

EASTERN MICHIGAN UNIVERSITY

EDPS 677: Methods in Quantitative Research Winter 2008

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EMU Theme: Eastern Michigan University advanced professional education programs develop leaders who demonstrate reflective thought and scholarship within the context of a culturally diverse society.

Purpose: This basic foundation course is required of graduate students at the master's degree level of many curricula in the college of Education. The emphasis is on consumership of research rather than its production. Major emphases are placed on understanding the process of empirical research, understanding the basic concepts and methods of educational research, and interpreting and evaluating the products of empirical research, including locating and evaluating research articles. This course provides students with a general understanding of different paradigms, key concepts, and ethical issues in research. Major emphasis is on the design and interpretation of quantitative research studies, including problem and hypothesis formulation, research design, data collection, data analysis and interpretation. There are no prerequisites for this course and the majority of students enrolling in this course do not have a background in research methodology or statistics. Students are encouraged to apply the principles and underlying concepts of educational research to their own areas of interest. Focus is on critical appraisal of published research. 3.0 Graduate Credit Hours - College of Education, Teacher Education Department

Course Goals: The student will be able to:

1. Identify the steps of scientific method found in journal articles.
2. Understand the processes and procedures of educational research.
3. Compare and contrast the central characteristics of the qualitative and quantitative research paradigms.
4. Demonstrate a working knowledge of key research concepts.
5. Analyze and evaluate different quantitative data-gathering methods and determine appropriate applications.
6. Analyze and evaluate diverse quantitative research studies.
7. Demonstrate a working knowledge of human subjects requirements with particular attention to children -- a protected population.
8. Understand the basic terminology of educational research.
9. Demonstrate a working knowledge of the major steps and procedures for conducting quantitative research and reporting results.
10. Develop skills in locating, reading interpreting, and summarizing various types of research reports and articles.
11. Conduct searches of bibliographic databases appropriate to area of interest to locate published research studies on a particular topic.

12. Critically evaluate the quality of published research studies.
13. Create a proposal for a future study or report analysis of data from a research study.
14. Acquire a background for further preparation and training in research activities.

Textbooks

Fraenkel, J. & Wallen, N. (2006). *How to design and evaluate research in education* (6th ed.). New York: McGraw Hill.

&

American Psychological Association (2006). *Publication manual for the APA* (5th or 6th ed.). Washington, DC: Author.

or

Pocket Guide to APA Style (ISBN 0-618-691197).

Final Grading (Total of 100 points)

Your final grade will be based on 10 quizzes, a research proposal (final paper), and participation.

- 1) Each quiz will be graded on a scale of 0-4.
- 2) The research proposal will be graded on a scale of 0-50.
 - i) Literature Review section of your research proposal will be graded on a scale of 0-20.
 - ii) Rest of your research proposal will be graded on a scale of 0-30.
- 3) Your Participation will be graded on a scale of 0-10.

1) Weekly Quiz Grading (Total of 40 points)

Except for the first week noted below, we will be going through 2 chapters per week. There are three to four potential questions per chapter listed below, or approximately eight potential quiz questions per week. **On Thursday of each week by 8:00 a.m. I will pick a quiz question from the potential quiz questions for that week and post it in the quiz section of the website. Your answer to that quiz question must be posted on the website by 11:00 pm that day (e.g., you will have only about 15 hours to upload your answer the question).**

IMPORTANT NOTE: Once you access the website to post your answer, you will have only 30 minutes to upload your answer. Therefore, it is important for you to have your answer complete prior to accessing the website then you can simply upload your answer into the website.

I expect detailed and very complete answers to the question, simple answers while they may elegant, will not be sufficient for a good grade. Late answers will **NOT** be accepted and quizzes may not be re-submitted. The specific due dates are listed below.

If you have any questions about any quiz question below (or the textbook or a presentation), you are encouraged to review the questions below and raise any questions **well before** I post the quiz. (In other words, I suggest you sketch out answers to every question in advance and then review and revise your answer only to the quiz question I post). Admittedly, a day to answer quiz is a tight timetable and it will most likely take some time for me to respond (I have other classes and I am not online continuously). Please expect that it will take 2 business days for me to respond (If I do not respond in 2 business days, please forward me a reminder). Therefore, if you have

questions, ask them early. Waiting for a response to a question is not an excuse for a late submission.

One Question per each week will be selected among the Quiz Questions below

Quiz 1---(Thu) Jan. 10: CH. 1 Quiz Questions

1. What are the advantages and disadvantages of the scientific method in comparison with other ways of knowing?
2. Many people seem to be uneasy about the idea of research, particularly research in schools. How do you explain this?
3. What are the main differences between descriptive, associational, and intervention research?
4. How do the specific types of research (i.e., experimental, correlational, causal-comparative, survey, ethnographic, historical, and action) fit under the general types of research (i.e., descriptive, associational, and intervention)? Which of the specific types are generally quantitative, and which are generally qualitative?

Quiz 2---(Thu) Jan. 17: CH. 2 Quiz Questions

1. State an appropriate research question for the following situation:
A special education teacher has been asked by the school board and superintendent to gather some evidence about the possibility of increasing the mainstreaming of elementary school students with speech communication problems. They are concerned about how much mainstreaming should be done, how effective the approach is, and how much local support or opposition exists.
2. Provide a possible operational definition for each of the important terms in your research question.
3. State an appropriate research question for the following situation:
Your graduate school advisor asks you to draft a proposal for a large grant to study the effectiveness of her early intervention program which is aimed at training the parents of pre-school children to improve the pre-reading skills of their children. She has already developed the materials and conducted pilot studies, and she now wants to show that the program has positive effects with various groups of children.
4. Provide a possible operational definition for each of the important terms in your research question.

(Thu) Jan. 17: CH. 3 Quiz Questions

1. Under what circumstances do you think it is a good idea to state a research hypothesis in addition to a research question? Why would you not state a research hypothesis?
2. What might cause a researcher to state a directional hypothesis rather than a non-directional hypothesis? What about the reverse?
3. An elementary school decides to study the relationship between looping (same teacher for multiple years) and student achievement as measured on standardized tests. Approximately half of the students are placed in looped classrooms. Different teachers have looped and non-looped students. Identify the independent and dependent variables in this study. Which variables are quantitative and which are categorical? Write an appropriate hypothesis for this study and identify if it is directional or non-directional.
4. A counselor wants to see if a new peer mediation program for students would work at her school. She trains 25 peer mediators (students) for her middle school. She compares

the number of fights and the number of discipline referrals from the previous year to the numbers for the year with the program. As a follow-up to the study, she decides to include student gender and ethnicity as variables in her re-analysis of the data. Identify the independent and dependent variables in this study. Which variables are quantitative and which are categorical? Write an appropriate hypothesis for this study and identify if it is directional or non-directional.

Quiz 3---(Thu) Jan. 24: CH. 5 Quiz Questions

1. Why aren't all journals/journal articles and other useful resources (e.g., books, tapes) available on the Internet? Should they be? Explain.
2. What types of information should you look for when "reviewing the literature" before planning a study?
3. What are the important features of a primary source?
4. How are manual searches similar to and different from computer searches?

(Thu) Jan. 24 : APA & Library Quiz Questions

1. Describe three interesting or surprising elements of APA style that you learned from chapters 1-3 of the APA Manual.
2. The following paragraph is quoted from a 2001 article in *Educational Researcher* by Christina Salmivalli, except that the citations have been changed to Roman numerals. The sources are listed below the paragraph.

As bullying problems in schools are getting more public as well as scientific attention, there is also a growing need to develop effective methods to tackle bullying. By definition, bullying is something that happens *repeatedly and systematically* (I, II, V, and III) and the victim status, as well as that of being a bully, tends to be relatively stable when no action is taken against bullying (I and IV). Another feature of bullying is the *imbalance of power*. Even repeated fights between two students with equal strength or power would not be called bullying. Bullying is known to have not only short-term, but also long-term, negative consequences for both bullies and their victims (II). Therefore, finding effective ways of intervening is crucially important.

SOURCE I

AUTHOR: Olewus, D.

YEAR: 1978

BOOK TITLE: Aggression in the schools: bullies and whipping-boys

PUBLISHER: Hemisphere (Wiley)

PLACE: Washington, DC

SOURCE II

AUTHOR: Olewus, D.

YEAR: 1991

CHAPTER TITLE: Bully/victim problems among schoolchildren: basic facts and effects of a school based intervention program

PAGES: 411–448

EDITORS: Pepler, D. and Rubin, K.

BOOK TITLE: The Development and Treatment of Childhood Aggression

PUBLISHER: Lawrence Erlbaum
PLACE: Hillsdale, NJ

SOURCE III

AUTHORS: Salmivalli, C., Lagerspetz, K., Bjornqvist, K., Österman, K., & Kaukiainen, A.
YEAR: 1996
ARTICLE TITLE: Bullying as a group process: participant roles and their relations to social status within the group
JOURNAL: Aggressive Behavior
VOLUME: 22
PAGES: 1–15

SOURCE IV

AUTHORS: Salmivalli, C., Lappalainen, M., & Lagerspetz, K.
YEAR: 1998
ARTICLE TITLE: Stability and change of behavior in connection with bullying in schools: a two-year follow-up
JOURNAL: Aggressive Behavior
VOLUME: 24
PAGES: 205–218

SOURCE V

AUTHOR: Smith, P.
YEAR: 1991
ARTICLE TITLE: The silent nightmare: bullying and victimization in school peer groups
JOURNAL: Psychologist
VOLUME: 4
PAGES: 243–248

Using appropriate APA style, go back to the paragraph and change each Roman numeral to the correct citation.

3. Prepare an APA style list of references for the sources listed above.
4. Using appropriate online resources from the EMU library, locate a primary source (i.e., empirical research study as reported in a professional journal) on a topic of interest to you. Provide an APA style reference for the article you found, describe how you found it, and then explain why you believe the article is a primary source.

Quiz 4---(Thu) Jan. 31: CH. 4 Quiz Questions

1. What must a researcher do to conduct ethical research? In other words, what are his/her obligations to the participants in the study?
2. What special considerations should be taken into account when doing research with children?
3. As a teacher or other school official, how would the decisions you make as part of your normal responsibilities differ from those you would make if you were conducting a research study? For which types of research would this distinction be more difficult? Why?

4. Under what circumstances might research be exempt from the Institutional Review Board approval process?

(Thu) Jan. 31: CH. 6 Quiz Questions

1. How are populations and samples different and yet related? Provide an original example of a population and sample that could be used in a study of the effectiveness of an educational innovation.
2. What are the two major threats to external validity? How can they be controlled or minimized?
3. Why is random sampling difficult to do in educational research? (This is a thinking question. Think about our educational system.)
4. Evaluate the following statement: The sample consisted only of high ability students; therefore, there was no external validity. Why is it wrong?

Quiz 5---(Thu) Feb. 7: CH. 7 Quiz Questions

1. Of all the instruments presented in this chapter, which one(s) do you think would provide the most dependable information? Why?
2. Why is it important from a research perspective to understand the difference between norm-referenced and criterion-referenced interpretations?
3. Which measurement scale is a score on a math test? Explain your choice. (NOTE: There is more than one correct answer.)
4. Which measurement scale is a percentile on a reading achievement test? Explain your choice.

(Thu) Feb. 7: CH. 8 Quiz Questions

1. Why do we need to be concerned about the notions of reliability and validity in educational research? Answer your question with regard to the *instruments* (broadly defined) we use to collect data.
2. What type of validity--content-related, criterion-related, or construct-related—do you think is the easiest to obtain? The hardest? Why?
3. What is measurement error, how is it different from sampling error, and what can be done to minimize them?
4. The textbook points out that scores from an instrument may be reliable but not valid, yet not the reverse. Why would this be so?

Quiz 6---(Thu) Feb. 14: CH. 9 Quiz Questions

1. Can a researcher demonstrate conclusively that a study has internal validity? Explain.
2. Is it possible for a study to demonstrate high internal validity but have weak external validity? How about the reverse? Explain.
3. Some people confuse the concept of "internal" validity with the idea of "instrument" validity. How would you explain the difference between the two?
4. Which 2-3 threats discussed in this chapter do you think would be the most difficult for a researcher to control? Why?

(Thu) Feb. 14: CH. 10 Quiz Questions

1. Why is it important to use *both* graphs and summary indices (e.g., means, correlations) to interpret the results of a study—or is it?
2. When might the median be a better measure of central tendency than the mean?

3. What does the standard deviation measure? In order to use the standard deviation, what assumptions should be true about the scores?
4. The relationship between age and strength is generally curvilinear. What does this mean? How would this relationship effect the correlation between these two variables?

Quiz 7---(Thu) Feb. 21: CHs. 11&12 Quiz Questions

1. How do you know if a relationship or difference is statistically significant when you read a journal article? What do you look for, and how do you make the judgment?
2. What would you say to a researcher who decides to use a .20 alpha level? Why?
3. Give an example of how the results of an educational research study might be significant statistically, yet unimportant educationally. How would you respond to someone who claims that a result is educationally important even though it is not statistically significant?
4. Some researchers believe that the results of a well-designed study should be so clear that no statistical analysis is necessary. Other researchers suggest that we need to use sophisticated data-mining techniques in order to get out the richness of the data. What is your opinion on this issue? Why?

(Thu) Feb. 21: CHs. 13 Quiz Questions

1. What conditions must exist for a true experiment? Briefly describe each of them.
2. Why are control/comparison groups necessary in an experiment? That is, why can't we just give the intervention to everyone and see what happens in the end?
3. Are there any advantages and/or disadvantages to having more than one independent variable in an experimental design? If so, what are they? What about more than one dependent variable?
4. What are the major types of quasi-experimental designs? How do they differ from each other?

Quiz 8---(Thu) Mar. 6: CH. 14 Quiz Questions

1. Provide an original example showing why and how you might use single-subject research in an educational setting.
2. If you were a special education teacher with an idea for a new intervention, which single-subject design would you use? Why?
3. How should a multiple-baseline study, which uses multiple participants instead of multiple behaviors or settings, be different from an experimental or quasi-experimental study with a small sample?

(Thu) Mar. 6: CH. 15 Quiz Questions

1. A researcher wants to see if there is a relationship between students' scholastic achievement and their level of creativity. Both are operationally defined by appropriate tests as quantitative variables. Is a correlation coefficient appropriate for this situation? Why or why not?
2. Why do you suppose people often interpret correlational results as proving causation? NOTE: Think about how you establish a cause-and-effect relationship, as previously described.
3. Why might a correlational study NOT report a correlation coefficient?
4. Which threats to internal validity do you think are most problematic in correlational research? Why?

Quiz 9---(Thu) Mar. 13: CH. 16 Quiz Questions

1. What, in your opinion, is the most important similarity and the most important difference between causal-comparative and correlational research? Explain your choices.
2. When might a researcher prefer to conduct a causal-comparative study rather than an experimental study? Suggest an original example.
3. Is random assignment possible in causal-comparative research? What about random selection? Explain.
4. Suppose a researcher was interested in the effects of team teaching on student attitudes toward history. How could such a topic be studied by means of causal-comparative research?

(Thu) Mar. 13: CH. 17 Quiz Questions

1. What are some things that researchers can do to make sure that survey instruments will provide unbiased results?
2. For what kinds of topics might a personal interview be superior to a mail or telephone survey? Give an original example.
3. When might a telephone survey be preferable to a mail survey? To a personal interview?
4. Restate the following open-ended questions in appropriate closed-ended form:
 - a. What characteristics of a person would lead you to rate him or her as a good administrator?
 - b. What do you consider to be the most important problem facing classroom teachers in high schools today?
 - c. What are the three things about this class you found most useful during the past semester?

Quiz 10---(Thu) Mar. 20: CH. 23 Quiz Questions

1. Do you think the assumptions that underlie action research apply in most educational settings? Are any of them questionable? Explain your reasoning.
2. Which of the four stages of action research would be the hardest to carry out? Why?
3. All of the participants—the stakeholders—in some forms of action research must be involved in the entire research process. Why not also require this in formal quantitative studies?
4. What do you think is the major advantage of action research? The major disadvantage? Explain your choices.

(Thu) Mar. 20: CH. 24 Quiz Questions

1. To what extent should a researcher allow his or her personal writing style to influence the headings and organizational sequence in a research proposal (assuming that there is no mandatory format prescribed by the funding agency, graduate school, or similar group)?
2. Why is it especially important in a study involving a convenience sample to provide a detailed description of the characteristics of the sample in the research report? Would this be necessary for a random sample as well? Explain.
3. Is it important for a researcher to discuss threats to internal validity in a research proposal? Why or why not? Is it important in a research report? Why or why not?

2) Research Proposal Grading (Total of 50 points: Literature Review—20 points & Rest of the Proposal—30 points)

Your literature review section of your research proposal must be submitted **by March 10**. Your final research proposal must be submitted **by April 17**. **FIVE points** will be **deducted for each day** that a paper is submitted after this due date. Prior to April 3 you must submit a draft of your paper for comments (5 points out of 30 points for submitting a draft)-- see below. You must submit a final paper to pass this class and may **not** revise a final paper. Details about the paper are below.

i) Literature Review (20 points)--- Due: 11:00 pm on March 10

Your Literature Review (with research questions at the end) section of your research proposal will be evaluated using the following criteria (in decreasing order of importance):

- Conciseness (literature review should not be a list of research result summaries)
- Literature Review should support your research questions
- Clarity (should be explained in your own words and not be directly quoted)
- Completeness of descriptions/explanation
- Use of APA style in writing and citations.
- General quality of writing (e.g., spelling, punctuation, grammar, and formatting)

ii) Rest of the Proposal (30 points)

Due Dates:

i) Draft: 11:00 pm on April 3 (5 points)

ii) Final: 11:00 pm on April 17 (25 points)

Your Final Proposal will be evaluated using the following criteria (in decreasing order of importance):

- Significance of the research
- Clarity of descriptions/explanations
- Completeness of descriptions/explanations
- Use of course concepts
- Use of APA style in writing, citations, and references
- General quality of writing (e.g., spelling, punctuation, grammar, and formatting)

Research Proposal Directions

Introduction

You may choose any quantitative research study related to education or psychology. While not required, I strongly encourage you to propose a quantitative research study related to **creativity** that you **might** conduct in relation to your current employment or for a master's thesis (You can search articles in the *Creativity Research Journal* and *Journal of Creative Behavior*, etc.). You must use a research design that is described in chapters 13, 15, 16, or 17. Your proposal must include the sections and follow the guidelines on pages 595-602 of the 6th edition - with the exceptions noted below.

I have posted several example research proposals from my previous students. I recommend you review these before you start writing your own research proposal, however, keep in mind that the examples are not perfect and are actual student papers. It is your responsibility to compare the examples to the Research Proposal **Grading Checklists** below to see where they went wrong.

You are **not required to carry out the research** you are proposing as part of this class. Whether you pursue the research in the future is up to you, but you must consider all ethical and practical issues and obtain any necessary approvals before doing so.

Guidelines

- Your literature review does not need to be exhaustive; however, you must include at least **TEN** relevant articles. At least **FIVE** (5) of the articles must be **empirical** studies.
- Do not use exact quote unless you cannot find any other ways to say something. You need to be able to summarize and paraphrase research results, this is an important skill to develop.
- Your data collection methods should use existing instruments that are described in a published reference. The only exceptions should be simple demographic information (e.g., age, gender) or something that can be counted without any subjectivity (e.g., number of days absent, number of computers in the classroom).
- The budget section is optional, depending on whether you would need to seek actual funds from your current employer or an external agency. You should consider the resources available at EMU (e.g., physical space and equipment, undergraduate students as participants, the Children's Institute for participants) and your employer, but you should **not** plan on any funds from the university.
- Follow the APA publication manual for writing your proposal.
- Use appropriate APA textual citations and include a list of references at the end of the proposal (see the APA Publication Manual).
- I will **not grade drafts** (see below), but I will give you appropriate feedback and 5 points (out of 30 points) for submitting a draft. The more finished your draft is, the more specific the feedback will be. I will **not** provide specific feedback on your final paper.
- Your **final proposal** must be put in the appropriate dropbox by **4/17/07**.
- **Five points** will be **deducted for each day** if your proposal is submitted late.

Formatting

- Papers should be typed, with double-spacing, Times New Roman, 12-point font, 1" margins, and no spaces between sections.
- Your paper must start with a numbered title page that includes (in order) Project/study title, Course number & title, Your name, Your department, Eastern Michigan University, Date of submission., "EDPS 677 – Methods in Quantitative Research," the semester (Winter 2008), and "Research Proposal."
- All pages should have a page number with a shortened title on the top right corner.
- Your paper must end with a reference list using APA style.

Draft

You must submit a **single draft** of your paper anytime **before April 3**. I will **not** accept drafts **after** April 3. The earlier you submit a draft, the sooner and probably more complete my feedback will be. The more complete and finished the draft is, the more I will be able to help you. I will make every attempt to provide feedback by April 10 in the same order as they are submitted.

Outline

Project/study title
 Course number & title
 Your name
 Your program & department
 Date of submission

1. Title Page

2. Abstract

3. Introduction

Problem to be Investigated
Purpose of the Study
Significance of the Study

4. Review of the Literature

Theory (if appropriate) and/or Related Studies
Research Questions or Hypotheses
Definition of Terms (if needed) and Variables

5. Method

Description of Sample
Description of Instruments
Description of Research Design
Procedural Details
Timeline
Discussion of External Validity Issues
Discussion of Internal Validity Issues
Data Analysis

6. Results

7. Discussion

Conclusions
Implications
Limitations of the Study
Suggestions for Future Studies

8. Budget (if needed)

9. References

10. Appendixes (if any)

3) Class Participation Grade (Total of 10 points)

Grades for consistent timeliness and responsibility, consistent positive and constructive comments in discussion.

- A Class Participation grade of 8 points will be reserved for students who achieve 8 points AND who stand out as strongly engaged in classroom discussions (e.g., volunteering; helping other students; frequent constructive written contributions, etc.)

- 2 points of the Class Participation grade are for the two assignments (Due: January 7):
 - **Introduce yourself (1 point)**
 - **Reflection on the Reading, Learning from Each Other (Kim, 2005), (1point)**

Course Incompletes

Incompletes will be given only: a) in extenuating circumstances; and b) after a student-initiated discussion with the instructor **prior to** the end of the semester.

In this course, you must have an average of 80% or better on the quizzes to qualify for an "I" grade. You must also discuss the situation with me personally prior to the end of class or send an email to me at kkim7@emich.edu. In either case, you must present an acceptable reason (and accompanying documentation) for an extension, the date when your paper will be submitted, and your student ID number.

The instructor will provide the student and the department head with a rationale for the "I" grade and will specify the work required to remove the incomplete. An "I" grade must be removed within 12 months from the end of the semester or session in which it was issued or within 18 months from the beginning of the semester of registration for correspondence courses. These limits may be extended only under unusual circumstances upon the written recommendation of the instructor and with the approval of the dean of graduate studies and research. The initiative for conversion of an "I" to a letter grade rests with the student. If not converted within three years, the "I" becomes a permanent part of the student's academic record. Permanent "I" grades may be removed only by repeating the course under the policy on repeating courses.

Professional Writing

Papers and quizzes should have few, if any, grammatical, spelling, or other mechanical errors. If you are not a strong writer, be sure to use the spelling and grammar checking features on your computer, or a proofreader. There are NO excuses for not using these aids. Assignments with many errors will receive a grade of B- or lower since this is unacceptable writing for graduate students in education. **Note:** I will not correct all of your grammar/spelling errors—at most I will point out errors through one or more examples in your paper. It is your responsibility to read and correct the entire paper prior to submitting.

Academic Honesty

University rules concerning plagiarism will be followed. You are expected to complete your own work and give appropriate credit when referencing work from other people.

The following scale will be used in this course:

A (93-100%)	B (83-86%)	C (73-76%)	D (63-66%)
A- (90-92%)	B- (80-82%)	C- (70-72%)	D- (60-62%)
B+ (87-89%)	C+ (77-79%)	D+ (67-69%)	E (59% & below)

I have high expectations for every one of you, and I do not believe in grade “creep”, e.g., I believe that you should be graded fairly and on how you demonstrate **your knowledge**. Thus, I try to grade and return quizzes prior to the following quiz. I will do my best to be a fair and consistent grader when it comes to your work.

I expect that most of you will earn an A or B in this class. However, this class is totally different from any other required graduate classes at EMU, many of you will struggle with this class and it is easy to get a low grade in this class. Thus, I have unfortunately found it necessary to occasionally fail students. I have had many students complain that they were a 4.0 student before this class and are struggling in this class. Thus, if you have any questions or concerns, please contact me earlier in this semester.

Students with Disabilities

Pursuant to the Americans with Disabilities Act (ADA) of 1990, students with qualified disabilities will not be the objects of illegal discrimination in this class. If you have a documented disability, please contact me immediately so that I can provide appropriate accommodations to the learning environment.

Research Proposal Grading Checklists

Title

- How complete is the title in giving the reader a clear idea of the contents of the article?
- Does the title make clear the population of interest & the major variables?
- Have vague, biasing, and/or emotion-laden terms been avoided?

Abstract (**Less than 120 words on a separate page**)

- Is the problem stated clearly?
- Are the number & type of subjects described?
- Are the major variables described? The measuring instruments used?
- Is the design used identified?
- Are the procedures described in brief?
- Are the major results & conclusions stated?

Introduction

Statement of the Problem

- What is the problem being addresses in this study?
- Is the problem statement clear?
- Is the problem “researchable”?
- Does the problem statement indicate the variables of interest & the specific relationship(s) between those variables were investigated?

Purpose of the Study

- Is the purpose of the study discussed?
- Is the educational significance of the problem discussed?

Review of the Literature

(NOTE: I consider this the most important part of your final proposal. Do not just list of available research or even abstracts of relevant research. You should use the available and appropriate literature, properly cited, to concisely and logically support your research questions or hypothesis.)

- How complete and concise is the literature in relation to the problem?

- From where has the foundation for the study been developed?
- What is the theoretical orientation of the researchers, if theory-based; what is the practical context for the study, if derived from experience or need?
- What is the educational (psychological, administrative, instructional, etc; whatever is appropriate) significance of the problem? Is the significance (importance) clearly discussed? Are you convinced?
- What background information on the problem is presented? Is it sufficient, appropriate in breadth and depth?
- Is the review of literature comprehensive; are studies recent and inclusive of disagreeing or contradictory findings?
- Is the review evaluative? Have the references been critically analyzed and the results of various studies compared and contrasted; i.e., is the review more than a series of abstracts or annotations?
- Does the review conclude with a brief summary of the literature and implications for the problem under investigation?
- Do the implications discussed form an empirical or theoretical rationale for the hypotheses that follow?
- Is the review well organized; does it flow logically?
- Is the language used neutral or biased; does the language and style help or hinder your understanding?
- Are all referenced cited relevant to the problem under investigation? Are all relevant aspects of the study addressed in the review?
- Are the references at least five primary (i.e., original studies) sources?

Hypothesis (or Research Question), Variables, & Operational Definitions

- Do the research questions or hypotheses follow logically from the statement of the problem?
- Are the questions and/or hypotheses stated clearly & specifically?
- Is each hypothesis testable? Is each research question answerable?
- What are the major variables being studied & how are they operationalized?
- Does each hypothesis state an expected relationship or difference among variables?
- List all of the variables (independent, dependent, confounding, & moderator) & the specific operational definitions.
- How adequate are the operational definitions of each of the variables?
- Are there any major concerns about how the variables were defined?

Methods

Participants

- Describe the participants of the study & how they were selected.
 - Discuss advantages and/or disadvantages of this sample selection.
 - Are the size & major characteristics of the sample described?
- What sampling method was used?
 - Is the method of selecting the sample clearly described?
- Does the sampling allow for generalization to the population of interest
- Is the sample size appropriate for the method of research represented & for generalizability of results?

- Minimum (Fraenkel & Wallen, 2005)
 - 100 for a descriptive study
 - 50 for a correlational study
 - 30 in each group for experimental & causal-comparative studies

Instruments

- What instruments are used in the study? Are relevant validity & reliability issues described?
- Is the rationale given for the selection of each of the instruments & measures used?
 - Is each instrument described in terms of purpose & content?
 - Are administration, scoring & interpretation procedures described?
 -

Design

- Does the design match hypotheses or answer the questions of the study?

Procedures

- Are the procedures described in sufficient detail to permit them to be replicated by another researcher?
- Are all potential internal & external validity discussed?
- Do the procedures provide sufficient control for internal validity?
- Are any potentially confounding variables that were not able to be controlled for discussed or accounted for?

Timeline

- Does it contain specific dates or time periods?

Discussion of External Validity Issues

- Are all possible issues addressed?

Discussion of Internal Validity Issues

- Are all possible issues addressed?

Data Analysis

- Are the plans for analysis (e.g., correlation, regression, independent t-test, etc.) appropriate for the research questions?

Results

(NOTE: In your proposal, you will only need to state a paragraph of expected results; you do not need to do the actual research)

- Are the descriptive & inferential statistics clearly presented in the study?
 - Are the data described in tables, figures, the text, or all of these? Do tables & text complement each other? Are the tables & figures, if any, well organized & easy to understand?
- What are the major results? How thoroughly did the researcher present the tests of significance & probability levels in relation to the hypotheses being tested?
 - Is there evidence that the researcher considered any assumptions required for the statistical tests used?

Discussion

(NOTE: In your proposal, you need to discuss what your expected results mean and what you want to suggest to the educational leaders, principals, school board members, parents, etc.)

Conclusions

- Are the results presented in relation to the hypotheses?
- Is each result discussed in terms of its agreement or disagreement with previous research results?
- Are generalizations consistent with results?

Implications

- Are theoretical & practical implications of the findings discussed?
- Has the author addressed practical as well as statistical significance?

Limitations of the Study

- Are the possible effects of uncontrolled variables on the results discussed?
- Are plausible alternative hypotheses discussed?

Suggestions for Future Studies

- Are recommendations for future research made? Are they relevant?

Budget

- Are all possible costs for the research reported?

References

- Do the references follow the APA Style?

Appendices

- Do they contain all needed information that is not included in the text?