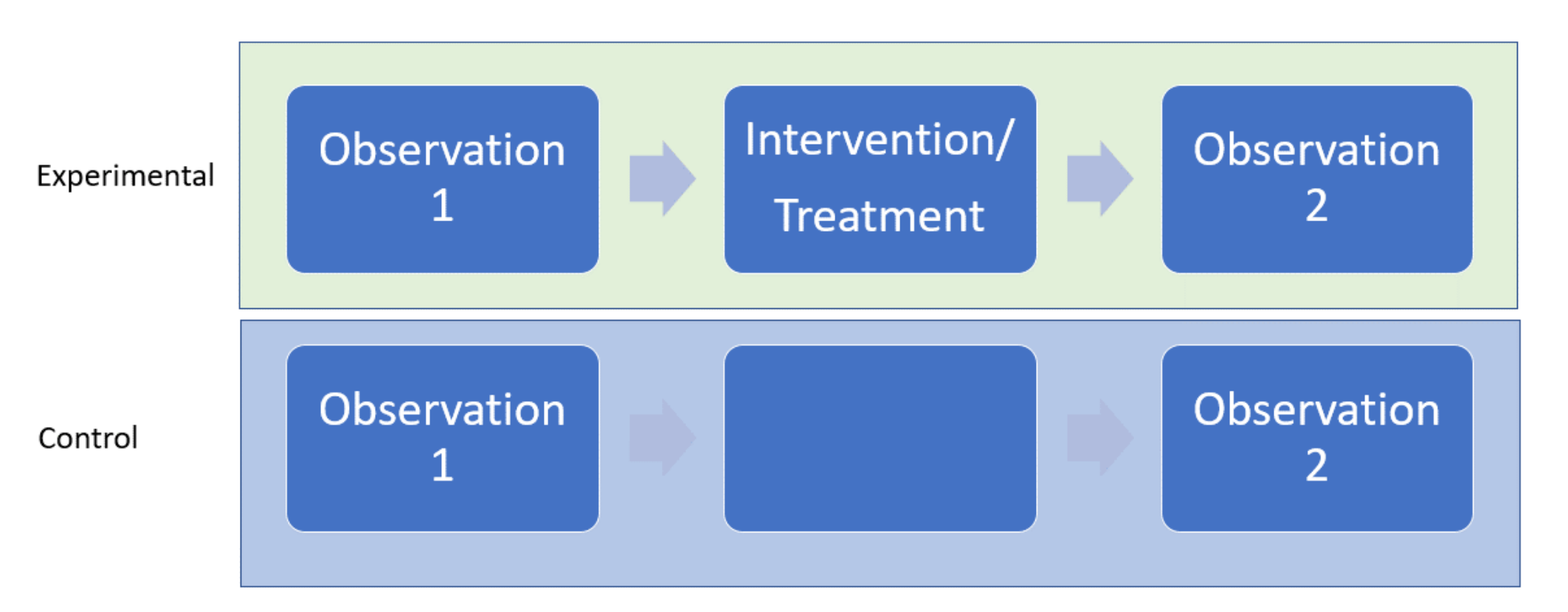
- **Observational** in nature.
- The worldview of the participants is investigated and represented in order to create a vivid reconstruction of the groups or cultures being studied to describe and explain the values, beliefs, and practices of a group.
- Researchers immersed in the group in a natural setting; field notes are both descriptive and analytical; both the researcher and group participants seek to uncover meaning.
- Goal: explain what is happening and observed in a situation, why the group is acting as it does, and what can be learned.

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education*. Routledge.

“Experiments”

- Can be tricky in library assessment contexts:
  - Controlling variables in fluid environments/contexts is difficult to impossible in regular assessment practice
  - Withholding services/resources/spaces is unethical
- Controlled experiments unlikely to be possible
- Randomized control trial (RCT) also uncommon
- Quasi-experimental designs and retrospective (ex post facto) designs are generally possible

Common Quasi-Experimental Design



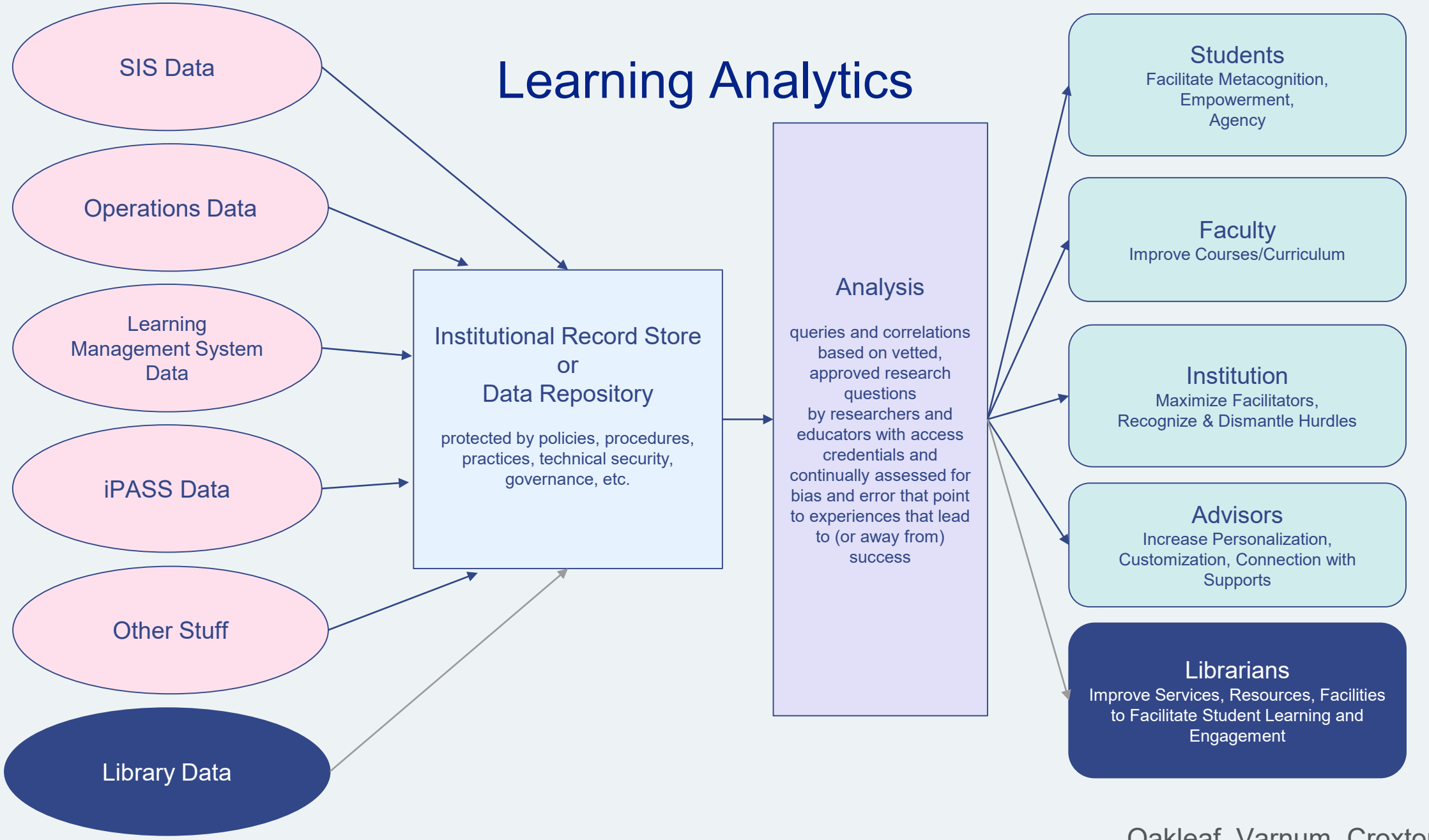
Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education*. Routledge.

Learning Analytics

- The use of **institutional-level systems** that collect **individual-level student learning data**, centralize it in a **record store**, and serve as a unified source for research seeking to **understand and support student success**.
- Learning analytics helps educators: **discover**, **diagnose**, **predict** challenges to learning and learner success, and **create** or deploy active **interventions** to benefit students
- Goals:
  - **Systemic and structural changes** to practices, processes, and policies to improve learner experiences and remove obstacles to student success.
  - Facilitation of **individual-level communication** and connection.

Oakleaf, Varnum, Croxton

Learning Analytics



Oakleaf, Varnum, Croxton

Peer Review

- **Ask qualified experts to assess** the quality of a service, resource, or space.

Requires:

- **Identifying qualified experts** who can assess quality and communicate recommendations
- **Establishing specific criteria** and processes for judgments
- **Ensuring transparency** about the purpose and possible outcomes of the process
- Requiring **structured, accessible reporting**

Brophy, Peter. *Measuring Library Performance : Principles and Techniques*, Facet Publishing, 2013.

Rubrics

- describe attainment of an outcome in 2 dimensions
  - parts, indicators, or criteria (the conditions, indicators, markers, list of measures that indicate an outcome has been met)
  - levels of performance (describe evolution or development of outcome attainment, benchmarks, touchpoints, milestones; focus on quality of performance rather than quantity when possible)
- formatted on a grid or table
- employed to judge quality
- used to translate difficult, unwieldy data into a form that can be used for decision-making

Rubric Types

Analytic

- assesses the component parts of an artifact of service/learning
- provides separate judgments of each component (criterion), as well as a summed total judgment
- provides more detailed assessment data
- gives more specific feedback to users/learners/service providers
- better for evaluating complex artifacts of service/learning

Holistic

- assesses an artifact of service/learning as a whole
- provides a single, overall judgment of quality
- faster to use, less burdensome for large-scale assessments
- usually sufficient for evaluating simple artifacts of service/learning

Task vs. Developmental

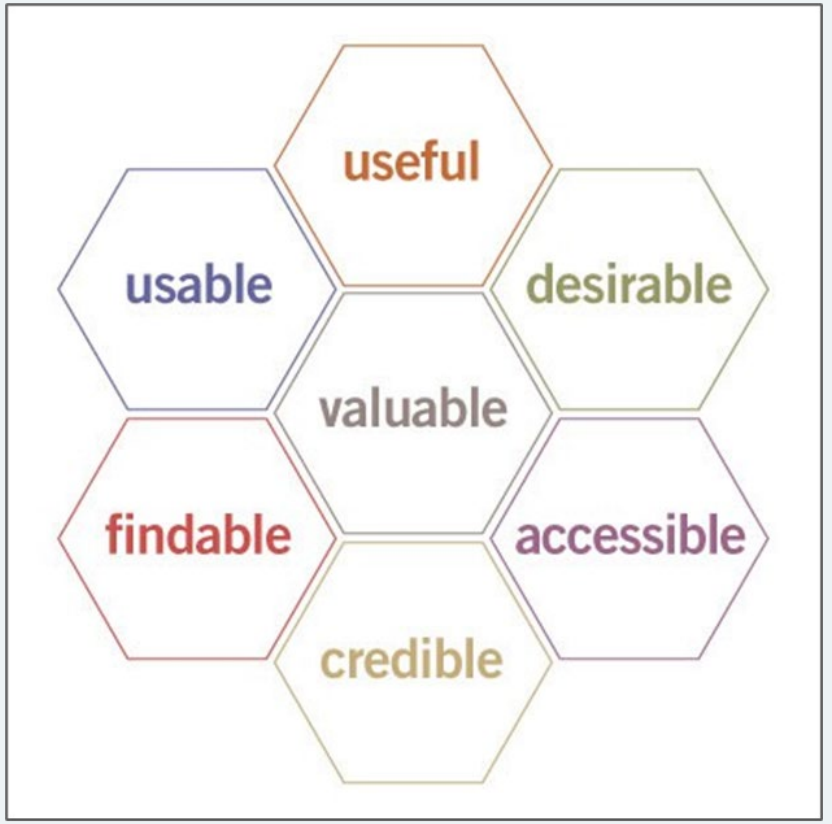
Task/Performance – For one-time, non-programmatic assessments

Developmental – For assessments used over multiple library services, assignments, time, programs, or groups. Not specifically designed to assess a artifact, but rather to answer the questions “To what extent are users who engage in our programs/services developing this skill/ability/value/etc.?” or “To what degree are our programs/services resulting in a particular outcome?” Goal is to determine level of development.

User Experience (UX)

- “User experience (UX) focuses on having a deep **understanding of users**, what they need, what they value, their abilities, and also their limitations... UX best practices **promote improving** the quality of the user’s interaction with and perceptions of your product and any related services.” – usability.gov

- Applies many methods including:
  - usability tests
  - card sorts
  - tree tests
  - affinity diagrams
  - service blueprints
  - journey maps
  - user personas



Peter Morville’s User Experience Honeycomb

Croxton, R., & Moore, J. (2022, July 13). Assessment & user experience overview. [PowerPoint slides]. J. Murrey Atkins Library, University of North Carolina at Charlotte. https://docs.google.com/presentation/d/1JmbKRW1gp_W0-eg21yxMI7deCArfTu9q/edit?usp=sharing&ouid=117323518014131006931&rtpof=true&sd=true

Usage Data

Use existing relevant data such as:

- **Resource usage** trends and patterns
- **Service transactions**

May **leverage**:

- service, resource, and space usage counts (e.g, circulation)
- vendor/supplier use data
- web analytics
- alerts or citations
- COUNTER data

May **track**:

- number of sessions (defined by logins)
- number of searches
- number of accesses, views, downloads
- number of failed transactions

May be **abstracted** to user groups:

- by role
- by academic level
- by campus
- etc.

Brophy, Peter. *Measuring Library Performance : Principles and Techniques*, Facet Publishing, 2013.

Multiple and Mixed Methods

- Meaning is **integrative**; to gain understanding, we combine information.
- The world isn't quantitative or qualitative; it's mixed.
- Multiple, mixed, and triangulated methods help us look at concepts, issues, and experiences in **different ways** and help us make sense and meaning.
- Multiple methods bring together information gathered in different ways within one study/project or over a series of studies/projects to give **greater understanding than one method would bring alone**.
- Complementary methods can **overcome weaknesses in individual methods and reduce bias**.
- One approach is less likely to do justice to the concept, issue, or experience that multiple can. This is **true not only for methods** but also underlying theories or philosophies, research questions, overall study design, data analysis, reporting/communication, and resulting action.

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education*. Routledge.

Ten Rules of Data Collection

1. Always observe strict ethical standards; do no harm; get permission when necessary. Allow participants to withdraw at any stage.
2. Always explain the purpose of any data collection and the use to which data gathered will be put. Participants should benefit when possible.
3. Explain who you are and provide contact information.
4. Do not assume knowledge on the part of the respondents. Explain everything clearly. Keep language simple and unambiguous.
5. Arrange questions in a logical sequence. Ask one question at a time.
6. Avoid leading questions which might suggest what is the “right” answer.
7. Always run a pilot and make amendments based on what you find out.
8. Analyze all the results; allow the data to reveal all that it can.
9. Do not make claims unless the results support those conclusions.
10. Acknowledge you sources and your collaborators.

Brophy, P. (2008). *Measuring library performance: principles and techniques*. London: Facet Publishing.

Ethical Practice Considerations in Choosing a Method

- Informed Consent
- Privacy including confidentiality and anonymity
- Non-maleficence
- Beneficence and duty of care
- Ethical guidelines and oversight
- Power differentials
- Interests at stake, risks, cost/benefit ratio
- Rights, permissions, protections
- Ownership, control of, and access to data
- Power of research sponsors
- Avoidance of selective or skewed data analysis
- Value positions in data analysis
- Reciprocity

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education*. Routledge.

Criteria for Choosing a Method/Tool

- **Appropriateness** to the research question and purpose
  - Will it provide insight to the research question?
  - Can the results be used to make decisions and take action?
- **Resulting data** form/type (e.g., quantitative vs. qualitative, descriptive vs analytical)
  - Will the resulting data type match the research need and serve the purpose of the project?
- Methods by which data will be **analyzed and presented**
  - Do we have the **capacity** to accurately analyze the results?
  - Will the **results** resonate with audiences and decision-makers?
- **Alignment** with the overall assessment plan
  - Will this method/tool help us:
    - establish a baseline or target?
    - reveal new information or understanding?
    - replicate a study and/or determine whether our expectations are accurate and fit our context?
    - provide valid and reliable results?
- **Costs** (e.g., time, finances, personnel; one time or ongoing?)

Oakleaf, Megan and Neal Kaske. "Guiding Questions for Assessing Information Literacy in Higher Education." *portal: Libraries and the Academy*. 9(2). 2009.
Brophy, P. (2008). *Measuring library performance: Principles and techniques*. Facet.

Considering Your (Methods) Options

Was this content useful?
Please provide your feedback at: https://forms.gle/kreszbakFBLqYzes9

ASSOCIATION OF RESEARCH LIBRARIES