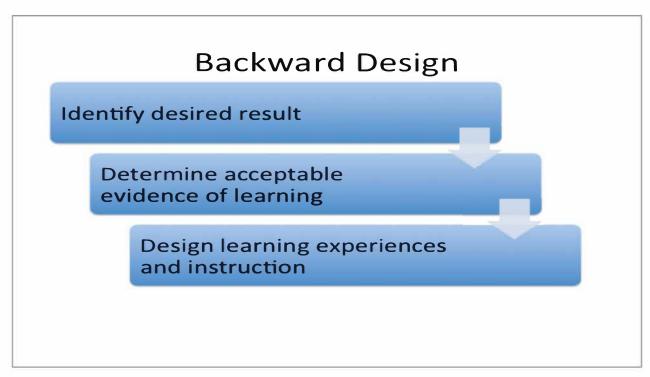Robust information-based research assignments can help students engage more deeply in the research process.

Librarians can help re-think research assignments so that they **require students to do more than find and cite sources**.

> Students' knowing how to understand and synthesize complex, lengthy sources is essential to effective plagiarism prevention. If instructors know **how shallowly students are engaging with their research source**— and that is what the Citation Project research reveals—then they know what responsible pedagogy needs to address.
>
> --The Citation Project,
> http://site.citationproject.net/

The *Understanding by Design* model provides simple and practical guidance to help create more effective assignments.

Backward Design

Identify desired result

Determine acceptable evidence of learning

Design learning experiences and instruction

See Grant Wiggins and Jay McTighe, *Understanding by Design*. Pearson, 2005.

Step 1: Identify Desired Result

Questions:

- What should students know and be able to do with the information resources in your discipline in order to succeed in their field of study?
- What should students be able to do as a result of this assignment specifically?
- What are the most important or enduring concepts, ideas, or skills that students need to understand?

More specifically:

- At this stage in their education, *what types of sources* can students *comprehend and evaluate*? What kinds of sources do they eventually need to be able to understand and evaluate? When is the best time to introduce them to different scholarly sources in your discipline?
- What do students need to know and be able to do in order to *discover the most appropriate and relevant sources* for a specific purpose?
- What do students need to know and be able to do in order to *select the most appropriate and relevant sources* for a specific purpose?
- What do students need to know and be able to do in order to *evaluate information in your discipline*?
- What do students need to know about the *ethical and legal use of information* in your discipline?

Example:
You teach a required course that introduces students to the academic and professional field of psychology. One of the goals of the class is to familiarize students with the types of library tools and sources that they will need to use progressively throughout the psychology major. Students eventually need to be able to evaluate empirical research in order to inform clinical decisions. But beginning students do not have the subject expertise to do this yet.

Desired Results:

1. Students need to understand that psychologists use empirical rather than anecdotal data to make decisions.

2. Students need to understand that psychologists publish empirical research in peer-reviewed journals and that these journals are often not available for free on the Web, and that the provides access to these journals through specialized search tools.

3. Students need to be able to conduct a basic search and access material in the library's print and electronic collections.

4. Students need to understand the legal, ethical, and practical reasons for citing the work of others in written materials. They need to be able to identify the elements of a citation and format a citation in APA style.

5. They need to understand the basic format of a research study (research problem or question, literature review, methods, findings, etc.) in order to learn strategies for reading and understanding scholarly work in the field.

Step 2: Determine Acceptable Evidence of Learning

Questions:

- How will we know if students have achieved the desired results and met the standards?
- What will we accept as evidence of student understanding and proficiency?

Example:

1. Students need to understand that psychologists use empirical, rather than anecdotal data to make decisions.	**Evidence of Learning**: Students compare anecdotal and empirical evidence of a specific claim. Students summarize the empirical study and describe how a psychologist might use it in a professional context.
2. Students need to understand that psychologists publish empirical research in peer-reviewed journals, that these journals are often not available for free on the Web, and that the library subscribes to these journals.	**Evidence of Learning**: Students access electronic journals and psychology databases from the library website.
3. Students need to understand that there are specialized search tools to locate this peer-reviewed literature efficiently. Students need to be able to conduct a basic search and access material in the library's print and electronic collections.	**Evidence of Learning**: Students locate at least one peer-reviewed, empirical study from PsycInfo, PsycArticles or other library databases.

4. Students need to understand the legal, ethical, and practical reasons for citing the work of others in written materials. They need to be able to identify the elements of a citation and format a citation in APA style.	**Evidence of Learning**: Students attribute all sources of information that are not common knowledge by using citations in proper APA format.
5. They need to develop strategies for reading and understanding scholarly work in the field. This includes identifying the basic elements of an empirical study (questions, methods, findings, etc.) and summarizing the research questions and findings section as a first step in understanding.	**Evidence of Learning**: Students summarize the research problem or question, methods, and most significant finding of one empirical study.

Step 3: Design Learning Experiences and Instruction

In our example, students need to be able to do more than locate and cite scholarly articles by using the peer-reviewed checkbox limit in a psychology database and format a citation. They need to find an empirical study, read it to identify specific content (question, methods, findings), and describe why empirical evidence is valuable to the discipline.

Example assignment:

You are a school psychologist. Madison's parents are concerned about their daughter's shyness. They have an article that they found on the Web saying that Facebook is bad for children's social development, especially if they are shy. But Madison is asking for a Facebook account because "everyone else has one." They want your advice. What do you tell them?

1. Do some basic research on the Web to find examples of what Madison's parents are reading about Facebook and children's social development.
2. Find at least one recent (within the last 3 years) empirical research study that will help you provide advice to Madison's parents.
3. Write a 2-page paper that includes the following required elements:

   a. A summary of a piece of anecdotal evidence about Facebook and children. What kind of evidence does the author use to support its claims?
   b. A summary of the empirical study. What was the main research question or problem? What methods did the authors use? What were the major findings of the study?

c. A summary of your advice to Madison's parents. What was the most compelling research-based finding that you used to help them make a decision about Facebook?

d. Complete, properly formatted (APA 6th style) in-text citations to the works you summarize and a list of works cited at the end of the paper.

e. Attach the first page of the empirical study that you use and describe your search process (database, search terms, and any limits used).

Bonus: Your librarian can help you design and deliver a library instruction session that walks students through the process of finding, reading, and assessing anecdotal and empirical evidence in psychology. Your librarian can also create online "point-of-need" tutorials on recommended resources, search strategies, and citing sources in APA format.

Contact your Subject Librarian for help designing library research assignments and related instructional activities.
http://library.usu.edu/coldev/subject-librarians.php

More Resources for Designing Effective Library Research Assignments

Barbara Fister, "Reintroducing Students to Good Research." 2001.
        http://homepages.gac.edu/~fister/LakeForest.html.

Eberly Center for Teaching Excellence, Carnegie Mellon University, "Creating Assignments."
        http://www.cmu.edu/teaching/assessment/assesslearning/
        creatingassignments.html.

University of Maryland, "Creating Effective Research Assignments."
        http://www.lib.umd.edu/guides/assignment.html.

Western New England University. "Not a Research Paper: Alternative Assignments to Teach Research Practices." http://www1.wne.edu/library/index.cfm?selection=doc.7793.