Lecture Notes

# Chapter 4: How to Critically Review the Literature and Develop Good Research Questions

## Learning Objectives

* 1. Critically evaluate the quality of an empirical research study.
  2. Identify research problems.
  3. Explain why it is necessary to conduct a literature search.
  4. Conduct a literature search.
  5. Explain the reason for stating the purpose of a research study and the research questions.
  6. Explain the difference between purpose statements and research questions in qualitative and quantitative studies.
  7. Explain the purpose and necessity of stating your research questions and hypotheses.
  8. Explain the difference between problem statements in qualitative and quantitative studies.
  9. State one or two research questions you would like to answer using empirical research.

## Chapter Summary

Chapter 4 provides information on the importance of literature reviews in conducting research. It provides students with strategies for understanding the research articles that they find. Finally, the chapter concludes with strategies for developing research questions.

## Annotated Chapter Outline

1. Sources of Research Ideas: Research ideas can emerge from several sources but the ideas emerge from questioning and taking an inquisitive approach.
   1. Everyday life
      1. Observations from work
      2. Questions needing answers
      3. Discussion Question: have students think about what educational techniques or practices they believe work well or do not work well. Would they be interested in doing a research study on one or more of those techniques or practices?
   2. Practical Issues
      1. Current problems facing those in education
      2. Discussion Question: What research topics to students think can address problems they are currently facing at work?
   3. Past Research
      1. Probably the most important source of research ideas
      2. Research usually generates more questions than it answers.
      3. Best way to come up with a specific idea that will fit into and extend the research literature.
      4. Table 4.1 provides information on how prior research can provide ideas for new research.
      5. Discussion Question: From research students have already read, ask them to identify other research questions emerging from the existing research.
   4. **Theory:** an explanation or explanatory system that discusses how a phenomenon operates and why it operates as it does
      1. Can the researcher summarize and integrate a set of past studies into a theory?
      2. Are there any theoretical predictions needing empirical testing?
      3. Do researchers have any “theories” that they believe have merit? Test them!
      4. If there is little or no theory in the area of interest, then think about collecting data to help generate a theory using the grounded theory technique.
      5. Discussion Question: Give students a theory (or have them find one) and ask them to develop additional research questions from the existing theory OR have students develop a theory they would like to research.
   5. **Research Topic**: the broad subject matter area to be investigated
      1. Figure 4.1: Flowchart of the development of a research idea
      2. Identifying a research topic is the first step in developing a research idea
2. Ideas That Can’t Be Resolved Through Empirical Research
   1. **Empirical research**: Research that is based on the collection of observable data.
      1. Cannot provide answers to “ultimate,” “metaphysical,” or “ethical” questions
   2. Discussion Question: discuss other research topics that cannot be answered by empirical research
3. Review of the Literature
   1. Quantitative Research
      1. Builds” on past research
      2. A review of prior research must be done before conducting the study.
      3. The literature review will help the researcher to see whether the research problem has already been done, show the data collection instruments that have been used, show designs that have been used, and show theoretical and methodological issues that have arisen.
      4. Studies vary greatly in quality so the quality of each research study must be judged and there may need to be adjustments in the researcher’s claims.
         1. Table 4.2: Checklist for *Critically* Evaluating a Quantitative Study
   2. Qualitative Research
      1. Often little prior literature is available
      2. Explanation of study’s theoretical underpinnings
      3. Assist in formulation of research question and selection of study population
      4. Stimulate new insights and concepts throughout study
      5. Completed before study is conducted or after
      6. Quality of existing research is important.
         1. Table 4.3: Checklist for *Critically* Evaluating a Qualitative Study
      7. Discussion Question: Have students compare Tables 4.2 and 4.3 and explain how the difference between the quantitative and qualitative research reflects the differences in the tables.
   3. Mixed Methods Research
      1. Full multidisciplinary review of qualitative and quantitative studies related to the research question or area of interest.
      2. Quality of both quantitative and qualitative research is important
         1. Table 4.4: Checklist for *Critically* Evaluating a Mixed Methods Research Study
   4. Sources of Information
      1. Books are a good starting point. They give an overview and a summary of relevant research and theory, but they are not comprehensive nor up to date.
      2. Journals are another excellent source. Journals provide the most recent information and full-length empirical research articles for the researcher to carefully examine.
      3. Computer databases are excellent sources for locating information.
         1. More efficient than looking through individual journals.
         2. Look at what your university has.
         3. Search multiple databases
            1. Educational Resources Information Center (ERIC): database containing information from *Current Index to Journals in Education (CIJE)* and *Resources in education (RIE)*
            2. PsycINFO: a database containing entries from *Psychological Abstracts*
            3. SocINDEX: a database containing entries from *Sociological Abstracts*
            4. Business Source Premier: a database containing entries from all areas of business.
4. Feasibility of the Study
   1. Before deciding whether to carry out a research project, the researcher must decide whether it would be feasible to conduct the study.
   2. This should be done as early as possible, so they do not waste their time.
   3. The research study designed must be able to be carried out given the available resources (e.g., time, money, and people)
5. Statement of the Research Problem
   1. **Research Problem:** an education issue or problem within a broad topic area
   2. Stating a Quantitative Research Problem
      1. Emphasis is on the need to explain, predict, or statistically describe an outcome or even.
      2. Should be conducted to explain why the problems exist and how to solve the problems
   3. Stating a Qualitative Research Problem
      1. Focuses on understanding the inner world of a particular group or exploring some process, event, or phenomenon
   4. Stating a Mixed Research Problem
      1. Emphasis is on a combination of understanding insider’s perspectives or exploration of some process and explanation, prediction, and statistical description.
   5. Discussion Question: Have students describe research problems for hypothetical studies and use class discussions to evaluate them.
      1. Notes
      2. Notes
6. Statement of Purpose of the Study
   1. Purpose of a research study: the researcher’s intent or objective of the study
   2. Statement of Purpose in a Quantitative Study
      1. Identifies the specific type of relationship being investigated using a specific set of variables
   3. Statement of Purpose in a Qualitative Study
      1. Focuses on exploring or understanding a phenomenon
         1. Sense of emerging design
         2. State and define central idea to be described, understood, or discovered
         3. Select method to be used
         4. Unit of analysis and/or research site
   4. Statement of Purpose in a Mixed Methods Study
      1. Combination of elements in statements of purpose for quantitative and qualitative
      2. Quantitative and qualitative perspectives about the research phenomenon
   5. Discussion Question: Have students evaluate different statements of purpose of the study from published articles
7. Statement of Research Questions
   1. Research Question: statement of the specific question the researcher seeks to answer via empirical research
   2. Statement of a Quantitative Research Question
      1. **Quantitative Research Question**: a question about the relationship that exists between two or more variables.
      2. Cause and effect relationship questions call for a strong experiment.
      3. Descriptive and predictive questions call for nonexperimental research designs
   3. Statement of a Qualitative Research Question
      1. **Qualitative Research Question:** a question about some process, issue, or phenomenon to be explored
      2. General, open-ended, and overarching question to be answered
   4. Statement of a Mixed Methods Research Question
      1. Four perspectives:
         1. One method is primary so there are primary and supplemental or secondary questions
         2. Qualitative and quantitative lenses for all research questions
         3. There should be separate quantitative and qualitative research questions that are equally important, and both sets of questions address some part of the overall research topic.
         4. One or more “mixed methods” research questions
8. Formulating Hypotheses
   1. **Hypothesis**: a prediction or educated guess; the formal statement of the researcher’s prediction of the relationship that exists among variables under investigation.
      1. Emerges from literature review or theory
      2. Must be capable of being confirmed or not confirmed.
      3. In quantitative studies
9. Consumer Use of the Literature
   1. Do not consider the results of any one story to be conclusive
   2. Need to look across multiple studies to see whether findings are repeatedly confirmed
   3. **Meta-analysis**: a quantitative technique that is used to integrate and describe the results of a large number of studies.
      1. Because of the importance of viewing the full set of studies on an issue and the built-in benefit of replication when this is done, you can see why we recommend that students pay special attention to meta-analyses when they find them in their literature searches.
   4. **Meta**-**synthesis:** the systematic review or integration of qualitative research findings into a literature summary article