Finding Empirical Articles for Psychology

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This lesson plan was created in collaboration with faculty teaching Psychology 202, an undergraduate class covering discipline-specific writing practices and skills. Because the course was also part of the university’s core curriculum, however, it had no prerequisites and could be taken by students at any level from any major. Although the majority of students in the class were freshmen and sophomore psychology majors, a significant number of upperclassmen and students from other majors did register for the class each year. The widely varied backgrounds of students in the class provided a challenge for the instructors, who also had a responsibility to make sure that the psychology majors in the class had a strong foundation for the coursework they would take next in their curriculum.

I was asked to help design a library session for this class by one of the course instructors because of the challenge of trying to get students from a wide variety of backgrounds and with such a wide variety of future goals
to be ready to find and use empirical literature in psychology. The exercise has since been adapted for use in other classes and would work particularly well for general education courses where students may come to the class from many different backgrounds in library research experience.

One of the main research assignments for the class asked students to choose a topic in the field of psychology or a related science field and to compile an annotated bibliography of at least ten empirical journal articles on that topic. In order to help students with this assignment, the instructor asked that I focus on making sure that students were able to locate empirical journal articles in the PsycINFO database. We anticipated that some students in the class would not yet know what journal articles were, while others might know what journal articles were but may or may not be aware of the different types of journal articles. In order to make sure that all of these students were set up to be successful at this assignment, it was important to make sure that all of them left the library session feeling confident that they knew what type of information they needed to find and how they could start looking for it.

Learning Theory: Constructivism

Because I knew that students came to the class from a wide variety of academic backgrounds, I designed the library session activities with that in mind using constructivism as the guiding theory behind the lesson design. Constructivism is a learning theory that works from the belief that “each of us makes sense of our world by synthesizing new experiences into what we have previously come to understand.”1 Constructivist teaching employs active learning to allow students to come to their own conclusions as they do the work needed to come to an understanding of new concepts. In this session, students work in small groups to determine the characteristics of scholarly journals and then the characteristics of different types of scholarly journals. This allows students who may have encountered these concepts before to share their experiences with others but also allows all students to figure these things out together based on their own previous life experiences (even if they have not had experience with reading academic journals in the past). In a constructivist classroom, teachers often “use raw data and primary sources, along with manipulative, interactive, and physical materials”2 to help students gain first-hand experience with new ideas.
In constructivism, teachers give students tools to facilitate the assimilation of new knowledge and experiences into those they already have. Comparing scholarly and popular sources takes advantages of the experiences students already have with popular sources. Students should be able to share why or why not they believe there is anything scholarly about the sources. For first-semester freshmen, this can be an especially comfortable place to start. Another important aspect of constructivism is that “teachers inquire about students understanding of concepts before sharing their own understandings of those concepts,” which helps reinforce the idea that students bring valuable experience into the classroom with them and underlines the difference between understanding something new and knowing the “right” answer. From understanding the difference between popular and scholarly articles, students can move on to understanding that one type of scholarly article is an empirical study and to learn about the characteristics of that type of article.

ACRL Information Literacy Frame: Information Creation as a Process

This lesson plan connects with the ACRL frame Information Creation as a Process as it encourages students to look closely at the characteristics of different types of scholarly research and to recognize that these characteristics indicate how that information was created. According to the framework, learners beginning to develop in the area of recognizing information creation as a process start to “understand that different methods of information dissemination with different purposes are available for their use,” which is one of the main goals of this lesson plan. Empirical research articles by design detail the process of the study conducted by the authors and how they arrived at the conclusions they reached. When students look at articles to decide whether or not they are examples of empirical studies, they are looking for evidence that the authors conducted a study and reported the results of that study. It also helps students realize that different kinds of writing carry more weight in certain disciplines than in others, as the importance of empirical articles in psychology becomes evident throughout the session activities. The course instructor reinforces this point by explaining to students why empirical research is important in the field, either before or during the library session.
**Best-Case Teaching Scenario**

A best-case scenario for this lesson is to have a longer class period (seventy-five minutes rather than fifty minutes) to ensure that all of the activities can be used and to give students more time to practice searching on their own in a workshop-style format at the end of the session. If only fifty minutes are available, it is possible to eliminate the first activity and start with the second activity. I recommend collaborating with the instructor before the session to make sure the assignment has been introduced to students and that they come to the session with topics to search. Even if students are not ready to search their own topics, they can still practice searching and participate in all of the activities.

**Lesson Plan**

**Learner Analysis**

- Although Psychology 202 fills a core curriculum requirement and is open to all students, students who typically enroll in the class are freshmen and sophomores majoring in psychology or another discipline in the College of Science. Since most of the students enrolled in the course are undergraduates, they often have not been exposed to the differences between journals and magazines or know that there are different types of scholarly articles.
- This exercise is also appropriate for other student populations who may or may not have had exposure to scholarly research, including first-generation college students and international students. For students who might not be receptive to group activities, these activities could also be adapted to be completed individually and then shared with the class.

**Orienting Context and Prerequisites**

- Students should already be aware of their class assignment.
- Students should have already chosen one or two topics to research that interest them.
- Optional: Students should understand the differences between scholarly and popular sources.
Instructional Context

- This lesson also requires a projector and screen for the librarian to demonstrate database searching for the class. This lesson works best in a classroom with tables conducive to small group work. Each student should have access to a computer, either their own or a classroom computer. For classrooms without enough computers for each student, the activity would take longer but would still work if each group had at least one computer to share.

- Before the class, the librarian needs to select journals and magazines (or one article from each) for the first activity, and two scholarly articles (one empirical and one not) for the second activity (*Psychological Reports* and *Psychology Today* work particularly well), or links to/printouts of one article from each type of publication, whichever works better based on what is available in the library’s collection. For the third activity, the librarian needs to set up an online class bulletin board using Padlet (https://padlet.com/) or something similar and create a shortened URL to facilitate sharing the board with the class.

- In a classroom without technology, the lesson could be easily adapted by using print magazines and journals rather than the online versions in order to have students compare characteristics of each publication and examine the differences among the types of scholarly articles. In a classroom without access to Padlet for students to report their findings, other methods of reporting could be used, such as having groups give brief presentations or having each group write their findings on a blackboard or a piece of paper. While the library database could not be demonstrated in a classroom without access to a computer and projector, the librarian could instead lead a discussion about search strategies and distribute information about how to search the database.

Learning Outcomes and Learning Activities

Learning Outcomes

1. Students will be able to list the characteristics of a scholarly journal and differentiate them from the characteristics of popular sources like magazines.
2. Students will be able to list the characteristics of empirical journal articles.
3. Students will be able to search for and locate an empirical article in the PsycINFO database.

Learning Activities
1. Characteristics of Scholarly Journal Articles (LO1, 10–15 minutes, optional)
   - Students divide into small groups. Each group is given two articles to examine. Students examine both sources and decide which is the scholarly source. After deciding which is scholarly, each group makes a list of at least five reasons why they believe the source they have chosen is the scholarly source. After each group completes their list, students share their responses with the librarian, who compiles a list of characteristics of scholarly journals on the board from the groups’ answers, adding any essential characteristics that groups may have missed in their analysis.

2. Characteristics of Empirical Journal Articles (LO2, 10–15 minutes, essential)
   - Each student group is given one empirical journal article and one other (non-empirical) journal article. Students identify the differences between the two types of articles and guess which one is the empirical article. After each group completes their list, they share their responses with the librarian, who compiles a list of the characteristics of empirical articles on the board from the group answers, adding any essential characteristics that the groups may have missed in their analysis. This also gives the students an opportunity to discuss why the articles are different and to realize how these differences might give clues to the process the authors used to write them, as well as provide specific types of information that is useful for different purposes.

3. Searching PsycINFO for Empirical Research Articles (LO3, 15–20 minutes, essential)
   - Students watch a demonstration by the librarian, who models how to do an advanced search in PsycINFO. Students are shown that empirical article is one of the search limiters
available under the methodology limits. Students also are shown strategies for using keywords and search limiters to find articles. Students then search for an empirical article on their own topic and share it with the class by posting it to the class Padlet. Students are able to ask any questions they might have about searching to either the librarian or their professor.

**Assessment**

Assess how many students were successfully able to locate an empirical journal article as instructed. If 70 percent or more of students were successful at locating the correct type of article, the lesson will be considered successful.

**Notes**

2. Ibid., 104.
3. Ibid., 107.

**Bibliography**

