Pause for a Station Break:

Applying Constructivist Theory to Strategic Exploration

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ACRL Information Literacy Frame: Searching as Strategic Exploration
Discipline: Social Sciences
Subjects: Psychology; Sociology; Anthropology; Interdisciplinary
Learning Theory: Social Constructivism
Special Populations: Non-traditional Students; First-Generation Students; Undergraduate Students

For several years, I taught one-shot information literacy sessions for an upper-level psychology course. The students in this course often had widely varying experience with library resources, and I sought an activity that would equalize the amount of prior knowledge needed. Fontno and Brown[1] write about using learning centers in the library classroom for a 200-level course, and after reading this article, I decided to apply this idea to my lesson. I had prior experience with learning centers from my previous career as an elementary school teacher. It made sense for me to try this with the psychology students in order to help prepare them to write a literature review, many for the first time. Using the learning centers design, commonly employed in elementary school classrooms, I sought to apply the principles of social constructivism. During this lesson, students draw

on their varied levels of prior knowledge about conducting research and expand that knowledge by interacting with their peers. Through this social interaction, students actively construct knowledge about beginning the research process and making the plan. By rotating the students through a series of learning centers, I was able to facilitate several components of the research process in a short amount of time.

Learning Theory: Social Constructivism

Social constructivist principles stress that students make meaning in their work by connecting their individual experiences to their ideas. Based on Lev Vygotsky's sociocultural approach, social constructivist theory posits that learning occurs when it is situated in a social environment and students cannot be separated from their historical and cultural context.[2] Rather, these factors will determine their approach to information and knowledge construction. The students who participate in library sessions with information literacy goals and outcomes each bring a unique perspective based on their history and experience.

The techniques highlighted in this lesson aim to apply constructivist principles to the library classroom. By doing so, I hope to create a more equitable learning environment by decreasing the need for specific knowledge of research tools and skills. Students with varied research and information backgrounds, not the least of which are first-generation and returning students, benefit from the ability to create their own meaning, relevant to their particular prior experience.

ACRL Information Literacy Frame: Searching as Strategic Exploration

The students in this class come to the library at the beginning of the semester. Their semester-long assignment is to write a literature review, and while some of these students have experience conducting academic research, many do not. During this lesson, the students participate in authentic tasks that will help them plan their literature search. Since the students are in the initial stages of their research, I focus on a few knowledge practices and dispositions from the Searching as Strategic Exploration frame of the ACRL *Framework for Information Literacy*. These include:

- determining the initial scope of the task required to meet their information needs;
- utilizing divergent (e.g., brainstorming) and convergent (e.g., selecting the best source) thinking when searching; and
- realizing that information sources vary greatly in content and format and have varying relevance and value, depending on the needs and nature of the search.[3]

After a brief overview of the activities at each center or station, the students rotate through with a partner. Two or more sets of partners can travel as a group. At one center, the pairs discuss types of sources, specifically the value of using one type over another. At the next center, the pairs collaboratively brainstorm keywords to form multiple and flexible search strings, and at yet another station, each student completes a design thinking activity to unpack their topic of interest and then get feedback from their partner. The fourth center or station allows the pairs to come back together as a group with the librarian, where we hold a facilitated group consultation in order to discuss each of their research topics.

The centers do not have to be visited in any particular order, though the tasks at each station reinforce each other. In this way, the students can circulate in groups and the activities still flow, even if the students are at different starting points. Each group has the opportunity to talk with the librarian and have a brief but social consultation. This particular lesson plan addresses 400-level courses but can be applied to courses and assignments that are entry-level.

Lesson Plan

Learner Analysis

- Since this lesson is specifically for a 400-level course, the typical population is traditional undergraduate students and almost exclusively psychology majors. The prompts and the activities are designed to provide entry to any level of experience with the material.
- Special populations may include returning students as well as first-generation college students. This lesson works especially well for students who may not have much experience using library resources. This is due to the limited prior knowledge needed to en-

gage in the material as well as the social and reflective nature of the activities.

- There may be students who feel very strongly about working individually. I encourage those students to start the activity as the partner who listens and to share when they feel comfortable. Occasionally, there are students with severe social anxiety and I allow them to participate as fully as they feel comfortable.

- This lesson presents a great opportunity for students to hear from one another about their ideas regarding research. Since they spend most of the class period with one partner, the experience becomes a potential safe space for talking about their ideas. For many of these students, this may be the first time they will have discussed and thought about these components of the research process in this way. The collaborative nature of the activities can be beneficial for all students since they receive feedback on different components of a structured assignment.

Prerequisites

- Required: Before attending the session, the students watch a short video tutorial about navigating the library website. The video explains constructing a basic search string, choosing a database, and how to get help if needed. The intention is to familiarize the students with library website navigation without taking class time to cover this material.

Instructional Context

- The ideal space has tables at which the students can meet and discuss ideas. The activities can be completed on paper, individual whiteboards, or classroom whiteboards. For each of the stations, provide paper, small whiteboards, whiteboard markers, and erasers.
- Optional: If they have time and opportunity to access computers and internet, this can be helpful but not mandatory.

Learning Outcomes and Learning Activities
Learning Outcomes
Students will:

1. determine appropriate sources for research;
2. develop multiple search strategies collaboratively; and
3. generate subtopics and questions about their research topic.

Learning Activities

- Optimal class size: 20–25, divided into 4 groups.
- Logistics: Within each group, each person has a partner. The students travel to the stations in groups but primarily work with their partner.
- Time frame (75–90-minute class period works best, but can shorten stations to 10 minutes to fit a 60-minute session)
- Introduction: Students are oriented to the learning stations (5–10 minutes).

Station 1. Group consultation *(LO3, 10–15 minutes, essential)*

Each group meets together with the librarian. We discuss as many of their research topics as we can in the allotted time and work together to develop search strategies. This works very well for group projects but is also effective when students are working on individual research. We often start by talking about ideas they have for their topics and go from there.

Station 2. Design thinking activity *(LO2–3, 10–15 minutes, essential)*

The students work in pairs on a design thinking activity adapted from Cinthya Ippoliti's ACRL virtual discussion[4] in order to think about the different aspects of their research topics. Each student divides a sheet of paper into quarters. The four sections are:

- What I know about this topic
- Questions I have about this topic
- Problems I anticipate when researching this topic
- New ideas generated by discussion.

Each student writes notes on their research topic in these four sections for about five to seven minutes. The pairs then switch papers and discuss what the other has written, offering feedback and asking questions.

Station 3. Search strategies feedback *(LO1–2, 10–15 minutes, essential)*

The students brainstorm keywords that might best represent the aspects of their topic in a database search. After the first five to seven minutes, the students switch papers and write down feedback on their partner's list of search terms. They take time to discuss feedback with one another.

Station 4. Discussion of source types *(LO1, 5–10 minutes, essential)*

The students are given a list of questions to answer about source types. The questions may vary, but often include conversation starters for the students such as these:

- What would a credible source on your research topic include?
- What types of sources would be helpful for your project?
- What sources could you seek out that would attempt to include marginalized voices in this field of study?
- Where could you look for these types of sources?

The students discuss the questions and record their responses on a small whiteboard. When the pair or small group is finished, they take a picture of the whiteboard and email it to the librarian.

Assessment

I collect artifacts from the students at each of the stations. They take photographs of their work as they rotate through and then send me one email that includes all three photographs at the end of the session. This allows me to review their in-class work and reflect on how this process helped them develop their search strategy and think about types of sources that they will seek out. I make an effort to respond thoughtfully to each of their messages with comments on the work that they have done. From the four stations, I focus on the responses to the questions about source types. This activity connects to the learning objective, "Students will determine appropriate sources for research." For their literature review assignment, the students are required to use peer-reviewed journal articles with applicable research studies. When I assess their responses to the questions about source types, I am looking for some acknowledgment of these requirements as well as some information about where they might find these materials. Some examples of group responses that made those connections appear in figure 21.1.

The students also write a reflection at the end of the class, which I collect through an online form. The reflection form includes two questions as prompts: "How has today's library session helped you start planning your research?" and "Which station did you find most helpful? Why?" This reflection helps me understand how they are thinking differently about their research after participating in these guided planning tasks. The class is successful for the students if they leave the classroom with a clear plan for beginning their search for literature.
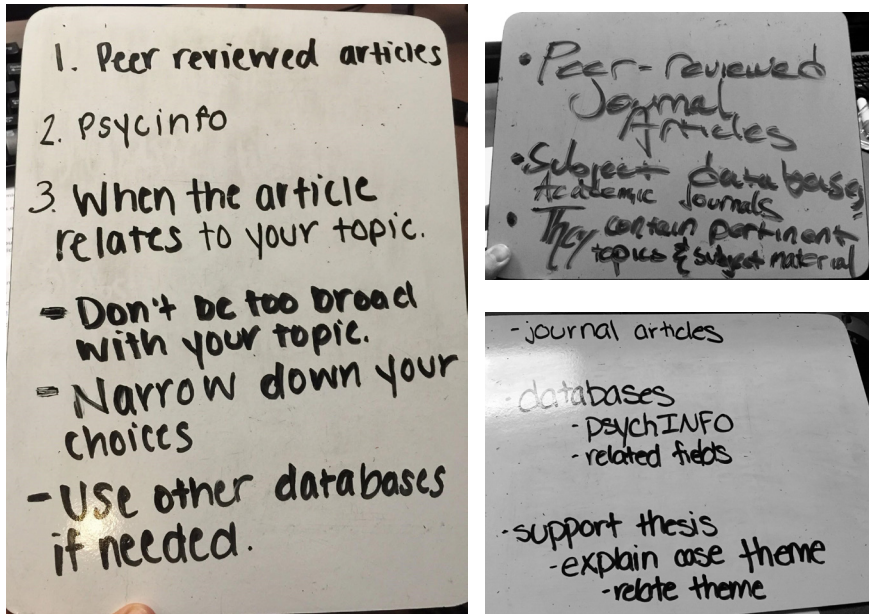
Figure 21.1. Group Response examples

Notes

1. Tiffeni J. Fontno and Dianne N. Brown, "Putting Information Literacy in the Students' Hands," *College & Research Libraries News* 76, no. 2 (2015): 92.
2. Vera John-Steiner and Holbrook Mahn, "Sociocultural Approaches to Learning and Development: A Vygotskian Framework," *Educational Psychologist* 31, no. 3-4 (1996): 191–206.
3. Association of College & Research Libraries (ACRL), *Framework for Information Literacy for Higher Education*, February 2, 2015, accessed November 22, 2016, http://www.ala.org/acrl/standards/ilframework.
4. Cinthya Ippoliti, "Applying Design Thinking to Information Literacy Instruction," ACRL virtual discussion (January 27, 2015).

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Ippoliti, Cinthya. "Applying Design Thinking to Information Literacy Instruction" ACRL virtual discussion (January 27, 2015).

John-Steiner, Vera, and Holbrook Mahn. "Sociocultural Approaches to Learning and Development: A Vygotskian Framework." *Educational Psychologist* 31, no. 3-4 (1996): 191–206.