UF 100 Instructor Lesson Plan: *Climate Change*
Search Strategies & Information Evaluation

**Goal:** As critical thinkers, students will integrate new academic search strategies into their existing strategies. New strategies include using academic research articles and critically evaluating information.

**Learning Outcomes: Students will:**
1. Develop and apply strategies for locating articles, including selecting keywords and research databases.
2. List three characteristics of an academic article, and identify one such relevant article in a research database.
3. Identify criteria to use when evaluating information, and apply the CRAAP criteria to the evaluation of articles and websites.

**Process Skill Goals:**
- Information processing is a central characteristic of locating and evaluating information. This lesson plan features brainstorming keywords, selecting academic articles in research databases, and evaluating the reliability of articles and websites.
- Teamwork, oral communication, and management are structural features of the UF 100 library curriculum.

**University Learning Outcome**
The goal and learning outcomes of this lesson plan support ULO 3, Critical Inquiry: “Engage in effective critical inquiry by defining problems, gathering and evaluating evidence, and determining the adequacy of argumentative discourse.”

**Underlying frameworks:**
[From: ACRL’s *Framework for Information Literacy for Higher Education*]
Searching as Strategic Exploration: "Searching for information is often nonlinear and iterative, requiring the evaluation of a range of information sources and the mental flexibility to pursue alternate avenues as new understanding develops."
Research as Inquiry: “Research is iterative and depends upon asking increasingly complex or new questions whose answers in turn develop additional questions or lines of inquiry in any field.”
PREP FOR SESSION

Instructor: Before the class starts:
- Bring up the Goals & Objectives on the UF100 LibGuide (also on student activity).
- Talk to the discussion group leader about dividing up the class into teams. The class may already be divided up into teams. If not, plan for teams of 2-4 members. (If the discussion group leader has formed teams of 5 or 6, this is too many for our session; further break up the larger teams into two smaller teams.)

INTRODUCTION (5 MIN.)
- Introduce yourself and explain the Learning Objectives for today’s session.
- Instructor: Academic research is a foundational skill, just like the other skills you are learning in UF100 (teamwork, critical thinking, etc.). That is why the library curriculum is paired with the UF curriculum. The skills you learn today are also important for doing research in ENGL102, courses in your major, in the workplace, and in your life. (Elaborate as desired.)

PREP FOR TEAM TASK #1 (2 min.)

Instructor:
- You have 5 minutes to complete Part A with your team members. Then we will debrief.

Team Task 1: Creating a Search Strategy for Your Topic (20 minutes)

Inquiry Question: ____________________________________________________________

Part A. (5 minutes)

Instructions
1. Write down 2-3 main ideas related to the inquiry question that you want to explore further.
2. Brainstorm related terms for at least one of the ideas from step #1.
   Example: Related terms for the idea of “iPads”→ mobile devices, tablets, technology

Instructor: remind them halfway through that they will write their search on the board (step 4).
3. Create one or more searches by connecting different ideas from steps #1 or #2 above with the word AND. Write your search(es) below.
   Examples: sleep AND grades iPads AND education AND grades
4. Write your team’s search on the board.

DEBRIEF FOR TEAM PART A (5 min.)
Instructor:
  ● Ask 1-2 teams how the use of AND changes the search results you receive.
  ● Go over and comment upon the team’s searches that are on the board. Make notes/fix/modify/make suggestions on how they might improve or tweak their searches.

Part B. (7 minutes)
Instructions
  1. Go to the UF 100 guide on your device’s desktop (or go to http://guides.boisestate.edu/uf100). Click on your course tab. Choose a database.
  2. Type your team’s search(es) into one or more of the research databases.
  3. Look at your results. If you are not satisfied with the articles you found, redo your search by changing your keywords or switching databases.
  4. Email one of the articles, with its citation, to yourself or someone in your team.
  5. Answer the critical thinking questions below.

Critical Thinking Questions
  a) Did you find useful articles with your first search, or did you have to change your search strategies? Explain.
  b) How could you use the research databases for other courses you are taking?
  c) What other strategies do you use to find information for research papers and projects?

DEBRIEF FOR TEAM PART B (3 min.)
Debrief on all CTQs. (Leave out debrief on (b) if low on time.)
CTQ (a) - Answers will vary, but make sure more than one team gets to answer, so that the class can hear about various search strategies.
CTQ (b) - Answers will vary.
CTQ (c) - Answers will vary. The hope is that students understand the search strategies presented here are only a few of the myriad strategies possible. Hopefully, students talk about strategies such as asking friends and professors for advice, Internet searching, LiLI databases, searching by person's name, interviewing someone, etc.

PREP FOR TEAM TASK #2 (1 min.)
Instructor: Discussion about critical thinking:
  ● So far, we have worked on the inquiry process and search strategies. For the rest of the session, we are going to focus on evaluating information.
Every piece of information you use for academic purposes, and after college, should be evaluated to find out if it is reliable and credible. This is part of being a critical thinker: asking good questions.

You have 8 minutes to complete Team Task #2 and answer the Critical Thinking Questions.

Team Task 2: Evaluating Articles and Evaluation Criteria (8 minutes)

Instructions
1. View the two articles found on the Climate Change guide tab.
2. List three criteria for evaluating the quality of the articles and explain how each criteria helps you evaluate information.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Explain how this criteria helps you evaluate information</th>
</tr>
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<tbody>
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</tbody>
</table>

Critical Thinking Questions
a. Would you use these articles for a research paper or project? Explain.
b. Which article has characteristics of an academic article? When is it appropriate to use academic articles? When is it appropriate to use other types of articles?

DEBRIEF FOR TEAM TASK #2 (5 min.)
Instructor: First ask the large group what criteria they use to evaluate information (what they put on their charts).
Debrief on both CTQs.
CTQ (a) and (b) answers might meld together. Both of the articles are good. One is a peer-reviewed article, but both are informative. In this discussion, please do not praise one over the other because the UF 100 lead faculty value all types of articles and information. However, students still need to know what an academic article is, and the UF 100 faculty understand that. I think the most important thing you can do is talk about the “world” of information and how it...
is important to evaluate every piece of information, which leads into your next thing: the CRAAP discussion.

CTQ (b) - Article B is an academic article. If they quote from the pre-session video, academic articles include an abstract at the beginning (a summary of the article), a list of References at the end, and it’s written by an expert on the subject [elaborate as desired]. Answers to the other two questions will vary.

PREP FOR TEAM TASK #3 (3 min.)
Instructor:
(Because their instructors will ask students to do a CRAAP test on the sources in their annotated bibliography assignment, it’s important that they know the criteria and how to apply them.)
- Use students’ answers from their chart in Team Task #2 to talk about the CRAAP criteria. Bring up the CRAAP criteria on the UF 100 LibGuide. Connect the CRAAP criteria to what they already discussed in Team Task #2.
- Give them this tip before they start: Authority - look at the website’s "about" section (top, bottom of website usually)
- You have 10 minutes to complete Team Task #3 and answer the Critical Thinking Questions.

Team Task 3: Evaluating Websites Using the CRAAP Criteria (10 minutes)
Instructions:
1. Imagine you are trying to find facts and statistics about climate change, but specifically in terms of the individual effect.
2. View both websites below, using the links on the UF 100 guide.
3. Evaluate the information you find in each website using the CRAAP criteria.
4. Answer the critical thinking questions below.

Positives and negatives of global warming
Climate: from supercomputers and state-of-the-art models...
http://www.climatefrontlines.org/

Cont…
### Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Positives and Negatives</th>
<th>Climate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency</td>
<td>Find 2017 copyright on website, article is difficult to find specific date.</td>
<td>Have information on site that is up-to-date, though finding dates takes going into various research</td>
</tr>
<tr>
<td>Relevancy</td>
<td>Relevant to broad topic of climate change but not really to individual</td>
<td>Contains information on various forms of climate change</td>
</tr>
<tr>
<td>Authority</td>
<td>Difficult to pinpoint who author is</td>
<td>Information from research scientists and engineers</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Sources cited on intermediate and advanced tabs, not basic.</td>
<td>Though hard to find, NOAA maintains a peer-review process for all publications</td>
</tr>
<tr>
<td>Purpose</td>
<td>Inform about global warming</td>
<td>Provide research on climate change</td>
</tr>
</tbody>
</table>

### Critical Thinking Questions

a) Would you use these websites for a research paper or project? Explain.

b) What should you do if an information source does not meet the CRAAP criteria?

### DEBRIEF ON TEAM TASK #3 (5 minutes)

Debrief on both CTQs.

CTQ (a) - answers will vary.

CTQ (b) - Answers will vary. Include discussion about choosing a different source when something does not do well on an evaluation “test.” So many information sources exist that it is wise to move on to a more reliable source.
PREP FOR TEAM TASK #4 (30 sec.)

Instructor: You have five minutes to complete Team Task #4.

Team Task 4: Synthesis/Wrap-up (5 min.)

Critical Thinking Questions:

a. Describe a scenario outside of college life in which you could use any of today’s research skills.

b. Imagine you are describing what you learned from today’s class to a good friend. Make a list of 3 tips that you would pass on to them. Your tips can include what you found most helpful during today’s team tasks, what you have found useful in the past, or what you might do in the future.

DEBRIEF ON TEAM TASK #4 (2 min.)

Debrief on both CTQs.

This section is titled “Synthesis” because the CTQ is intended to bring together everything students have done during the session. As teams report on their tips and strategies, you may want to bring up the “Searching as Strategic Exploration” idea, emphasizing the idea of trial and error.

CTQ (a) - answers will vary; the goal is to extend today’s lesson beyond college and into the real world. These skills are for life, not just for college.

CTQ (b) - Ask one team what their three tips are. Ask the rest of the teams one tip they would like to add (just ask the whole class and the teams can volunteer.)