I. Keyword Activities

Research Question Activity

Preparation: Come up with a list of topics appropriate for the level and subject of the class. Controversial issues are often effective for first-year composition classes (such as gun control, and climate change), but class-specific topics tend to be better for upper-level or graduate classes (such as providing different communication theories for a Communication Theory class). Create topic lists that can be reused in other classes whenever possible.

Activity: Break students into small groups of 3-4 and give each group a general topic. Ask each group to come up with a research question for that topic and then a list of appropriate keywords.

Follow-up: When the groups have completed the activity, bring them back together and have each group share their topic, question, and keywords with the class. This activity transitions easily into having students come up with keywords for their research question (or a research question for their topic, depending on where they are in the process).

Assessment Idea: Give each student a research question and ask them (individually) to come up with five relevant keywords.

Keyword Matching Game

Preparation: Create a set of sample research questions appropriate for the level and subject of the class. For each question, develop a list of possible search terms that could be used to find sources on that question. For instance, a question like “Should the US explore alternative energy sources?” could be matched with terms like energy policy, renewable energy, United States, and so on. We often include some terms that could be a match for multiple research questions to encourage students to think critically and creatively. Cut your research questions and keywords into slips, with each slip of paper containing either a question or a search term. If you plan to
Activity: Pass out the slips of paper so that each student has one. Explain that some people have questions and some have keywords, and that the object of this activity is for students to match the search terms with the appropriate research question. We typically explain that there are multiple keywords per question to limit confusion, but give little additional information.

Follow-up: When groups have formed, have each group share their question and search terms with the class. Now that students have some context, bring the class back together and brainstorm keywords for a different research question as a whole group.

Assessment Idea: Give each student a research question and have them circle the keywords.

MeSH Terms Activity

Preparation: This activity is all about exploring subject terms and controlled vocabulary, so prepare a question in plain language. “Do tanning beds cause skin cancer?” was the question suggested during our session.

Activity: Provide students with the question, help them navigate to PubMed and give them the opportunity to search on their own to find the appropriate MeSH (Medical Subject Headings) terms for the question. This activity could be adapted to any type of controlled vocabulary, including LC Subject Headings.

Follow-up: Bring the class back together and find out what terms they discovered. Demonstrate the MeSH terms database within PubMed to show how to find the most appropriate search terms.

II. SEARCH STRATEGIES

Building a Search from PICO

Preparation: None required beyond normal class prep.

Activity: Give students a topic and have them identify the PICO. This health science research term refers to population, intervention, comparison, and outcomes. From there, students should translate each element into keywords, and then build a search strategy to find sources. For classes in other disciplines, replace PICO with the 5 Ws (who, what, when, where, and why).

Follow-up: Ask students to pair and then share their search strategies. Provide additional guidance as needed.

Database Jigsaw

Preparation: None required beyond normal class prep. In class, show students how to access the database you are using for the activity.

Activity: Divide students into groups of 3-4. Tell each group to spend five minutes testing out the database together and determine one feature they like and one they don’t understand.

After five minutes, have a representative from each group come to the front of the classroom and demonstrate these features.

Follow-up: Address things the students don’t understand as you fill in any important details students didn’t cover in their demonstrations.

Assessment Idea: Ask students to email one article that is relevant to their topic to you (and themselves, too).

III. SOURCE EVALUATION

Scholarly/Popular Group Activity

Preparation: Print several copies of a magazine and a scholarly journal article (we like to choose ones relevant to the assignment or course). Alternatively, you can post the permalink to a magazine and scholarly article on the research guide for the class. Also, print out or incorporate the scholarly/popular matrix (see appendix) into your regular handout.

Activity: Explain to students that in most databases they will encounter different types of articles, and this activity will show them how to determine if an article is scholarly or popular. Put students into groups of 3-4 and distribute articles and matrices (or point out links to articles). Give the students a few minutes to work together to fill out the matrix. Conclude the activity when students finish or begin to get off-task.

Follow-up: Ask students to discuss their answers to the questions on the matrix and other differences they noticed between the two articles. This often leads to discussions about tone, language, length, and the peer review process.

Assessment Idea: Give students another magazine article and scholarly journal article and ask them to identify which is which.

Source Battleship

Preparation: Laminate pages from magazine and scholarly journal articles or back them with cardboard. Attach two pages from different articles at the top, table-tent style.

Activity: Explain to students that in most databases they will encounter different types of articles, and this activity will help them determine if an article is scholarly or popular. Put students into pairs and give each pair a table tent, making sure that each person is unable to see the other person’s side. Instruct students to alternate asking yes or no questions to determine if the article their partner is looking at is a magazine or scholarly journal article. The winner is the person who guesses the correct article type first. This activity will probably move fairly quickly, so be prepared to end the activity when students begin to lose their focus.

Follow-up: Lead a discussion with students about the different characteristics of magazine and scholarly journal articles.

Assessment Idea: Give students a scholarly journal or magazine article and ask them to identify which type it is and how they could tell.
**Article Mingle**

**Preparation:** Cut copies of magazine and scholarly journal articles into chunks that are several paragraphs long. Bring a Scotch tape dispenser to class.

**Activity:** Open with a brief discussion of popular and scholarly articles. Tape one article chunk to each student's back and ask students to mingle to form pairs. Instruct students to alternate asking yes or no questions to determine if the article chunk on their own back is popular or scholarly. Unlike the Source Battleship activity, Article Mingle is not finished until both members in a pair have determined which type of source they have.

**Follow-up:** Lead a discussion with students about the different traits of magazine and scholarly journal articles.

**Assessment Idea:** Give students a scholarly journal or magazine article and ask them to identify which type it is and how they could tell.

**Clicker Website Evaluation**

**Preparation:** Choose a website that would be an appropriate resource for a college-level research paper and one that is not (such as a Yahoo! Answers post or a blog post with no citations), preferably on a similar topic. Add the links to the research guide or show the sites to the whole group. Set up a Poll Everywhere or clicker poll asking which website would make a better resource for a research paper.

**Activity:** Explain that the class is going to do a quick activity about how to choose appropriate web resources. Give students 1-2 minutes to look at both sites. Then open the poll and allow students to vote. Once everyone (or almost everyone) in the class has voted, reveal the results of the poll. If more than 75% of the class picks the correct answer, lead a brief discussion about things to consider when evaluating articles (we use authority, bias and currency). If fewer than 75% of the class picks the correct answer, have students discuss their answer with the person next to them and then vote again. After the second vote, lead a brief discussion about the criteria for evaluating websites.

**Assessment Idea:** Give students two more websites to look at and choose the better source.

**IV. CITATIONS/PLAGIARISM**

**Fill-in-the-Citations**

**Preparation:** Type several citations for articles that are available in full-text in a database at your library. Leave a different element out of each citation (author, year, volume and issue number, or article title). See appendix for examples.

**Activity:** Talk to students about the citation style they are using in the class. Tell them that they are going to do an activity in which they learn how to format a citation. Divide students into groups of 2-3 and give them each a citation with a missing piece of information. Show the whole class how to locate a journal from a citation, then ask the groups to locate their article, find the missing piece of information, and rewrite the citation correctly.

**Follow-up:** After all groups have completed the activity, ask the different groups how missing different pieces of the citation affected their ability to find the articles. Remind the class that this is why it is important to include all elements in a citation.

**Assessment Idea:** Give students a complete citation and have them label the different elements.

**Three Corners**

**Preparation:** Gather citations for books, book chapters, and articles in the style used by the class you’re teaching. Cut the citations into strips so that each student will have one citation for either a book, book chapter, or article.

**Activity:** Explain that when students are doing research, they will encounter a variety of sources, and each is cited in a slightly different way. Distribute one citation to each student and tell them that some of them have book citations, some have book chapter citations, and some have article citations. They need to decide which type of citation they have, find the other people in the room that have the same type of citation, and gather as a group in one corner of the room. End the activity when students have all chosen a corner.

**Follow-up:** Ask students to explain how they could tell what type of citation they had and how they would explain the differences to a classmate.

**Assessment Idea:** Pass out a half-sheet of paper with one of each type of citation and have students identify what they are. This could also be done as a large group using clickers.

**Human Citation**

**Preparation:** Create a citation in the format required by the class. Using a word-processing program, increase the font size (to at least 100 point, so students in the back can see) and put one element per page (author on one page, article title on another, and so on). It helps to change the orientation of the page to landscape. Print out the pieces of the citation and laminate if you plan to use them multiple times.

**Activity:** Show students your library’s citation guides. Explain that the class is going to do a brief exercise that will give them practice in formatting a citation. Ask for volunteers (one per page of the citation). Give each volunteer an element of the citation and ask him/her to go to the front of the room and hold up his/her sheet of paper so the class can see it. Then ask the class to put the volunteers in the correct order. We usually say something along the lines of, “Which part of the citation goes first? Who has the author’s name?” and continue until the citation is complete.

**Follow-up:** Go over the elements of the citation one more time.
before the volunteers sit down.

Assessment Idea: Give students a half-sheet of paper with the elements of a citation out of order and ask them to format a correct citation.

V. SAMPLE LESSON PLAN FOR 50 MINUTE 100-LEVEL ENGLISH COMPOSITION CLASS

Assignment: Write a five page research paper on the controversial issue of your choice. You can only use articles from library databases and books as sources.

1. Introduction (3 minutes)
2. Brief explanation of research process (we like to use a video for this) (5 minutes)
3. Research question activity (7 minutes)
4. Time for students to brainstorm their own keywords (3 minutes)
5. Database demo (7 minutes)
6. Individual search time (10 minutes)
7. Catalog demo (5 minutes)
8. Human citation (5 minutes)
9. Questions and wrap up (5 minutes)

This sample lesson plan is meant to serve as a general guide for how you might integrate a few targeted, relevant activities from your toolkit into a lesson plan. Remember that all of the activities shared here are meant to be adaptable, so consider the unique characteristics of your classes before determining which activities are most appropriate for your student learning outcomes.
APPENDIX

Scholarly/popular matrix

<table>
<thead>
<tr>
<th>What is the title of the article?</th>
<th>Scholarly Journal Article</th>
<th>Magazine Article</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who wrote the article? Can you tell what the author’s qualifications are?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the author cite sources?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who is the intended audience for the article?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What other differences do you see?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sample citations with elements missing (in APA style)


The authors would like to thank all of the participants in their Teaching Librarian’s Toolkit session at LOEX 2011 for sharing their activities and ideas with us. Many of the activities described are adapted directly from the notes we took during our session.