

CHAPTER 2

DEVELOPING A RESEARCH QUESTION

Suggestions for Lecture/Discussion

We generally cover this topic in a lab session conducted in a computer lab. It is ideal if all the students can have their own stations, but groups of two or three per computer can also be effective. Of course, hands-on experience is preferred when learning this material. We have our students complete references that are missing authors, journal names, titles, or years. In addition, we show slides of the screens from a search that was previously completed. This is one time when it pays big dividends to have done a search in advance as part of your preparation for the lecture.

Because so many libraries now carry predominantly electronic versions of journals, it can be helpful to bring hard copies of journals to class. The concepts of “issue” and “volume” make considerably more sense in hard copy than electronically.

Most students will be proficient with the Internet. Making the distinction between scholarly and non-scholarly material will take some discussion. Having students evaluate websites using the criteria provided by Kirk (1996) can be eye-opening for them. It is also useful to have students compare the results of general search engines like Google with specialized databases such as PsycINFO.

Web-Based Workshops

Wadsworth Cengage Learning company maintains a set of web-based workshops in research methods that summarize and supplement some of the material in the text in a lively fashion. They provide another view of research methods that should be helpful for students in reviewing concepts from the course. They are available at:

www.cengage.com/psychology/workshops

The research methods workshop entitled “Getting Ideas for a Study” is particularly appropriate for this chapter.

Learning Objectives

After reading this chapter, the student should be able to:

1. Describe the steps in developing a researchable question.
2. Describe the general types of tools available to use in searching the scientific literature.
3. Perform a literature search using proprietary databases, with the help of a librarian.
4. Judge the credibility of material obtained from the Internet.
5. Know the format and uses of a research proposal.

Key Words and Concepts

Journal

Literature Review

URL

Peer Review

Internet vs. Library

Authorship

Sponsorship

Point of View

Connection to the Literature

Verifiability

Currency

Search Engine

Website

Proprietary

PsycInfo

PsycArticles

Web of Science

E-mail

Inter-library loan

Research Question

Proposal

Multiple-Choice Questions

1. Ideas for studies can be found:
- From talking to your instructor
 - In textbooks
 - From reading journal articles
 - All of the above

ANS: d REF: p. 35

2. A Psychological Journal is
- A notebook for writing down your most important thoughts
 - A notebook for writing down the details of an experiment
 - A professional magazine
 - Another term for a Psychology textbook

ANS: c REF: p. 36 MSC: WWW

3. In picking a topic for research, the most important step is to
- be sure the topic is big enough
 - be sure the topic is interesting
 - be sure others have studied the problem
 - get started

ANS: d REF: p. 36

4. The text suggests that a good first step in researching a broad topic is to
- start with PsycINFO
 - browse national magazines, like *Newsweek*
 - check a textbook or handbook
 - ask your friends

ANS: c REF: p. 36

5. Once you have found an interesting topic, you should try to
- expand your search to include all of psychology
 - narrow the topic down to a manageable size
 - find the full history of your topic
 - plan your experimental design

ANS: b REF: p. 36

6. Which of the following statements is true?
- a. It is hard to make a research question too broad
 - b. It's hard to make a research question too narrow.
 - c. Students typically begin with a narrow, focused research question
 - d. A general question (rather than a specific one) is best for a research project.

ANS: b REF: p. 36

7. When beginning to do research in a new area of study, you should
- a. plunge right in and design a study
 - b. not be too influenced by the work of others, as it could limit your creativity
 - c. conduct a literature review
 - d. start recruiting participants

ANS: c REF: p. 36

8. One of the feelings that newcomers to a field of research often have is _____
- a. Happiness
 - b. Overwhelmed
 - c. Sadness
 - d. Pride

ANS: b REF: p. 36

9. What is the purpose of doing a thorough literature review before designing an experiment?
- a. Actually, you shouldn't do one. They are a waste of time.
 - b. The APA requires one prior to publication.
 - c. You need to know what research has already been done in the area
 - d. To make use of proprietary databases

ANS: c REF: p. 36

10. A Uniform Resource Locator is a(n)
- a. web address
 - b. librarian
 - c. electronic card catalog
 - d. database

ANS: a REF: p. 37

11. The pre-publication process in which work submitted for publication is evaluated by others is called
- a. Other evaluation
 - b. Informative selection
 - c. Filtered evidence
 - d. Peer review

ANS: d REF: p. 37 MSC: WWW

12. Which of the following is true of a library but **not** necessarily true of the Internet?
- a. Someone other than the author placed the material there.
 - b. All of the material is from nonprofit organizations.
 - c. The material is not controversial.
 - d. All of these are true.

ANS: a REF: p. 37

13. One of the problems with fully trusting information found on the internet is that it is

-
- a. Not empirical
 - b. Not logical
 - c. Anyone can put any information on the internet
 - d. Proprietary

ANS: c REF: p. 38

14. Information obtained from a web site gains credibility if
- a. the author is a well known authority
 - b. the author's work is cited approvingly by a well-known authority
 - c. you can find biographical material validating the author's credentials
 - d. All of these increase credibility.

ANS: d REF: p. 38 MSC: WWW

15. Information obtained from web sites maintained by political or advocacy groups should be considered
- a. as accurate
 - b. somewhat cautiously
 - c. as false
 - d. as proprietary

ANS: b REF: p. 38

16. Information on a corporation's website should be considered
- a. accurate
 - b. false
 - c. an advertisement
 - d. a public service announcement

ANS: c REF: p. 38

17. A credible web site
- a. Should discuss the way that it's funded
 - b. Should never reveal its sources
 - c. Should reference the literature
 - d. Should present ideas from a specific point of view

ANS: c REF: p.38

18. When considering information on a web site's credibility, you should
- a. try to find a date that allows you to evaluate the timeliness of the document
 - b. make sure that it's sponsored by a corporation
 - c. check to make sure that it's information is in line with your point of view
 - d. make sure that language appropriate for the common person is used

ANS: a REF: p.38

19. The website www.fedstats.gov gives information
- a. About the US Government
 - b. About Research Methods
 - c. Budgetary information from the US Government
 - d. Statistical Information from the US Government

ANS: d REF: p. 39

20. Psych Web (www.psychwww.com) is

- a. A proprietary database
- b. A search engine
- c. A meta-engine
- d. A website maintained by an individual

ANS: d REF: p. 39

21. A search engine is

- a. An index for philosophical ideas
- b. Too diffuse to be useful
- c. a specialized program that searches the Web for documents
- d. an engine that permits you to use special features of programs

ANS: c REF: p. 40

22. Some search engines

- a. Are limited to subscribers
- b. Sell space to advertisers.
- c. Store electronic journal articles
- d. Are slowed by other programs on your computer

ANS: b REF: p. 40 MSC: WWW

23. A meta-engine is

- a. a search engine for philosophical subjects
- b. more focused than other search engine
- c. a search engine that searches the output of other search engines
- d. an engine that permits you to use special features of other search engines

ANS: c REF: p. 40

24. Metacrawler.com is an example of

- a. A meta-engine
- b. A proprietary database
- c. An academic-targeted search engine
- d. A result from Google Scholar

ANS: a REF: p. 40

25. The problem with using an academic-targeted search engine like Google Scholar as the sole source of your information search is that

- a. Google Scholar is very expensive
- b. it is not clear which journals, books, or websites that Google Scholar uses to find its information
- c. All of the information it provides is popular press
- d. Psychology journals and books are not included in Google Scholar

ANS: b REF: p. 40

26. A proprietary web site is one that

- a. is limited to subscribers
- b. carries information on pharmaceuticals
- c. is not available to minors
- d. None of these is true.

ANS: a REF: p. 40

27. Proprietary web sites are

- a. not used by psychologists
- b. analogous to magazines to which you must subscribe so you can read them
- c. freely available to the public
- d. never accessed via the library

ANS: b REF: p. 40

28. PsycINFO and PsycARTICLES are examples of:

- a. primary sources
- b. secondary sources
- c. reference works
- d. bibliographic tools

ANS: d REF: p. 41

29. PsycARTICLES contains only

- a. References to full-text articles
- b. References to books
- c. References to primary sources
- d. References to articles on mental health issues

ANS: a REF: p. 41

30. If you push the *Cited References* button after looking up an article in PsycINFO, you effectively

- a. Move forwards in time as to the known research on your topic
- b. Move backwards in time as to the known research on your topic
- c. Search for keywords
- d. Annotate your document

ANS: b REF: p. 41 MSC: WWW

31. If you push the *Times Cited in this Database* button after looking up an article in PsycINFO, you effectively

- a. Move forwards in time as to the known research on your topic
- b. Move backwards in time as to the known research on your topic
- c. Search for keywords
- d. Annotate your document

ANS: a REF: p. 41

32. PsycINFO does not contain

- a. popular magazines
- b. journal references
- c. references to dissertations
- d. references to technical reports

ANS: a REF: p. 41

33. PsycINFO allows one to search for documents using

- a. Keywords
- b. Titles
- c. Journal names
- d. All of the above

ANS: d REF: p. 41

34. The best use of data bases such as PsycINFO is to _____ studies on a given problem.

- a. find the latest
- b. find the earliest
- c. determine which are the key
- d. make a list of all

ANS: c REF: p. 41

35. Web of Science permits
- a. one to go back in time from a starting reference
 - b. keyword searches
 - c. author searches
 - d. one to go forward in time from a starting reference

ANS: d REF: p. 42

36. E-mail
- a. should only be used to contact acquaintances
 - b. is increasingly used for scientific exchange
 - c. messages are not usually replied to as promptly as telephone messages or regular mail
 - d. all of these are true

ANS: b REF: p. 42

37. Large psychological data sets are being made available on the Internet so that
- a. the data may be analyzed for relationships not considered by the original researchers
 - b. researchers can mimic experimental techniques
 - c. as part of new National Institute of Health guidelines
 - d. researchers know what other researchers are working

ANS: a REF: p. 42

38. If I wanted to find articles about heart disorders in people with Bipolar Disease, I could
- a. Search for "Heart Disorders" using PsycINFO
 - b. Search for "Bipolar Disease" using PsycINFO
 - c. Perform both "a" and "b", then combine the searches with an "AND"
 - d. Perform both "a" and "b", then combine the searches with an "OR"

ANS: c REF: p. 44

39. Why should you stop yourself from restricting your search to full-text articles that are available on-line?
- a. these articles are proprietary, and thus too expensive to use exclusively
 - b. they are not yet peer reviewed
 - c. a thorough literature search will probably have articles and books on it that are not yet available online
 - d. You shouldn't. Full-text only is fine

ANS: c REF: p. 45

40. In the event that you cannot find a book that you need through your library, you should:
- a. Order the book through InfoTrac
 - b. Order the book through Inter-Library Loan
 - c. Call all of the libraries in a 100 mile radius looking for the book
 - d. Call your instructor

ANS: b REF: p. 45

- 41.** If you are interested in reading an article that is in a journal that your library doesn't carry, you could
- a.** Order it via Inter-Library Loan
 - b.** Look it up on INFOTRAC
 - c.** Try a PsycINFO search
 - d.** Use Web of Science

ANS: a REF: p. 45

- 42.** When doing a literature search, after you have located the key articles in a given field, you should then carefully read the _____ and skim the rest
- a.** abstracts and conclusions
 - b.** method sections
 - c.** results sections
 - d.** none of these; you should carefully read the entire articles

ANS: a REF: p. 46

- 43.** After you have done an initial review of the key articles in your area of research, you should
- a.** Start your study
 - b.** Write a research proposal
 - c.** Collect your data
 - d.** Consider the methodology found in these studies.

ANS: d REF: p. 46

- 44.** The statement of the research question should be as _____ as possible
- a.** general
 - b.** specific
 - c.** relevant to the real world
 - d.** complete

ANS: b REF: p. 46

- 45.** The research proposal
- a.** follows the same outline as a published article
 - b.** states the expected results and how they will be analyzed
 - c.** serves as a sort of contract between the student and the adviser
 - d.** all of these are true

ANS: d REF: p. 46

- 46.** As you develop your hypothesis and design your experiment,
- a.** you should ask yourself "Exactly what am I trying to find out?"
 - b.** you should ask yourself "Is this fundable?"
 - c.** you should worry about whether anyone else has tried to do this before
 - d.** you should ask yourself "Is this really what I'm interested in?"

ANS: a REF: p. 46

- 47.** A research proposal is:
- a.** A Master's Thesis
 - b.** A statement of everything necessary to evaluate the adequacy of the research before it is conducted
 - c.** What scientists give before they can get married
 - d.** A request for money

ANS: b REF: p. 47

- 48.** A research proposal is generally required by
- a.** A Committee for a Master's Thesis
 - b.** Funding agencies
 - c.** University ethics boards
 - d.** All of the above

ANS: d REF: p. 47

- 49.** The advantage of the proposal is that it
- a.** serves as a sort of contract between student and adviser
 - b.** forces the researcher to think through details such as the exact statistic to be used
 - c.** provides a basis for much of the eventual published report
 - d.** All of these are true.

ANS: d REF: p. 47

- 50.** The format for a research proposal is
- a.** Generally similar in outline and style as the final report
 - b.** Usually very brief (fewer than 120 words)
 - c.** Done with a few key points, rather than paragraph form
 - d.** Almost always an oral presentation

ANS: a REF: p. 47

- 51.** The introduction of a research proposal
- a.** Contains experimental methodology
 - b.** Explains your reason for wanting to do the study
 - c.** Contains what the data means
 - d.** Includes a request for money

ANS: b REF: p. 47

- 52.** The introduction of a research proposal
- a.** Gives the way that theories would predict the experimental outcome
 - b.** Explains the data
 - c.** Includes a request for money
 - d.** Includes the way that the data will be collected

ANS: a REF: p. 47

- 53.** The methods section of a research proposal
- a.** indicates the expected results
 - b.** gives details of expected analysis
 - c.** explains the way in which you want to test your hypothesis
 - d.** Is not really necessary, since the experiment has not yet taken place

ANS: c REF: p. 47

54. The results section of a research proposal
- indicates the *actual* results
 - indicates the *expected* results
 - does not give details of analysis
 - does not include any graphic presentations

ANS: b REF: p. 47

55. The _____ section of a research proposal is much shorter than the other sections
- Results
 - Methods
 - Introduction
 - Discussion

ANS: d REF: p. 47

Topics for Discussion and Essay

1. What is the difference between the Internet and a Library, and what is its significance?

ANS: The Internet has become a valuable tool in research, but it is not a library. But the difference is that anyone can put anything on the Internet. All the information in libraries was put there by a person other than the author who made a decision to do so. Further, the books and journals that are selected by the librarian have editors. Many of these resources are peer reviewed, meaning that other professionals in the field felt that the work was worthy of publication. The Internet has none of these filters.

2. What is meant by peer-review, and when does it generally occur?

ANS: Peer-review is a prepublication process in which work submitted for publication is evaluated for quality by several other experts in the field.

3. How does one evaluate the credibility of information obtained from the Internet?

ANS: Kirk (1996) suggests that people evaluating websites examine the authorship, publishing body, point of view, connection to the literature, verifiability, and currency.

4. Discuss the advantages and disadvantages of various proprietary databases for searching the scientific literature in Psychology.

ANS: PsycARTICLES contains only full-text articles, so that one can immediately examine an article on the topic that you are researching. However, it indexes considerably fewer journals than PsycINFO does. PsycINFO indexes all of the articles contained in PsycARTICLES, as well as a large number of psychological journals, books, and dissertations. These items may not be available immediately, but may be highly relevant to the research.

5. What are some of the methods that might be used to locate important articles after you have found references to them in a database?

ANS: The method that you use to find an article depends upon the journal subscriptions of your library. Some journal articles may be available in full-text through your library's website. Others may require you going to the library to find them. Still others may be obtained through inter-library loan.

Answers to Exercises

2.1. Answers will vary.

2.2. Answers will vary.

2.3. Answers will vary.