EDFS 635 - Educational Research

**General Guidelines for Evaluating Research Reports** *

**Introduction**

**Problem**

1. Is there a formal statement of the problem or a qualitative topic of study? Is it written in a manner consistent with guidelines discussed in the course? Does the problem or topic indicate a particular focus of the study?
2. Is the problem “researchable” -- i.e., can it be investigated through the collection and analysis of data?
3. Is background information on the problem presented?
4. Is the educational significance of the problem discussed?
5. Does the quantitative problem statement indicate the variables of interest and the specific relationship between those variables that were investigated?
6. Does the qualitative problem statement provide a general indication of the research topic or issue?
7. When necessary, are variables directly or operationally defined?
8. Does the researcher have the knowledge and skill to carry out the proposed research?

**Review of Related Literature**

1. Is the review comprehensive?
2. Are all references cited relevant to the problem under investigation?
3. Are the references relatively recent? If not, is there a good reason for their antiquity?
4. Are most of the sources primary (i.e., are there only a few or no secondary sources)?
5. Have the references been critically analyzed and the results of various studies compared and contrasted -- i.e., is the review more that a series of abstracts or annotations?
6. Is the review well organized -- i.e., does it logically flow in such a way that the references least related to the problem are discussed first and the most related references are discussed last? Does it adequately educate the reader about the topic?
7. Does the review conclude with a brief summary of the literature and its implications for the problem under investigation?
8. Do the implications discussed form an empirical or theoretical rationale for the hypotheses which follow?
9. Are references cited completely and accurately?

**Hypotheses**

1. Are specific questions to be answered listed or specific hypotheses to be tested stated? If questions or hypotheses are not stated formally, what are the implications for the study?
2. If hypotheses are stated, are they stated correctly based on course material? What type of hypotheses are used?
3. Does each hypothesis state an expected relationship or difference?
4. If necessary, are variables directly or operationally defined?
5. Are the hypotheses testable?

**Method**

**Participants**
1. Are the size and major characteristics of the population studied described? Based on this description, to what groups can the results of this be generalized?
2. If a sample was selected, is the method of selecting the sample clearly described?
3. What type of sampling was used? Was it implemented correctly?
4. Is the sampling method likely to result in a representative, unbiased sample?
5. Did the researchers avoid the use of volunteers?
6. If the study is quantitative, does the sample size meet the guidelines for minimum sample size for this type of research? What are the implications for the study if too few subjects were used?

**Instruments**
1. Do the instruments and their administration meet guidelines for protecting human subjects?
2. Is the rationale given for the selection of the instruments (or measurements) used?
3. Is each instrument described in terms of purpose, content, reliability, and validity? If not, what are the implications for the study?
4. Are the instruments appropriate for measuring the intended variables?
5. Does the researcher have the needed skills or experience to construct or administer an instrument?
6. Is evidence presented to indicate that the instruments are appropriate for the intended sample? For example, is the reading level of an instrument suitable for sample participants?
7. If an instrument was developed specifically for the study, are the procedures involved in its development and validation described?
8. If an instrument was developed specifically for the study, are administration, scoring or tabulation, and interpretation procedures fully described?
9. Is the correct type of instrument used for data collection (e.g., using a norm-referenced instrument when a criterion-referenced one is more suitable)?

**Design & Procedure**
1. If quantitative methods were used, what experimental design was used? Is this design appropriate for testing the hypotheses of the study?
2. Again, if quantitative methodology was used, describe potential sources threats to internal and external validity. Were critical extraneous variables identified? Were any control procedures applied to equate groups on extraneous variables?
3. Assuming this is a quantitative study, is the method of group formation described? Was the experimental group formed in the same way as the control group? Were groups
randomly formed and use of existing groups avoided? What implications for the study does method of group formation have?

4. If quantitative methodology was used, were treatments randomly assigned to groups? If they weren’t, what are the implications for the study?

5. Are the procedures described in sufficient detail to permit them to be replicated?

6. Is the application of the qualitative method described in detail?

7. Is the context of the qualitative study described in detail?

Results

1. Are appropriate descriptive statistics presented?

2. Are the tests of significance used appropriate, given the hypotheses and design of the study?

3. Are the results clearly presented?

4. Are the tables and figures well organized and easy to understand?

5. Are the data in each table and figure described in the text?

6. Was the inductive logic used to produce results in a qualitative study made explicit?

Discussion (Conclusions & Recommendations)

1. Is each result discussed in terms of the original hypothesis to which it relates?

2. Is each result discussed in terms of its agreement or disagreement with previous research?

3. Are implications and generalizations consistent with the results?

4. Are possible effects of uncontrolled variables on the results discussed?

5. Are both theoretical and practical implications of the findings discussed?

6. Are the recommendations for future action based on practical significance or on statistical significant only (i.e., has the author avoided confusing practical and statistical significance)?

Methods Specific Guidelines for Evaluating Research Reports

Qualitative

1. Does the topic to be studied describe a general sense of the study focus?

2. Is the purposive sampling procedure described and related to the study focus?

3. Is each data collection strategy described?

4. Is the role the researcher assumed stated (e.g., observer, participant observer, interviewer, etc.)?

5. Is the research site and the researchers entry into it described?

6. Were the data collection strategies used appropriately, given the purpose of the study?

7. Were strategies used to strengthen the validity and reliability of the data (e.g., triangulation)?

8. Is there a description of how any unexpected ethical issues were handled?

9. Were strategies used to minimize observer bias and observer effect described?

10. Are the researcher’s reactions and notes differentiated from descriptive fieldnotes?
11. Are data coding strategies described and examples of coded data given?
12. Is indicative logic applied to the data to produce results stated in detail.
13. Are conclusions supported by data (e.g., are direct quotes used to illustrate points made)?

**Observation Studies**

1. Are observational variables defined?
2. How were observers trained? Is this training described fully?
3. Did different observers work and score independently?
4. Were observers required to observe only one behavior at a time?
5. Was a coded recording instrument used?
6. Are the qualifications and special training of the observers described?
7. Was the level of interobserver reliability obtained from a least two independent raters and is the result reported?
8. Is the level of interobserver reliability sufficiently high?
9. Were efforts made to overcome observer bias and observer effect?
10. Was the observation of subjects the most appropriate approach for data collection (as opposed to use of some unobtrusive measure)?
11. Was a description of how the observational data were analyzed provided?

**Interview Studies**

1. Were the interview procedures pretested?
2. Are pilot study procedures and results described?
3. Does each item in the interview guide related to a specific objective of the study?
4. When necessary, is a point of reference given in the guide for interview items?
5. Are leading questions avoided in the interview guide?
6. Is the language and complexity of the questions appropriate for the participants?
7. Does the interview guide indicate the type and amount of prompting and probing that was permitted?
8. Are the qualifications and special training of the interviewers described?
9. Is the method used to record responses described?
10. Did the researcher use the most reliable, unbiased method of recording responses that could have been used?
11. Did the researcher specify how the responses to semistructured and unstructured items were quantified and analyzed?

**Survey (Descriptive) Research**

**Questionnaire Studies**

1. Are questionnaire validation procedures described?
2. Was the questionnaire pretested?
3. Are pilot study procedures and results described?
4. Are directions to questionnaire respondents clear?
5. Does each item in the questionnaire relate to one of the objectives of the study?
6. Does each questionnaire item deal with a single concept?
7. When necessary, is a point of reference given for questionnaire items?
8. Are leading questions avoided in the questionnaire?
9. Are there sufficient alternatives for each questionnaire item?
10. Does the cover letter explain the purpose and importance of the study and give the potential responder a good reason for cooperating?
11. If appropriate, is confidentiality of anonymity of responses assured in the cover letter?
12. What is the percentage of returns and how does it affect the study results?
13. Are follow-up activities to increase returns described?
14. If the response rate was low, was any attempt made to determine any manner differences between responders and nonresponders?
15. Are data analyzed in groups or clusters rather than a series of many single-variable analyses?

**Correlational Research**

**Relationship Studies**

1. Were variables carefully selected (i.e., was a “shotgun” approach avoided)?
2. Is the rationale for variable selection described?
3. Are conclusions and recommendations based on values of correlation coefficients corrected for attenuation or restriction in range?
4. Do the conclusions avoid suggesting causal relationships between the variables investigated?

**Prediction Studies**

1. Is a rationale given for selection of predictor variables?
2. Is the criterion variable well defined?
3. Was the resulting prediction equation validated with at least one other group?

**Causal-Comparative Research**

1. Are the characteristics or experiences that differentiate the groups (the independent variable) clearly defined or described?
2. Are critical extraneous variables identified?
3. Were any control procedures applied to equate the groups on extraneous variables?
4. Are causal relationships found discussed with due caution?
5. Are plausible alternative hypotheses discussed?

**Experimental Research**

1. Was an appropriate experimental design used?
2. Is a rationale for design selection given?
3. Are sources of invalidity associated with the design identified and discussed?
4. Is the method of group formation described?
5. Was the experimental group formed in the same way as the control (or, comparison) group?
6. Were groups randomly formed and the use of existing groups avoided?
7. Were treatments randomly assigned to groups?
8. Were critical extraneous variables identified?
9. Were any control procedures applied to equate groups on extraneous variables?
10. Were possible reactive arrangements (e.g., Hawthorne effect) controlled for?
11. Were tables clear and pertinent to the research results?
12. Were the results generalized to the appropriate group?

* Adapted from Gay & Airasian (2003). Educational Research: Competencies for Analysis and Applications