Analytics and Advocacy for Service Development

TRAINER WORKBOOK

Based on CARLI Counts: Analytics and Advocacy for Service Development

PROJECT MADE POSSIBLE IN PART BY INSTITUTE OF MUSEUM AND LIBRARY SERVICES
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Introduction

Analytics and Advocacy for Service Development (AASD) is designed to prepare academic librarians to make effective use of research findings on the impact of libraries on student success. Content was originally developed for CARLI Counts: Analytics and Advocacy for Service Development, which was made possible by funding from the Laura Bush 21st Century Librarian Program Grant through the Institute of Museum and Library Services.

This Trainer Workbook includes slides, speaker notes, and prompts to provide AASD participants with information that will introduce them to the process of developing and completing a case study project. Content delivered by the trainer(s) guide participants in identifying and analyzing local data to improve services and demonstrate their library's value in alignment with institutional data, goals, and strategic priorities. Workbook content is designed to be completed within a training cohort with assigned teams and affinity groups to build upon lecture content by building a community of practice through discussion and collaborative learning.

Modules within this curriculum were originally developed and delivered by Lisa Janicke Hinchliffe as lectures for three cohorts (2019, 2020, and 2021) of CARLI Counts participants. Workbook content from these lectures and the cohort learning management system platform was curated and edited by Cathy Mayer.

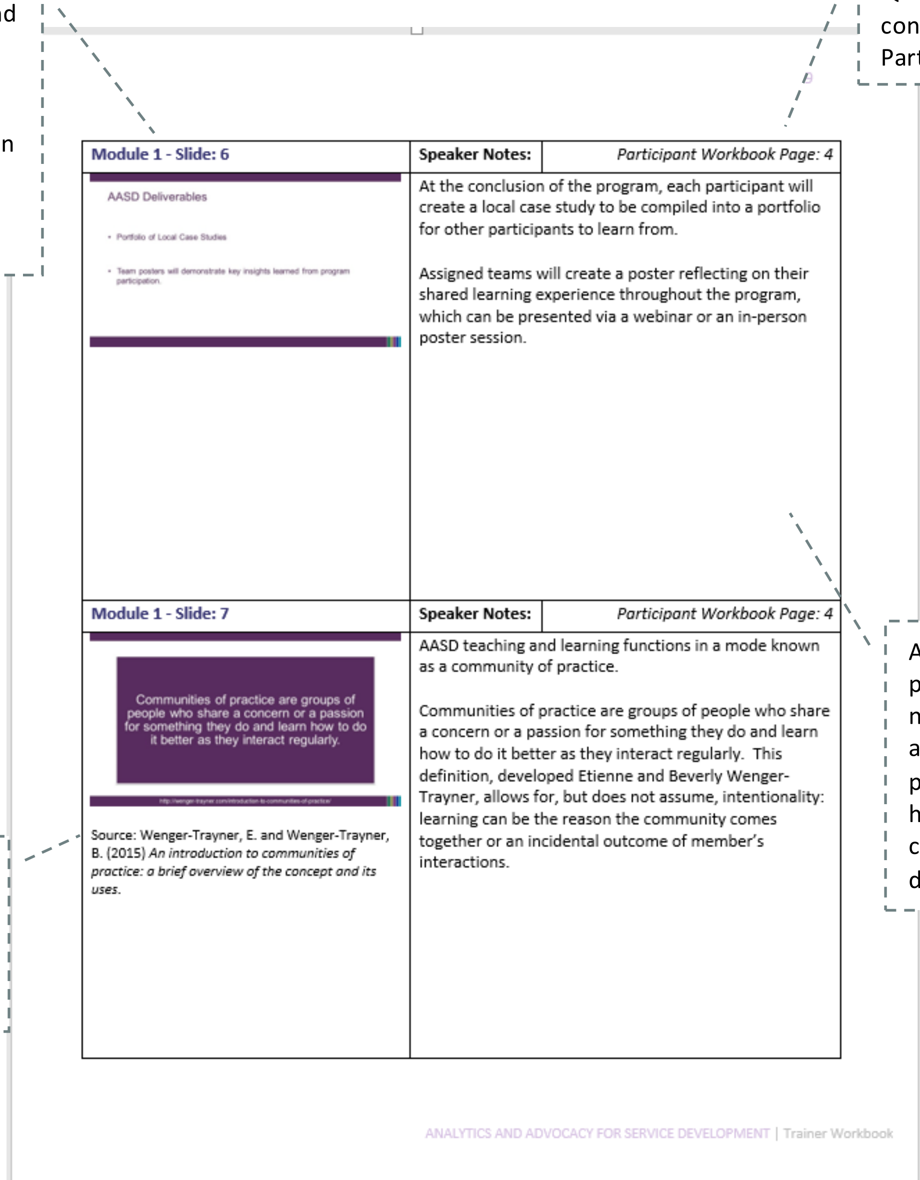
How to Cite: Hinchliffe, Lisa Janicke, Mayer, Cathy, & Consortium of Academic and Research Libraries in Illinois. *Analytics and Advocacy for Service Development: Trainer Workbook*. Champaign, IL: CARLI, 2022.

How To Use The Trainer Handbook

The manual is designed to be used in conjunction with PowerPoint presentation slides for each module. Although a trainer(s) may opt to exclusively use the PowerPoint slide and speaker notes while presenting, this manual duplicates this information in relation to the location of content in the Participant Workbook and space for making notes to support instruction.

Module #, Slide # and slide image easily facilitate identification of presentation location when navigating between slides and Trainer Handbook.

Quickly identify where content is featured in the Participant Workbook.



Module 1 - Slide: 6	Speaker Notes:	*Participant Workbook Page: 4*
AASD Deliverables • Portfolio of Local Case Studies • Team posters will demonstrate key insights learned from program participation.	At the conclusion of the program, each participant will create a local case study to be compiled into a portfolio for other participants to learn from. Assigned teams will create a poster reflecting on their shared learning experience throughout the program, which can be presented via a webinar or an in-person poster session.	
Module 1 - Slide: 7	**Speaker Notes:**	*Participant Workbook Page: 4*
Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. Source: Wenger-Trayner, E. and Wenger-Trayner, B. (2015) *An introduction to communities of practice: a brief overview of the concept and its uses.*	AASD teaching and learning functions in a mode known as a community of practice. Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. This definition, developed Etienne and Beverly Wenger-Trayner, allows for, but does not assume, intentionality: learning can be the reason the community comes together or an incidental outcome of member's interactions.	

ANALYTICS AND ADVOCACY FOR SERVICE DEVELOPMENT | Trainer Workbook

Ample white space is provided for delivery notes. Consider including any participant questions, points of confusion, or helpful examples and contributions that arise during instruction.

A source citation is featured if outside resources are referenced.

Module 1: Program Overview

Module Overview

Module 1 introduces the goals and outcomes expected for Analytics and Advocacy for Service Development (AASD) participants. The structure and conceptual foundations of the program are identified, providing context for available resources and project work to be undertaken.

Estimated Length: 90 minutes (60 minute lecture + 30 minute team development time)

Module Learning Outcomes

1. Participants will understand the goal and outcomes of participation in AASD.
2. Participants will understand their role in fostering a community of practice.
3. Participants will be able to identify foundational resources that supported the development of AASD and understand how these sources can inform the development of local case studying projects.
4. Participants will be able to situate anticipated local case study projects within the program logic model framework.
5. Participants will define "evidence-based advocacy" to support the development of a local case study project that that draws on data to demonstrate the value of the library.

Module Training Materials

Participant Workbook pages 3-13
AASD – Module 1 – Program Overview.PPTX

Required Reading

- Value of Academic Libraries: A Comprehensive Research Review and Report – Executive Summary (pages 26-57) and Research Agenda (pages 101-140)
- Creating Sustainable Assessment Through Collaboration: A National Program Reveals Effective Practices
- "Sensemaking for Decision Making." *Library Assessment Conference* Keynote by Lisa Hinchliffe

Recommended Resources

- AiA Descriptive Project Reports Database – http://apply.ala.org/aia/public
- Academic Library Contributions to Student Success: Documented Practices from the Field
- Documented Library Contributions to Student Learning and Success: Building Evidence with Team-Based Assessment in Action Campus Projects
- Academic Library Impact on Student Learning and Success: Findings from Assessment in Action Team Projects

Sources

Association of College and Research Libraries. Academic Library Contributions to Student Success: Documented Practices from the Field. Prepared by Karen Brown. Contributions by Kara J. Malenfant. Chicago: Association of College and Research Libraries, 2015. https://acrl.ala.org/value/

Association of College and Research Libraries. Academic Library Impact on Student Learning and Success: Findings from Assessment in Action Team Projects. Prepared by Karen Brown with contributions by Kara J. Malenfant. Chicago: Association of College and Research Libraries, 2017. www.acrl.ala.org/value

Association of College and Research Libraries. Connect, Collaborate, and Communicate: A Report from the Value of Academic Libraries Summits. Prepared by Karen Brown and Kara J. Malenfant. Chicago: Association of College and Research Libraries, 2012. https://acrl.ala.org/value/

Association of College and Research Libraries. "Documented Library Contributions to Student Learning and Success: Building Evidence with Team-Based Assessment in Action Campus Projects." Prepared by Karen Brown with contributions by Kara J. Malenfant. Chicago: Association of College and Research Libraries, 2016. https://acrl.ala.org/value/

Association of College and Research Libraries. Value of Academic Libraries: A Comprehensive Research Review and Report. Researched by Megan Oakleaf. Chicago: Association of College and Research Libraries, 2010. https://acrl.ala.org/value/

Hinchliffe, Lisa. "Sensemaking for Decision Making." *Library Assessment Conference*. Address presented at the Plenary Address, n.d. http://old.libraryassessment.org/bm~doc/2-hinchliffe-2016.pdf

Kania, John, and Mark Kramer. "Collective Impact." *Stanford Social Innovation Review* 9, no. 1 (2011): 36–41. https://doi.org/10.48558/5900-KN19

"Leadership and Management Competencies." Library Leadership & Management Association (LLAMA). American Library Association. https://www.ala.org/llama/leadership-and-management-competencies#Evidence-based%20decision%20making

"Lobbying Versus Advocacy: Legal Definitions." Internet Archive: Wayback Machine. NP Action, June 1, 2006. Lobbying Versus Advocacy: Legal Definitions. https://web.archive.org/web/20060601224945/http://www.npaction.org/article/articleview/76/1/248

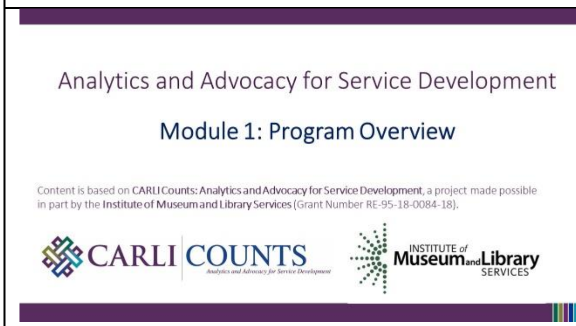
Malenfant, Kara J., and Karen Brown. Creating Sustainable Assessment through Collaboration: A National Program Reveals Effective Practices. Occasional Paper #31. Place of publication not identified: Distributed by ERIC Clearinghouse, 2017. https://files.eric.ed.gov/fulltext/ED590515.pdf

Pritchard, Sarah M. "Determining quality in academic libraries." Library Trends 44, no. 3 (1996): 572+. Gale Academic OneFile.

Wenger-Trayner, E. and Wenger-Trayner, B. (2015) An introduction to communities of practice: a brief overview of the concept and its uses. https://wenger-trayner.com/introduction-to-communities-of-practice

W.K. Kellogg Foundation. *Logic Model Development Guide*. Battle Creek, MI: W.K. Kellogg Foundation, 2004. https://wkkf.issuelab.org/resource/logic-model-development-guide.html

Module 1 - Slide: 1 | **Speaker Notes:** | *Participant Workbook Page: 3*

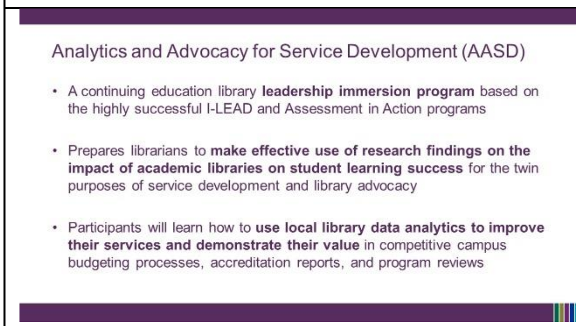


Welcome attendees!

This session introduces the goals and outcomes expected for Analytics and Advocacy for Service Development (AASD) participants. Structure and conceptual foundations of the program will be identified, providing context for available resources and project work to be undertaken.

Module 1 - Slide: 2 | **Speaker Notes:** | *Participant Workbook Page: 3*

Module 1 - Slide: 3 | **Speaker Notes:** | *Participant Workbook Page: 3*

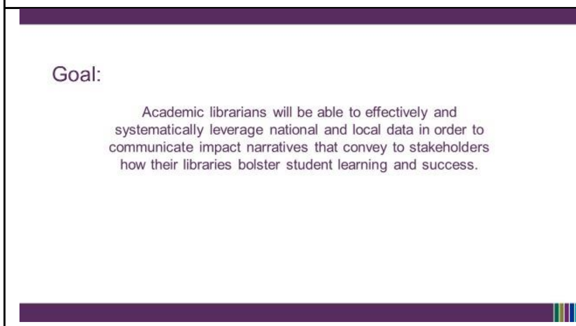


AASD follows curriculum originally presented during CARLI Counts: Analytics and Advocacy for Service Development by the Consortium of Academic and Research Libraries in Illinois.

The program is based on 2 successful principles utilized in 2 previous program models. I-LEAD was developed and led by Anne Craig during her time as the Director of the Illinois State Library. Assessment in Action was developed as a piece of the Association of College and Research Libraries' (ACRL) Value of Academic Libraries initiative, which Lisa Hinchliffe led as her presidential initiative when serving in the top leadership post for the membership organization. Both programs were immersive and demonstrated the incredible value of utilizing a team approach in fostering a learning community.

AASD is designed to help librarians make effective use of research findings on the impact of academic libraries on student learning success for the twin purposes of service development and library advocacy.

Participants will learn how to see local library data analytics to improve their services and demonstrate value in competitive campus budgeting processes, accreditation reports, and program reviews.

Module 1 - Slide: 4	**Speaker Notes:**	*Participant Workbook Page: 3*
	Academic librarians will be able to effectively and systematically leverage national and local data in order to communicate impact narratives that convey to stakeholders how their libraries bolster student learning and success. Such data may be relevant to a single local institution or may demonstrate data among a collective group of libraries (e.g., by size, institution type, student population, geography, etc.). North star for all the work is student success!	
Module 1 - Slide: 5	**Speaker Notes:**	*Participant Workbook Page: 3*
	2 Outcomes: Relate to skills and abilities as well as confidence. Program wants to make sure participants have skills to gather data and feel ready to engage in advocacy with the information gleaned through the process of completing the program.	

Module 1 - Slide: 6

Speaker Notes: *Participant Workbook Page: 3*

At the conclusion of the program, each participant will create a local case study to be compiled into a portfolio for other participants to learn from.

Assigned teams will create a poster reflecting on their shared learning experience throughout the program, which can be presented via a webinar or an in-person poster session.

Structure of Participation:
-Professional Development Learning Experiences: immersive workshops, webinars, team meetings, and poster session presentation
-Peer-to-Peer Learning: Assigned teams engage in discussion of content in modules and provide feedback on local case study projects
-Affinity groups also engage in focused discussion of chosen areas of research, which yields a Community of practice.

Module 1 - Slide: 7

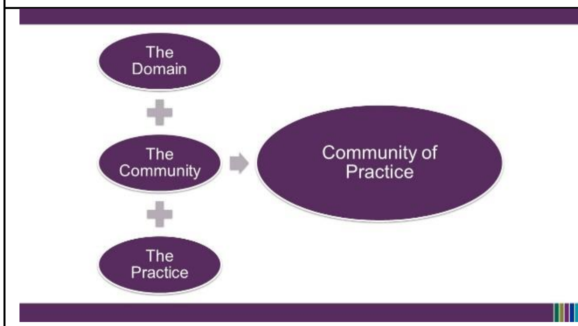
Speaker Notes: *Participant Workbook Page: 4*

Source: Wenger-Trayner, E. and Wenger-Trayner, B. (2015) *An introduction to communities of practice: a brief overview of the concept and its uses*.

(Participant Workbook Heading: Structure of Participation)

AASD teaching and learning functions in a mode known as a community of practice.

Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. This definition, developed Etienne and Beverly Wenger-Trayner, allows for, but does not assume, intentionality: learning can be the reason the community comes together or an incidental outcome of member's interactions.

<table>
<tr><th>Module 1 - Slide: 8</th><th>Speaker Notes:</th><th>Participant Workbook Page: 4-5</th></tr>
<tr><td>

Source: Wenger-Trayner, E. and Wenger-Trayner, B. (2015) An introduction to communities of practice: a brief overview of the concept and its uses.</td><td colspan="2">The domain (a.k.a. area of interest): A community of practice is not merely a club of friends or a network of connections between people. It has an identity defined by a shared domain of interest. Membership therefore implies a commitment to the domain, and therefore a shared competence that distinguishes members from other people. (You could belong to the same network as someone and never know it.) The domain is not necessarily something recognized as “expertise” outside the community.

<u>AASD Domain:</u> librarianship
The community (a.k.a. identified group of people): In pursuing their interest in their domain, members engage in joint activities and discussions, help each other, and share information. They build relationships that enable them to learn from each other; they care about their standing with each other…But members of a community of practice do not necessarily work together daily.
<u>AASD Community:</u> All participants, trainers, mentors, etc.; sub community: assigned project team

The practice (a.k.a. the thing participants are getting better at): A community of practice is not merely a community of interest–people who like certain kinds of movies, for instance. Members of a community of practice are practitioners. They develop a shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems—in short, a shared practice. This takes time and sustained interaction.

<u>AASD Practice:</u> systematic inquiry into topics of interest to make research public in support of demonstrating impact of academic libraries on student success.</td></tr>
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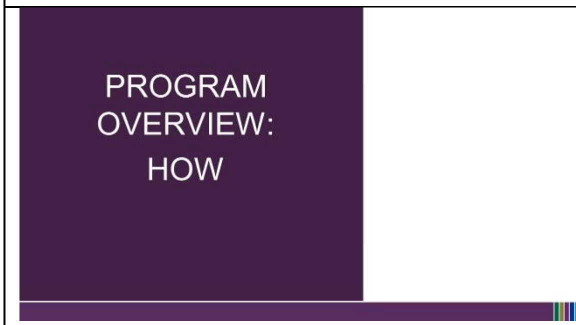
Module 1 - Slide: 9 | **Speaker Notes:** | *Participant Workbook Page: 6*



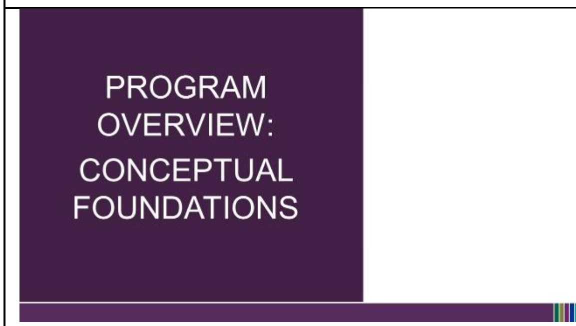
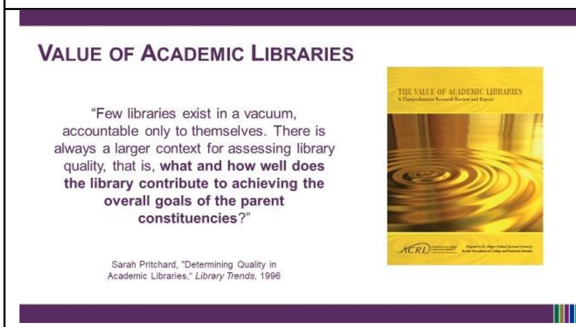
Module 1 - Slide: 10 | **Speaker Notes:** | *Participant Workbook Page: 6*

Source: Kania, John, and Mark Kramer. "Collective Impact." *Stanford Social Innovation Review* 9, no. 1 (2011): 36–41. https://doi.org/10.48558/5900-KN19.

Collective impact (Defn.): the commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem.

Collaboration is nothing new. The social sector is filled with examples of partnerships, networks, and other types of joint efforts. But collective impact initiatives are distinctly different. Unlike most collaborations, collective impact initiatives involve a centralized infrastructure, a dedicated staff, and a structured process that leads to a common agenda, shared measurement, continuous communication, and mutually reinforcing activities among all participants.

AASD Programmatic Manifestation of Collective Impact
<u>Centralized Infrastructure</u>: Group/Organization convening the training
<u>Dedicated Staff:</u> Assigned Team
<u>Structured Process</u>: AASD Experience
<u>Common Agenda:</u> Research Pursued to Demonstrate Library Impact on Student Success
<u>Shared Measurement:</u> Local Project Research Contextualized by Broadly Available Evidence & Research
<u>Continuous Communication:</u> Team dialog
<u>Mutually Reinforcing Activities Among Participants:</u> shared learning and discussion throughout the program

Module 1 - Slide: 11	**Speaker Notes:**	*Participant Workbook Page: 6*
		
Module 1 - Slide: 12	**Speaker Notes:**	*Participant Workbook Page: 6*
 Source: Pritchard, Sarah M. "Determining quality in academic libraries." Library Trends 44, no. 3 (1996): 572+. Gale Academic OneFile.	The ethos of the Value of Academic Libraries report and trainings like this one can be captured by a quote from Sarah Pritchard, now retired Dean of the Northwestern University Libraries, who wrote in 1996 that: "Few libraries exist in a vacuum, accountable only to themselves. There is always a larger context for assessing library quality, that it, what and how well does the library contribute to achieving the overall goals of the parent constituencies?" There is always a larger context for assessing library quality, that is, **what and how well does the library contribute to achieving the overall goals of the parent constituencies**?" How libraries serve institutional purpose, aligning with institutional outcomes and mission is a measure of value. AASD is designed to empower libraries to carry out work locally, create shared knowledge and understanding of the impact libraries have on student success, and contribute to higher education assessment.	

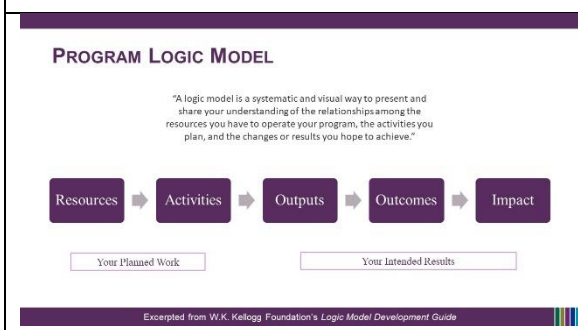
Module 1 - Slide: 13	**Speaker Notes:**	*Participant Workbook Page: 7*
	Out of the value of academic libraries project was born Assessment in action with the goals of developing professional competencies, fostering collaborative relationships, and documenting practices and strategies. AASD draws upon a number of these projects as examples to guide our learning.	
Module 1 - Slide: 14	**Speaker Notes:**	*Participant Workbook Page: 7*
	An immense number of reports came out of AiA, which can be useful understanding how other libraries have approached assessment work. This includes a report from the National Institute for Learning Outcomes Assessment (NILOA), which reported nationally on the AiA program, and is required reading for Module 1 of AASD.	

Module 1 - Slide: 15

Speaker Notes: *Participant Workbook Page: 7*

AiA projects are publicly available and can be searched.

Module 1 - Slide: 16

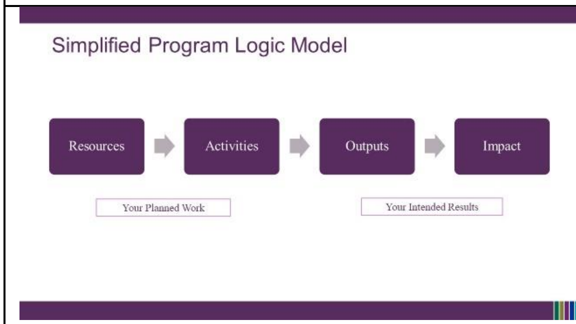
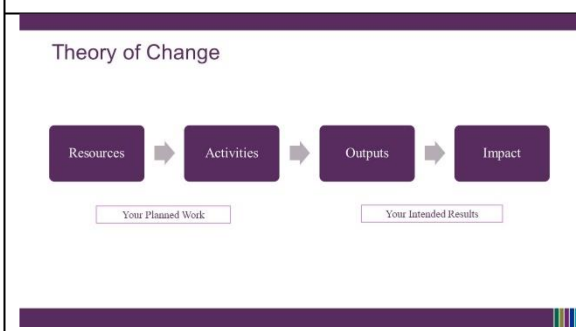


Source: W.K. Kellogg Foundation. *Logic Model Development Guide*. Battle Creek, MI: W.K. Kellogg Foundation, 2004.

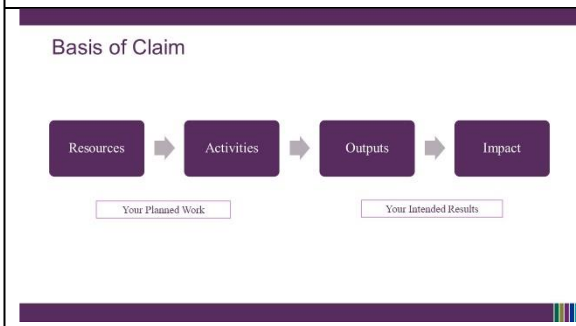
Speaker Notes: *Participant Workbook Page: 8*

To understand how a library impacts a local campus, participants need to develop a logic model. If we claim that the library is serving the campus goals, we need to develop a program logic model.

This is a mental model of how we think a library takes **resources** and turns them into **activities** that we do for people to make use of them (**outputs**) in order for there to be outcomes (e.g., student learning to be fostered, evidence of student success) that demonstrate **impact** in service of campus goals.

Module 1 - Slide: 17	Speaker Notes:	Participant Workbook Page: 9
 	Simplified version: As librarians, we take our **resources** and do **activities** (e.g., provide services, collections, programs, space). Users engage with activities in varied ways (e.g., reference questions get answered, resources get downloaded or checked out, etc.), representing the **outputs** of the library. Then we can ask the question "So what?" We are looking to understand what happened when someone engaged with the library– demonstrating **impact**. Through this process, raw materials are converted to valuable goods.	
Module 1 - Slide: 18	**Speaker Notes:**	*Participant Workbook Page: 9*
 	This simplified program logic model is also a theory of change. It's a theory that asserts the investment campuses make in their libraries allow libraries to provide resources and do work that creates change in the world.	

Module 1 - Slide: 19



Speaker Notes: *Participant Workbook Page: 9*

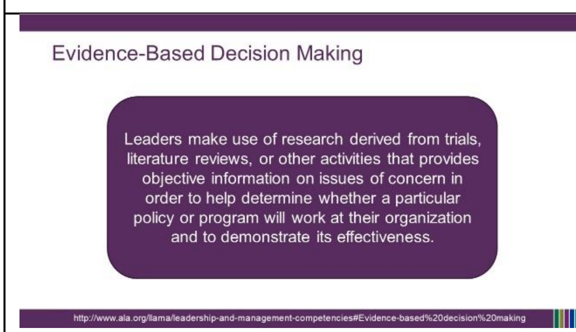
The simplified program logic model is also the basis of claims made through evaluation in the research process. We're asking ourselves if a particular resource and activity has demonstrated outputs and impact. When you do research and evaluation in AASD local projects, you will seek to demonstrate if/how/to what extent do resources, activities, and outputs impact student success.

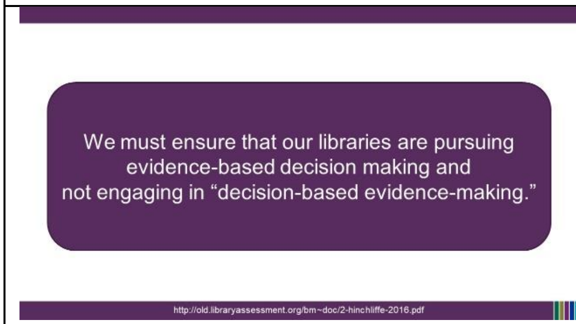
If a claim is not clearly proven, we can make a change. The research and data gathering process can be refined until a claim can be effectively tested. If/when a claim is disproven, adjustments can be made to ensure resources are reallocated and new assessment undertaken to ensure continuous improvement in striving for impact of the local campus goals/mission.

Claim example(s) is– "We think a particular resource or activity impacts student retention" or "We think a particular resource or activity helps students succeed." Research and gathering local data allow for evaluation to prove or disprove a claim. Then, we can say "Yes, it does contribute" and confidently continue the activity based on evidence.

This process is also the basis of research questions to be developed. To research a claim, start by investigating a question that develops evidence that will become the basis of a claim. More detail on this process is undertaken in later modules.

Using a logic model and undertaking research moves one's understanding of assessment from daily anecdotal forms of evaluation to systematic evaluation, gathering evidence that allows for increased confidence of a library's impact.

Module 1 - Slide: 20	Speaker Notes:	*Participant Workbook Page: 10*
 Source: "Lobbying Versus Advocacy: Legal Definitions." Internet Archive: Wayback Machine. NP Action, June 1, 2006. Lobbying Versus Advocacy: Legal Definitions.	Advocacy (Definition): Any activity that a person or organization undertakes to influence policy. Much of the policy libraries seek to influence is financial policy. We want libraries to be fully funded to meet our mission. We need to be able to articulate the story of what we can do with increased funding as well.	
Module 1 - Slide: 21	**Speaker Notes:**	*Participant Workbook Page: 10*
 Source: "Leadership and Management Competencies." Library Leadership & Management Association (LLAMA). American Library Association.	The idea that we use research, wherever it comes from, that help us have objective information to determine whether a particular policy is worthwhile. It helps demonstrate effectiveness so that we can be confident in our decisions that inform our advocacy.	

Module 1 - Slide: 22	**Speaker Notes:**	*Participant Workbook Page: 10*
 Source: Hinchliffe, Lisa. “Sensemaking for Decision Making.” *Library Assessment Conference*. Plenary Address.	“We must ensure that our libraries are pursuing evidence-based decision making and not engaging in “decision-based evidence-making.” – Lisa Hinchliffe, 2016 Library Assessment Conference. We want there to be integrity in our research. We need to keep ourselves accountable through gathering data: We want to investigate the theory of change or impact that we/our library operate under. We must be honest about what the evidence shows. If evidence shows that a claim is not supported, then we need to make a change. We aren’t going to ignore or manufacture evidence to support or justify a decision that’s already been made. Integrity in responding to data ensures a firm foundation for advocacy. You may be wondering, *“What happens if the evidence I gather is not as positive as my claim asserts? Won’t that be bad for the library?”* DO NOT FEAR data that reveals something is not working! Higher education administrators appreciate hearing 2 messages: 1) Evidence shows this practice/program/etc. is effective and therefore we are continuing. 2) Evidence shows this practice/program is an opportunity for improvement. Either way, tell a story of how the library is striving to perform at its best and demonstrate success or thoughtful change to seek improvement! Choosing not to engage in assessment is choosing the status quo and missed opportunity for demonstrating the library’s value.	

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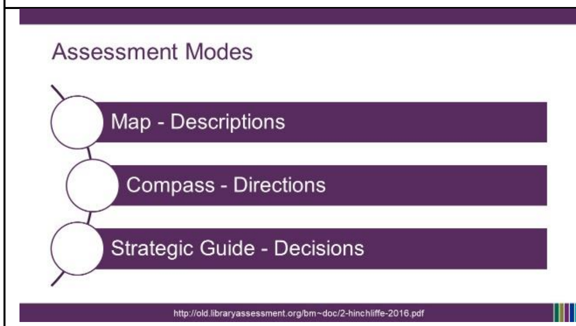
<tr><th>Module 1 - Slide: 23</th><th>Speaker Notes:</th><th>Participant Workbook Page: 11</th></tr>
<tr><td>

Source: Hinchliffe, Lisa. “Sensemaking for Decision Making.” Library Assessment Conference. Address presented at the Plenary Address</td><td colspan="2">Assessment as a map provides us with the “lay of the land”—a high-level and holistic view of the terrain, climate, and locations of key landmarks. Assessment can tell us what is happening by gathering data points but then also provide analysis and interpretation to reveal the patterns and trends in what has occurred over time. This descriptive information includes inputs, outputs, outcomes, and impacts—placed in context and in comparison. This assessment work reveals different scenarios and possibilities. And, like the beautifully illustrated maps of bygone eras, it might even reveal where “there be dragons!” to work around and guard against.

Assessment as compass reveals possible directions—possibilities for growth, improvement, and new initiatives—and shows these relative to our “north star,” our purpose and mission. This data shows us options and choices that can be made. A compass does not, however, tell us which direction to choose; it only illuminates options and pathways and helps us get our bearings. It illustrates what we will walk away from in order to walk towards other directions.

Assessment as strategic guide empowers making choices and decisions that align resources and activities with our goals, mission, and purpose. Data is not a decision. But decisions should be based on data. Decision making, based on data, must be firmly grounded in values and mission, maximizing impact and efficiency, in pursuit of a vibrant future, which can only emanate from strategic options chosen today</td></tr>
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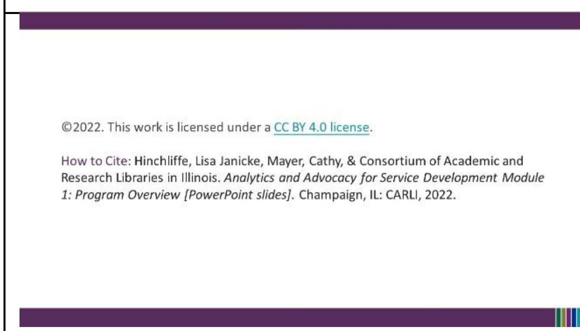
<tr><td>Module 1 - Slide: 24</td><td>Speaker Notes:</td><td>Participant Workbook Page: 11</td></tr>
<tr><td>
</td><td colspan="2">Leaders make use of research derived from trials, literature reviews, or other activities that provides objective information on issues of concern to RECOMMEND OR SUPPORT a particular policy or program at their organization and to demonstrate its effectiveness.

In an ideal world, advocacy strives to seek additional investment in the library. But evidence-based advocacy is also a powerful tool for helping to establish a clear understanding of the impact of maintaining current levels of funding or results from cutting resources.</td></tr>
<tr><td>Module 1 - Slide: 25</td><td>Speaker Notes:</td><td>Participant Workbook Page: 12</td></tr>
<tr><td>
</td><td colspan="2">A variety of resources can be useful for evidence-based advocacy.

<u>Research studies:</u> published in projects like AiA or professional journals
<u>Professional Standards:</u> ACRL
<u>Data Analytics:</u> May be available through campus partnerships
<u>Benchmarking:</u> Most useful when compared to similar institutions
<u>Program Evaluations:</u> External reviewers, self-studies, etc.</td></tr>
</table>

Module 1 - Slide: 26	Speaker Notes:	*Participant Workbook Page: 12*
 	(Before dismissing for the break-- check to see if audience members have any immediate questions they'd like to ask!) LOTS of new information and ideas were shared in this session! Take some time to let these ideas soak in during a break. Participants are welcome to stretch their legs, use the restroom, or grab a snack as time allows. We will resume meeting together again at (INDICATE TIME). After a break, if the schedule allows, give attendees an opportunity to meet with their assigned team to discuss questions (included below) on page 12 of the participant workbook.	
Module 1 - Slide: 27	**Speaker Notes:**	*Participant Workbook Page: 12*
 		

Team Development Discussion Questions

- What aspects of the purpose, goals, and process of AASD is most exciting or appealing to you? What aspects are most intimidating?
- What hopes and expectations do you have for yourself and your team members for fostering a community of practice?
- How have you seen evidence-based decision making or decision-based evidence making in your library or institution? Explain.
- Does your library use assessment as a map, compass, and/or strategic guide?
- What sources of evidence do you and/or your library currently use for advocacy? What sources are you hoping to explore as part of AASD?

Module 2: Unpacking Variables and Claims

Module Overview

Module 2 expounds upon the simplified program logic model framework by defining research questions, claims, variables, and operationalized assessment measures. More interactive than the previous module, this lesson includes two 20-minute segments in which participants engage with their team to practice identifying research questions, claims, variables, and measures.

Estimated Length: 150 minutes (90 minutes lecture + 60 minutes team development time)

Module Learning Outcomes

1. Participants will be able to define and identify research questions.
2. Participants will be able to define and identify claims.
3. Participants will be able to define and identify variables, including independent and dependent variables, and recognize a relationship between them.
4. Participants will be able to define and identify forms of measurement that operationalize variables.

Module Training Materials

Participant Workbook pages 14-44
AASD – Module 2 – Unpacking Variables & Claims.PPTX

Flip charts, markers, and post-it notes may be helpful for groups that prefer to brainstorm in a physical medium.

Required Reading

- Value of Academic Libraries: A Comprehensive Research Review and Report –Research Agenda (pages 101-140) – previously required for Module 1

Recommended Resources

Articles shown with an asterisk (*) in the Sources list below are used in an applied learning activity within this module. Other articles may be substituted or added at the discretion of the trainer or as suggested by program participants.

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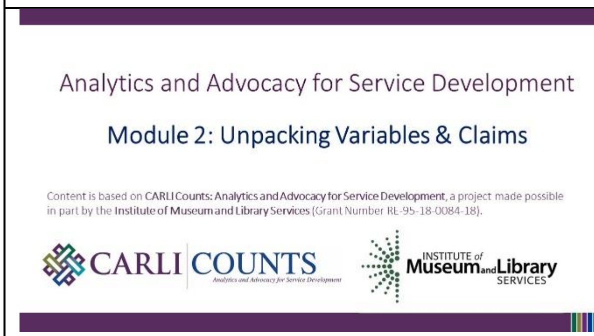
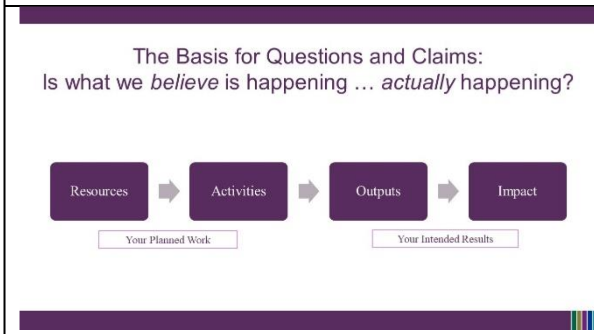
Module 2 - Slide: 1	**Speaker Notes:**	*Participant Workbook Page: 14*
	Welcome back for session 2 of AASD in which we'll unpack variables and claims, enabling us to identify and understand their importance in research.	

Module 2 - Slide: 2	**Speaker Notes:**	*Participant Workbook Page: 14*
		

Module 2 - Slide: 3



Speaker Notes: *Participant Workbook Page: 14-15*

The simplified program logic model is the basis for research questions and claims. The big question we are asking ourselves with any investigation in our library setting is: “Is what we believe is happening, actually happening?”

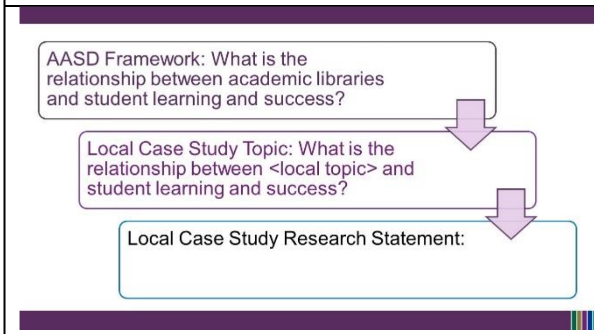
For example: We believe helping students at the reference desk supports their success– therefore we offer and staff this service. When we gather data about these interactions and study outcomes, we are able to confirm this claim– which has been shown repeatedly in published studies.

Another example: We believe library instruction supports student success– again, this is why we offer instruction. Yet, thus far data gathered about these interactions and outcomes is less clear. Although we are less confident in this research, it is important to recognize that we will never– with research or investigation– answer a question definitively. We will always be using a probabilistic statement. We can make statements like, “Data shows this claim is accurate for a specific population” or “Data shows this is true for some students but no others” or “There are confounding factors that don’t allow for a definitive statement.”

Yet, in the process of assessing the data, we are still moving toward greater understanding and confidence in our findings. We are increasing the probability that we understand what is happening, but no single study can answer our question or claim independently.

Adapted from Source: W.K. Kellogg Foundation. *Logic Model Development Guide*. Battle Creek, MI: W.K. Kellogg Foundation, 2004. https://wkkf.issuelab.org/resource/logic-model-development-guide.html

Module 2 - Slide: 4 | **Speaker Notes:** | *Participant Workbook Page: 15*



AASD has an overall research question driving the program design: “What is the relationship between academic libraries and student success? Wouldn’t it be amazing if we could design one study to answer this question?!?!? But it’s not possible, we ask this question about lots of different aspects of academic library work, we are able to build and draw on a body of knowledge to move towards answering this question.

In your local case study project, you will pose a topical research question, such as: What is the relationship between [INSERT YOUR TOPIC] and student learning and success? It’s important to recognize this question will likely start at a point that is too broad for investigation. Therefore, in subsequent modules you will work to narrow your focus by exploring your topic, interest, local context to identify a single question that is scoped appropriately.

As a result of this process, you will create a draft research statement to guide the focus and conversation around your work. The statement does not have to be finalized and may be adjusted or changed as you engage further in the process of investigation.

Module 2 - Slide: 5 | **Speaker Notes:** | *Participant Workbook Page: 16*

You may still feel overwhelmed by the prospect of developing a case study topic and research statement– that’s ok! Sometimes, our imagination and ideas can be stoked with the help of encountering the work and ideas of others in our profession.

Module 2 - Slide: 6

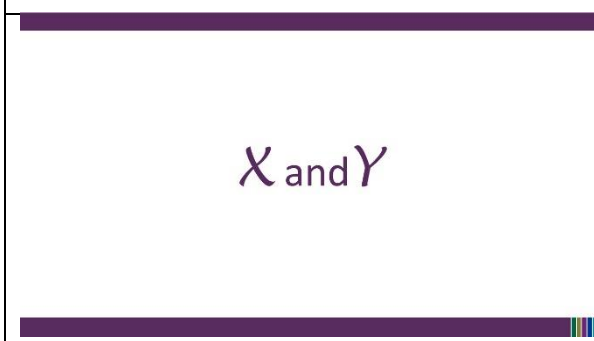
Speaker Notes: *Participant Workbook Page: 16*

A potential source of inspiration for investigation is exploring example research agenda frameworks. You will often see research agenda statements, and this slide includes six examples.

As pre-work for module 1, you read part of the Value of Academic Libraries that included a research agenda which provides big picture questions for the field to ask about various areas of concern in academic librarianship. Although you might be inspired by research agenda frameworks, AASD encourages participants not to simply adopt research agenda questions offered by one of these sources. Instead, work find a question or topic that is organic to your situation to employ local application and meaning for your institution!

Module 2 - Slide: 7

Speaker Notes: *Participant Workbook Page: 17*



In the process of developing a research question or statement, you are telling the story of X and Y.

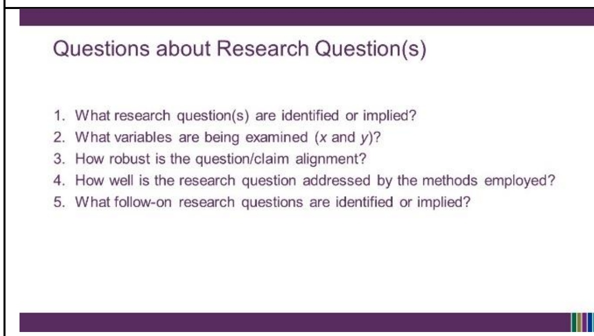
X = The library
Y= student learning and success

The purpose of your local projects is to understand the relationship between X and Y.
Your local case study project could involve quantitative methods that identify a statistical relationship—looking for correlations to move towards developing a causal explanation between variables.

Your local case study project could use qualitative methods—observations, interviews or focus groups—to develop understanding a base for decision making.

Ultimately, the key to remember is identify X, identify Y, and seek to identify and understand how they relate. What method (quantitative or qualitative) do you feel most comfortable undertaking for your local case study project? Brainstorm variables (X & Y) and methods you might utilize.

Module 2 - Slide: 8	**Speaker Notes:**	*Participant Workbook Page: 18*

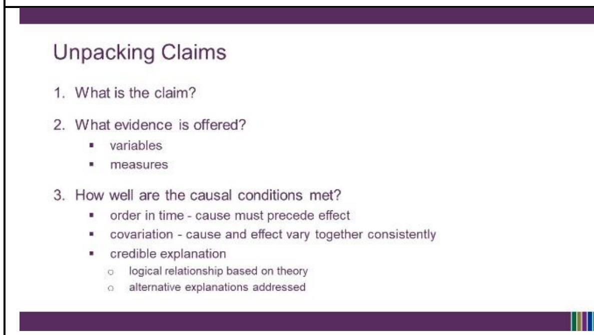


When we look at LIS literature, we are going to start to look for the research question. Ideally, the author has identified their research question, but many times a question is implied rather than explicitly stated. A helpful practice when reading an article is to highlight or underline what you think the research question is then annotate the variables (x and y) being examined. Sometimes, depending on the complexity of a research question, there can even be multiple X and multiple Y in a given study. Try to understand the structure of the research study.

After a researcher asks a question, they gather data, present findings, and make a claim… "Because of this evidence, in service of this research question, here's what we now claim to know." We then need to ask if the research question and claim are well aligned. Often, the question and claims are well aligned, but in some instances, you may find a mismatch. Sometimes claim findings overextend beyond what is warranted by data and other times researchers underclaim what data reveals.

In examining the claim, it is also important to ask if the method employed to conduct research was well chosen. Finally, we want to understand if there are any follow-on research questions that are identified or implied. This can be particularly invaluable because they can inspire research you might be able to undertake as part of your local project!

Module 2 - Slide: 9	Speaker Notes:	*Participant Workbook Page: 19*



The claim is the conclusion, what we're supposed to take away. Some people might say "prove" but as we've already noted, it can be difficult to conclusively "prove" a claim, though we can move towards asserting it with greater strength and confidence.
In undertaking a research project, what do we want to conclude?

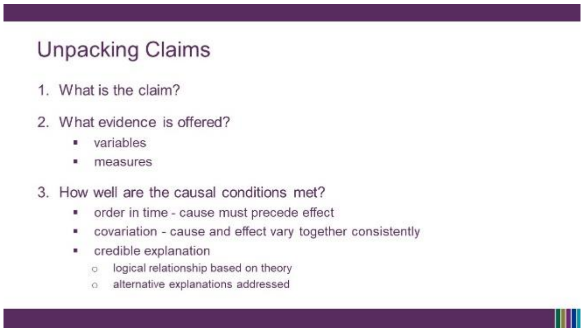
Some research projects conclude that we don't know anything more than before a project was undertaken because the method was not appropriate, data was not definitive, low levels of participant led to an insufficient sample size, or some other factor led to inconclusive results. When this happens, researchers can provide context that helps future inquirers research the question or claim being made differently.

When there is a claim of findings, we are going to look at the variables and measures.

If someone wants to assert a claim of causation, and not simply correlation, then causal conditions become part of the discussion. Causal conditions can present in several ways:

1) Order in time – cause must precede the effect, also known a temporal precedence
2) Covariation – cause and effect vary together consistently; a particular kind of correlation*
   *Correlation is the degree to which variables measured covary. There can be high levels of covariation, meaning high levels of statistical correlation or low levels of correlation, meaning covariance does not exist
   *A correlation of zero, indicates that there is no relationship between variables being compared– thus results appear random and there is no covariation.
3) Credible explanation – a logical argument built on facts, which is typically theory-based, can be presented to account for causation AND we have considered and ruled out alternatives

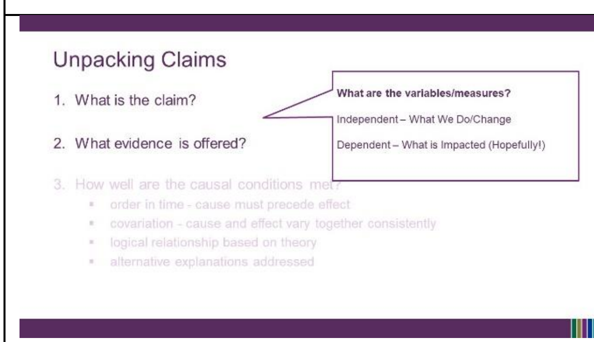
(Module 2 - Slide: 9 continued)



Essentially, a credible explanation entails 2 parts:
1) Identifying why a finding is reasonable and logical
2) Identifying other potential conclusions people might suspect but explaining why we think these hypotheses can be ruled out.

A lot of times, alternative hypothesis can't be ruled out until/unless further research is conducted– making this an iterative process. When research is conducted iteratively and multiple studies point to consistent findings, the strength of confidence in a claim increases.

Module 2 - Slide: 10



Speaker Notes: *Participant Workbook Page: 20*

This module now focuses on the variables being measured.

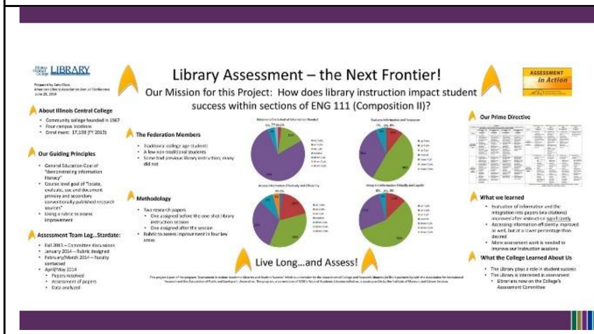
Independent (x) – What we do (in the library), commonly known in research as the intervention.

Although librarians do not typically think about their work (e.g., reference, instruction) in these terms, such provisions intervene and change conditions (we hope) for the person engaging with the service. This variable is deemed to be independent because it is identified (we hope) to be causing and bringing about change by acting upon the dependent variable.

Dependent (y)- What is impacted (hopefully). This variable is dependent on the intervention.

We are hoping to see/show that X has an effect on Y.

Module 2 - Slide: 11



Speaker Notes: *Participant Workbook Page: 20-21*

Let's practice!

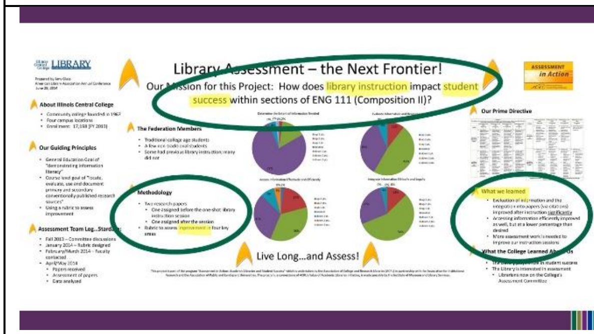
We'll start as a large group and then transition to team-based small group practice. Content being used for our study includes posters from the Assessment in Action program, extracts from articles, and topical articles. We will build from a succinct presentation to engage with the complexity of a full-length article.

First: What's the research question being investigated in this example? Circle it in your participant workbook (or handout).
(Give 30 seconds of silence)

Second: What are the X (dependent) and Y (independent) variables being studied? Circle them in your participant workbook (or handout).
(Give 30-60 seconds of silence)

Source: Glass, Amy. "Library Assessment --the Next Frontier." Assessment in Action Poster: Illinois Central College, June 28, 2014.
https://apply.ala.org/attachments/8765

Module 2 - Slide: 12 | **Speaker Notes:** | *Participant Workbook Page: 20-21*



Each of the elements are featured with circles on this slide.

The Research Question: Shown at the top is actually phrased provided in the form of a question: How does library instruction impact student success within sections of ENG 111 (Composition II)?

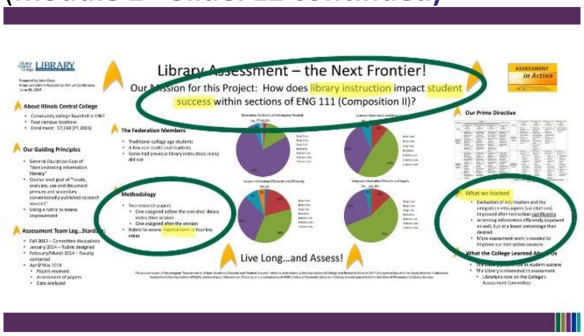
Highlighted within the question are the variables…
Independent Variable (x): library instruction
Dependent Variable (y): student success

To answer the research question, these variables must be operationalized. We have to define them and show how library instruction can be measured.

How did they operationalize variables?

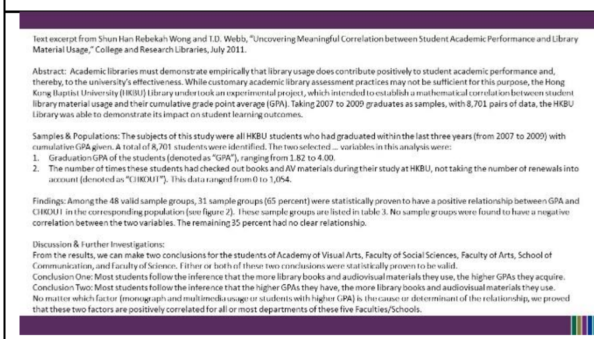
The circle on the left side of the poster highlights "Methodology" where we learn that each section of Composition II has a library instruction session, which makes it the intervention (X- independent variable). The measurement is identified as the 2 research papers required of each student in the course. The first paper was completed BEFORE the instruction session and the second was completed AFTER the instruction session. Thus, the measure of student success (Y-dependent variable) is the improvement score, comparing the difference in performance between the papers. Specifically, students were evaluated using a rubric on how they improved in 4 different aspects of information literacy.

(Module 2 - Slide: 12 continued)	The claim made for this project is seen in the final circle on the right where "What we learned" is shared. Specifically, the claim states there was significant improvement in scores on evaluation of information and integration into papers, but there was less improvement on accessing information. Additionally, they noted no change in determining the extent of information needed– which is not explicitly highlighted as a bullet point but can be gleaned from graphical information.



*Note: Although there is a lot of useful information on this poster, there are significant portions of text that we ignore when identifying the research question, variables, and claim. Thus, it can take practice to efficiently and effectively pull out the most relevant information.

Module 2 - Slide: 13	**Speaker Notes:**	*Participant Workbook Page: 22-23*



Text excerpt from Shun Han Rebekah Wong and T.D. Webb, "Uncovering Meaningful Correlation between Student Academic Performance and Library Material Usage," College and Research Libraries, July 2011.

Abstract: Academic libraries must demonstrate empirically that library usage does contribute positively to student academic performance and, thereby, to the university's effectiveness. While customary academic library assessment practices may not be sufficient for this purpose, the Hong Kong Baptist University (HKBU) Library undertook an experimental project, which intended to establish a mathematical correlation between student library material usage and their cumulative grade point average (GPA). Taking 2007 to 2009 graduates as samples, with 8,701 pairs of data, the HKBU Library was able to demonstrate its impact on student learning outcomes.

Samples & Populations: The subjects of this study were all HKBU students who had graduated within the last three years (from 2007 to 2009) with cumulative GPA given. A total of 8,701 students were identified. The two selected … variables in this analysis were:

1. Graduation GPA of the students (denoted as "GPA"), ranging from 1.82 to 4.00.
2. The number of times these students had checked out books and AV materials during their study at HKBU, not taking the number of renewals into account (denoted as "CHKOUT"). This data ranged from 0 to 1,054.

Findings: Among the 48 valid sample groups, 31 sample groups (65 percent) were statistically proven to have a positive relationship between GPA and CHKOUT in the corresponding population (see figure 2). These sample groups are listed in table 3. No sample groups were found to have a negative correlation between the two variables. The remaining 35 percent had no clear relationship.

Discussion & Further Investigations:
From the results, we can make two conclusions for the students of Academy of Visual Arts, Faculty of Social Sciences, Faculty of Arts, School of Communication, and Faculty of Science. Either or both of these two conclusions were statistically proven to be valid.
Conclusion One: Most students follow the inference that the more library books and audiovisual materials they use, the higher GPAs they acquire.
Conclusion Two: Most students follow the inference that the higher GPAs they have, the more library books and audiovisual materials they use.
No matter which factor (monograph and multimedia usage or students with higher GPA) is the cause or determinant of the relationship, we proved that these two factors are positively correlated for all or most departments of these five Faculties/Schools.

The next example is an excerpt from a 2011 scholarly article published in College and Research Libraries by Shun Han Rebekah Wong and T.D. Webb, "Uncovering Meaningful Correlation between Student Academic Performance and Library Material Usage."

In this example, the library operationalized borrowing library materials as the intervention. Students are also grouped by the college in which they are enrolled. This excerpt is condensed from a 10-page article but see if you can identify (via underlining or highlighting) the variables and claim.

Source: Wong, Shun Han, and T.D. Webb. "Uncovering Meaningful Correlation between Student Academic Performance and Library Material Usage." *College & Research Libraries* 72, no. 4 (2011): 361–70. https://doi.org/10.5860/crl-129. https://crl.acrl.org/index.php/crl/article/view/16168

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<tr><td>Module 2 - Slide: 14</td><td>Speaker Notes:</td><td>Participant Workbook Page: 22-23</td></tr>
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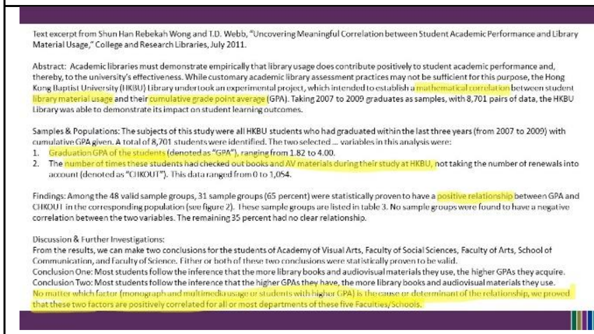

Text excerpt from Shun Han Rebekah Wong and T.D. Webb, "Uncovering Meaningful Correlation between Student Academic Performance and Library Material Usage," College and Research Libraries, July 2011.

Abstract: Academic libraries must demonstrate empirically that library usage does contribute positively to student academic performance and, thereby, to the university's effectiveness. While customary academic library assessment practices may not be sufficient for this purpose, the Hong Kong Baptist University (HKBU) Library undertook an experimental project, which intended to establish a mathematical correlation between student library material usage and their cumulative grade point average (GPA). Taking 2007 to 2009 graduates as samples, with 8,701 pairs of data, the HKBU Library was able to demonstrate its impact on student learning outcomes.

Samples & Populations: The subjects of this study were all HKBU students who had graduated within the last three years (from 2007 to 2009) with cumulative GPA given. A total of 8,701 students were identified. The two selected … variables in this analysis were:

1. Graduation GPA of the students (denoted as "GPA"), ranging from 1.82 to 4.00.
2. The number of times these students had checked out books and AV materials during their study at HKBU, not taking the number of renewals into account (denoted as "CHKOUT"). This data ranged from 0 to 1,054.

Findings: Among the 48 valid sample groups, 31 sample groups (65 percent) were statistically proven to have a positive relationship between GPA and CHKOUT in the corresponding population (see figure 2). These sample groups are listed in table 3. No sample groups were found to have a negative correlation between the two variables. The remaining 35 percent had no clear relationship.

Discussion & Further Investigations:
From the results, we can make two conclusions for the students of Academy of Visual Arts, Faculty of Social Sciences, Faculty of Arts, School of Communication, and Faculty of Science. Either or both of these two conclusions were statistically proven to be valid.
Conclusion One: Most students follow the inference that the more library books and audiovisual materials they use, the higher GPAs they acquire.
Conclusion Two: Most students follow the inference that the higher GPAs they have, the more library books and audiovisual materials they use.
No matter which factor (monograph and multimedia usage or students with higher GPA) is the cause or determinant of the relationship, we proved that these two factors are positively correlated for all or most departments of these five Faculties/Schools.

</td><td colspan="2">

Variables: library material usage and cumulative grade point average (GPA)

Findings: Note that there is a positive correlation between GPA and materials checkouts! However, the researched cannot conclusively say which variable impacts the other. They don't know if students with high grades checkout more materials or if people who check out more materials have higher grades or if there is a third factor that causes all of these. The only thing they can say, with confidence, is that there is a statistically positive correlation that holds for "all or most" departments within their university.

Source: Wong, Shun Han, and T.D. Webb. "Uncovering Meaningful Correlation between Student Academic Performance and Library Material Usage." *College & Research Libraries* 72, no. 4 (2011): 361–70. https://doi.org/10.5860/crl-129. https://crl.acrl.org/index.php/crl/article/view/16168

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<table>
<tr><th>Module 2 - Slide: 15</th><th>Speaker Notes:</th><th>Participant Workbook Page: 23</th></tr>
<tr><td>


Posters
(images below & links provided)

JJC (Participant Workbook page:)
https://apply.ala.org/attachments/20469

LLCC: (Participant Workbook page:)
https://apply.ala.org/attachments/8863

NWACC: (Participant Workbook page:)
https://apply.ala.org/attachments/20492

Article Excerpts
(text and links to full article provided below)
</td><td colspan="2">
Although seeing these examples are helpful, spending time practicing will help build understanding and confidence! Spend the next 20 minutes working with you team to apply what we've learned thus far. Strive to identify:
Research Question:
Variable(s) (Independent = X, and Dependent = y):
Methodology (e.g., operationalized variables):
Claim(s):

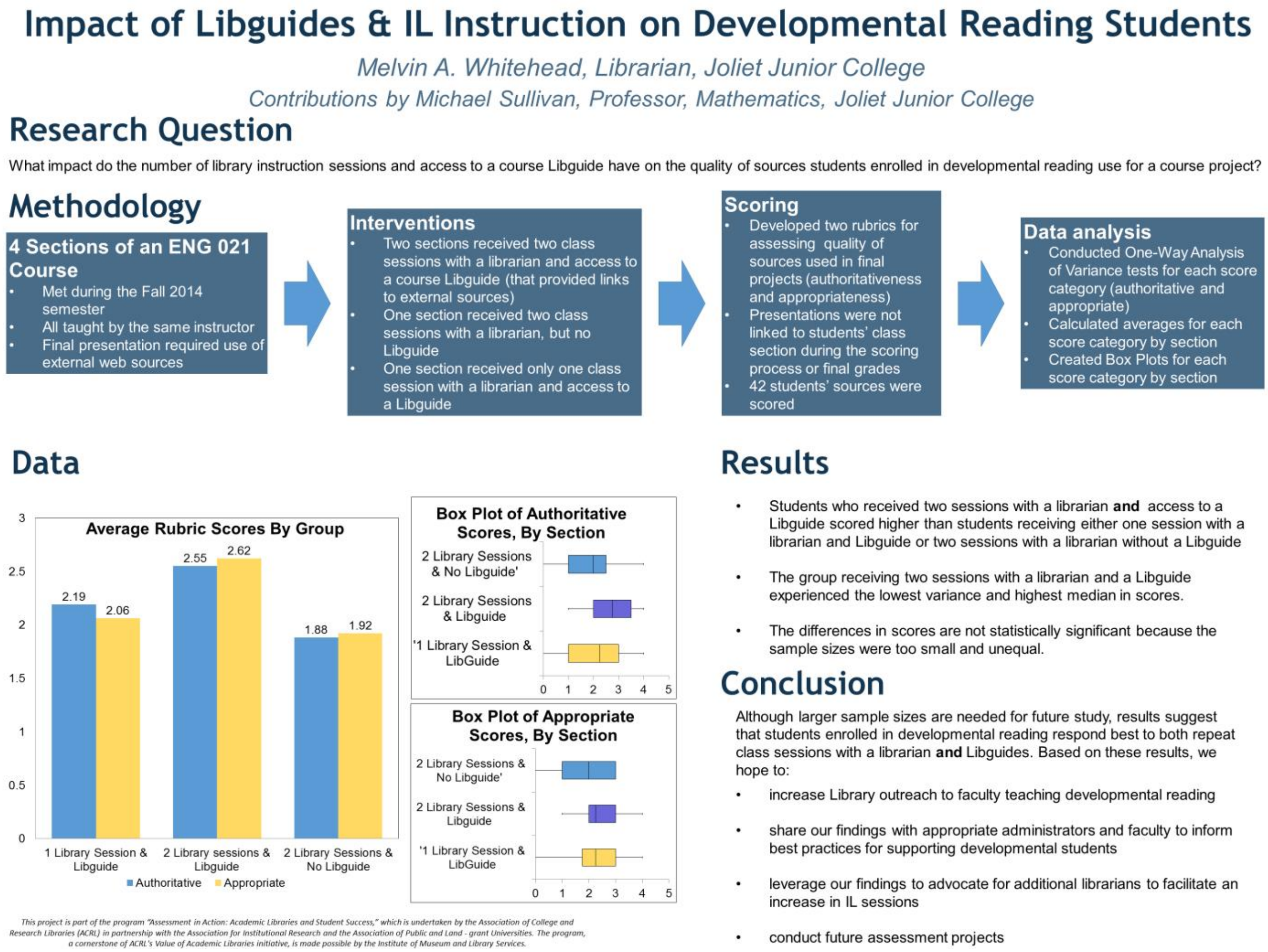
(Provide each team with a means for taking/sharing notes – e.g., flip chart in-person or Google slides for remote work)

You are encouraged to review 1 poster and 1 article excerpt, but if you only get through one because your team takes a deep dive into discussion– that's great! If your team finds it helpful to practice on several different examples– fantastic! Make this process and learning experience meaningful for your group.

Also, be prepared to reflect on the process: What's easy? What's hard? What strategies did you develop?

(Circulate among the groups to support discussion, answer questions, and provide clarification as needed.)
</td></tr>
</table>

JJC (participant workbook page: 24-25)
https://apply.ala.org/attachments/20469



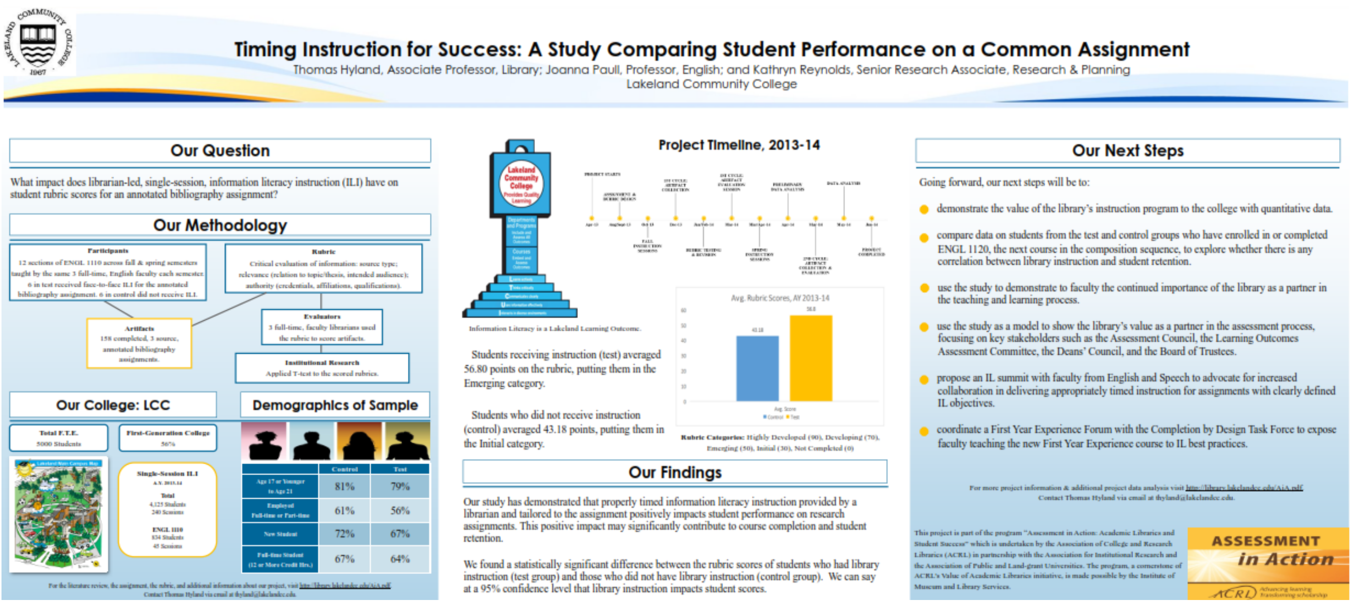
Research Question: What impact do the number of library instruction sessions and access to a course LibGuide have on the quality of sources students enrolled in developmental reading use for a course project?

Claim: Students who received two sessions with a librarian as well as access to a LibGuide scored higher than students receiving only one session with aa librarian and LibGuide or two sessions with a librarian without a LibGuide

Variables:
X1 (IV) = # of library instruction sessions
X2 (IV) = Access to a course LibGuide
Y (DV) = Quality of sources used: Authoritativeness & Appropriateness

Notes: Differences in scores were not statistically significant. Sample sizes were very small. Scoring of source quality is unclear. Could/should instruction sessions and LibGuides be two different research projects?

LLCC (participant workbook page: 26-27)
https://apply.ala.org/attachments/8863



Research Question: What impact does librarian-led, single-session, information literacy instruction (ILI) have on student rubric scores for an annotated bibliography assignment?

Claim: ILI individual benefits student success and retention overall, not just in this one particular assignment.

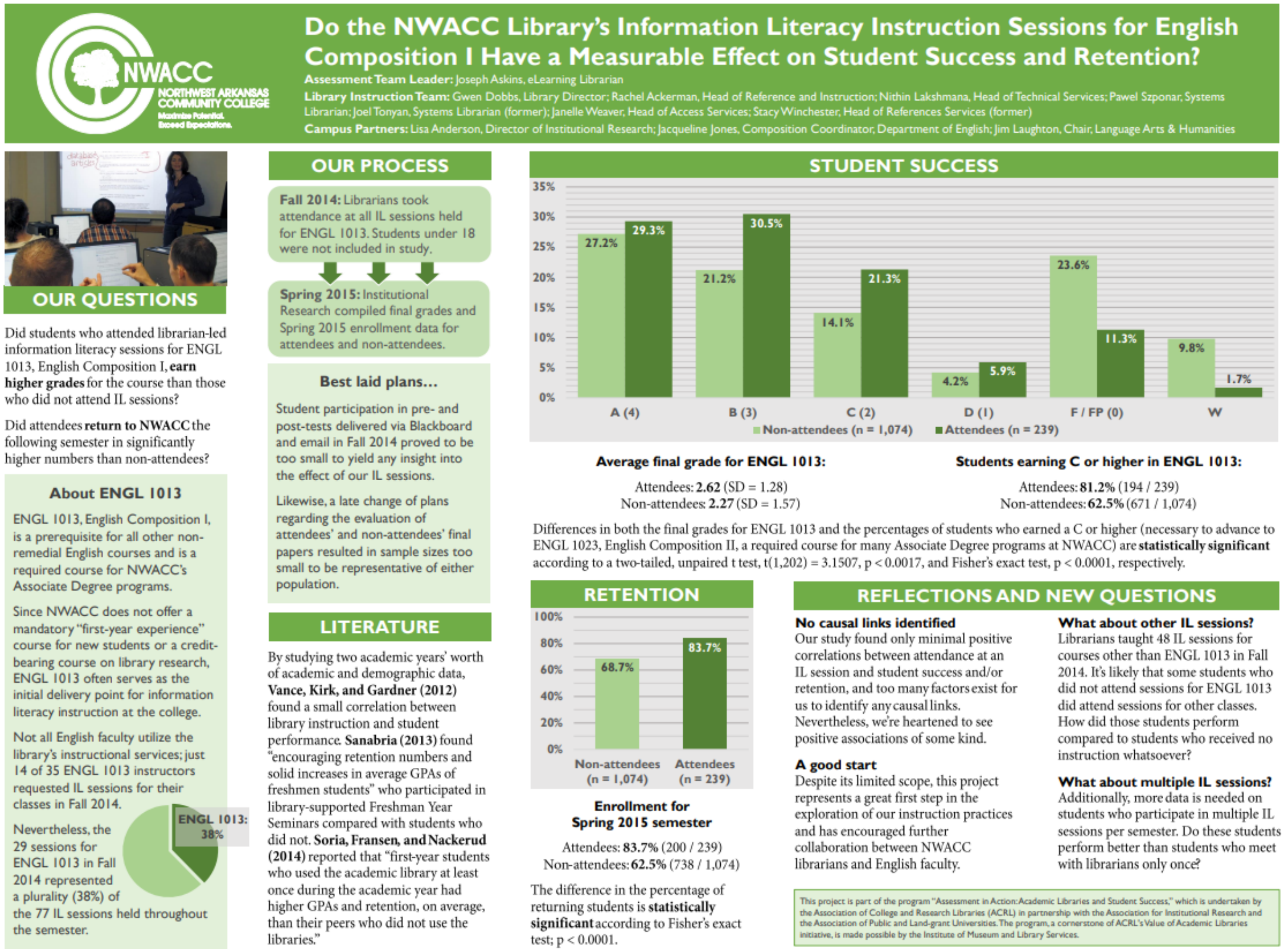
Properly timed information literacy instruction provided by a librarian and tailored to the assignment positively impacts student performance on research assignments.

Found a statistically significant difference between rubric scores of students who had library instruction and those who did not.

Variables:
X (IV)= participation in a one-shot information literacy session
Y (DV) = rubric score on assignment

Notes: Negatives: Claim overreaches in claiming impact on retention without any statistical evidence. Information found is interesting information but does not prove impact beyond student performance in this sample instance.
Positives: Researchers were clear about who was conducting the study. There were lots of controls in factors.

NWACC (participant workbook page: 28-29)
https://apply.ala.org/attachments/20492



Research Question(s): Did students who attended librarian-led information literacy sessions for ENGL 1013, English Composition I, earn higher grades for the course than those who did not attend IL sessions? Did attendees return to NWACC the following semester in significant higher numbers than non-attendees?

Claim: Grades for IL Session attendees were higher and shown to be statistically significant. Retention for IL session attendees were higher and show to be statistically significant.

Variables:
X1 (IV): Attendance at Information Literacy Instruction Session in ENGL 1013
Y1 (DV): Higher final course grade

X2: Attendance at Information Literacy Instruction Session in ENGL 1013
Y (DV): Higher Retention of Students

NWACC Analysis Continued

Notes: Student participation in pre- and post-tests delivered via Blackboard and email were too small to yield any insight into the effect of IL sessions. A change of plans regarding the evaluation of attendees' and non-attendees' final papers resulted in sample sizes too small to be representative of either population. No causal links identified – only minimal positive correlations between attendance at an IL Session and student success/or retention, and too many factors exist to identify causal links.

Article Excerpt: Nebraska (Participant Workbook page: 30-31)

Text excerpt from DeeAnn Allison, "Measuring the Academic Impact of Libraries," ***portal: Libraries and the Academy*****, Volume 15, Number 1, January 2015, pp. 29-40**

https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1336&context=libraryscience

Abstract

University and college libraries often seek ways to demonstrate their impact for the academic community. This article reports the results from a two-year study that analyzed library use as demonstrated through checkouts and off-campus access to full-text resources against grade point averages (GPAs) of undergraduates and graduates at a large Midwestern library. The study found that undergraduates with a GPA above the mean university GPA used the library more than those with a GPA below the mean. There was a correlation between greater use of the library and increases in GPA between the two years—that is, as one grew, so did the other. The study also showed that students who checked out materials in one year returned for additional checkouts.

Methods

Data were collected from the University of Nebraska–Lincoln (UNL) student information system, including an identification number, grade point average, and class standing for graduate and undergraduate students registered for the academic years of 2011–2012 (N = 20,040) and 2012–2013 (N = 21,564). These data were matched against data from off-campus authentication records from proxy logs and circulation checkout records for the same two time periods. The proxy logs were used to gather off-campus access to electronic materials that included articles and e-books. Four groups of student records were analyzed in the study: 2011–2012 (2011), 2012–2013 (2012), those present in both academic years (N = 14,722), and those present in 2011–2012 but not in 2012–2013 (N=7,078) because they had left the university. The data were then made anonymous by removing the ID number that could be linked back to individual student records. Students identified as professional, or who were not considered part of a degree program, were removed.

Conclusions

This study shows a correlation but not necessarily a cause-and-effect relationship between library use and grade point averages for both graduate and undergraduate students. Undergraduates with a GPA above the mean of 3.11 use the library more than those with a GPA below the mean. For undergraduates, there is a weak but positive correlation between greater use of the library and better grades between the two years of the study. A stronger relationship is shown when the data are analyzed by field of study and include graduates and undergraduates who have improved their grades. This provides evidence that libraries play a role in student performance and that increased use of the library is linked with grade improvements.

The study also found that students who check out materials in one year will return to check out materials in the next year, but there was less evidence that database use correlated with return sessions. This finding may point to the need for better advertising of digital resources. Perhaps, better branding and marketing of full-text resources will produce higher usage of electronic resources. The good news comes from evidence of the loyalty of students who check out materials and return for more. It seems clear that libraries with programs that attract students into their facilities will have an opportunity to so engage users that they become regular patrons.

This study also shows that library use is lower among the students who leave the university in their freshman through junior years. Because library use is correlated with student retention, libraries should participate in university programs that target at-risk students to help them improve their grades, which can aid efforts for retention at the university. Follow-up studies with such activities will provide valuable evidence for the impact of library services on how many students remain in school.

Overall, this study points to a positive relationship between student use of library resources and academic success as measured through GPAs. The challenges of determining the impact are many, and additional studies are necessary to understand the connections and level of influence between academic libraries and student success. Factors outside of library activities may play a significant role in academic performance, so understanding these outside factors and their relationship to library services will provide a direction for librarians seeking ways to improve the student experience at their institutions. It may well be that the services librarians perform have a greater impact on student success than collection use. This research clearly implies there is a vital connection between student success and use of library resources, which should hearten librarians struggling with the changing landscape of library and information science.

Research Question: Did use of checkouts (on-campus) and off-campus access to full-text resources by undergraduates and graduates positively impact GPA?

Claim: study shows a correlation but not necessarily a cause-and-effect relationship between library use and grade point averages for both graduate and undergraduate students

For undergraduates, there is a weak but positive correlation between greater use of the library and better grades between the two years of the study.

A stronger relationship is shown when the data are analyzed by field of study and include graduates and undergraduates who have improved their grades. This provides evidence that libraries play a role in student performance and that increased use of the library is linked with grade improvements.

The study also found that students who check out materials in one year will return to check out materials in the next year, but there was less evidence that database use correlated with return sessions. It seems clear that libraries with programs that attract students into their facilities will have an opportunity to so engage users that they become regular patrons.

Study also shows that library use is lower among the students who leave the university in their freshman through junior years.

Variables:
X (IV) = Use of Library materials (check-outs and off-campus full text access)
Y (DV) = Student GPA over a two-year span

Notes: Potential for confounding variables as noted, “Factors outside of library activities may play a significant role in academic performance… It may well be that the services librarians perform have a greater impact on student success than collection use.”

Article Excerpt: Wyoming (Participant Workbook page: 32-33)
Text excerpt from Melissa Bowles-Terry, “Library Instruction and Academic Success: A Mixed-Methods Assessment of a Library Instruction Program,” Evidence Based Library and Information Practice, 2012, (Original Article Licensed CC-BY-NC-SA)
https://doi.org/10.18438/B8PS4D

Abstract
Objectives – This study examines the connection between student academic success and information literacy instruction. Locally, it allowed librarians to ascertain the institution’s saturation rate for information literacy instruction and identify academic programs not utilizing library instruction services. In a broader application, it provides an argument for a tiered program of information literacy instruction and offers student perspectives on improving a library instruction program.

Methods – Focus groups with 15 graduating seniors, all of whom had attended at least one library instruction session, discussed student experiences and preferences regarding library instruction. An analysis of 4,489 academic transcripts of graduating seniors identified differences in grade point average (GPA) between students with different levels of library instruction.

Results – Students value library instruction for orientation purposes as beginning students, and specialized, discipline-specific library instruction in upper-level courses. There is a statistically significant difference in GPA between graduating seniors who had library instruction in upper-level courses (defined in this study as post-freshman-level) and those who did not.

Conclusions – Library instruction seems to make the most difference to student success when it is repeated at different levels in the university curriculum, especially when it is offered in upper-level courses. Instruction librarians should differentiate between lower-division and upper-division learning objectives for students in order to create a more cohesive and non-repetitive information literacy curriculum.

Aims
The study was undertaken with several research questions in mind:

- What is the relationship between student academic success and information literacy instruction?
- Which students receive library instruction, and which do not?
- Is there a good argument for creating a tiered program of information literacy instruction?
- How can we improve our program of information literacy instruction?

Academic Transcript Analysis
Analysis revealed a statistically significant relationship between students’ GPA at graduation and upper-division library instruction. The three comparison groups were: 1) students who received upper-level library instruction,

2) students who received only freshman-level instruction, and 3) students who received no library instruction at all. The mean GPA for each of the three groups is displayed in Table 1; though the variance looks very small, statistical analysis reveals that there is a statistically significant difference. Table 2 shows the results of ANOVA: there is a statistically significant difference between the three groups, $F(2,4486)=3.089$, $p<.0005$. A post hoc analysis was conducted to find where the difference lies. The Dunnett test was used and the "none" group was considered the control or baseline group, as seen in Table 3. Dunnett t-tests treat one group as a control and compare all other groups against it.

The Dunnett test shows that the only group different from the control group is the upper-level instruction group with a mean difference of .0748, $p<.0005$. Thus, students who receive upper-level instruction at the library also have higher GPAs, while there is no significant difference in GPA for students who have only freshman-level library instruction. Because this is ex post facto research, the author cannot claim that the instruction was the cause of the increase; there are too many confounding variables to claim causality in the relationship between information literacy instruction and GPA. Perhaps most notably, there is probably an effect from the repetition of instruction, which was not analyzed in this study. But the analysis shows a statistically significant positive correlation between upper-level library instruction and a higher grade point average at graduation.

Research Question(s): What is the relationship between student academic success and information literacy instruction? Which students receive library instruction, and which do not? Is there a good argument for creating a tiered program of information literacy instruction? How can we improve our program of information literacy instruction?

Claim: Students value library instruction for orientation purposes as beginning students, and specialized, discipline-specific library instruction in upper-level courses.

Students who receive upper-level instruction at the library also have higher GPAs, while there is no significant difference in GPA for students who have only freshman-level library instruction.

Variables:
X1 (IV)) students who received upper-level library instruction
X2 (IV)) students who received only freshman-level instruction
X3 (IV) students who received no library instruction at all.
Y (DV) = GPA

Notes: Because this is ex post facto research, the author cannot claim that the instruction was the cause of the increase; there are too many confounding variables to claim causality in the relationship between information literacy instruction and GPA.

Article Excerpt: Huddersfield (Participant Workbook page: 34-35)
Text excerpt from Graham Stone and Bryony Ramsden, "Library Impact Data Project: Looking for the Link between Library Usage and Student Attainment," *College & Research Libraries*, November 2013 (Original Article Licensed CC-BY)
https://doi.org/10.5860/crl12-406

Abstract

The Library Impact Data Project was a six-month project funded by Jisc and managed by the University of Huddersfield to investigate this hypothesis: "There is a statistically significant correlation across a number of universities between library activity data and student attainment." Eresources usage, library borrowing statistics, and library gate entries were measured against final degree award for 33,074 undergraduate students across eight U.K. universities. The research successfully demonstrated a statistically significant relationship between library resource use and level of degree result; however, any conclusions drawn are not indicators that library usage and student attainment have a causal relationship.

Table 2
Data requirements for Project Partners
(All data required for at least one academic year, e.g., 2009/10)

Mandatory data:	• academic year of graduation e.g., 2009/10 • course title • length of course in years • type of course, e.g., undergraduate • grade achieved[30] • school/academic department
At least two sets of data are mandatory	• number of items borrowed from library (excluding renewals) » Either the total number borrowed by that student » Or separate values for each academic year • number of visits to the library » Either the total number of visits by that student » Or separate values for each academic year • number of logins to e-resources (or some other measure of e-resource usage) » Either the total number of logins made by that student » Or separate values for each academic year

Results
Quantitative Data
Statistical analysis demonstrated that at a cross-institutional level, there is a positive relationship between book borrowing and degree result, and electronic resource access and degree result, but not between library entries and degree result. Thus, the more a book or e-resource is used, the more likely a student is to have attained a higher-level degree result. At an institutional level, where institutions were able to provide data, they demonstrated relationships in the same way.

Qualitative Data
When asked about what they felt led to a good degree result, a combination of personal qualities and referral to resources overall were described, suggesting that students did realize that their use of resources was linked to attainment, but indicating that they did not necessarily always appreciate the varying quality of resources.

Responses varied between institutions, but attendees overall indicated that library resources were of great importance to them, regardless of what they could obtain freely on the Internet. The library was regarded as a resource in itself, as a place in which to not only find information but to use as a learning/ technology space or as a way to meet up with others on the course to discuss their coursework. Some identified the library as being a space that impaired their learning, due to noise levels being too high or low, or preferring proximity to home comforts. Many attendees discussed a formal process of finding the information they required, regardless of the source of information, some with a systematic way of moving between types of resources, and often seeking information away from reading list provision. Technical issues of both access to information and general technology problems were frequently raised, and students did refer to staff for technical and resource support.

Article Analysis: Huddersfield

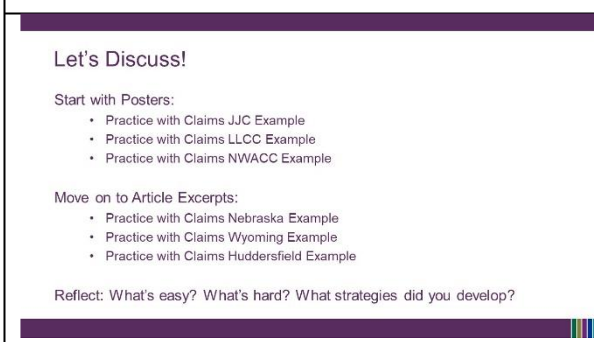
Research Question: Is there a positive relationship between library resource use (including visiting the library) and level of degree attained?

Claim: Statistical analysis demonstrated that at a cross-institutional level, there is a positive relationship between book borrowing and degree result, and electronic resource access and degree result, but not between library entries and degree result.

Variables: (aggregated data across 8 U.K. Universities)
X1 (IV) = E-resource Usage
X2 (IV)= Checkouts (Library Borrowing Statistics)
X3 (IV)= Library Gate Entries
Y (D)= Degrees Awarded

Notes: Any conclusions drawn are not indicators that library usage and student attainment have a causal relationship.

Module 2 - Slide:16	**Speaker Notes:**	*Participant Workbook Page: 36*



(Reconvene the full group for discussion of reflection questions.)
In this process of discerning the research question, claim, and variables…
What's easy?
What's hard?
What strategies did you develop?

*If not touched on by the group, note that a helpful strategic framing (often unconsciously employed by librarians): Critically appraise the source! Start by reviewing the Abstract, Methods, and Findings or Results to identify keywords and establish a foundation for understanding the research and assessing its quality.

Module 2 - Slide: 17

Speaker Notes: *Participant Workbook Page: 36-38*

If your team is ready to further build confidence and pursue increased difficulty, take the next step of exploring an identifying element within a full article!

Strive to identify:
Research Question:
Variable(s) (Independent = X, and Dependent = y):
Methodology (e.g., operationalized variables):
Claim:

Then reflect:
-Are any ideas about the team research project starting to emerge?
-Did any part of this conversation feel more "high energy" than others?
-Anything that sparked interest or excitement?

Topical Articles

The following is a listing of sample articles that can be explored as time and interest allow. Articles on other topics or more current publications may be substituted.

Consultations

Koelling, G., & Townsend, L. (2019). Research Clinics: An Alternative Model for Large-Scale Information Literacy Instruction. *Communications in Information Literacy, 13* (1), 75-90. https://doi.org/10.15760/comminfolit.2019.13.1.6

Magi, T.J., & Mardeusz P.E. (2013). Why Some Students Continue to Value Individual, Face-to-Face Research Consultations in a Technology-Rich World. *College & Research Libraries*, 74 (6), 605-618. https://doi.org/10.5860/crl12-363

Reiter, L., & Cole, C. (2019). Beyond Face Value: Evaluating Research Consultations from the Student Perspective. *Reference & User Services Quarterly, 59*(1), 23-30. http://dx.doi.org/10.5860/rusq.59.1.7222

Miller, R. (2018). Information Literacy and Instruction: Reference Consultations and Student Success Outcomes. *Reference & User Services Quarterly, 58*(1), 16-21. http://dx.doi.org/10.5860/rusq.58.1.6836

E-Books

Hoseth, A., & McLure, M. (2012). Perspectives on E-books from Instructors and Students in the Social Sciences. *Reference & User Services Quarterly, 51*(3), 278-288. http://dx.doi.org/10.5860/rusq.51n3.278

Pierard, C., Svihla, V., Clement, S., & Fazio, B. (2020). Undesirable Difficulties: Investigating Barriers to Students' Learning with Ebooks in a Semester-length Course. *College & Research Libraries, 81*(2), 170. https://doi.org/10.5860/crl.81.2.170

Tracy, D. (2018). Format Shift: Information Behavior and User Experience in the Academic E-book Environment. *Reference & User Services Quarterly, 58*(1), 40-51. http://dx.doi.org/10.5860/rusq.58.1.6839

Zhang, T., Niu, X., & Promann, M. (2017). Assessing the User Experience of E-Books in Academic Libraries. *College & Research Libraries, 78*(5), 578. https://doi.org/10.5860/crl.78.5.578

OER

Beile, P., deNoyelles, A., & Raible, J. (2020). Analysis of an Open Textbook Adoption in an American History Course: Impact on Student Academic Outcomes and Behaviors. *College & Research Libraries, 81*(4), 721. https://doi.org/10.5860/crl.81.4.721

Braddlee, D., & VanScoy, A. (2019). Bridging the Chasm: Faculty Support Roles for Academic Librarians in the Adoption of Open Educational Resources. *College & Research Libraries, 80*(4), 426. https://doi.org/10.5860/crl.80.4.426

Schultz, T., & Azadbakht, E. (2021). Open but Not for All: A Survey of Open Educational Resource Librarians on Accessibility. *College & Research Libraries, 82*(5), 755. https://doi.org/10.5860/crl.82.5.755

Todorinova, L., & Wilkinson, Z. T. (2020, November). Incentivizing faculty for open educational resources (OER) adoption and open textbook authoring. The Journal of Academic Librarianship, 46(6), 102220. https://doi.org/10.1016/j.acalib.2020.102220

Space

Brunskill, A. (2020). "Without That Detail, I'm Not Coming": The Perspectives of Students with Disabilities on Accessibility Information Provided on Academic Library Websites. *College & Research Libraries, 81*(5), 768. https://doi.org/10.5860/crl.81.5.768

Hahn, J., & Zitron, L. (2011). How First-Year Students Navigate the Stacks. *Reference & User Services Quarterly, 51*(1), 28-35. http://dx.doi.org/10.5860/rusq.51n1.28

Hegde, A., Boucher, P., & Lavelle, A. (2018). How Do you Work? Understanding User Needs for Responsive Study Space Design. *College & Research Libraries, 79*(7), 895. https://doi.org/10.5860/crl.79.7.895

Scott, R., & Varner, B. (2020). Exploring the Research and Library Needs of Student-Parents. *College & Research Libraries, 81*(4), 598. https://doi.org/10.5860/crl.81.4.598

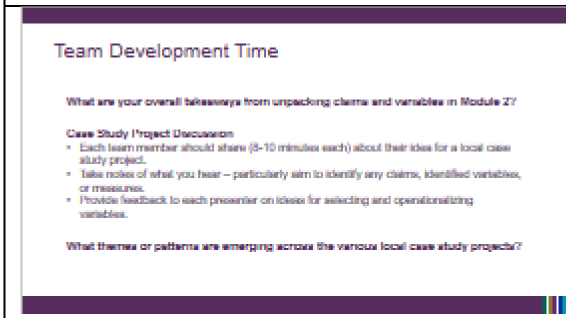
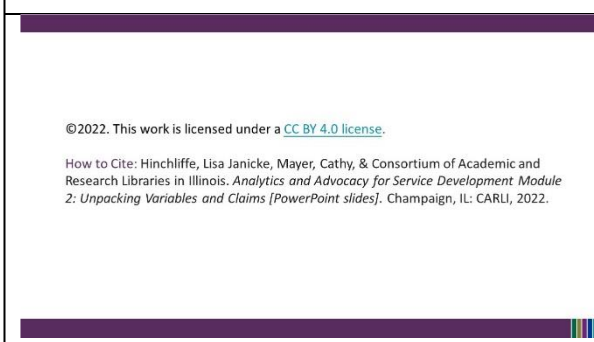
Tutorials

Bowles-Terry, M., Hensley, M., & Hinchliffe, L. J. (2010). Best Practices for Online Video Tutorials: A Study of Student Preferences and Understanding. Communications in Information Literacy, 4 (1), 17-28. https://doi.org/10.15760/comminfolit.2010.4.1.86

Lindsay, E., Cummings, L., Johnson, C., & Scales, B. (2006). If You Build It, Will They Learn? Assessing Online Information Literacy Tutorials. *College & Research Libraries, 67*(5), 429-445. doi:https://doi.org/10.5860/crl.67.5.429

Mery, Y., DeFrain, E., Kline, E., & Sult, L. (2014). Evaluating the Effectiveness of Tools for Online Database Instruction. Communications in Information Literacy, 8 (1), 70-81. https://doi.org/10.15760/ comminfolit.2014.8.1.153

Weiner, S., Pelaez, N., Chang, K., & Weiner, J. (2012). Biology and Nursing Students' Perceptions of a Web-based Information Literacy Tutorial. *Communications in Information Literacy, 5* (2), 187-201. https://doi.org/10.15760/comminfolit.2012.5.2.112

Module 2 - Slide: 18	Speaker Notes:	*Participant Workbook Page: 39*
	Attendees will continue to build their community of practice through team development time in which the following content will be explored and discussed: What are your overall takeaways from unpacking claims and variables in Module 2? Case Study Project Discussion Each team member should share (8-10 minutes each) about their idea for a local case study project. Take notes of what you hear – particularly aim to identify any claims, identified variables, or measures. Provide feedback to each presenter on ideas for selecting and operationalizing variables. What themes or patterns are emerging across the various local case study projects?	
Module 2 - Slide: 19	**Speaker Notes:**	*Participant Workbook Page: 39*
		

Team Development Discussion Questions

- What are your overall takeaways from unpacking claims and variables in Module 2?
- Case Study Project Discussion
    - Each team member should share (8-10 minutes each) about their idea for a local case study project.
    - Take notes of what you hear (using space/template provided in the attendee handbook)– particularly aim to identify any claims, identified variables, or measures.

Name:		Institution:	
Notes:			
Research Question:			
Claim(s):			
Variables:	X (Independent):	Y (Dependent):	

    - Provide feedback to each member on ideas for selecting and operationalizing variables.
- What themes or patterns are emerging across the various local case study projects?

Module 3: Research Question Development

Module Overview

Module 3 guides the development of the local case study project for each participant by introducing frameworks and prompts to guide brainstorming. The module identifies different purposes for undertaking research and kinds of questions participants can use and to establish a research question. Subsequently, the question is turned into a research statement and a project abstract.

Estimated Length: 120 minutes (60 minute lecture + 60 minute team development time)

Module Learning Outcomes

1. Participants will be able to identify the purpose of their research (explore, explain, evaluate, or experiment).
2. Participants will understand the kinds of questions that can be used to frame a research project (why, when, who, how, or where).
3. Participants will develop a research question for their local case study.
4. Participants will develop a research statement for their local case study.
5. Participants will develop an institutional abstract for their local case study.

Module Training Materials

Participant Workbook pages 43-51
AASD – Module 3 – Research Question Development.PPTX

Flip charts, markers, and post-it notes may be helpful for groups that prefer to brainstorm in a physical medium.

Recommended Resources

Participants who are uncertain about their research question may benefit from reviewing projects from CARLI Counts

- Cohort One: https://www.carli.illinois.edu/products-services/prof-devel/carli-counts/cohort1
- Cohort 2: https://www.carli.illinois.edu/products-services/prof-devel/carli-counts/cohort2

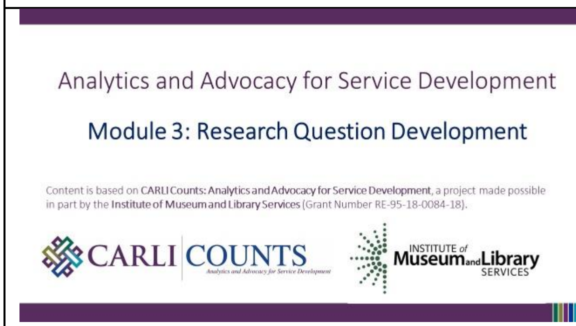
Sources

Booth, Wayne C., Gregory G. Colomb, Joseph M. Williams, Joseph Bizup, and William T. FitzGerald. 2016. *The Craft of Research* Fourth ed. Chicago: University of Chicago Press.

Byrne, David. "Types of research questions: why? when? who? how? where?." *Project Planner*, 2017. SAGE Research Methods. 10.4135/9781526408525.

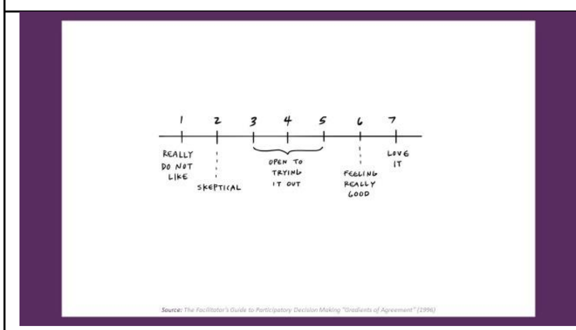
Kaner, Sam and Lenny Lind. 1996. *Facilitator's Guide to Participatory Decision-Making.* Gabriola Island: New Society.

Module 3 - Slide: 1	Speaker Notes:	*Participant Workbook Page: 43*



Welcome to Module 3 in which we will work to develop your research question and research statement!

Module 3 - Slide: 2	Speaker Notes:	*Participant Workbook Page: 43*



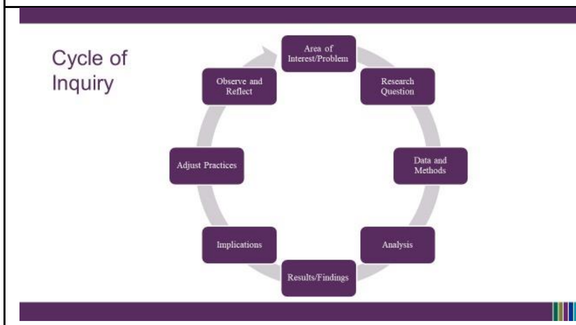
As we move from brainstorming a topic to committing, the framing offered by a tool called “Gradients of Agreement” can help you discern your level of excitement about or commitment to pursuing a research project topic.

Although this tool is typically intended to facilitate group dialog, it can also help you map your reaction when considering possible topics or projects to pursue as you strive to narrow your focus and commit to a particular research question.

As you explore and commit to a particular research question, the hope is that you will move from the center of the scale to the far right– gaining confidence and excitement about the assessment work you undertake.

Take 2 minutes to list an idea or two you are considering for your local case study topic. Where on the Gradients of Agreement framework do these ideas fit best at this stage in the development of your research question?

Module 3 - Slide: 3



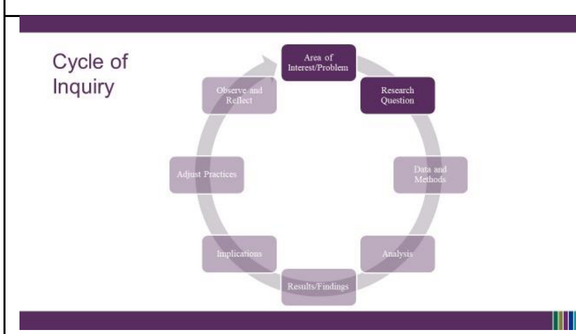
Speaker Notes: *Participant Workbook Page: 44*

In previous modules, we have talked about the goal of AASD, that: “Academic librarians will be able to effectively and systematically leverage data to communicate impact narratives and convey to stakeholders how their libraries bolster student success.”

Undertaking a local research project, that works through the cycle of inquiry pictured here, will move you toward this goal!

As a reminder, the cycle of inquiry includes 8 steps:
Identifying an area of interest or a problem
Developing a research question
Gathering data and selecting methods of assessment
Analyzing data
Reviewing results and identifying findings
Considering implications of the findings
Adjusting practices as needed
Observing the results of changes and reflecting on the need for re-starting the inquiry process.

Module 3 - Slide: 4



Speaker Notes: *Participant Workbook Page: 44*

This process is extensive, and it may take you longer to move through the cycle than the length of the AASD program.

Also, it’s important to recognize that at this stage of AASD training, we’re still only in stages 1 (determining an area of interest or a problem) and 2 (developing a research question).

The goal for this module is to develop a research question and tentative research statement.

<table>
<tr><th>Module 3 - Slide: 5</th><th>Speaker Notes:</th><th>Participant Workbook Page: 44</th></tr>
<tr><td>


</td><td colspan="2">
There are lots of different kinds of research questions that can be asked!

Explore: Questions that explore seek to help expand understanding in a quantitative way. Potential questions starters for quantitative exploration might include: How much…? Or How many…?

Alternatively, qualitative exploration can help develop a better sense of nuance in regard to one's experience– whether it's a user (student or professor) or a library staff member! This type of question ties back to the reading in Module 1 of "Sense Making for Decisionmaking" by providing an exploratory map.

Explain: This research seeks to explain mechanisms. Sometimes an explanation simply seeks to establish or recognize that covariance exists between two variables.

A number of articles recommended in module 2 provide examples of this type of research as investigators noted that their findings indicated covariance but could not prove causality.

Remember: Covariance must exist for causality to be a possibility– thus, such research moves towards greater confidence and understanding.

Causality that says "X is causing Y" is another example of explanation– though we have to be careful that evidence actually supports making such claims.

If evidence isn't clear, researchers can and should simply note that there is covariation, but the existence of confounding variables may explain causality.
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(Module 3 - Slide: 5 continued)

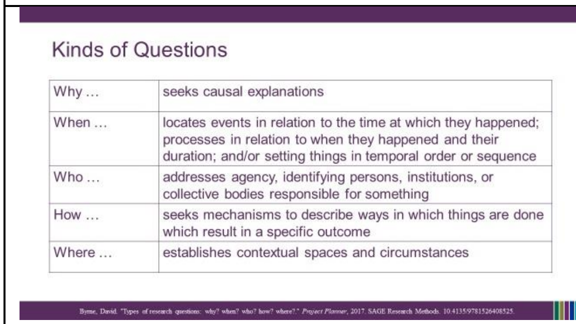
Evaluate: Evaluation seeks to define quality by asking questions like "How good is a (service or resource?" or "How impactful are (teaching sessions or online tutorials or open textbooks)?

Experiment: Libraries typically don't engage in experimental research because we don't believe it's ethical to offer certain users access to resources or privileges while denying access to others.

The one exception to this approach is in user experience (UX) research when websites are altered to observe user behavior to identify what design is most helpful and appealing to users by saving time and getting them to resources effectively.

In LIS, we only do experiments in libraries when we don't know what is best for a user!

Module 3 - Slide: 6	Speaker Notes:	*Participant Workbook Page: 45*



Source: Byrne, David. "Types of research questions: why? when? who? how? where?." *Project Planner*, 2017. SAGE Research Methods. 10.4135/9781526408525.

Another way to think about development of a research question is to explore different kinds of questions. This framework comes from the "Project Planner," which is a resource for walking through the stages of conducting a research project, available in the Sage Research Methods database. Check to see if this content is available at your institution as many libraries subscribe to this database.

The kinds of questions that can be asked include:
Why …seeks causal explanations

When …locates events in relation to the time at which they happened; processes in relation to when they happened and their duration; and/or setting things in temporal order or sequence
When is a tutorial an effective mechanism for teaching information literacy?

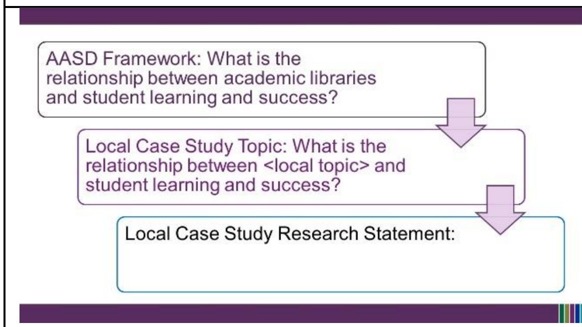
Who … addresses agency, identifying persons, institutions, or collective bodies responsible for something
Who takes advantages of certain services? Who has agency? Who has the ability to advance an initiative? In academic libraries, research has shown a faculty champion for catalyzes library service usage among students.

How … seeks mechanisms to describe ways in which things are done which result in a specific outcome. How does something work? Perhaps we observe expected outcomes and benefits among some users but not others, thus we want to seek to understand how something functions. How is a particular resource used?

Where …establishes contextual spaces and circumstances.

No study will answer ALL of these questions, but they simply provide an opportunity to brainstorm ideas for research

Module 3 - Slide: 7



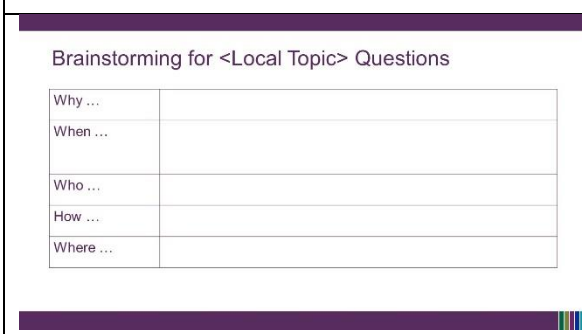
Speaker Notes: *Participant Workbook Page: 45*

As a reminder…AASD has an overall research question driving the program design: "What is the relationship between academic libraries and student success?

As part of this work, your local case study topic draws on and contributes to a body of knowledge to move towards answering AASD's question.

The time has now come to narrow your topic for investigation to a draft a single research question that will can be articulated as a research statement.

Module 3 - Slide: 8



Speaker Notes: *Participant Workbook Page: 45*

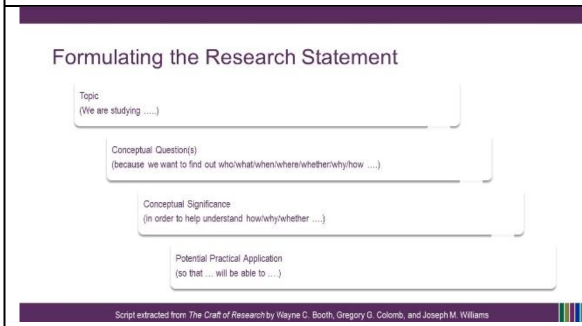
Spend time brainstorming.

As you brainstorm, consider what question(s) will be useful for your institution?

This may help you prioritize a particular topic.

(Give participants 7-10 minutes for silent brainstorming. Encourage them to try to develop a potential question for each row above.)

Module 3 - Slide: 9 | **Speaker Notes:** | *Participant Workbook Page: 46*



Source: Booth, Wayne C., Gregory G. Colomb, Joseph M. Williams, Joseph Bizup, and William T. FitzGerald. 2016. *The Craft of Research* Fourth ed. Chicago: University of Chicago Press.

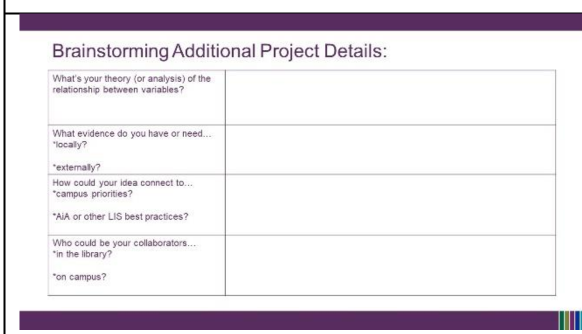
Another tool that can be helpful in this process is a mad-lib style approach to writing a research statement. Some people prefer research questions and others prefer research statements. A research statement is a way of describing a research project– detailing why the research has been undertaken and what it hopes to accomplish.

Topic – What are we studying?

Conceptual Question + Significance – Why is a selected topic or question important?

Potential Applications - Discussion + Conclusions – This is how you anticipate responding to data/result of the investigation undertaken.

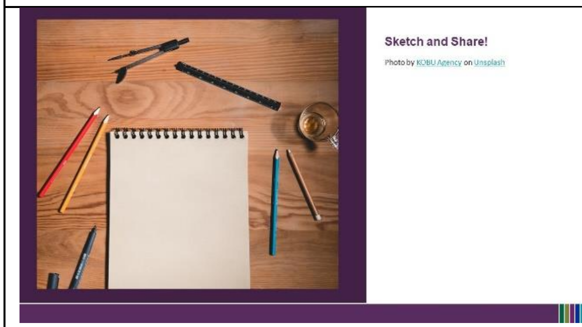
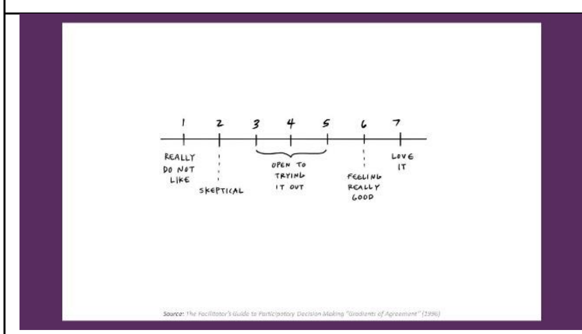
Module 3 - Slide: 10 | **Speaker Notes:** | *Participant Workbook Page: 48*

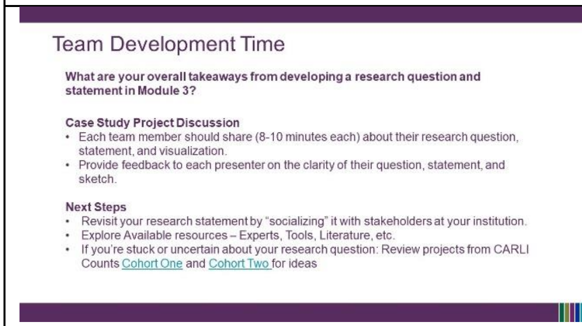
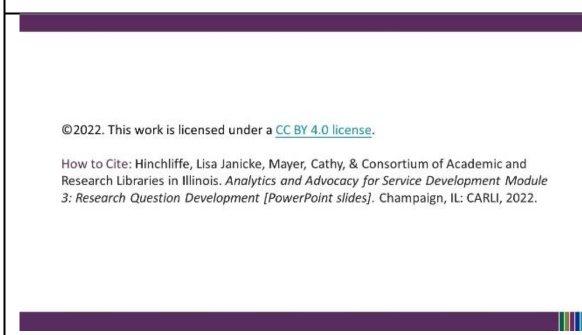


Spend some more time brainstorming.

As you brainstorm, make notes for each question to help you discern what's piques your interest and what is research is meaningful and feasible for your local context.

(Give participants 7-10 minutes for silent brainstorming. Encourage them to try to develop a potential question for each row above.)

Module 3 - Slide: 11	**Speaker Notes:**	*Participant Workbook Page: 49*
	Now, try to think in a different way and create a visualization of your research question or statement. Drawing can unlock creative ideas and tools in ways that words cannot. This exercise may help you explore how to effectively tell the story of your research to stakeholders that might benefit from a visualization to effectively conceptualize the context and ideas that are familiar to you (as a researcher) but new to them! (Give participants 5-7 minutes)	
Module 3 - Slide: 12	**Speaker Notes:**	*Participant Workbook Page: 50*
	Reflect back on "Gradients of Agreement" framing tool mentioned at the start of this lesson. After spending time brainstorming, where do you fall on the continuum as you anticipate pursuit of a selected topic? Reminder: The hope is that you will move from the center of the scale to the far right– gaining confidence and excitement about a question and assessment work you undertake!	

Module 3 - Slide: 13	Speaker Notes:	*Participant Workbook Page: 51*
	Attendees will continue to build their community of practice through team development time in which the following content will be explored and discussed: **What are your overall takeaways from developing a research question and statement in Module 3?** **Case Study Project Discussion** Each team member should share (8-10 minutes each) about their research question, statement, and visualization. Provide feedback to each presenter on the clarity of their question, statement, and sketch. **Next Steps** Revisit your research statement by "socializing" it with stakeholders at your institution. Explore Available resources – Experts, Tools, Literature, etc. If you're stuck or uncertain about your research question: Review projects from CARLI Counts Cohort One and Cohort Two for ideas	
Module 3 - Slide: 14	**Speaker Notes:**	*Participant Workbook Page: 51*
		

Team Development Discussion Questions

- What are your overall takeaways from developing a research question and statement in Module 3?
- Case Study Project Discussion
  - Each team member should share (8-10 minutes each) about their research question, statement, and visualization.
  - Provide feedback to each presenter on the clarity of their question, statement, and sketch.
- Next Steps
  - Revisit your research statement by "socializing" it with stakeholders at your institution.
  - Explore Available resources – Experts, Tools, Literature, etc.
  - If you're stuck or uncertain about your research question: Review projects from CARLI Counts Cohort One and Cohort Two for ideas

Module 4: The Research Question, Variables, & Methods

Module Overview

Module 4 explores further development of a participant's local campus project by revisiting the research question with a focus on defining and operationalizing variables to be assessed. Participants will also learn how a research question affects research methods for gathering data. Moreover, in considering the research methods, this module also introduces the need to consider how partnerships with local stakeholders might need to be articulated to ensure successful project implementation.

Estimated Length: 105 minutes (45 minutes lecture + 60 minute team development time)

Module Learning Outcomes

1. Participants will understand the importance of precisely defining operationalized variables.
2. Participants will understand how precisely defined measurements and data collection are essential to support accurate research claims.
3. Participants will be able to identify commonly used LIS research methods—including surveys, observation, and interviews or focus groups.

Module Training Materials

Participant Workbook pages 52-58
AASD – Module 4 – The Research Question, Variables, & Methods.PPTX

Flip charts, markers, and post-it notes may be helpful for groups that prefer to brainstorm in a physical medium.

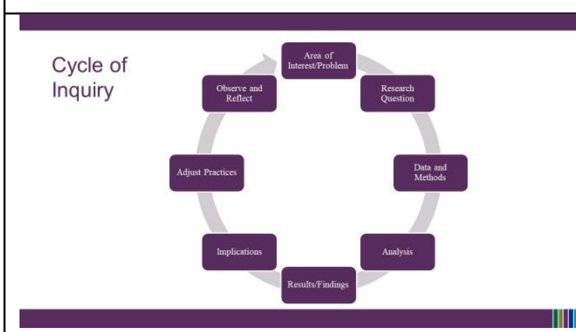
Additional time for "Birds of a Feather" groupings—in which participants are shuffled from their original teams into groups that share a common research focus for the local case study—may be helpful for discussion at this stage.

Recommended Resources

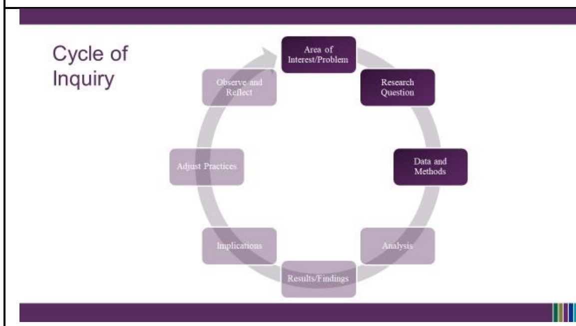
ALA's Project Outcome for Academic Libraries [https://acrl.projectoutcome.org/]

Sources

Booth, Wayne C., Gregory G. Colomb, Joseph M. Williams, Joseph Bizup, and William T. FitzGerald. 2016. *The Craft of Research* Fourth ed. Chicago: University of Chicago Press.

Module 4 - Slide: 1	Speaker Notes:	*Participant Workbook Page: 52*
	Welcome to Module 4: The Research Question, Variables, and Methods In this session we will revisit the research question and examine how each concept in the research question is "operationalized" into a data variable or otherwise descriptively defined. We will also discuss how to consider methods relative to the research question and identifying study participants (a.k.a., the human subjects). We will also talk about different structures for carrying out a project. Will the project have one or more methods? Who will participate in the research and what are the roles of participants? The goal for the end of this session is to enable you to settle on a research question and develop a tentative plan for participants and methods.	
Module 4 - Slide: 2	**Speaker Notes:**	*Participant Workbook Page: 52*
	As our learning process continues, we advance on the cycle of inquiry!	

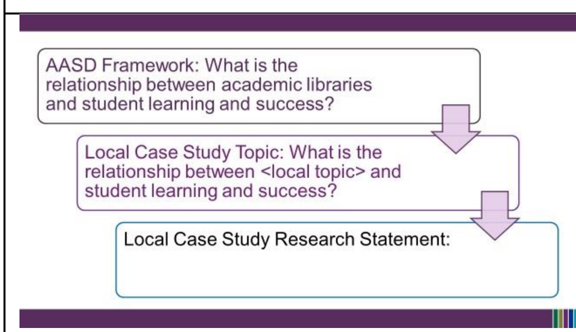
Module 4 - Slide: 3 | **Speaker Notes:** | *Participant Workbook Page: 52*



Last time we discussed an area of interest and a research question. This session delves more deeply into the third step of data and methods.

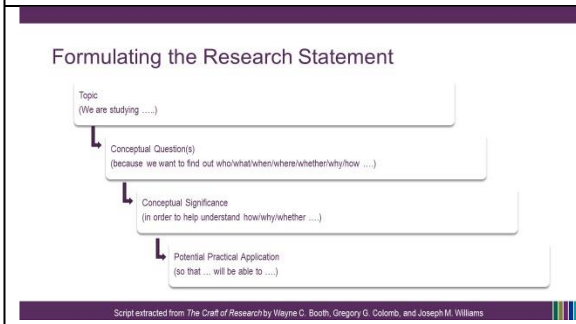
We're focusing primarily on data, but it's nearly impossible to think about data without considering the participants and methods that you will engage to collect data for your investigation.

Module 4 - Slide: 4 | **Speaker Notes:** | *Participant Workbook Page: 52*



Remember, the research you undertake is situated within a broader context. The topical question posed in your local research study contributes to student success, continuous learning and improvement of services provided within your local context, as well as to broader professional understanding.

Module 4 - Slide: 5 | **Speaker Notes:** | *Participant Workbook Page: 52*



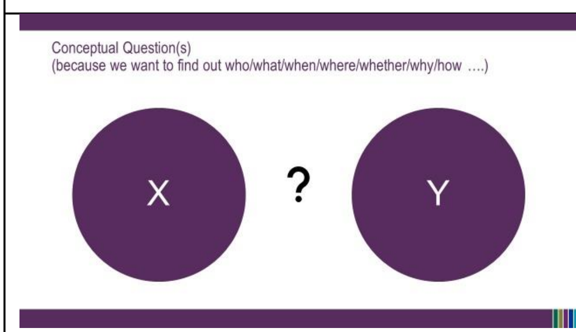
Source: Booth, Wayne C., Gregory G. Colomb, Joseph M. Williams, Joseph Bizup, and William T. FitzGerald. 2016. *The Craft of Research* Fourth ed. Chicago: University of Chicago Press.

As a reminder, Module 3 provided this mad-lib style heuristic tool to help explore your topic by facilitating the writing of a research statement via prompts.

Questions we are answering in the research statement include:
Topic – What are we studying?
Conceptual Question + Significance – Why is a selected topic or question important?
Potential Applications - Discussion + Conclusions – What does the data reveal and how can/should your library respond? Is there additional research that needs to be undertaken?

Having a solid understanding of your conceptual question is essential to meaningfully engage with subsequent materials.

Module 4 - Slide: 6 | **Speaker Notes:** | *Participant Workbook Page: 53*



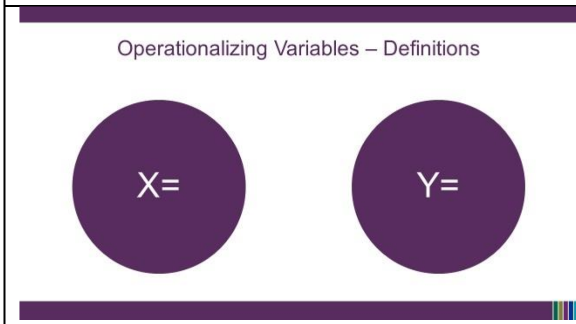
"Conceptual question" is simply a synonym for "research question" – which can manifest in the form of a "research statement."

All of these terms tie back to the same concept and purpose of investigating for to find something. As said in previous modules, we are often looking to see if there is a relationship between at least 2 things: X and Y.

You are exploring a question of impact and should have a hypothesis for how these variables relate –e.g., X impacts Y in an effort to determine what the relationship could be based on analysis of the data you gather in your research.

Module 4 - Slide: 7

Speaker Notes: *Participant Workbook Page: 53*



To investigate, these variables have to be operationalized. This starts with the process of defining each variable. This process aims to be precise.

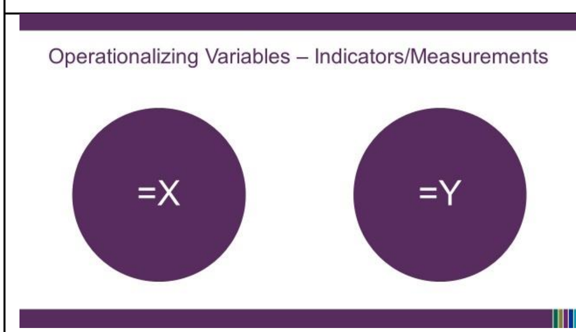
For example, if you wanted to study the impact of how students use an e-book. Does "using an e-book" mean clicking on an access link to open it, reading it, annotating it, quoting it, or something else?

In undertaking a research project, precise definitions of variables support consistency in operationalizing variables and accuracy in communicating and evaluating data in support of yielding meaningful findings.

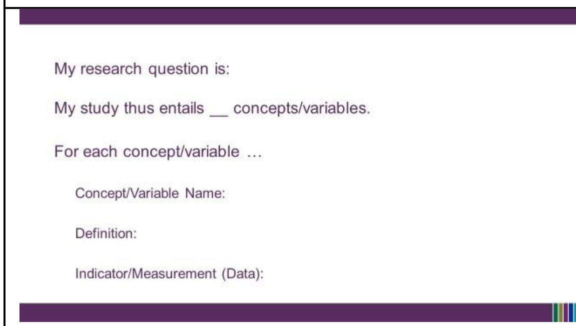
It's important to operationalize variables in a way that facilitates collection of data for analysis, but also realize that that existing methods or data might limit the ability to operationalize variables.

Module 4 - Slide: 8

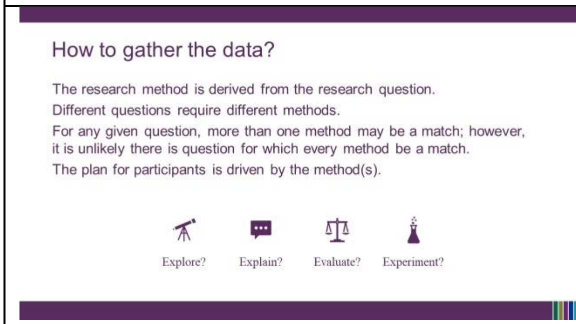
Speaker Notes: *Participant Workbook Page: 54*



Stated another way: When operationalizing variables, look for indicators or measurements (e.g., data) that define those variables.

Module 4 - Slide: 9	**Speaker Notes:**	*Participant Workbook Page: 54*
	One way to clearly layout operationalized variables is to answer these questions… My research question is: (INSERT HERE) My study entails (INSERT at least 2 concepts/variables– there can be more based on your research question). Now, name each concept/variable: Concept/Variable Name: Example: Use of eBook Variable Definition: Example: User going into the e-book platform & accessing a file at a minimum of one PDF per chapter. Indicator/Measurement: Example: Our login system will show unique logins relative to content access Each of these elements help define how we are studying a research question and what data is being gathered. (For 5-7 minutes use the table in your workbook to brainstorm answers to these questions.)	

Module 4 - Slide: 10	Speaker Notes:	*Participant Workbook Page: 55*



Once you begin thinking about data collection, consideration of methods is an inevitable and intertwined step in this process of creating a plan. The research question drives the methods soliciting meaningful information.

For any given research question, there may be multiple methods of data gathering that could yield meaningful data. In fact, you might choose to employ multiple methods of investigation in a given study to provide a richer perspective on a topic.

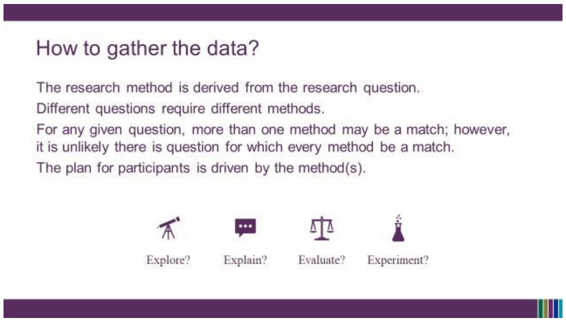
For example, it is common for participants who are interviewed 1:1 or as part of a focus group could also be given a background survey to complete. Similarly, observational studies of user behavior are often paired with interviewing.

In general, there are three research methods commonly used academic LIS research.
Surveys: Surveys may be created in-house or recycle tools created by other organizations. ALA's project outcome is a free product available for use in conducting surveys within academic library settings.

Observation: Observational research studies observe and record participant behavior. This might involve observing the use of a space or could involve studying an artifact or object to analyze identified elements

Interview or Focus Group: Conversational solicitation methods– interviews (1:1) is a deep dive in conversation with an interviewer, focus group (collective group setting) goal is to have a group of people converse with each other and be unaware of the facilitator (at its best)
The plan for participants is driven by methods. For example, the number (n) of participants needed for confidence in the accuracy of survey results is higher than the number needed for a focus group(s).

Module 4 – Slide: 10 continued



No particular method is easier or harder than the other– each has its own challenge!

Summary of the Process: Define Variables -> Identify Appropriate Method(s) -> How are participants engaged?

Optional Brainstorming: What research method(s) do you anticipate using?

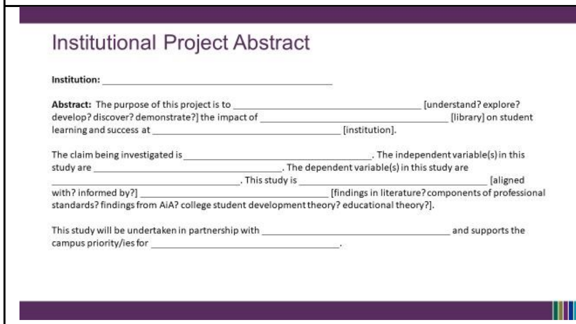
Module 4 - Slide: 11	**Speaker Notes:**	*Participant Workbook Page: 56*

As your local project is operationalized and methods for data gathering are identified, be sure to identify the role(s) of any stakeholders who are helping undertake this research project. Perhaps there are other members of the library staff, professors, or administrators involved?

Not everyone has to work on every aspect of the project, but it's important to recognize where support is needed to successfully conduct your local project.

Module 4 - Slide: 12

Speaker Notes: *Participant Workbook Page: 57*



Now, try to complete this Institutional Project Abstract for the topic you have selected for your local case study. Another mad-lib style tool, the text below offers a detailed structure, for formulating a means of clearly communicating the research for your AASD campus project.

Institution: ____________________________________

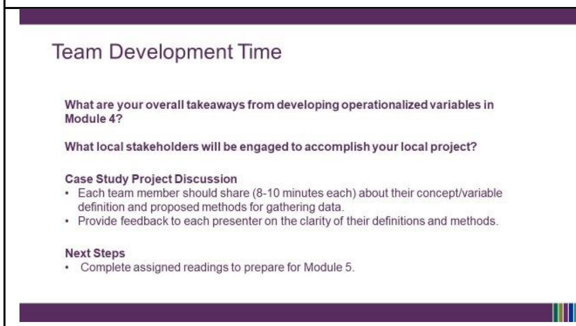
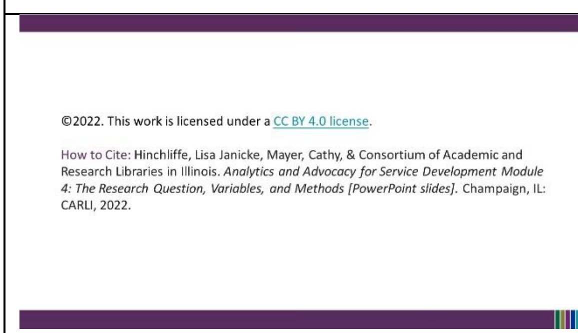
Abstract: The purpose of this project is to

____

[understand? explore? develop? discover? demonstrate?] the impact of ______________________________________ [library] on student learning and success at

____

[institution].
The claim being investigated is ______________________________________. The independent variable(s) in this study are ______________________________________. The dependent variable(s) in this study are ______________________________________. This study is ______________________________________ [aligned with? informed by?] ______________________________________ [findings in literature? components of professional standards? findings from AiA? college student development theory? educational theory?].
This study will be undertaken in partnership with ______________________________________ and supports the campus priority/ies for ______________________________________.

Module 4 - Slide: 13	Speaker Notes:	*Participant Workbook Page: 58*
 	Continue to build your community of practice through team development time! Questions and topics of discussion include: What are your overall takeaways from developing operationalized variables in Module 4? Case Study Project Discussion Each team member should share (8-10 minutes each) about their concept/variable definition and proposed methods for gathering data Provide feedback to each presenter on the clarity of their definitions and methods. What local stakeholders will be engaged to accomplish your local project? Next Steps: Complete assigned readings to prepare for Module 5	
Module 4 - Slide: 14	**Speaker Notes:**	*Participant Workbook Page: 58*
 		

TEAM DEVELOPMENT DISCUSSION QUESTIONS

- What are your overall takeaways from developing a research question and statement in Module 4?
- What local stakeholders will be engaged to accomplish your local project?

- Case Study Project Discussion
    - Each team member should share (8-10 minutes each) about their concept/variable definition and proposed methods for gathering data
    - Provide feedback to each presenter on the clarity of their definitions and methods.
- Next Steps
    - Complete Assigned Readings to Prepare for Module 5

Module 5: Respect for Human Subjects in Advocacy Work

Module Overview

Module 5 introduces ethical research principles when working with human subjects. The module will explore professional standards for data ethics and local compliance with a campus' Institutional Review Board when conducting a local case study project.

Estimated Length: 90 minutes (60 minute lecture + 30 minute team development time)

Module Learning Outcomes

1. Participants will understand that research undertaken in LIS is governed by both professional standards (ALA's Code of Ethics, American Sociological Association, etc.) and local standards established by an Institutional Review Board.
2. Participants will be able to identify and define what types of data gathering in research are subject to IRB approval.

Module Training Materials

Participant Workbook pages 59-72
AASD – Module 5 – Respect for Human Subjects in Advocacy Work.PPTX

Flip charts, markers, and post-it notes may be helpful for groups that prefer to brainstorm in a physical medium.

Additional time for "Birds of a Feather" groupings—in which participants are shuffled from their original teams into groups that share a common research focus for the local case study—may be helpful for discussion at this stage.

Required Reading

- Local Campus Institutional Review Board Policies & Procedures
- American Library Association's Professional Ethics
- American Library Association's Privacy & Confidentiality FAQ - Questions 1-3, 10-12, 21-22
- "Privacy in User Research: Can You?" The Scholarly Kitchen Blog post by Lisa Janicke Hinchliffe

Recommended Resources

- Prioritizing Privacy: Data Ethics Training for Library Professionals https://prioritizingprivacy.org/
- Licensing Privacy https://publish.illinois.edu/licensingprivacy/

- National Forum for Privacy Protections in Public Libraries https://publish.illinois.edu/public-library-privacy-protection-forum/

Sources

ASA Committee on Professional Ethics. “Docs-#29726-V3-1999 Code of Ethics - American Sociological Association.” Code of Ethics. American Sociological Association. Accessed September 15, 2022. *https://www.asanet.org/sites/default/files/savvy/images/asa/docs/pdf/CodeofEthics.pdf.*

“Research, Ethics, and Compliance Training.” CITI Program. https://about.citiprogram.org/.

Guiding Principles for Evaluators. American Evaluation Association. Accessed September 15, 2022. https://www.eval.org/About/Guiding-Principles.

Hinchliffe, Lisa Janicke. “Privacy in User Research: Can You?” The Scholarly Kitchen. The Society for Scholarly Publishing, September 4, 2018. *https://scholarlykitchen.sspnet.org/2018/09/05/privacy-in-user-research-can-you/.*

Office for Human Research Protections (OHRP). “Belmont Report.” HHS.gov. U.S. Department of Health and Human Services, September 8, 2022. https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html.

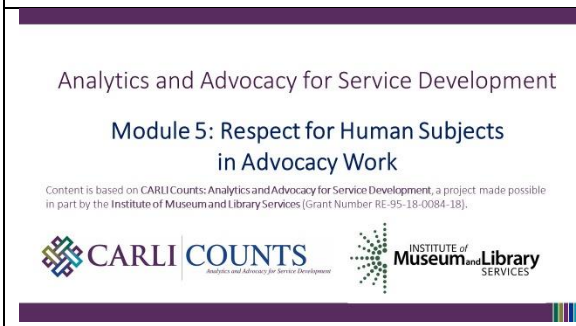
“Privacy: An Interpretation of the Library Bill of Rights.” Advocacy, Legislation & Issues. American Library Association, February 5, 2020. https://www.ala.org/advocacy/intfreedom/librarybill/interpretations/privacy.

“Privacy and Confidentiality Q&A.” Advocacy, Legislation & Issues. American Library Association, November 10, 2021. https://www.ala.org/advocacy/intfreedom/privacyconfidentialityqa.

“Professional Ethics.” Tools, Publications & Resources. American Library Association, July 21, 2021. https://www.ala.org/tools/ethics.

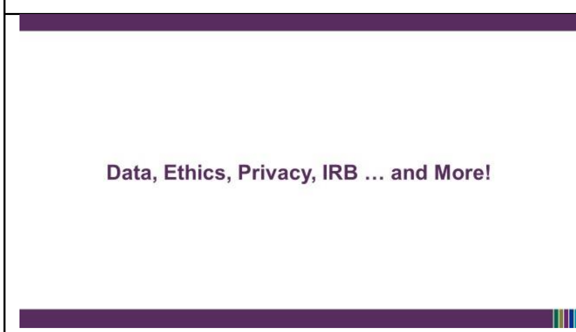
“Review Processes and Checklists: Office for the Protection of Research Subjects.” Review Processes and Checklists - Office for the Protection of Research Subjects. University of Illinois, Urbana-Champaign. Accessed September 15, 2022. https://oprs.research.illinois.edu/review-processes-checklists.

Module 5 - Slide: 1 | **Speaker Notes:** | *Participant Workbook Page: 59*



Welcome to Module 5, in which we explore Human Subjects, Data Ethics– both Professional standards and Institutional Review Board (IRB) requirements. We will discuss ethical practice when doing research with human beings as well as compliance requirements.

Module 5 - Slide: 2 | **Speaker Notes:** | *Participant Workbook Page: 59*

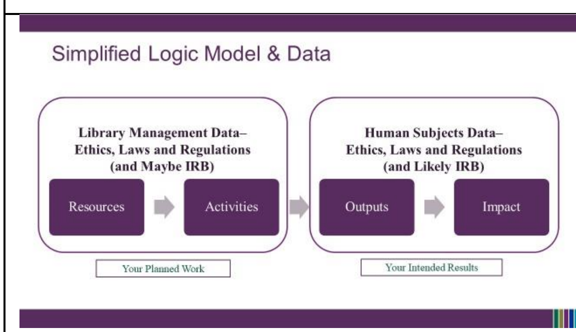


We want to be ethical above all and depending on the kind of local research project you're undertaking, approval from your local institutional review board (IRB) may be required. IRB can be a bit daunting, but we'll take about how to approach that task, strategies for how to manage it.

Module 5 - Slide: 3 | **Speaker Notes:** | *Participant Workbook Page: 59*

Library research requires data-- which is usually about people—typically students. There are ethics, laws, and requirements that must be followed when gathering and managing data about people.

Module 5 - Slide: 4 | **Speaker Notes:** | *Participant Workbook Page: 59*



As a throwback to Modules 1 and 2, we can see what kinds of data come into play within the various stages of research.

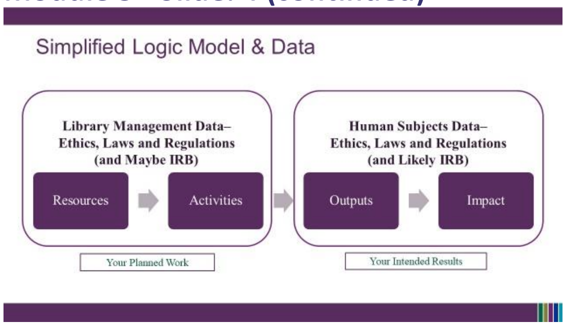
In the resources & activities side, data is typically tied to the administration and management of the library (e.g., number of employees & budget). This category would not typically be considered “human subjects data” unless a research project focused on a particular librarian.

Human subjects data is gathered by a researcher through intervention of interaction with an individual or is identifiable private information.

Thus, on the outputs and outcomes side of the logic model, it’s highly likely that data to be gathered and evaluated

Most, but not all academic institutions have an IRB. The framework provided by an IRB helps researchers think

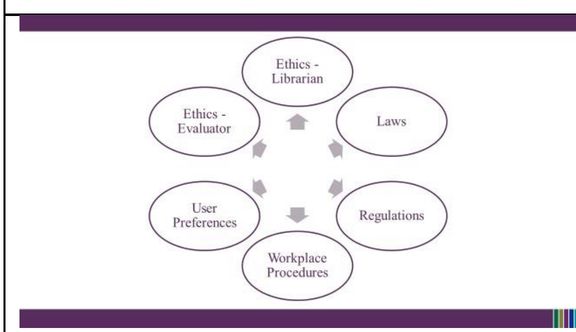
Module 5 - Slide: 4 (continued)



through the proper approach to respectfully interacting with subjects, providing them with agency, autonomy, and identifying any risks or benefits to participation.

Module 5 - Slide: 5

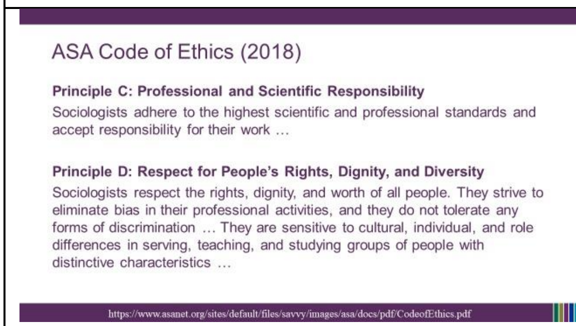
Speaker Notes: *Participant Workbook Page: 60*



There are many frameworks for considering ethics!

IRB is a regulation-based framework.

Workplace procedures can govern and regulate research. For example, your institution may require a survey to be approved and disseminated by a particular office on campus to send a survey to the full-student body or a particular group of students.

<table>
<tr><th>Module 5 - Slide: 6</th><th>Speaker Notes:</th><th>Participant Workbook Page: 60</th></tr>
<tr><td>


Source: https://www/asamet/org/sites/default/files/savvy/images/asa/docs/pdf/CodeofEthics.pdf
</td><td colspan="2">
LIS does not currently have an explicitly code of ethics for research, but we do have a cold of ethics for the practice of librarianship! To help us reflect on what is ethical in research, we can look at other fields that conduct research similar to ours.

In the AASD program, most local projects will mirror research done in applied sociology. Therefore, we can look at how the sociological community articulates their ethics for research by examining the American Sociological Association's code of ethics for guidance. Here are 2 sample principles to give us a sense for what these ethical requirements entail:

Principle C: Professional and Scientific Responsibility
Sociologists adhere to the highest scientific and professional standards and accept responsibility for their work …

Principle D: Respect for People's Rights, Dignity, and Diversity
Sociologists respect the rights, dignity, and worth of all people. They strive to eliminate bias in their professional activities, and they do not tolerate any forms of discrimination … They are sensitive to cultural, individual, and role differences in serving, teaching, and studying groups of people with distinctive characteristics …

It's especially important that if/when researchers undertake research involving vulnerable populations, that the research does not exacerbate the population's vulnerability or put them at risk.
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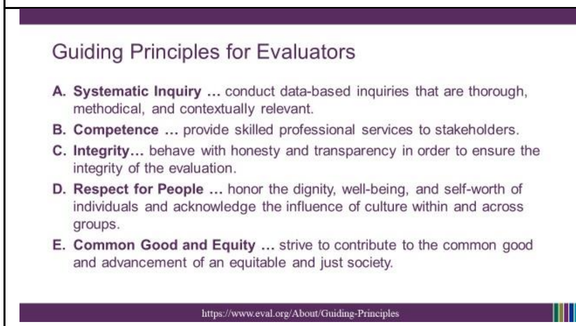
Module 5 - Slide: 7	Speaker Notes:	*Participant Workbook Page: 61*



Source: Guiding Principles for Evaluators. American Evaluation Association. Accessed September 15, 2022. https://www.eval.org/About/Guiding-Principles.

Another code of ethics example comes from the American Evaluation Association. This example is helpful because a lot of evaluation is applied research.

Systematic Inquiry … conduct data-based inquiries that are thorough, methodical, and contextually relevant. We do work in an evidence-based way, not based on opinions.

Competence … provide skilled professional services to stakeholders. If we need to develop a skill, we'll seek out training.

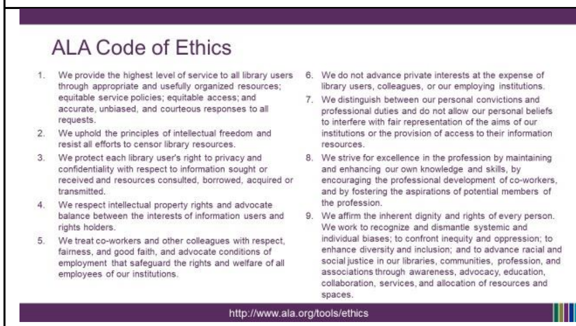
Integrity… behave with honesty and transparency in order to ensure the integrity of the evaluation. When working with research subjects we are forthcoming.

Respect for People … honor the dignity, well-being, and self-worth of individuals and acknowledge the influence of culture within and across groups.
Respect is foundational to every code of ethics and in IRB.

Common Good and Equity … strive to contribute to the common good and advancement of an equitable and just society.

These principles provide the context and ethos for research that is undertaken.

Module 5 - Slide: 8



Source: “Professional Ethics.” Tools, Publications & Resources. American Library Association, July 21, 2021. https://www.ala.org/tools/ethics.

Speaker Notes: *Participant Workbook Page: 62-63*

ALA’s code of ethics is 9 principles long and applies to the practice of librarianship and our research should not violate any of these principles.

A couple of notes on a few principles:

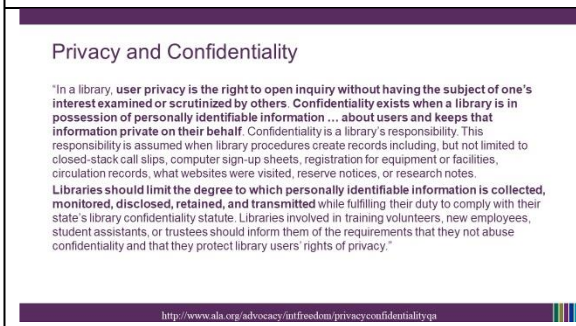
Principle 1: This is especially important for principle #1 because we cannot design an experimental study in an applied setting that creates a control group by denying access to a service or resource for particular library users to study the outcomes (i.e., experimental controls) . Doing so would violate a principle of ethical practice in our profession.

This is an example of our how code of ethics for the practice of librarianship intersects with and impacts our research.

Principle 3: This principle can be challenging in research setting as we interrogate “What does it mean to uphold privacy and confidentiality? What are the methods for doing so?”

An example of the practice of protecting privacy is the deletion of a circulation record after a resource has been returned. Yet, while a book is checked out– privacy is protected by limiting who has access to this record and policies regarding who this record can be shared with. Thus, libraries must operate with practices that protect privacy and confidentiality.

Module 5 - Slide: 9	Speaker Notes:	*Participant Workbook Page: 63*



To understand what privacy and confidentiality entails, let's look at an excerpt of ALA's Q&A page.

"user privacy is the right to open inquiry without having the subject of one's interest examined or scrutinized by others."

Privacy is tied to information being sought. Privacy is what a user gets when interacting with the library. Confidentiality is what the library provides when protecting personally identifiable information and keeps it private on behalf of the patron.

Libraries also strive to eliminate data we do not need to minimize risk for privacy or confidentiality to be compromised. Any data that exists is a higher level of risk for violating privacy and confidentiality on account of data breaches or unauthorized access. Thus, we only want to keep data that is essential to provide library services.

Module 5 - Slide: 10

Source: "Privacy and Confidentiality Q&A." Advocacy, Legislation & Issues. American Library Association, November 10, 2021. https://www.ala.org/advocacy/intfreedom/privacyconfidentialityqa

Speaker Notes: *Participant Workbook Page: 64*

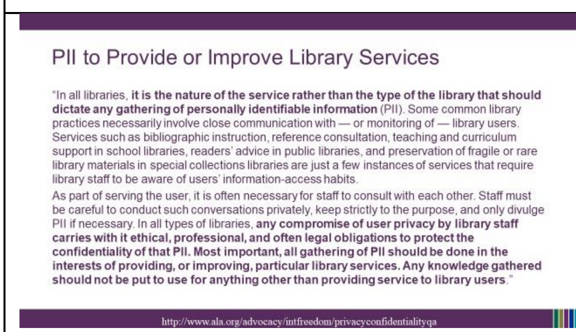
"Regardless of the technology used, **everyone who collects or accesses personally identifiable information in any format has a legal and ethical obligation to protect confidentiality**."

This text is an excerpt of an explanation provided by ALA to expound upon Privacy within the Library Bill of Rights.

The text highlights a principle put in place by the profession of librarianship. We as professionals place high value on confidentiality in a way that other professions may not.

Thus, first and foremost we should be making our decisions about research within the framework of our professional ethics.

Module 5 - Slide: 11



Source: "Privacy and Confidentiality Q&A." Advocacy, Legislation & Issues. American Library Association, November 10, 2021. https://www.ala.org/advocacy/intfreedom/privacyconfidentialityqa.

Speaker Notes: *Participant Workbook Page: 64*

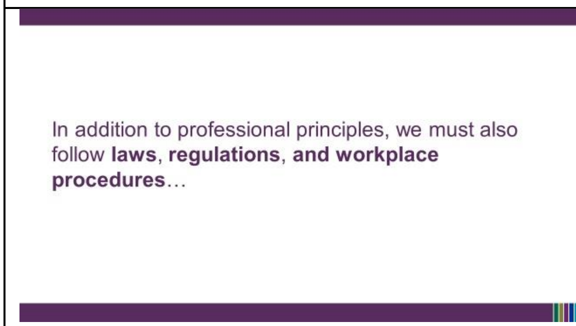
ALA's Q&A page on Privacy & Confidentiality goes on to define Personally Identifiable Information and understand what data is necessary to provide and improve (evaluate and assess) library services. We cannot know if we are providing equitable or effective services unless we have data about users that can be assessed.

When a library has patron information, we have a high level of ethical, professional, and legal obligations to protect this data. One-way libraries protect patron data, like circulation records, is by eliminating/deleting it when the data is no longer needed.

*Note: The word anonymous does not appear in these documents. Library users are not promised or told to expect anonymity. Anonymity is not the standard in our profession.

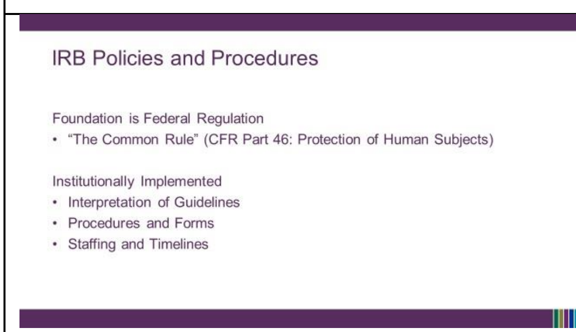
Module 5 - Slide: 11 continued	When collecting research data, adhere to privacy and confidentiality, but know that it’s appropriate and acceptable (at time necessary) to have personally identifiable data as part of research to fulfill high quality, equitable service to library users.
Module 5 - Slide: 12	**Speaker Notes:** *Participant Workbook Page: 65*
	Want to delve into this topic further? Here are some additional resources to consider if additional training or information is desired/helpful.

Module 5 - Slide: 13	**Speaker Notes:**	*Participant Workbook Page: 65*



Professional principles provide a foundation for managing data in investigation and research. AND we must also follow laws, regulations, and workplace procedures.

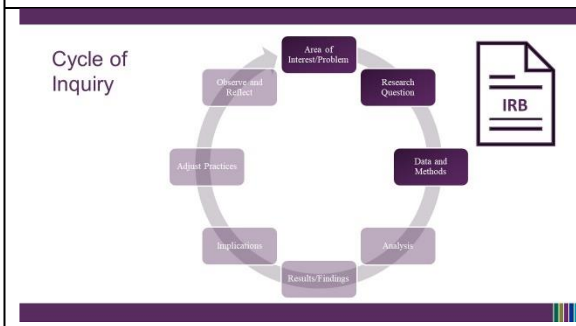
Module 5 - Slide: 14	**Speaker Notes:**	*Participant Workbook Page: 65*

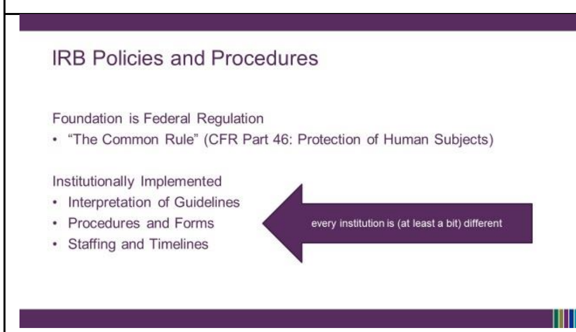


IRB is a federally regulated process that institutions are obligated to uphold and administer, especially if the campus receives federally funded research dollars. The federal government dictates certain cases of research that are subject to IRB approval, BUT a local institution can broaden the scope of their IRB.

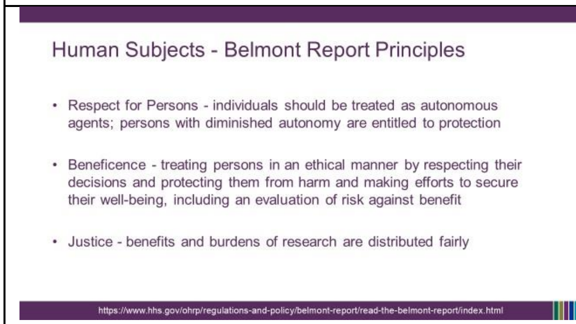
The federal regulation establishes the minimum demand or expectations on a college or university, but the institution can expand the scope– which results in variation among IRB policies across instution. The core of IRB policy is the same, but almost all institutions build additional scope.

The government document for IRB can be found by searching for "CFR Part 46: Protection of Human Subjects." Expanded local guidelines are developed as each campus interprets how to apply the Federal Regulation, such as the processes, forms, staffing, and timelines needed to implement IRB in a local context.

Module 5 - Slide: 15	Speaker Notes:	*Participant Workbook Page: 65*
	IRB isn't an official step on the cycle of inquiry, but it sits alongside steps 2 & 3 because clarity on a research question and desired data and methods for gathering data are important pieces of information to clearly articulate to gain IRB approval. Without IRB approval, most research involving human subjects cannot move forward.	

Module 5 - Slide: 16	Speaker Notes:	*Participant Workbook Page: 65*
 Source: "Research, Ethics, and Compliance Training." CITI Program. https://about.citiprogram.org/.	As a result, EVERY institution's IRB is a little different, but they can be A LOT different in their scope based on local resources available. For example, some institutions might require researchers to complete training/certification in IRB expectations before being approved to undertake research. The Collaborative Institutional Training Initiative– commonly referred to as the CITI Program is a subscription training program that is commonly used. According to CITI, 95% of Carnegie R1 Research Universities have paid for subscription access to this training tool for over a decade. Yet, smaller, private institutions may not have the budget to subscribe to the CITI training program and offer alternative in-house training options.	

Module 5 - Slide: 17	Speaker Notes:	*Participant Workbook Page: 66*



Source: Office for Human Research Protections (OHRP). "Belmont Report." HHS.gov. U.S. Department of Health and Human Services, September 8, 2022. https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html.

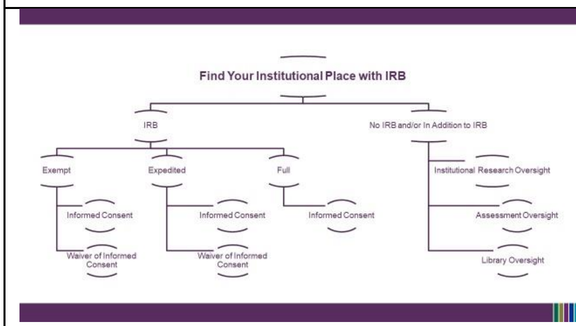
The *Belmont Report* was written by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The Commission, created as a result of the National Research Act of 1974, was charged with identifying the basic ethical principles that should underlie the conduct of biomedical and behavioral research involving human subjects and developing guidelines to assure that such research is conducted in accordance with those principles.

Informed by monthly discussions that spanned nearly four years and an intensive four days of deliberation in 1976, the Commission published the *Belmont Report*, which identifies basic ethical principles and guidelines that address ethical issues arising from the conduct of research with human subjects.

The Belmont Report identifies three key principles:

- Respect for Persons - individuals should be treated as autonomous agents; persons with diminished autonomy are entitled to protection (diminished abilities could include -- children, prison populations, cognitive disabilities)
- Beneficence - treating persons in an ethical manner by respecting their decisions and protecting them from harm and making efforts to secure their well-being, including an evaluation of risk against benefit (in library research, we can almost always claim that the "risks encountered are no greater than what participants encounter in daily life" – key phrase; incentives (extra credit, gift cards, etc.) can be offered to participants, but these must be balanced with any concerns that might lead a participant to feel coerced into participating in a study)
- Justice - benefits and burdens of research are distributed fairly
- (Whoever bears the burden of research should benefit from it; this is not typically an issue in LIS research)

Module 5 - Slide: 18	Speaker Notes:	*Participant Workbook Page: 67*



This is a flow chart showing how the type of research being undertaken might be classified. There are three categories an IRB uses to classify research: exempt, expedited, and full.

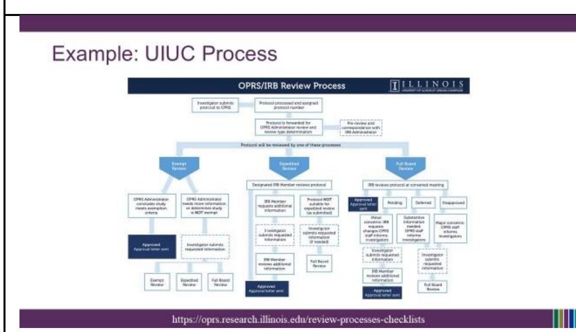
Exempt does not mean "exempt from review" but rather "exempt from full review." Expedited mean's it's an expedited full review– which is done more quickly, and a full review is the length, default comprehensive process.

Exempt reviews apply when the type or scope of research undertaken clearly limits challenges or problems involved in more invasive or extensive research (e.g., medical research).

Most LIS research and library learning analytics projects are exempt from full review.

Within exempt studies, there are 2 additional categories that classify research: Informed consent and waiver of informed consent.

Module 5 - Slide: 19	Speaker Notes:	*Participant Workbook Page: 68*

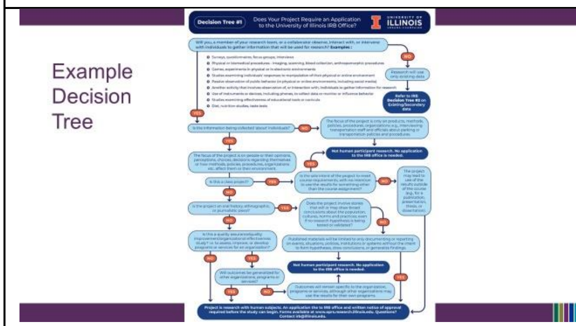


Source: "Review Processes and Checklists: Office for the Protection of Research Subjects." Review Processes and Checklists - Office for the Protection of Research Subjects. University of Illinois, Urbana-Champaign. Accessed September 15, 2022. https://oprs.research.illinois.edu/review-processes-checklists.

Some institutions provide researchers with extensive guidance to navigate the IRB process. These slides are examples of guidance provided at the University of Illinois at Urbana Champaign.

If your institution doesn't have extensive guidance, reviewing these tools and using them to help you think through the process and focus dialog with your local IRB may be beneficial.

Module 5 - Slide: 20 | **Speaker Notes:** | *Participant Workbook Page: 69*



Module 5 - Slide: 21 | **Speaker Notes:** | *Participant Workbook Page: 70*

To fill out an IRB form, you must be prepared to detail the following information:

- Investigator(s)
  - Qualifications
  - Training Documentation – CITI training was previously mentioned as a common tool used by institutions. Note that if required by your institution, the training can take approximately 4 hours to complete and MUST be done before submitting paperwork.
- Description of Investigation
  - Purpose and Rationale
  - Participants - Recruitment, Informed Consent, Compensation
  - Methodology and Procedures - Data Collection, Data Analysis
  - Confidentiality/Privacy and Data Security
  - Dissemination Plans

Module 5 - Slide: 21 (continued)

- Timeframe

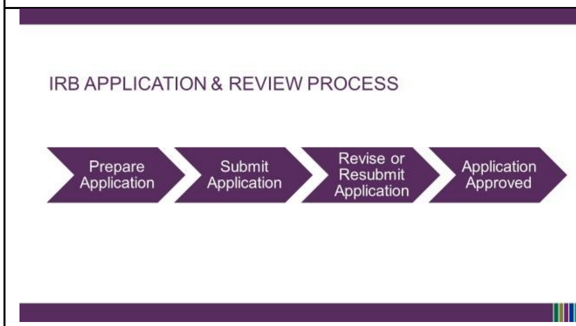
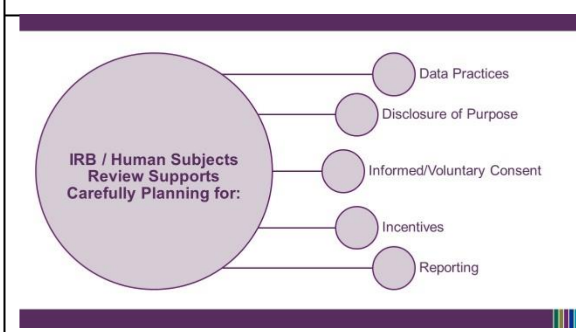
*A clear research question and plans for operationalizing variables are essential to completing the information above."

- Keep Detailed Records to stay organized!
- If/when a local research project is undertaken in collaboration with another institution, researchers must ensure compliance with BOTH institutions' policies. BUT one institution should be designated as the lead-IRB institution and all paperwork will be filed there. If there are multiple institution, prioritize selecting one with a med-school because it likely has the most robust and efficient process and staffing support. Next best option is selecting the partner institution with the most extensive research, and or paid staff. If you don't have any of the above, go with whomever is willing. Ultimately, you are aiming to work with the instution that has the most extensive IRB because having a responsive IRB is incredibly important/beneficial in undertaking research.

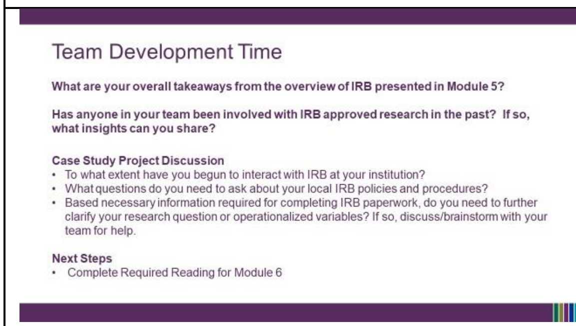
Module 5 - Slide: 22

Speaker Notes: *Participant Workbook Page: 70*

IRB forms can be daunting in length and complexity. Also, reporting is a technical style of writing– be literal and repetitive. Provide the same information in multiple places– as it is used for different purposes.

Module 5 - Slide: 23	**Speaker Notes:**	*Participant Workbook Page: 71*
	IRB is a multi-step process. Where are you at in the process of engaging with IRB? After submitting to IRB, reviewers may ask for revisions and resubmission before approving an application to ensure compliance with Federal and local regulations.	
Module 5 - Slide: 24	**Speaker Notes:**	*Participant Workbook Page: 71*
	IRB review is supports careful planning for data practices, disclosure of purpose, informed/voluntary consent, incentives, and reporting.	

Module 5 - Slide: 25 | **Speaker Notes:** | *Participant Workbook Page: 72*



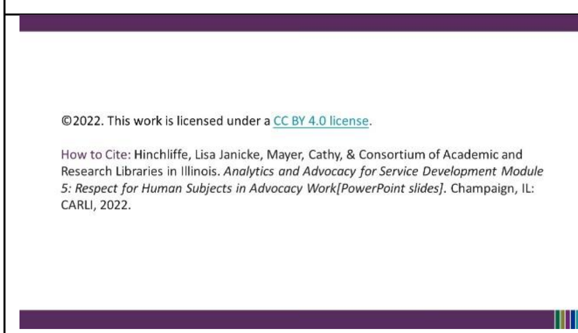
What are your overall takeaways from getting an overview of IRB in Module 5?

Has anyone in your team been involved with IRB approved research in the past? If so, what tips can your share?

Case Study Project Discussion
To what extent have you begun to interact with IRB at your institution?
What questions do you need to ask about your local IRB policies and procedures?
Based necessary information required for completing IRB paperwork, do you need to further clarify your research question or operationalized variables? If so, discuss/brainstorm with your team for help.

Next Steps
Complete Required Reading for Module 6

Module 5 - Slide: 26 | **Speaker Notes:** | *Participant Workbook Page: 72*



Team Development Discussion Questions

- What are your overall takeaways from getting an overview of IRB in Module 4?
- Has anyone in your team been involved with IRB approved research in the past? If so, what tips can your share?
- **Case Study Project Discussion**
    - To what extent have you begun to interact with IRB at your institution?
    - What questions do you need to ask about your local IRB policies and procedures?
    - Based necessary information required for completing IRB paperwork, do you need to further clarify your research question or operationalized variables? If so, discuss/brainstorm with your team for help.
- **Next Steps**
    - Complete Required Reading for Module 6

Module 6: Methods and Participants

Module Overview

Module 6 unpacks details of methods for gathering assessment data including surveys, interviews, focus groups, and observation. Additional hints and considerations will be provided to enable participants to effectively gather data from local case study research participants.

Estimated Length: 90 minutes (60 minute lecture + 30 minute team development time)

Module Learning Outcomes

1. Participants will be able to identify common types of survey questions and the type of data they yielded.
2. Participants will be able to identify similarities and differences in interviews and focus group data methods and the data they yield.
3. Participants will be able to identify the purpose of observational field research and identify the difference between unobtrusive and obtrusive methods.

Module Training Materials

Participant Workbook pages 73-81
AASD – Module 6 – Methods and Participants.PPTX

Flip charts, markers, and post-it notes may be helpful for groups that prefer to brainstorm in a physical medium.

Additional time for "Birds of a Feather" groupings—in which participants are shuffled from their original teams into groups that share a common research focus for the local case study—may be helpful for discussion at this stage.

Required Reading & Task(s)

- Browse the open textbook *Principles of Sociological Inquiry: Qualitative and Quantitative Methods*
    - Read Chapters 8 (surveys), 9 (interviews), 11 (observation), and 12 (focus groups).
- Explore ACRL Project Outcome
- Complete IRB training if required

Sources

Blackstone, Amy, and Amy Blackstone. Principles of Sociological Inquiry: Qualitative and Quantitative Methods. Minneapolis: Open Textbook Library, 2012. https://open.umn.edu/opentextbooks/textbooks/principles-of-sociological-inquiry-qualitative-and-quantitative-methods

About Project Outcome for Academic Libraries." Project Outcome: Measuring the True Impact of Academic Libraries. Association of College and Research Libraries. https://acrl.projectoutcome.org/about.

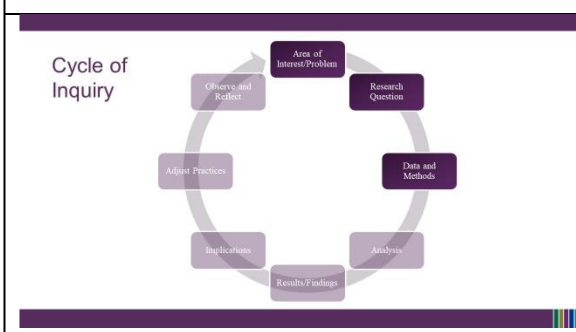
Module 6 - Slide: 1

Speaker Notes: *Participant Workbook Page: 73*

Welcome to Module 6, which takes a deep dive into the methods used to gather data for your research project and the ways your local AASD project may engage participants.

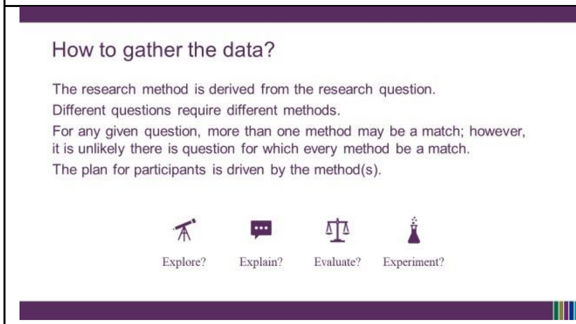
Module 6 - Slide: 2

Speaker Notes: *Participant Workbook Page: 73*



We are still exploring the early stages of the cycle of inquiry.

Module 6 - Slide: 3



Speaker Notes: *Participant Workbook Page: 73*

Reminder/refresher: The research method used in your local case study project will be derived from your research question.

It's likely that more than one question could work, but local context should inform or constrain the method that best suits the research you undertake.

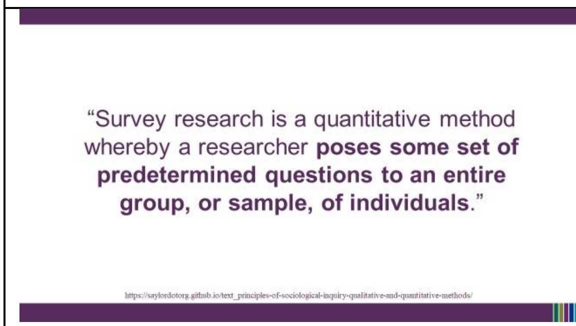
Module 6 - Slide: 4

Speaker Notes: *Participant Workbook Page 73:*

These are the 4 most common methods utilized in LIS research. There is a heavy reliance on surveys and other methods are used to a lesser degree.

As a researcher, try not to simply default to selecting a survey but broadly consider how each method could be beneficial or might even be paired to give greater depth and impact to your research.

Module 6 - Slide: 5



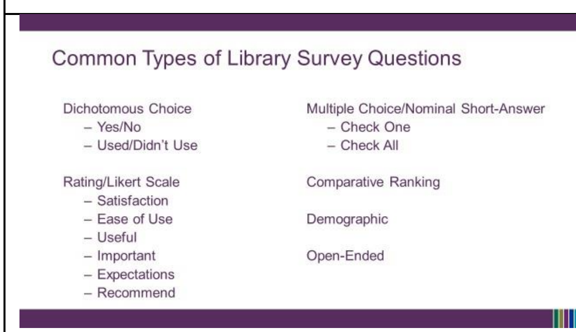
Speaker Notes: *Participant Workbook Page: 73*

"Survey research is a quantitative method whereby a researcher **poses some set of predetermined questions to an entire group, or sample, of individuals**."

Surveys with open ended questions also gather qualitative data as well.

Survey questions are set in advance and cannot be adjusted. There may be survey logic in which an answer to one question determines the next prompt or question shown to a survey respondent, but the path of the survey is predetermined by researchers. Thus, there is nothing that allows for probing responses provided.

Module 6 - Slide: 6



Speaker Notes: *Participant Workbook Page: 74*

There are many kinds of survey questions that are supported to varying levels by different survey platforms (Google forms, Microsoft Forms, Qualtrics, Survey Monkey, etc.). Some products require subscriptions to access robust features.

Different Types of Questions

Dichotomous Choice – Guides people through a survey, based on answers given (i.e., survey logic). Examples include:

Yes/No

Used/Didn't Use

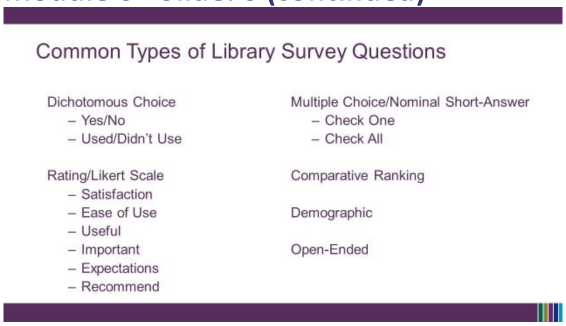
Rating/Likert Scale– collects respondents' attitudes and opinions in a scale comprised of multiple items measuring the same focal variable in a reliable and valid manner. Examples include:

Satisfaction

Ease of Use

Useful

Module 6 - Slide: 6 (continued)



Important
Expectations
Recommend

*Note: The representation of the middle point of a Likert scale is important because it can serve two different purposes. First, it could be a neutral response, or it could be a mid-point in increasing levels of satisfaction or emotion.

Multiple Choice– typically allows respondents to check one or check all, setting another number in between can be difficult for survey respondents to analyze.

Nominal Short-Answer- creates complexity in a survey
Check One
Check All

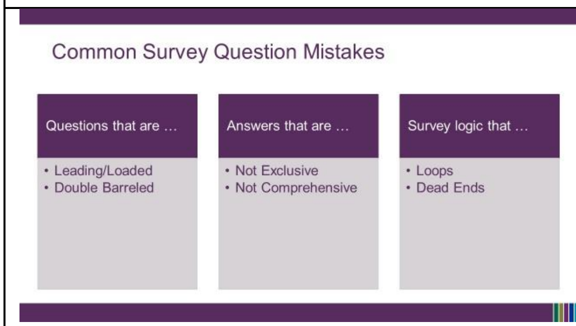
Comparative Ranking- Give people a set of things and ask for a priority order; these types of questions are more difficult for respondents to analyze. It's also difficult for researchers to analyze because we don't know the order of importance or level of importance given to items comparatively ranked.

Demographic- Information about respondents (e.g., race, age, income, etc.), only gather what's necessary/relevant to a research question

Open-Ended- Allows respondents to fill-in-the-blank. Also consider whether questions are required, can be skipped, or if they can indicate "does not apply" or "do not know" because we don't want to solicit an inaccurate answer based on the framing of a question

Module 6 - Slide: 7

Speaker Notes: *Participant Workbook Page: 74*



There are a couple categories of common survey mistakes to be aware of and avoid.

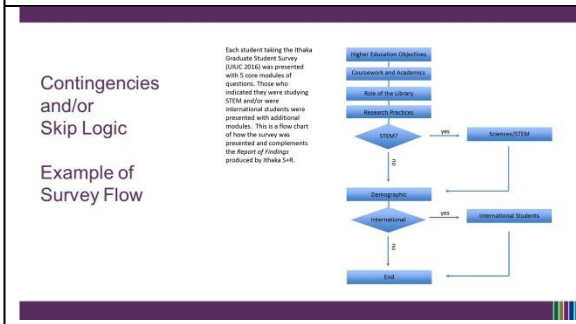
Questions that are…
Leading/Loaded: Respondents' can intuit a desired answer to a question and may want to give the perceived "right" answer (Example: Don't you agree that the library is important to you?)

Double Barreled: Questions that ask about 2 things in the question. (Example: Was this easy to use and helpful to you?)

Answers that are…
Not Exclusive: When allowing respondents to choose, answers need to be exclusive (e.g., ages: 20-29, 31-39, 40-49)
Not Comprehensive: Not covering all possible respondents (e.g., 18-24, 25-30, 31-36, 37-45 and then a respondent is 50 but there is no option for selecting their age)

Survey logic that…
Loops: People answer a question, but it sends them to a prior point and respondents can't break out of a loop
Dead Ends: Respondents' lack a path in response to an answer or they get to a question that can't answer. Rather than acting inaccurately, people will often just stop taking the survey since they can't or won't respond in the way they want to; consider NOT requiring all questions so people can skip if they don't want to answer or give an option of "no opinion" or "prefer not to answer"

Module 6 - Slide: 8 | **Speaker Notes:** | *Participant Workbook Page: 75*



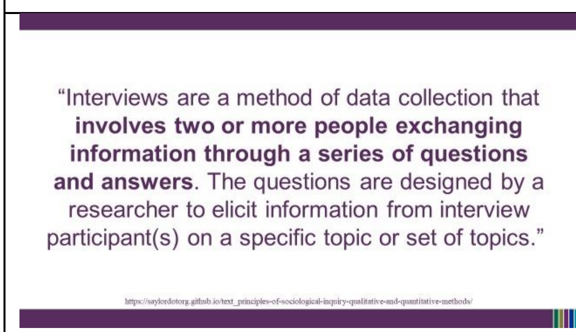
This is an example of skip logic in a survey.

In this survey, you can see an example of skip logic if/when student affirmed that they were part of a STEM area of study, they were directed to additional relevant questions before continuing to demographic questions.

The final demographics question asked if students identified as an international student. Those who answered “yes” were directed to additional relevant questions for this population before the survey ended.

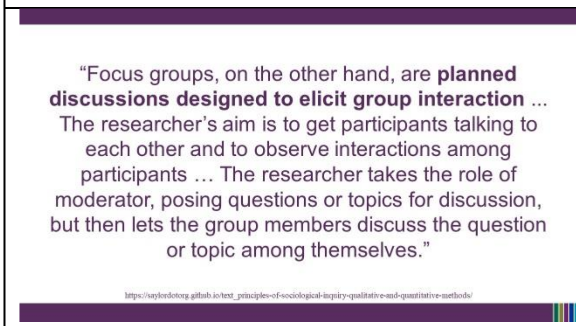
For students to answered “no” to each of these questions (STEM and international), they automatically skipped to the end of the survey.

Module 6 - Slide: 9 | **Speaker Notes:** | *Participant Workbook Page: 76*

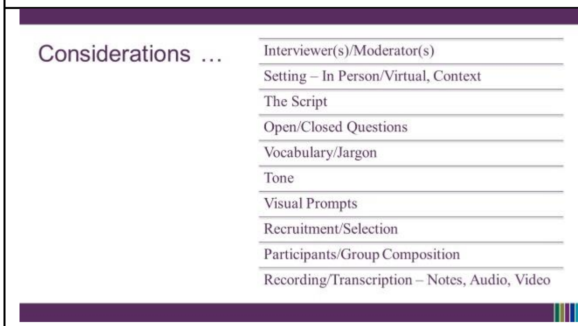


“Interviews are a method of data collection that **involves two or more people exchanging information through a series of questions and answers**. The questions are designed by a researcher to elicit information from interview participant(s) on a specific topic or set of topics.”

Qualitative method of research. Interviews are typically 1:1. Topics can be highly structured, or topics can be semi-structured, but there can also be anticipated pre-planned probing questions as well as introduce questions that probe in response to something an interviewee shares.

Module 6 - Slide: 10	Speaker Notes:	*Participant Workbook Page: 76*
 	"Focus groups, on the other hand, are **planned discussions designed to elicit group interaction** ... The researcher's aim is to get participants talking to each other and to observe interactions among participants … The researcher takes the role of moderator, posing questions or topics for discussion, but then lets the group members discuss the question or topic among themselves." Focus groups is a qualitative research method in which a moderator orchestrates the collective experience of conversation and dialog among a group. Ideally, the facilitator is not always the person asking questions and seeking answers, but rather observes the group by taking note of individual responses and interactions and reactions among participants. Thus, looking for: 1) individual answers and 2) group process. Skilled moderators seemingly disappear from dialog whereas interviewers remain highly engaged. The deciding factor with interviews and focus groups is determining if the research question benefits from people talking directly to you or to each other about the question/topic. Interviews can be time consuming but focus groups can be difficult to arrange because everyone must show up on time.	

Module 6 - Slide: 11



Speaker Notes: *Participant Workbook Page: 76*

Considerations for this methodology…

Interviewers/Moderators – How many? No more than 2 interviewers. Focus groups may be able to have 2-3, but more can get awkward. Clearly delineating roles when multiple interviewers/moderators are present is vital to avoid confusion.

Setting – In-person or virtual. For in-person, what is the context, where are you asking attendees to come? How might the place influence attendees state of mind?

Script— Have an outline or agenda that you will follow. More details on this in the next slide.

Open/Closed Questions—Most questions will be open-ended, though a few closed-end questions can help confirm you are hearing/understanding participants correctly.

Vocabulary— Be mindful of any jargon you might be using and make sure there are definitions or explanations available within your script.

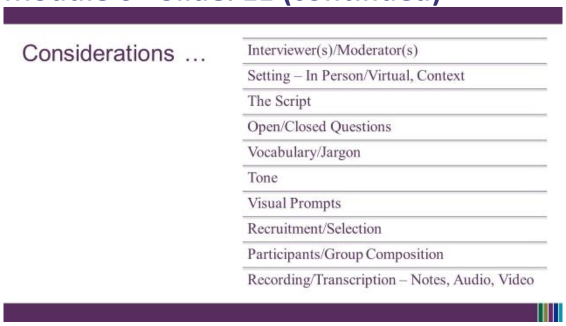
Tone— Will your tone be formal or informal/relaxed tone? The presence of food and type of food can set a type of ethos (coffee in ceramic cups versus paper cups)

Visual Prompts— Determine if/how visual prompts are helpful/beneficial.

Recruitment/Selection – Determine how to recruit and select participants.

Participants/Group Composition– Think carefully about the composition of the collective group. How might the members of the group affect a power dynamic?

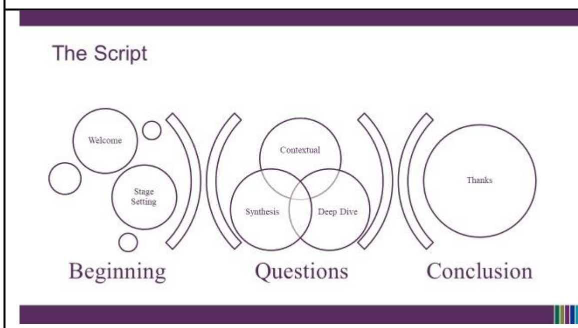
Module 6 - Slide: 11 (continued)



Recording/Transcription– Notes, Audio, Video, etc., this time will pass quickly, how will you create a record of the event? If doing a transcription, will it include words only or also reflect/capture non-verbals?

Module 6 - Slide: 12

Speaker Notes: *Participant Workbook Page: 77*



For interviews and focus groups, a well-developed script is essential. It has 3 parts:

Beginning – welcome and set the stage– establishing the purpose and parameters/agenda of the interaction.
Focus groups– Researcher can assert that they will keep responses confidential and ask that others do so, but you cannot compel confidentiality.
Interviews- Researcher can assert confidentiality.

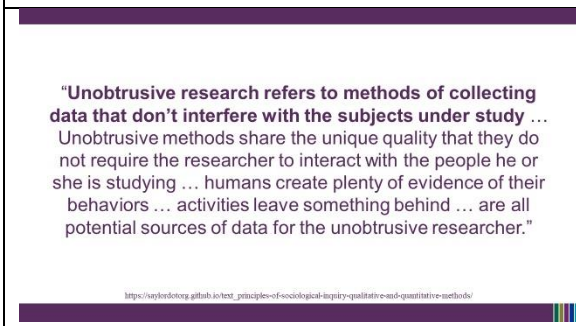
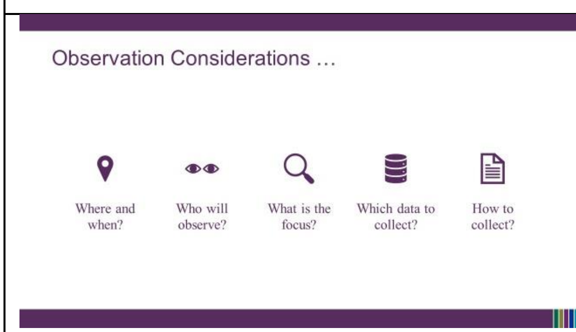
Questions– Contextual questions set the stage and get the interviewee/focus group talking. The goal is to establish comfort. Next are deep-dive questions that focus in on the research question. This segment will also likely include follow-up probes. The goal is to get the participant talking. Do everything you can to avoid instruction, explanation, and advising participants. You can share information after the interview– but don't insert anything amid the data gathering.
Indicate that questions are ending.

Conclusion offer thanks and dismissal so that participants know when the interview or focus group is over. At the end, after concluding the research event, you can offer more information if the attendee would like to stay for a moment to learn more. Never demand someone sit and listen to you.

<table>
<tr><th>Module 6 - Slide: 13</th><th>Speaker Notes:</th><th>Participant Workbook Page: 77</th></tr>
<tr><td>
</td><td colspan="2">In summary, there are similarities between interviews and focus groups, but the key difference in selecting one or the other is considering if you want to converse 1:1 (interview) or hear people conversing with each other (focus group).</td></tr>
<tr><th>Module 6 - Slide: 14</th><th>Speaker Notes:</th><th>Participant Workbook Page: 78</th></tr>
<tr><td>
</td><td colspan="2">“Field research is a qualitative method of data collection aimed at understanding, observing, and interacting with people in their natural settings.”

Natural setting = where people are already. Anecdotal observations such as, “Those chairs seem to get moved every day,” might turn into field research in which a library observes/records how students move the furniture in the evening.

This is the process of observing what people are doing rather than asking them. Obtrusive observation occurs when people realize they are being observed and their behavior may be modified as a result. The key is unobtrusive observation in order to keep from interfering with subjects being studied. Unobtrusive observation must be done ethically.
Examples: Gate counts and Library circulation data are unobtrusive observation data.</td></tr>
</table>

<table>
<tr><td>Module 6 - Slide: 15</td><td>Speaker Notes:</td><td>Participant Workbook Page: 78</td></tr>
<tr><td>
</td><td colspan="2">Unobtrusive research refers to methods of collecting data that don’t interfere with the subjects under study … Unobtrusive methods share the unique quality that they do not require the researcher to interact with the people he or she is studying … humans create plenty of evidence of their behaviors … activities leave something behind … are all potential sources of data for the unobtrusive researcher.”</td></tr>
<tr><td>Module 6 - Slide: 16</td><td>Speaker Notes:</td><td>Participant Workbook Page: 78</td></tr>
<tr><td>
</td><td colspan="2">When conducting observations, be sure to consider:

Where and when will observations be done? Consider how timing and place of observation impacts consistency of data.

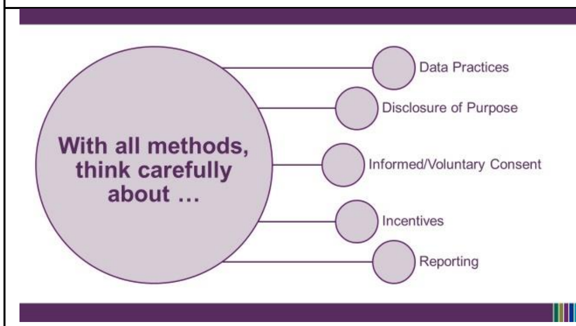
Who will observe? Consider if one person or multiple people will observe and what kind of training might be needed to ensure consistency of data.

What is the focus of the observation? There could be A LOT of information happening in an observation scenario/period, but the research question should guide the focus of observation and data collection.

Which data are you collecting? Defining precisely is key.

How will the data be collected? Will there be a checklist, form, rubric, or notes?</td></tr>
</table>

Module 6 - Slide: 17



Speaker Notes: *Participant Workbook Page: 79*

With all these methods of research, it's important carefully consider and articulate decisions involving data practices, disclosure of purpose, informed/voluntary consent, incentives, and reporting.

Data practices: Understand how data is being gathered/protected.

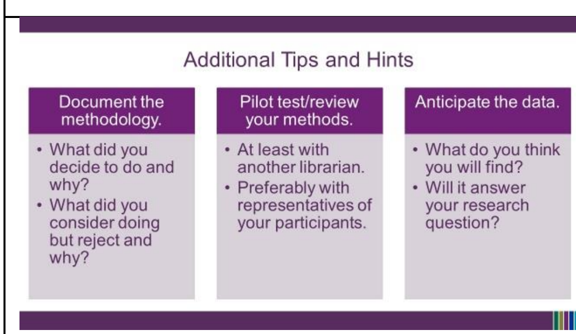
Disclosure of purpose: In plain language, high level statement of what we're seeking to understand.

Informed/voluntary consent: Could be a signed document or could be a waiver of informed consent– check box, someone stayed in the room for a discussion/interview

Incentives: Many participants are offered entry into a drawing for some sort of reward. Ultimately, be careful not to conflict with consent and someone feeling compelled to participate rather than doing so voluntarily.

Reporting: Will pseudonyms be used to protect confidentiality?

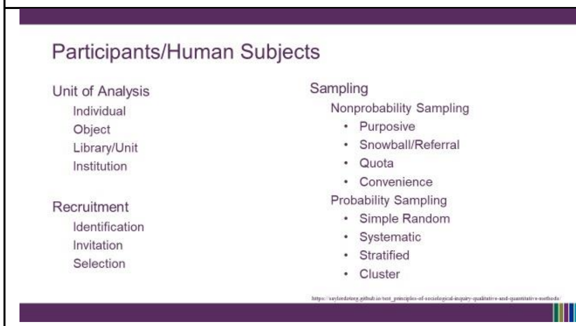
Module 6 - Slide: 18



Speaker Notes: *Participant Workbook Page: 79*

Document the methodology. Note the decision made and why it was made. What else did you consider and reject?
Conduct pilot tests and review your methods. At a minimum with another librarian, but ideally with representative participants.
Anticipate data. Identify what you think you'll find and determine if it will actually answer your research question.
All of this may help prompt useful revisions!

Module 6 - Slide: 19	**Speaker Notes:**	*Participant Workbook Page: 79-80*



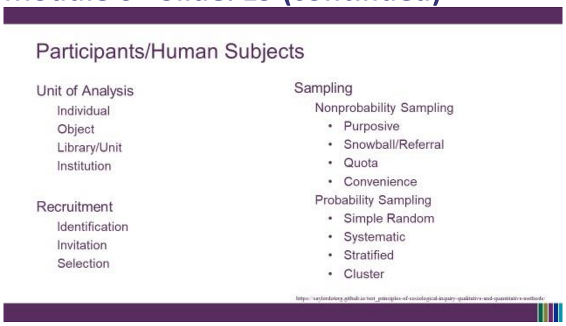
Your research will have some sort of unit of analysis– which is the entity being analyzed in your study, this is what you're going to say something about.
In human subjects research, your unit of analysis could be library users, students, faculty, etc. Alternatively, your unity of analysis could be an object– like the website or an online tutorial or an organization– like a library, a departmental unit or an institution.

Recruitment
How will you identify, invite, and select participants? For objects being analyzed, identification and selection are the only concerns. For human subjects, considering how to identify, invite, and select typically involves one of 2 types of sampling.

Sampling
Probability sampling refers to sampling techniques for which a person's (or event's) likelihood of being selected for membership in the sample is known … which means the population is known.

Nonprobability sampling refers to sampling techniques for which a person's (or event's or researcher's focus's) likelihood of being selected for membership in the sample is unknown. Because we don't know the likelihood of selection, we don't know with nonprobability samples whether a sample represents a larger population or not. But that's OK, because representing the population is not the goal with nonprobability samples. That said, the fact that nonprobability samples do not represent a larger population does not mean that they are drawn arbitrarily or without any specific purpose in mind. Nonprobability sampling is what's likely to be used for AASD projects.

Module 6 - Slide: 19 (continued)



Four types of nonprobability sampling:

Purposive: Seeking to hear from certain kinds of people and purposely seeking them out.

Snowball/Referral: Soliciting recommendations for more people to talk with from people already in the sample

Quota: Setting a particular number of participants from several categories. Data gathering isn't complete until quotas are met.

Convenience: Convenience sampling involves whoever is conveniently accessible– in the library building, subscribed to a listserv and clicked on survey link
The type of sampling affects the claims that can be made from the research data collected.

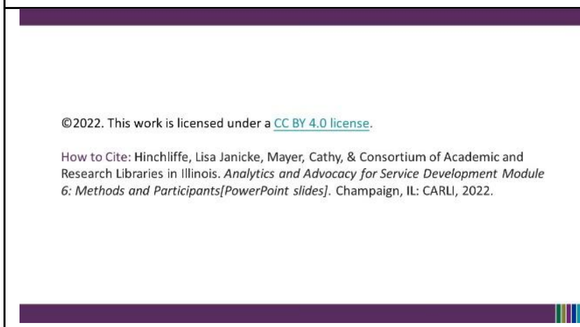
Module 6 - Slide: 20

Speaker Notes: *Participant Workbook Page: 81*

What, in Module 6, engaged or surprised you?

Local Case Study Discussion
What type of method(s) are you developing for your local case study project?

Next Steps:
Develop Finalized Assessment Methods/Tools
Apply for IRB Approval

Module 6 - Slide: 21	**Speaker Notes:**	*Participant Workbook Page: 81*
		

Team Development Discussion Questions

- **What, in Module 6, engaged or surprised you?**
- **Case Study Project Discussion**
  - What type of method(s) are you developing for your local case study project?
- **Next Steps**
  - Develop Finalized Assessment Methods/Tools
  - Apply for IRB Approval

Module 7: Data Analysis and Data Narratives

Module Overview

Module 7 concludes content that is applicable to participants local case study project and completes the cycle of inquiry. The session begins by introducing steps required for dealing with including: cleaning, coding, describing, and analyzing. Participants consider the possible findings they might discover, how to evaluate the findings, and anticipate a plan for how to respond. Since the AASD program is predicated on a push for advocacy the session will conclude by exploring how to craft a narrative about the data and findings.

Estimated Length: 90 minutes (45 minute lecture + 45 minute team development time)

Module Learning Outcomes

1. Participants will be able to define what is required in each of the data processing steps: clean, code, describe, and analyze.
2. Participants will understand how data analysis is structured in professional literature.
3. Participants will understand how research findings can shape implications for local library practices and support broader professional research.
4. Participants will recognize the importance of communicating findings and their implications to effectively advocate for the library.

Module Training Materials

Participant Workbook pages 82-90
AASD – Module 7 – Data Analysis and Data Narratives.PPT

Flip charts, markers, and post-it notes may be helpful for groups that prefer to brainstorm in a physical medium.

Additional time for "Birds of a Feather" groupings—in which participants are shuffled from their original teams into groups that share a common research focus for the local case study—may be helpful for discussion at this stage.

Required Reading

- McDowell, Kate. (2021, October 19). *Storytelling as information part 1: The S-DIKW framework*. Information Matters. Vol.1, Issue 10. https://r7q.22f.myftpupload.com/2021/10/storytelling-as-information-part-1-the-s-dikw-framework/
- McDowell, Kate. (2021, October 19). *Storytelling as information part 2: Future S-DIKW research*. Information Matters. Vol.1, Issue 10. https://r7q.22f.myftpupload.com/2021/10/storytelling-as-information-part-2-future-s-dikw-research/

Recommended Resources

- Storytelling Articles and Video Lectures from University of Illinois Associate Professor Kate McDowell: https://www.katemcdowell.com/

Sources

Fenton Communications. *Now Hear This: The Nine Laws of Successful Advocacy Communications*. New York, NY: Fenton Communications, 2009.

Framing in Race-Conscious, Antipoverty Advocacy: A Science-Based Guide to Delivering Your Most Persuasive Message. *https://www.law.berkeley.edu/files/thcsj/Framing_in_RaceConsciousAntipoverty_Advocacy.pdf* *(pp. 418-421)*

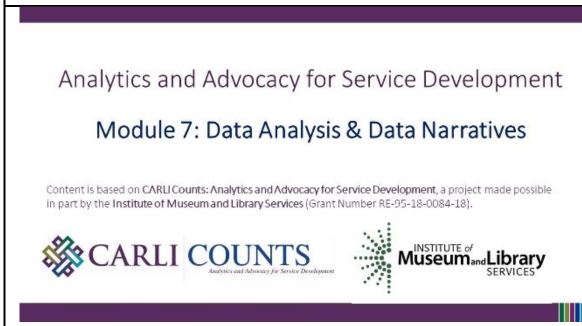
"Lobbying Versus Advocacy: Legal Definitions." Internet Archive: Wayback Machine. NP Action, June 1, 2006. Lobbying Versus Advocacy: Legal Definitions.

McDowell, Kate. (2021, October 19). *Storytelling as information part 1: The S-DIKW framework*. Information Matters. Vol.1, Issue 10. https://r7q.22f.myftpupload.com/2021/10/storytelling-as-information-part-1-the-s-dikw-framework/

McDowell, Kate. (2021, October 19). *Storytelling as information part 2: Future S-DIKW research*. Information Matters. Vol.1, Issue 10. https://r7q.22f.myftpupload.com/2021/10/storytelling-as-information-part-2-future-s-dikw-research/

Module 7 - Slide: 1

Speaker Notes: *Participant Workbook Page: 82*

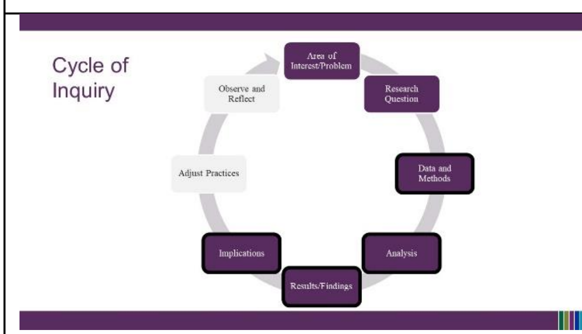


Welcome to Module 7!

This is the final module in which we are focused on content related to your local case study project. This lesson unpacks the process of analyzing data to deliver findings. We'll conclude by considering how your data can make an impact by communicating findings.

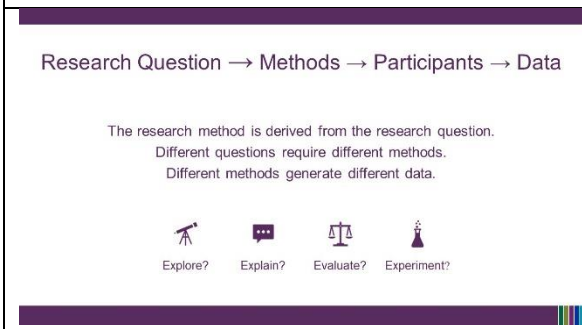
Module 7 - Slide: 2

Speaker Notes: *Participant Workbook Page: 82*



The process of analyzing and reporting data moves us nearly to the completion of the cycle of inquiry.

Module 7 - Slide: 3

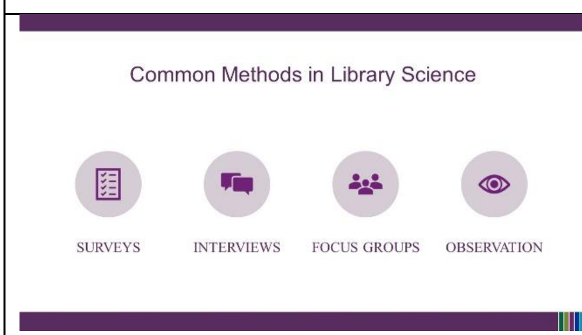


Speaker Notes: *Participant Workbook Page: 82*

To contextualize the discussion of data, remember that the information available has been generated by a thoughtful, time-intensive process.

Depending on the kind of question you choose to explore in your local case study project, the data and analysis required may look VERY different from others on your team.

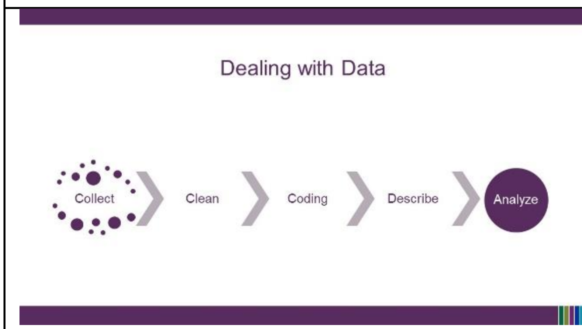
Module 7 - Slide: 4



Speaker Notes: *Participant Workbook Page: 82*

Each member of your team likely used one of these four data gathering methods– possibly even multiple methods! Your data may be quantitative, qualitative, or both.

Module 7 - Slide: 5	Speaker Notes:	*Participant Workbook Page: 82-83*



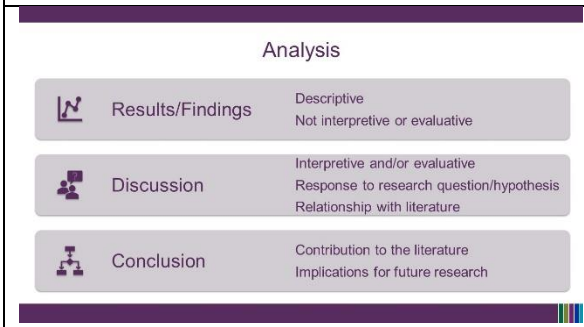
Once you have collected data, there is a process to follow before it can be analyzed. This process is likely to be iterative!

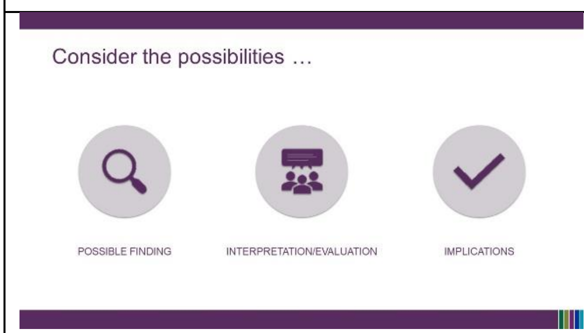
1. Clean – the process of fixing or removing incorrect, corrupted, duplicate, or incomplete data within a dataset. For example, checking a transcript to ensure transcription is accurate. With surveys, a decision must be made to include or exclude partial responses.

2. Code – creating or assigning codes to categorize data. Quantitative data is typically coded while collected. Qualitative data requires high-level thematic groupings or descriptions

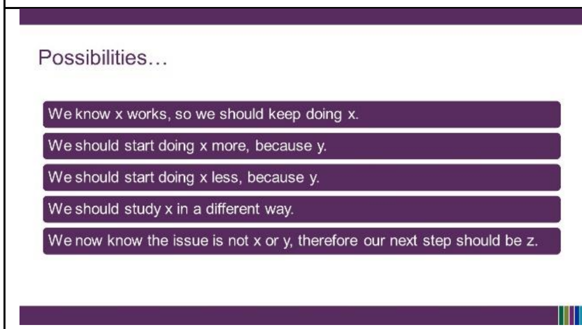
3. Describe – allows for understanding data collected. Quantitative data will involve descriptive statistics. Qualitative data lists themes/observations.

4. Analyze- looking for meaning and interpreting data to see what evidence shows. Is a hypothesis supported? Does the data reveal anything unexpected or surprising?

Module 7 - Slide: 6	Speaker Notes:	*Participant Workbook Page: 83*
 	Journal articles have a structure in which analysis is undertaken that could be useful for your AASD research project. Results are findings of the study or research. This section is factual and reports what was found. Discussion interprets or evaluates findings, providing a response to a research question or hypothesis. It might also discuss limitations of the research and places results within the context of what's already known (i.e., existing research discussed in a literature review). Conclusion makes the final claim about what is being introduced through this research. It might also suggest implications for future research.	

Module 7 - Slide: 7	Speaker Notes:	*Participant Workbook Page: 83*
 	Take a moment to reflect on the possible findings for your project. What can you predict finding? How would you evaluate and interpret such a finding? What should the implications be for such a finding?	

Module 7 - Slide: 8



Speaker Notes: *Participant Workbook Page: 84*

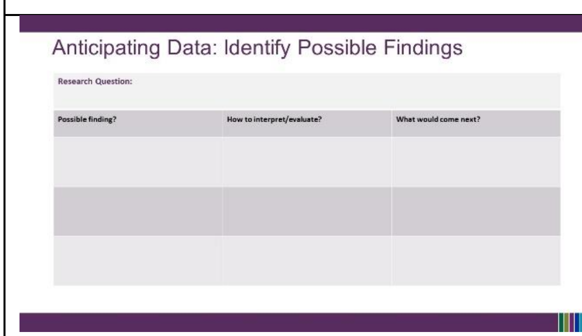
Based on the data gathered in your research, these are the primary options for what you might decide.

We know x works, so we should keep doing x.
We should start doing x more, because y.
We should start doing x less, because y.
We should study x in a different way
We now know the issue is not x or y, therefore our next step should be z.

Where are you going to land?

Each of these options are helpful to inform the knowledge and learning in our community. All of these options are reportable findings within scholarly literature! In fact, there is a push in scholarly literature to share research methods and findings that were inconclusive to help other researchers avoid repeating the same unhelpful processes.

Module 7 - Slide: 9



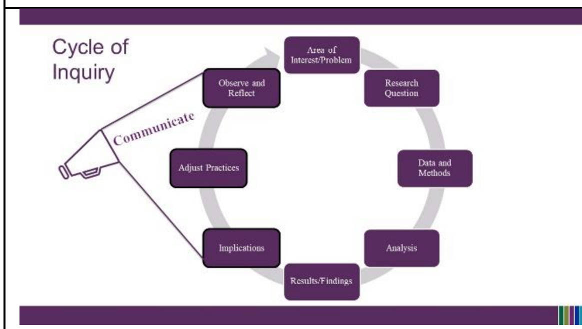
Speaker Notes: *Participant Workbook Page: 84*

This template provides a structure for articulating the possible findings you might encounter in your local case study project.

Spend 5-7 minutes listing possible findings, how you might interpret and evaluate the data that supports that finding and what might come next.

Will you alter practices, policies, procedures, communicate results?

Module 7 - Slide: 10 | **Speaker Notes:** | *Participant Workbook Page: 85*



Once your results/findings are available, you enter the final stages of the Cycle of Inquiry: Adjusting practices, followed by observation of and reflection on any changes.

To help ensure that these final steps are meaningfully embraced, it’s important to foster a narrative gives meaning to your data.

Module 7 - Slide: 11 | **Speaker Notes:** | *Participant Workbook Page: 85*

Source: “Lobbying Versus Advocacy: Legal Definitions.” Internet Archive: Wayback Machine. NP Action, June 1, 2006. Lobbying Versus Advocacy: Legal Definitions.

As you anticipate communicating the implications, adjusted practices, and observations/reflections on your local case study project– keep in mind the original goal for undertaking this entire project: Advocacy!

Advocacy (Definition): Any activity that a person or organization undertakes to influence policy.

Much of the policy libraries seek to influence is financial policy. We want libraries to be fully funded to meet our mission.
We need to be able to articulate the story of what we can do with increased funding as well.

<table>
<tr><td>Module 7 - Slide: 12</td><td>Speaker Notes:</td><td>Participant Workbook Page: 85</td></tr>
<tr><td>


</td><td colspan="2">
To be an effective advocate requires thoughtful strategies for sharing your findings!

As succinctly stated in The Nine Laws of Successful Advocacy Communications, "Good communication cuts through the clutter, it doesn't add to it. It does this by getting the right message, in the right medium, delivered by the right messengers, to the right audience."

From Now Hear This: The Nine Laws of Successful Advocacy Communications
Fenton Communications, 2009
</td></tr>
<tr><td>Module 7 - Slide: 13</td><td>Speaker Notes:</td><td>Participant Workbook Page: 85-86</td></tr>
<tr><td>


</td><td colspan="2">
In advocacy work, we are seeking to influence a person or organization by making a case for what we believe in, but belief is not enough.

We must work to…
inspire others to take action, too
understand those who may oppose our desired change
To accomplish this work…
We need a full toolkit to get the right messages to the right audiences
We need to recruit others to our effort
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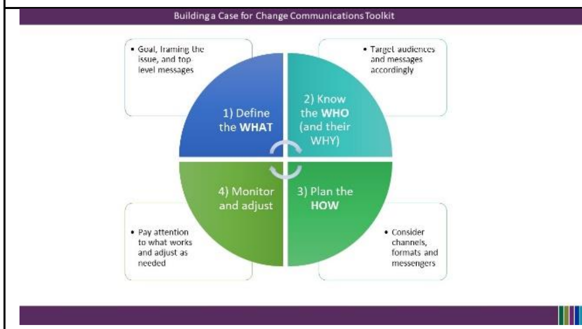
Module 7 - Slide: 14

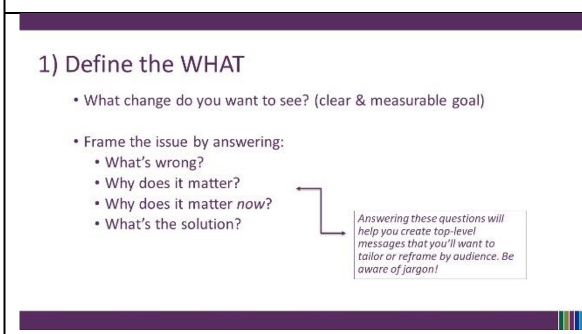
Speaker Notes: *Participant Workbook Page: 86*



We’re going break down the process of building and making a case for change into four steps, as represented by the quadrants in the graphic on this slide.

Module 7 - Slide: 15

Speaker Notes: *Participant Workbook Page: 86*

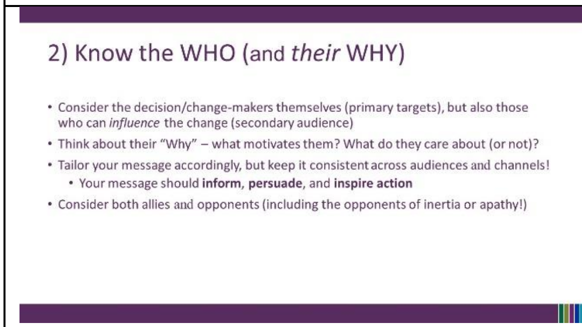


Define the What:

- What change do you want to see? (clear & measurable goal)

- Frame the issue by answering questions that help you create top-level messages that can be tailored or reframed based on your audience. BUT, beware of jargon:
  - What’s wrong?
  - Why does it matter?
  - Why does it matter *now*?
  - What’s the solution?

Module 7 - Slide: 16

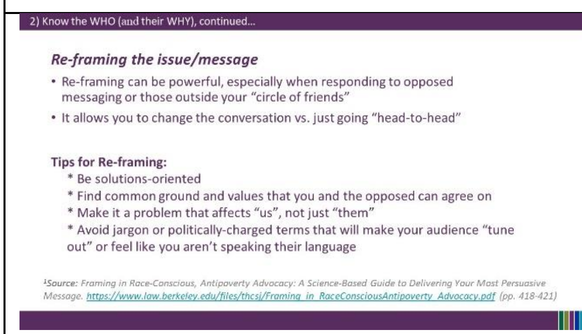


Speaker Notes: *Participant Workbook Page: 87*

Know the Who and their WHY

- Consider the decision/change-makers themselves (primary targets), but also those who can *influence* the change (secondary audience)
- Think about their "Why" – what motivates them? What do they care about (or not)?
- Tailor your message accordingly but keep it consistent across audiences and channels!
    - Your message should **inform**, **persuade**, and **inspire action**
- Consider both allies and opponents (including the opponents of inertia or apathy!)

Module 7 - Slide: 17



Speaker Notes: *Participant Workbook Page: 87*

Re-framing the issue/message

- Re-framing can be powerful, especially when responding to opposed messaging or those outside your "circle of friends"
- It allows you to change the conversation vs. just going "head-to-head"

Tips for Re-framing:

- * Be solutions-oriented
- * Find common ground and values that you and the opposed can agree on
- * Make it a problem that affects "us", not just "them"
- * Avoid jargon or politically-charged terms that will make your audience "tune out" or feel like you aren't speaking their language

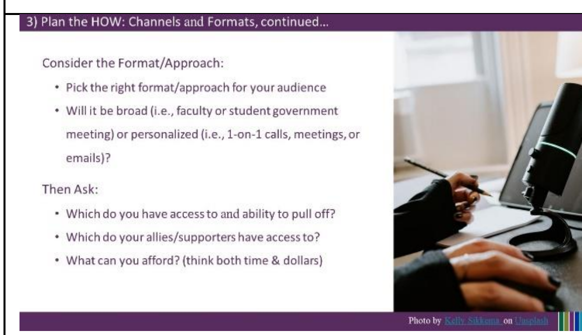
Module 7 - Slide: 18	Speaker Notes:	*Participant Workbook Page: 88*

Consider the Channel:

- Go where your audience is already engaged and listening

- Channel Examples:
    - Social media
    - Signage
    - Campus or professional listservs
    - Conferences
    - Campus newspapers, newsletters or alumni publications
    - Periodicals

Module 7 - Slide: 19	Speaker Notes:	*Participant Workbook Page: 88*



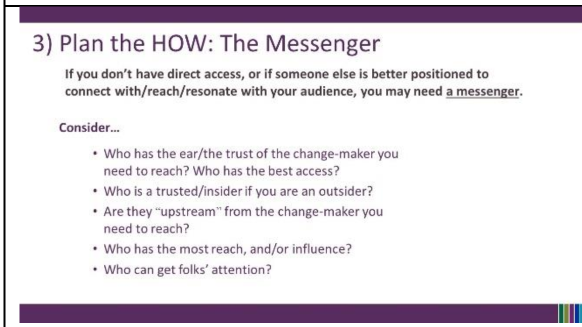
Consider the Format/Approach:

- Pick the right format/approach for your audience
- Will it be broad (i.e., faculty or student government meeting) or personalized (i.e., 1-on-1 calls, meetings, or emails)?

Then Ask:

- Which do you have access to and ability to pull off?
- Which do your allies/supporters have access to?
- What can you afford? (think both time & dollars)

Module 7 - Slide: 20



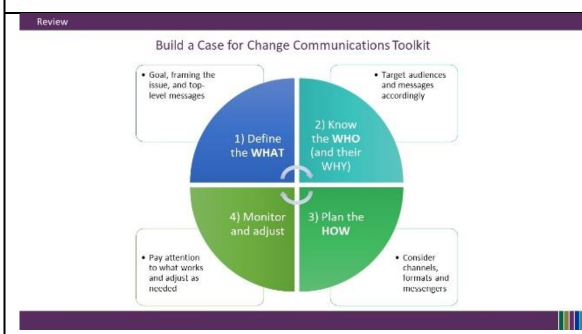
Speaker Notes: *Participant Workbook Page: 88*

If you don't have direct access, or if someone else is better positioned to connect with/reach/resonate with your audience, you may need a messenger.

Consider…

- Who has the ear/the trust of the change-maker you need to reach? Who has the best access?
- Who is a trusted/insider if you are an outsider?
- Are they "upstream" from the change-maker you need to reach?
- Who has the most reach, and/or influence?
- Who can get folks' attention?

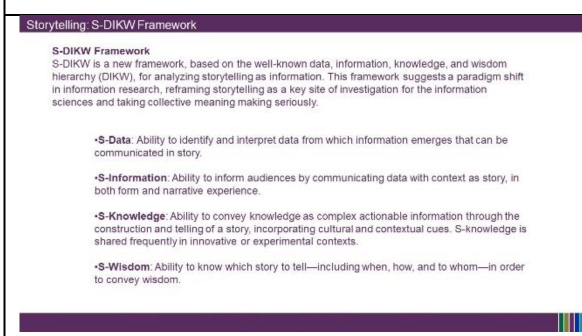
Module 7 - Slide: 21

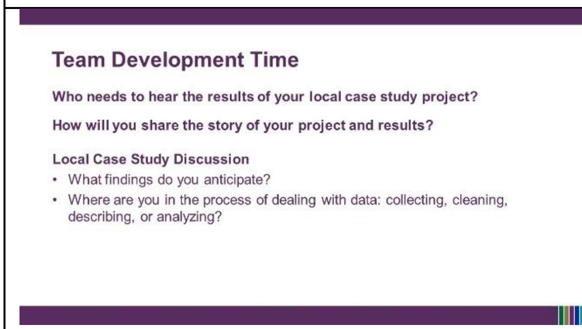


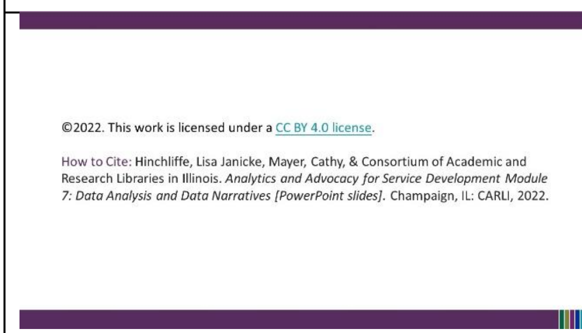
Speaker Notes: *Participant Workbook Page: 89*

Finally, be prepared to monitor and adjust your strategies and plans in order to conduct effective advocacy.

This process, like many others in the AASD curriculum is iterative.

Module 7 - Slide: 22	Speaker Notes:	*Participant Workbook Page: 89*
	“Storytelling polishes stories like editing polishes essays, with the audience serving as editor.” *- Kate McDowell, Storytelling as Information (Part 1)*	
Module 7 - Slide: 23	**Speaker Notes:**	*Participant Workbook Page: 89*
	In preparation for today, you were required to read two articles by University of Illinois iSchool Professor Kate McDowell in which she outlined a new framework for analyzing storytelling as information. McDowell’s theory provides theoretical support to our intuitive drive to create and connect with stories. Consider how storytelling and the S-DIKW framework can enable to you effectively reveal the data narrative of the findings in your local case study project!	

<table>
<tr><td>Module 7 - Slide: 24</td><td>Speaker Notes:</td><td>Participant Workbook Page: 90</td></tr>
<tr><td>
</td><td colspan="2">What aspects of the final stages of inquiry do you find to be the most challenging? Why?

Local Case Study Discussion
Where are you at in dealing with data: collecting, cleaning, describing, or analyzing?
How do you anticipate using principles of storytelling to communicate findings, implications, or adjustments to local practices?</td></tr>
<tr><td>Module 7 - Slide: 25</td><td>Speaker Notes:</td><td>Participant Workbook Page: 90</td></tr>
<tr><td>
</td><td colspan="2"></td></tr>
</table>

Team Development Discussion Questions

- **What aspects of the final stages of inquiry do you find to be the most challenging? Why?**

Local Case Study Discussion

- Where are you at in dealing with data: collecting, cleaning, describing, or analyzing?
- How do you anticipate using principles of storytelling to communicate findings, implications, or adjustments to local practices?

Module 8: Community Communication

Module Overview

Module 8 concludes the AASD curriculum by reflecting on what the participants have learned while working within a team as a community of practice.

Estimated Length: 90 minutes (20 minute lecture + 70 minute team development time)

Module Learning Outcomes

1. Participants will reflect on and identify the impact of collaborating with colleagues to form a community of practice.
2. Participants will create a poster that serves as a visual reflection on their AASD experience.
3. Participants will prepare to present the insights reflected on their poster as part of a forthcoming professional development event (in-person or virtual) as designated by facilitators.

Module Training Materials

Participant Workbook pages 91-93
AASD – Module 8 – Community Communication.PPTX
AASD Poster Template. PPTX (Optional PPT Poster Template)

Flip charts, markers, and post-it notes may be helpful for groups that prefer to brainstorm in a physical medium.

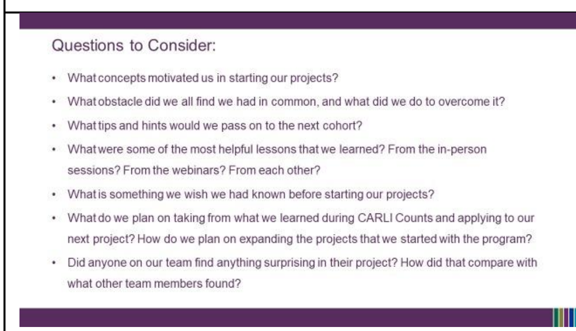
Module 8 - Slide: 1	Speaker Notes:	*Participant Workbook Page: 91*
	Welcome to module 8, the final session of AASD! In this session, your team will reflect on what you have learned as a community of practice over the duration of this experience expanding your understanding of assessment and conducting individual case study research projects.	
Module 8 - Slide: 2	**Speaker Notes:**	*Participant Workbook Page: 91*
	The product of this session will be a team poster. The purpose of the posters will be to: • Serve as a visual reflection on your time in Analytics and Advocacy for Service Development • Be shared at either a final AASD Cohort session and/or with broader supporting community as a professional development opportunity	

Module 8 - Slide: 3 | **Speaker Notes:** | *Participant Workbook Page: 91*

The visual representation of your team work may reflect a number of possible ideas, including (but not limited to)…

- Motivations
- Obstacles
- Advice, Tips and Hints
- Key Lesson Learned
- Wish We Had Known
- What Comes Next
- Surprises

Module 8 - Slide: 4 | **Speaker Notes:** | *Participant Workbook Page: 91*



As your team considers what you want your poster to address, consider these questions to guide your discussion.

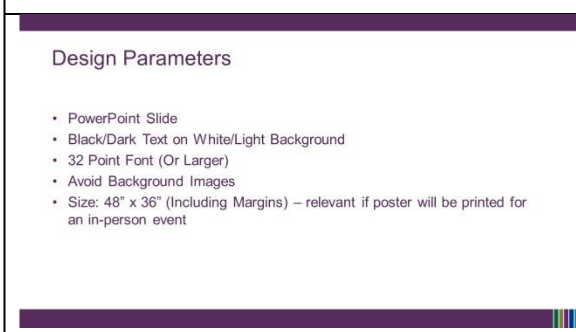
- What concepts motivated us in starting our projects?
- What obstacle did we all find we had in common, and what did we do to overcome it?
- What tips and hints would we pass on to the next cohort?
- What were some of the most helpful lessons that we learned? From the in-person sessions? From the webinars? From each other?
- What is something we wish we had known before starting our projects?
- What do we plan on taking from what we learned during CARLI Counts and applying to our next project? How do we plan on expanding the projects that we started with the program?
- Did anyone on our team find anything surprising in their project? How did that compare with what other team members found?

Module 8 - Slide: 5 | **Speaker Notes:** | *Participant Workbook Page: 91*

It's important to highlight that the TEAM poster is NOT a report of your individual local case study projects!

Each of you can probably come up with an entire poster reporting on your local project all on its own. The goal of this poster is to reflect your shared learning as a community of practice.

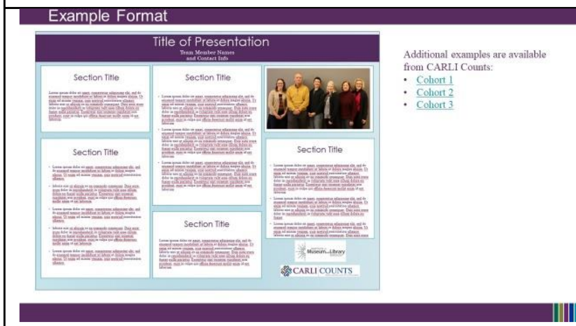
Module 8 - Slide: 6 | **Speaker Notes:** | *Participant Workbook Page: 91*



Suggested design parameters for your poster…

- PowerPoint Slide
- Black/Dark Text on White/Light Background
- 32 Point Font (Or Larger)
- Avoid Background Images
- Size: 48" x 36" (Including Margins) – relevant if poster will be printed for an in-person event

Module 8 - Slide: 7	**Speaker Notes:**	*Participant Workbook Page: 92*



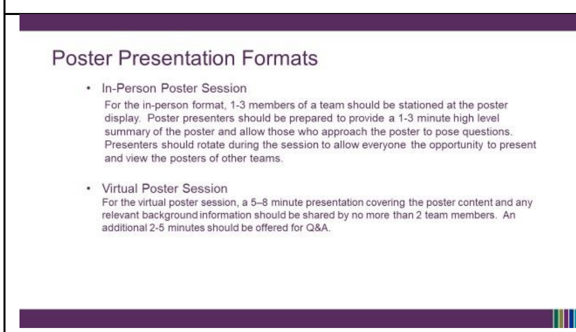
This template is an example of what a team poster might look like. Additional Examples are available from the CARLI Counts Program:

Cohort 1:
https://www.carli.illinois.edu/sites/files/carlicounts/CARLICountsCohort1Posters.pdf

Cohort 2: https://www.carli.illinois.edu/sites/files/files/Cohort2Posters.pdf

Cohort 3: https://www.carli.illinois.edu/sites/files/files/ALLCohort3Posters.pdf

Module 8 - Slide: 8	**Speaker Notes:**	*Participant Workbook Page: 92*



Poster Presentation Formats

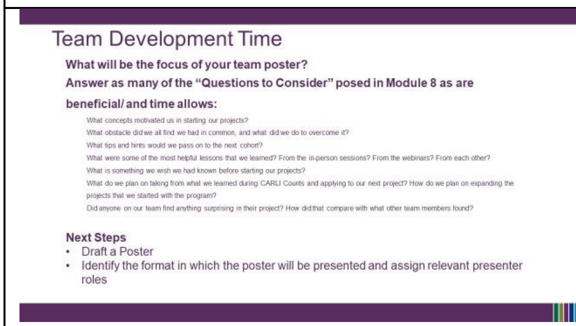
- In-Person Poster Session

-person format, 1-3 members of a team should be at the poster display. Poster presenters should be to provide a 1-3 minute high level summary of the poster those who approach the poster to pose questions. s should rotate during the session to allow everyone the y to present and view the posters of other teams.

- Virtual Poster Session

For the virtual poster session, a 5–8 minute presentation covering the poster content and any relevant background information should be shared by no more than 2 team members. An additional 2-5 minutes should be offered for Q&A.

Module 8 - Slide: 9



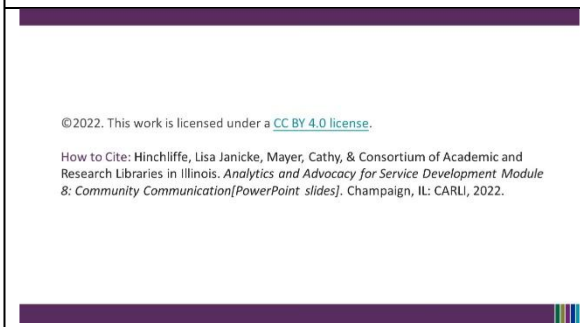
Speaker Notes: *Participant Workbook Page: 93*

Connect again with you team to address the following questions and next steps…

What will be the focus of your team poster?
Answer as many of the "Questions to Consider" posed in Module 8 as are beneficial/ and time allows:

- What concepts motivated us in starting our projects?
- What obstacle did we all find we had in common, and what did we do to overcome it?
- What tips and hints would we pass on to the next cohort?
- What were some of the most helpful lessons that we learned? From the in-person sessions? From the webinars? From each other?
- What is something we wish we had known before starting our projects?
- What do we plan on taking from what we learned during CARLI Counts and applying to our next project? How do we plan on expanding the projects that we started with the program?
- Did anyone on our team find anything surprising in their project? How did that compare with what other team members found?

Next Steps
Draft a Poster
Identify the format in which the poster will be presented and assign relevant presenter roles.

Module 8 - Slide: 10	**Speaker Notes:**	*Participant Workbook Page:*
		

Team Development Discussion Questions

- **What will be the focus of your team poster?**
- **Answer as many of the "Questions to Consider" posed in Module 8 as are beneficial/ and time allows:**
    - What concepts motivated us in starting our projects?
    - What obstacle did we all find we had in common, and what did we do to overcome it?
    - What tips and hints would we pass on to the next cohort?
    - What were some of the most helpful lessons that we learned? From the in-person sessions? From the webinars? From each other?
    - What is something we wish we had known before starting our projects?
    - What do we plan on taking from what we learned during CARLI Counts and applying to our next project? How do we plan on expanding the projects that we started with the program?
    - Did anyone on our team find anything surprising in their project? How did that compare with what other team members found?
- **Next Steps**
    - Draft a Poster
    - Identify the format in which the poster will be presented and assign relevant presenter roles