UNIVERSITY OF ALBERTA

COLLABORATIVE BACCALAUREATE
NURSING PROGRAM

Grande Prairie Regional College
Grant MacEwan College
Keyano College
Red Deer College
University of Alberta

NURSING 3010
Nursing Research
Course Outline – Part I
Fall, 2001

Developed by:
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Approved ( )

Nursing Research

Instructor:

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Course Hours:

Tuesdays 1400-1450

Drop Deadline:

October 5, 2001

NURSING RESEARCH
NS 3010 is integrated with NS 3900 learning packages.

Note: NS 3010 is completed over Years 3 and 4. Registration for NS 3010 will occur in Year 4. Your marks for the Part I of this course will be tracked but a final grade will only be assigned in Year 4.

Course Description

This course is an introduction to the process of research through critical appraisals of selected quantitative and qualitative studies. Emphasis will be on understanding the research process and in knowing how to critically read, analyze, and begin to apply the knowledge gained from research in practice. The focus of this course will be the planning phase of the research process.

Pre/Co-Requisite: Statistics (3 credit UT), NS 3900

Course Objectives:
1. Describe the purpose and importance of research in nursing.
2. Describe how theory, practice, and research are related.
3. Identify a question from nursing practice that can be answered by research.
4. Describe nurses' roles in research.
5. Apply critiquing criteria for the critical analysis of the following sections of a research report: research problem and purpose, literature review, theoretical/conceptual framework, variables, research questions and hypotheses, research design, ethical components, population, sample, and sampling procedures.

6. Compare the major characteristics, strengths, and limitations of quantitative and qualitative research.
7. Explain the meaning of internal and external validity of research
8. Develop a systematic approach for reading and critical analysis of selected components of published research.

SUGGESTED LEARNING ACTIVITIES:

Students will participate in two primary activities to assist in meeting the objectives of the course:

1. Attendance at Fixed Resource Sessions

The purpose of the FRS's is to highlight primary concepts of the research process and to develop the students' ability to understand and critique research through discussion of critiques. In the FRS's, essential concepts related to nursing research and statistics will be discussed. Additionally, students will have the opportunity to discuss group critiques of selected articles to assist in understanding of the concepts.

2. Independent Work

The purpose of this activity is to provide students with an opportunity weekly to critique selected aspects of a research study using the critiquing criteria. It is anticipated that the research reports students are to critique will be relevant to the scenarios being covered in the learning packages. Students are expected to read each assigned research report and answer the critiquing questions included in the course outline **prior to attending the FRS**.

Students are encouraged to work in pairs or small groups to complete their critique (answer the critique questions) of the aspects of the assigned study for discussion in the weekly FRS. During FRS's, students will be asked to present their evaluation of the selected aspects of the research report. Opportunities for discussion, debate and consensus will be provided. Critical thinking should be emphasized throughout the process.

3. Appraising Findings from Multiple Studies

The importance of appraising findings from multiple studies related to a nursing practice issue for guiding practice will be the focus of this activity. In addition to the article selected in N3970 for critique, students are expected to read at least one of the recommended research articles identified in each N3900 learning package, and discuss the findings with other members of the N3900 tutorial group. (E. g. Students distribute the research articles among the group, with each student reporting on a different research article related to the scenario.)

YEAR III

Recommended Fixed Resource Sessions (1 hr./week over 7 weeks for a total of 7.0 hrs).

Nursing Research
1. Overview of nursing research; review of role in nursing research; methods of inquiry; framework for critique; process and assigned activities in class
2. Research appraisal
3. Critique of research problem, purpose statement and literature review
4. Theoretical frameworks, hypotheses, qualitative research designs
5. Quantitative research design
6. Quantitative research design
7. Critique of sample

EVALUATION (YEAR III)

1. Test (50%): Date: TBA

   Nursing Research Concepts

2. Paper (50%): Due: October 22, 2001 1600h

Refer to your student handbook for the GPRC grading policy for final stanine ranges.

The content in Part I of NS 3010 is worth 1/3 of the total NS 3010 mark which will be assigned at the end of fall semester 2001.

Refer to your student handbook for the GPRC grading policy for final stanine ranges.

Paper: Critique of Research Report

Using a published nursing research report selected by the instructor, the student will critique the following parts of the article: introduction/significance to nursing, problem and purpose, theoretical framework, literature review, hypothesis/research questions, and research design. In this critique, the student will use criteria and concepts from small group work, fixed resource sessions and readings to evaluate the study. APA format and scholarly writing is expected. See critiquing guidelines and marking scheme at end of course outline.

Length of paper: about 8-10 pages, double spaced.

Assignment Policy

All assignments are to be passed in at the time and place they are due. Extensions on assignments may be granted and must be negotiated with the instructor prior to the due date and with a date specified for late submissions.

A penalty of 5% for each working day that an assignment is submitted after the due date will be deducted from the final mark. For example, a paper scored at 75% would receive an adjusted grade of 70% if handed in one day late. Late assignments are due by 1600h and must be verified (stamped with date and time) by nursing office personnel.

CRITIQUING GUIDELINES FOR EVALUATING A QUANTITATIVE RESEARCH REPORT

The purpose of critiquing a research report is to objectively and critically evaluate the strengths and the weaknesses of an entire study. Each component of the study is examined to determine both positive and negative aspects of the report. Because all studies have weaknesses, the key to critically evaluating a study is to determine if the strengths of a study outweigh the weaknesses, that is to evaluate the impact of the weaknesses on the entire study.

* Briefly critique the introduction to the article and the author's ability to convince you to read the study.

A. Problem Statement:

1. Has the problem been clearly identified? What is it?
2. What background information has been provided on the importance of the problem? Has a rationale for selecting the research problem been provided?
3. Is the problem timely in terms of current trends in nursing?
4. Is the problem significant to nursing in that the results could benefit nursing practice, improve patient/client health or contribute to nursing knowledge?
5. Is a quantitative approach appropriate for investigating the problem?
6. Have the purpose, aims, or goals of the study been identified?

B. Literature Review:

1. What topics are addressed in the literature review? Are all of the topics relevant to the study?
2. Are references well documented and current (unless relevant classical literature and studies are cited)?
3. Is it clearly identified what the relationship of the problem is to previous research?
4. Are both supporting and opposing research and theories or a range of points of view on the problem presented?
5. Have important gaps of what is known about the problem or inconsistencies of findings of previous research been clearly stated? What evidence has been provided to support the need for this particular study?
6. Is the organization of the literature review logical?
7. Does the literature review conclude with a brief summary of the literature and directions for research?

C. Theoretical Framework:

1. Is the research theory linked? If not, should a theory have been used? If so what theory would you suggest?
2. If the study is theory linked, is theory being tested or verified?
3. Is the theoretical framework clearly identified? Is it consistent or appropriate for the research problem? Is the framework useful for clarifying pertinent concepts and relationships?

4. Are significant assumptions clearly stated and logical?

D. Research Questions, Hypotheses and Variables:

1. Are research questions or hypotheses used in the study? Are they appropriately used?
2. If hypotheses are being tested, what are the hypotheses and have the hypotheses been clearly stated?
3. Does each hypothesis logically relate to the research problem?
4. What are the dependent and independent variables in each hypothesis?
5. Is the direction of the relationship in each hypothesis clear?
6. Is each hypothesis consistent with the literature review and the theoretical framework?
7. Has each variable been clearly defined operationally and conceptually?

E. Research Methods/Design:

1. What research design has been chosen by the researcher(s)? Is there a clear statement identifying the design?
2. Is the chosen design appropriate for the purpose of the study? (i.e. to determine cause–and-effect relationship, to determine relationships of association, or to describe/identify factors)
3. Does the design seem to flow from the proposed research problem, theoretical framework, literature review, and hypotheses/research questions?
4. What are the threats to the internal validity of the study? How did the researcher(s) attempt to control each of these threats? Are these controls at an acceptable limit?
5. What are the threats to external validity of the study? What are the limits of generalizability in terms of external validity?

F. Ethical Considerations:

1. Were vulnerable subjects used? What safeguards was used to prevent exploitation of these subjects?
2. Is the procedure for obtaining informed consent described?
3. Were the subjects subjected to any potential risks and does the researcher describe these risks and evaluate them? Did the benefits that accrued from the research outweigh any potential risks that might result from participation in the study?
4. Were appropriate steps taken to safeguard the privacy of subjects? How were anonymity and/or confidentiality of subjects maintained?
5. Did an Institutional Review Board or other similar committee on ethics approve the study?

G. Population and Sampling:

1. Has the target population been clearly identified?
2. How was the sample selected? Is this an appropriate sampling method for the design? Are potential sampling biases been identified?
3. What are the criteria for eligibility/ineligibility for sample selection?

4. What are the characteristics of the sample? Does this sample reflect the population as identified in the problem or purpose statement? To what population may the findings be generalized?
5. Is the sample size appropriate? How is it substantiated? Has subject drop out been identified?

H. Data Collection:

Data-Collection Instruments

1. Are the instruments appropriate for the methods/design of the study?
2. Has the researcher(s) discussed the rationale for selecting each instrument?
3. Has each instrument been described as to purpose, content, strengths and weaknesses?
4. Has the validity of each instrument been described in terms of type and coefficient (if appropriate)?
5. Has the reliability of each instrument been described in terms of type and size of the reliability coefficient (if appropriate)?

Data-collection Procedures

1. Have the steps in the data-collection procedure(s) been clearly described?
2. Are the data-collection procedure(s) appropriate for the study?
3. Are data collection procedures similar for all subjects?

I. Data Analysis:

1. What descriptive and/or inferential statistics are reported?
2. What level of measurement is used to measure each of the major variables?
3. Were the statistical procedures appropriate to the level of measurement?
4. Has data been analyzed in relation to the purpose of the study?
5. Has each hypothesis been tested and were the results reported accurately?
6. Has the level of significance been reported? Is this an appropriate level?
7. If tables or figures were used:
    a) Is the information consistent with the text?
    b) Are they clear and well labeled?

J. Interpretation of Findings and Discussion:

1. Were the interpretations based on the data?
2. Were the findings discussed in relation to the purpose of the study?
3. Were the findings in relation to the theoretical or conceptual framework and/or previous research?
4. Were generalizations warranted by the results?
5. Was a distinction made between statistical and clinical relevance and were these appropriately discussed?
6. Have the conclusions been based on the data?
7. Are the conclusions clearly stated?
8. Are the limitations of the study appropriately discussed?
9. Are the implications for nursing plausible and relevant?

10. Have the recommendations been clearly formulated and appropriate?

K. Additional Considerations:

1. Is the investigator qualified?
2. Is the title appropriate, accurately reflecting the problem?
3. Is the abstract an accurate and concise summary of the content?
4. Is the report well organized and does if flow logically?
5. Are grammar, sentence structure, and punctuation correct?
6. Are references accurate and complete?

L. Rating the Scientific Merit of a Research Report:

1. In summary, does your critiques indicate that the study satisfies the basic requirements of scientific research? Are there some exceptions/
2. OR does your critique indicate that the study does not satisfy the basic requirements with some exceptions?
3. Should the findings from this study be utilized in practice? What are the benefits/risks of applying the findings to practice?

Marking Guideline
NS 3970
Paper #1

Part A: Body of Paper

1.0 Introduction to article/significance to nursing (5)

2.0 Problem statement /purpose (7)

3.0 Literature review (7)

4.0 Theoretical framework (6)

5.0 Research question (s), hypotheses and variables (7)

6.0 Research methods/design (8)

/40

Part B: Writing Format/Style

1.0 APA format (5)

2.0 Development of ideas/Introduction and conclusions (5)

/10

TOTAL: /50%

Appraisal Steps

Brown, S. (1999). Knowledge for health care practice. A guide to using research evidence. Montreal: W. B. Saunders Co.

1.	Read interactively:	to read interactively means that you monitor your thinking by noting whether you are understanding what you are reading, and if you aren't, you break out of reading to reread previous sections, dig into tables where data are presented, or go to another source that will help fill in any gaps in your knowledge. You need to question what is said and question what is not said.
2.	Complete a synopsis:	formulate a concise statement of the essential elements of a study (purpose, methods, findings)
3.	Appraise credibility:	to appraise credibility is to review the scientific soundness of the findings. At a beginning level, look at the study's logic, design, sample of participants, how the participants were treated, how data were collected and the analysis of data. Look for bias of the researchers and if other factors could be influencing the results.
4.	Clinical significance:	just because a study may have some statistically significant results doesn't mean that there is clinical significance and vice versa. Look at what the purpose of the study is and the results - do the results really answer the question well? Ultimately, the appraisal decisions regarding clinical significance is a personal judgment.
5.	Applicability:	even when you decide that a study's findings are credible a and clinically significant, you still must ask, "Should I a attempt to incorporate the results into my practice?". The question of applicability of findings takes appraisal beyond consideration of the methods by which the findings were p produced and beyond consideration of the clinical meaning of the findings to consideration of whether the findings are reasonable to use in a particular clinical setting.

Resources

A.A.R.N . (1997, June). Nursing research dissemination and utilization: A background paper. Edmonton: Author

Brown, S. J. (1999). Knowledge for health care practice: A guide to using research evidence. Toronto: Saunders

Burns, N., & Grove, S. K. (1995). Understanding nursing research. Toronto: W. B. Saunders.

Davis, B., & Logan, J. (1997). Reading research: A user-friendly guide for nurses and other health professionals (2nd edition). Ottawa: Canadian Nurses Association.

Dempsey, P. A., & Dempsey, A. D. (2000). Using nursing research: Process, critical evaluation, and utilization (5th edition). Philadelphia: Lippincott.

LoBiondo-Wood, G., & Haber, J. (1998). Nursing research: Methods, critical appraisal, and utilization (4th edition). St. Louis: Mosby.

Morse, J., & Field, P. (1995). Qualitative research methods for health professionals (2nd ed). Thousand oaks: Sage Publications.

Norman, G. R., & Streiner, D. L. (1999). PDQ Statistics (2nd Ed) Toronto: B.C. Decker Inc.

Polit, D., & Hungler, B. (1999). Nursing research. Principles and methods (6th ed.). Philadelphia: Lippincott.

Rose-Grippa, K., & Gorney-Moreno, M. (1998). Study Guide: Nursing research. (4th edition). St. Louis: Mosby.

Streubert, H., & Carpenter, D. (1995). Qualitative nursing research. Advancing the humanistic imperative. Philadelphia: J. B. Lippincott.

(These items are available to be put on reserve as requested)

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NURSING 3010
Nursing Research
Course Outline
Part II
Fall, 2000

Developed by:
Lorraine Way, RN, MN
Rene Day, RN PhD
Christine Newburn Cook, RN, PhD
Joanne Profetto McGrath RN, PhD
Debbie White, RN, MN, PhD (C)
Liz Richard, RN, MN
Anne Biro, RN, MN

Approved (May, 2000)

NURSING RESEARCH

NURSING 3010 3(3-0-0)
Students will continue to develop their skills to critically read, analyze, and begin to use knowledge gained from research in their practice. Building on knowledge from Part I, this course focuses on understanding the implementation phase of research and inferential statistics. Students will also examine trends and issues in developing evidenced-based practice for the profession of nursing.

Course Hours: 14 hours of "structured" teaching/learning time (FRS's) and 3 hours of lab in 7 weeks. Additional estimated time of 15 hours for independent study and group work.

Course Objectives:
1. Discuss the types, advantages, and limitations of data collection methods used in both quantitative and qualitative nursing research methods.
2. Identify the criteria for determining the validity and reliability of measurement tools.
3. Discuss the criteria for determining confirmability of findings in a qualitative study.
4. Identify appropriate data collection methods for various qualitative and quantitative designs.
5. Differentiate data analysis methods for both quantitative and qualitative research.
6. Recall the purpose of and appropriateness of commonly used inferential statistics.
7. Recall type I and type II errors and their effects on findings.
8. Differentiate between the meanings of statistical significance and clinical significance.
9. Apply critiquing criteria for an analysis of a published research report.
10. Develop and use a systematic approach for reading and critical appraisal of multiple published research reports on a selected topic.
11. Determine the applicability of knowledge gained from research for evidence-based practice.
12. Identify the role of a nurse in promoting research activities and using knowledge from research in the practice settings.
13. Discuss issues including barriers and facilitating factors influencing the advancement of nursing research and evidence-based practice.

Instructor:

Liz Richard

Office: H215
Phone: 539-2754
Email: richard@gprc.ab.ca
Office hours: flexible on Thursdays and Fridays

Course Hours:

Thursdays 1200-1350

Text:

Lobiondo-Wood, G., & Haber, J. (1998). Nursing research: Methods, critical appraisal, and utilization. (4th edition). St. Louis: Mosby.

SUGGESTED LEARNING ACTIVITIES:

1. **Attendance at Fixed Resource Sessions (FRS)**
   The purpose of the FRS's is to highlight primary concepts of the research process and to develop the students ability to understand and critique published research through discussion of critiques. In the FRS's, essential concepts related to nursing research and statistics will be discussed. Additionally, students will have the opportunity to discuss group critiques of selected articles to assist in understanding of the concepts.

2. **Small Group Work**
   The purpose of this activity is to provide students with an opportunity each week to critique selected aspects of a published research study using the critiquing criteria. Each week the instructor(s) will select a research report from the list of *Research & Statistics References* for Nursing 490. It is anticipated that the research reports students are to critique will be relevant to the scenarios being covered in the learning packages. Students are expected to read each assigned research report and answer the critiquing questions included in the course outline **prior to attending the FRS**. For example, prior to the FRS on the data collection, students will be expected to review data collection methods and instruments in the assigned article.

   Students are encouraged to work in pairs or small groups to complete their critique (answer the critique questions) of the aspects of the assigned study for discussion in the weekly FRS. Faculty assigned as resources will assist student groups with the process of critiquing between fixed resource sessions. During FRS's, students will be asked to present their evaluation of the selected aspects of the research report. Opportunities for discussion, debate and consensus will be provided. Critical thinking should be emphasized throughout the process.

4. **Appraising Findings from Multiple Studies**
   The importance of appraising findings from multiple studies related to a nursing practice issue for guiding practice will be the focus of this activity. In addition to the article selected in N497 for critique, students are expected to read at least one of the recommended research articles identified in each N490 learning package, and discuss the findings with other members of the N490 tutorial group. (e.g. Students distribute the

research articles among the group, with each student reporting on a different research article related to the scenario.)

YEAR IV Recommended Fixed Resources Sessions
(2.0 hr./week over 7 weeks =14hrs.)

1. Introduction to course (2.0 hrs)
   Ethics in nursing research

2. Critique of sample (2.0 hrs)
   Data Collection
   - Quantitative
     - including review of levels of measurement, data collection methods, rigor in data collection, use of instruments, reliability and validity of instruments, sensitivity and specificity.

3. Qualitative Data Collection (2.0 hrs)
   - interviewer as instrument, methods of data collection, and rigor in data collection

4. Data Analysis (2.0 hrs)
   Qualitative Data Analysis
   Confirmability of findings
   Credibility, auditability, transferability (fittingness)
   Quantitative Data Analysis
   Research designs with corresponding analysis methods

5. Interpretation of Findings (2.0 hrs)
Reporting and discussion of findings
Limitations of study
Generalizability of findings

6. Utilizing the Knowledge Gained from Research to Improve Practice (2.0 hrs)
   Research-practice gap (research dissemination)
   Research utilization process
   Development of research-based protocol and procedures

7. Final exam

YEAR IV (Labs 1 x 3.0 hr)

LAB # 1: Qualitative Analysis (2.0 hrs)

1. Using a tape recording provided by the instructor, students will read a transcribed text of a tape recorded interview between a researcher and participant.

2. Perform a content analysis on qualitative data provided by your instructor and begin to thematically analyze the data.

SUGGESTED METHODS FOR EVALUATION:

1. PAPER: Critique of a Research Report (45%) **Due: December 14, 2000 1700h**

Instructors will provide 2 research reports (one qualitative and one quantitative) from which the student will select one of these reports to critique. All phases will be critiqued including the conceptual, empirical, and interpretive phases of the report. For the critique, students will use the critiquing criteria form, readings, and fixed resource session. APA format and scholarly writing is expected.

Length of paper: 10 – 12 pages double-spaced.

2. FINAL EXAM: TBA (55%)

2/3 of final mark of NS 3010 will come from Part II content

Assignment Policy

All assignments are to be passed in at the time and place they are due. Extensions on assignments may be granted and must be negotiated with the instructor prior to the due date and with a date specified for late submissions.

A penalty of 5% for each working day that an assignment is submitted after the due date will be deducted from the final mark. For example, a paper scored at 75% would receive an adjusted grade of 70% if handed in one day late. Late assignments are due by 1600h and must be verified (stamped with date and time) by nursing office personnel.

RESOURCES:

A.A.R.N. (1997, June). Nursing research dissemination and utilization: A background paper. Edmonton: author

Brown, S. J. (1999). Knowledge for health care practice: A guide to using research evidence. Toronto: Saunders

Burns, N., & Grove, S. K. (1995). Understanding nursing research. Toronto: W.B. Saunders.

Davis, B., & Logan, J. (1997). Reading research: A user-friendly guide for nurses and other health professionals (2nd edition). Ottawa: Canadian Nurses Association.

Dempsey, P.A., & Dempsey, A. D. (2000). Using nursing research: Process, critical evaluation, and utilization (5th edition). Philadelphia: Lippincott.

Fain, J. A. (1999). Reading, understanding, and applying nursing research: A text and workbook. Philadelphia: F. A. Davis.

Light, R. J., & Pillimer, D. B. (1984). Summing up: The science of reviewing research. Cambridge: Harvard University Press.

LoBiondo-Wood, G., & Haber, J. (1998). Nursing research: Methods, critical appraisal, and utilization (4th edition). St. Louis: Mosby.

Morse, J., & Field, P. (1995). Qualitative research methods for health professionals (2nd ed). Thousand oaks: Sage Publications.

Nieswiodomy, R. M. (1998). Foundations of nursing research (3rd ed). Stamford, CT: Appleton & Lang

Norman, G. R., & Streiner, D. L. (1999). PDQ Statistics (2nd Ed) Toronto: B.C. Decker Inc.

Polit, D., & Hungler, B. (1999). Nursing research. Principles and methods (6th ed.). Philadelphia:Lippincott

Rose-Grippa, K., & Gorney-Moreno, M. (1998). Study Guide: Nursing research (4th edition). St. Louis: Mosby.

Talbot, L. A. (1995). Principles and practice of nursing research. Toronto: Mosby.

Guidelines for FRS
(the statistics questions are for your information but not required for class)

*** starred articles are required readings**

Week #1: Nursing Research: Introduction/Review/Ethics in Research

Week #2: Sample/Data Collection LP 4.1.1 "The Tornado"

On Reserve:

Allred, C. A., Hoffman, S. E., Fox, D. H., & Michel, Y. (1994). A measure of perceived environmental uncertainty in hospitals. Western Journal of Nursing Research, 16 (2), 169-182. (*reliability & validity discussed in this article)

Angus, D. C., Pretto, E. A., Abrams, J. I., Ceciliano, N., Watoh, Y., Kirimli, B., Certug, A., Comfort, L. K., and other members of the Disaster Reanimatology Study Group. (1997). Epidemiologic assessment of mortality, building collapse pattern, and medical response after the 1992 earthquake in Turkey. Prehospital and Disaster Medicine, 12 (3), 222-231.

*Cioffi, J. (1998). Decision making by emergency nurses in triage assessments. Accident & Emergency Nursing, 6 (4), 184-191.

*Chubon, S. (1992). Home care during the aftermath of hurricane Hugo. Public Health Nursing, 9 (2), 97-102.

*Durkin, M. S., Khan, N., Davidson, L. L., Zaman, S. S., & Stein, Z. A. (1993). The effects of a natural disaster on child behavior: Evidence for posttraumatic stress. American Journal of Public Health, 83 (11), 1549-1553.

Fenn, J., Rega, P., Stavros, M., & Buderer, N. F. (1999). Assessment of U.S. helicopter emergency medical services'planning and preparedness for disaster response. Air Medical Journal, 18 (1), 12-15.

Nguyen, L. H., Shoaf, K. I., Rottman, S. J., & Bourque, L. B. (1997). Examining self-perceived first-aid abilities after the Northridge earthquake. Prehospital and Disaster Medicine, 12 (4), 60-66.

Russell, L. A., & Goltz, J. D. (1995). Preparedness and hazard mitigation actions before and after two earthquakes. Environment & Behaviour, 27 (6), 744-771.

Weinrich, S., Hardin, S., & Johnson, M. (1990). Nurses respond to hurricane Hugo victims' disaster stress. Archives of Psychiatric Nursing, 4 (3), 195-205.

Nursing Research Questions:

Data Collection

1. What data collection instruments were used in the study you read?
2. What was the researcher's rationale for their selection of the data collection instruments?
3. What are the strengths and limitations of the data collection method used by the researcher?
4. Were the data collection procedures similar for all subjects?
5. What problems develop when an instrument is not appropriate or needs modifying?
6. Discuss the notion of objectivity and subjectivity.
7. Once you have identified the data collection method as **Physiological Measurement, Observational Methods, Interviews, Questionnaires, or Data and Records**, use the criteria in your textbook on page 322 to make critical statements about data collection methods in the study you read.

Reliability and Validity

1. Distinguish between reliability and validity.
2. What assumptions can you make when reliability and validity of instruments is not established?
3. What does the reader supposed to assume when the results of a scale/tool/questionnaire are published?
4. What approaches were used to estimate the reliability and validity of the data collection tools?
5. How did the authors address the reliability and validity, including strengths and limitations, of the instrument?
6. Where did the researchers discuss the limitations of the instrument?
7. How could the concepts of sensitivity and specificity be applied?

Statistics Questions:

1. What is the goal of inferential statistics?
2. How does it differ from descriptive statistics?
3. How does the size of the sample affect the ability to detect significant differences? How does it affect the results and interpretation of the study?
4. Can you have a sample that is too small? large? Why?
5. How are the levels of confidence and probability related? Explain this in the context of one of the research studies.

6. What is an appropriate statistical test for a randomized clinical trial testing the episodic prevalence of diarrhea in children that were given zinc supplementation and infants who were given a placebo?

7. What are the differences between 'relative risk' and 'odds ratio'? Explain how confidence intervals and probability are used with these statistics. Provide an example from one of the research studies.

8. If you were planning a program to address malnutrition what would the following statistics inform you about the issue? Prevalence, incidence, mortality rate and morbidity rate.
   How will they influence your planning?

Week #3: LP 4.1.1 "The Tornado"

Nursing Research Questions:

Qualitative Data Collection

1. How do data collection methods differ between phenomenological research, historical research and ethnographic research?
2. How would the findings from the study (ies) contribute to nursing practice?
3. What steps need to be taken to insure dissemination of findings?
4. What type of study and data collection method would you utilize to understand the experience of an individual who was a survivor of a tornado?
5. How does the researcher describe the data analysis (i.e., coding /summarizing/categorizing) was completed?
6. How was scientific integrity/rigor addressed by the researcher?
7. Were the research findings consistent with the method? Explain with examples.
8. Were the conclusions congruent with the phenomena of interest in the study
9. Were the implications plausible?

Statistics Questions:

Sampling distribution around mean/Type I/II error

1. What is a common statistical value for determining whether observed differences between the null hypothesis and the sample results are due to chance alone?
2. If the result was actually due to chance alone, what type of error would you make if you rejected the null hypothesis? What error would you make if you accepted the null hypothesis when there actually was a difference?
3. Is it easier to reject a null hypothesis with a one-tailed or a two-tailed test?

*Select one of the research articles and formulate a null hypothesis. Explain how the researcher would make a type 1 and type II error.

Week #4: LP 4.1.2 "Home Care"
On Reserve:
***** Everyone to bring Bottorff article to class plus 2 of the 4 starred articles *******

*Berlowitz, D. R., Brandeis, G. H., Anderson, J., & Brand, H. K. (1997). Predictors of pressure ulcer healing among long-term care residents. Journal of the American Geriatrics Society, 45 (1), 30-45.

**Bottoroff,J., Steele, R., Davies, B., Porterfield, P., Garassino, C., & Shaw, M. (2000). Facilitating day to day decision making in palliative care. Cancer Nursing, 23 (2), 141-150.

*Day, A., Dombranski, S., Fardas, C., Foster, C., Godin, J., Moody, M., Morrison, M., & Tamer, C. (1995). Managing sacral pressure ulcers with hydrocolloid dressings: Results of a controlled, clinical study. Ostomy/Wound Management, 41 (2), 52-65.

*Ferrell, B. A., Osterweil, D., & Christenson, P. (1993). A randomized trial of low-air-loss beds for treatment of pressure ulcers. JAMA, 269 (4) 494-7.

Goodridge, D. M., Sloan, J. A., LeDoyen, Y. M., McKenzie, J., Knight, W. E., & Gayari, M. (1998). Risk-assessment scores, prevention strategies, and the incidence of pressure ulcers among the elderly in four Canadian health-care facilities. Canadian Journal of Nursing Research,30(2), 23-44.

Jensen, K., Pettersen-Back, S., & Segesteen, K. (2000). The meaning of not giving in. Cancer Nursing, 23 (1),6-11.

Kemp, M. G., Kopanke, D., Tordecilla, L., Fogg, L., Shott, S., Matthiesen, & Johnson, B. (1993). The role of support surfaces and patient attributes in preventing pressure ulcers in elderly patients. Research in Nursing & Health, 16, 89-96.

Thomas, D. R., Goode, P. S., LaMaster, K., Tennyson, T., & Parnell, L. K. S. (1999). A comparison of an opaque foam dressing versus a transparent film dressing in the management of skin tears in institutionalized subjects. Ostomy/Wound Management, 45 (6), 22-28.

*Xakellis, G. C., & Chrischilles, E. A. (1992). Hydrocolloide versus saline-gauze dressings in treating pressure ulcers: A cost-effectiveness analysis. Archives of Physical Medicine & Rehabilitation, 73, 463-469.

Nursing Research Questions

Critique of Results: Quantitative

11. Were the interpretations based on the data?

12. Were the findings discussed in relation to the purpose of the study?

13. Were the findings in relation to the theoretical or conceptual framework and/or previous research?

Critique of Results: Qualitative

Are the data coding procedures described?
Do the themes, theory or hypothesis relates to the purpose of the study?
Is there evidence that the researcher has remained true to the data (i.e. use of narrative)?

A. Confirmability of the Findings

1. Credibility**:** Did the participants validate that the reported findings truly reflect their own experiences? Is there evidence that the researcher's interpretation captured the participant's' meaning?
2. Auditability**:** Can another individual follow the documentation of data collection and analysis that led to the researcher's conclusion? Are there examples provided to guide the reader from raw data to the researcher's synthesis?
3. Transferability: (Fittingness). Are the findings transferable (that is applicable outside of the research situation)? Are the results or findings meaningful to individuals who were not in the study but who are in similar situation(s)?

Statistics Questions

Quantitative Data Analysis (t-test, ANOVA):

1. T-Tests: What is the appropriate statistical test for a randomized trial testing the healing time of decubitus ulcers when cleansed with normal saline vs. hydrogen peroxide? Why?

2. Analysis of Variance: If you were wanting to determine the best treatment for decubitus ulcers among Home Care clients, describe how the following test might help you with the analysis (How is the test set up? How does it work? What would the test tell you?)

3. ANOVA: Interpret an ANOVA summary table (How many groups were there? How many participants? What do the mean squares &/or SD tell you?)

4. What are the advantages and disadvantages of using ANOVA?

Week #5: LP 4.1.3 "International Health and Development"

On Reserve:

Cruz, J. R., Cano, F., Bartlett, A. V., & Mendez, H. (1994). Infection, diarrhea, and dysentery caused by Shigella species and Campylobacter jejuni among Guatemalan rural children. The Pediatric Infectious Disease Journal, 13 (3), 216-223.

Neel, N. R., & Alvarez, J. O. (1991). Maternal risk factors for low birth weight and intrautreine growth retardation in a Guatemalan population. Bulletin of the Pan American Health Organization, 25 (2), 152-165.

Pelletier, D. L., Frongillo, E. S., Schroeder, D. G., & Habicht, J.-P. (1995). The effects of malnutrition on child mortality in developing countries. Bulletin of the World Health Organization, 73 (4), 443-448.

Ruel, M. T., Rivera, J. A., Santizo, M.-C., Lonnerdal, B., & Brown, K. H. (1997). Impact of zinc supplementation of morbidity from diarrhea and respiratory infections among rural Guatemalan children. Pediatrics, 99 (6), 808-813.

Rivera, J. & Ruel, M. T. (1996). Growth retardation starts in the first three months of life among rural Guatemalan children. European Journal of Clinical Nutrition, 51 (2) 92-6.

*Van der Stuyft, P., Sorensen, S. C., Deigada, E., & Bocaletti, E. (1996). Healthseeking behaviour for child illness in rural Guatemala. Tropical Medicine and International Health, 1 (2), 161-170.

* (resource for questions) Valanis, B. (1992). Epidemiology in nursing and health care. (2nd ed.). Norwalk, CT: Appleton and Lange.

Nursing Research Questions

Interpretation of Findings:

1. Were the interpretations based on the data?
2. Were the findings discussed in relation to the purpose of the study?
3. Were the findings in relation to the theoretical or conceptual framework and/or previous research?
14. Were generalizations warranted by the results?
15. Was a distinction made between statistical and clinical relevance and were these appropriately discussed?
16. Have the conclusions been based on the data?
17. Are the conclusions clearly stated?
18. Are the limitations of the study appropriately discussed?
19. Are the implications for nursing plausible and relevant?
20. Have the recommendations been clearly formulated and appropriate?

Epidemiology

1. What is the purpose of epidemiology?
2. What are four factors which are commonly studied in epidemiological studies?

3. Think of a nursing practice question related to the scenario and which can be answered epidemiologically and describe the four factors which would be studied.
4. What are common research designs used in epidemiological studies?
5. What types of statistical analyses are used in epidemiological studies?
6. Which design would best fit your nursing practice question? Why? 7. What would its limitations be?
8. Can an epidemiological study determine cause? Why/Why not?

Statistics Questions

Non-parametric tests (Chi Square, Z-scores):

1. What are the parameters for using nonparametric statistics in a study?
2. How do nonparametric statistics limit the usefulness of the findings?

Week #6: "International Health and Development"

Nursing Research Questions

Research Utilization:

1. What is the ultimate goal of research utilization?
2. What are the criteria used to identify studies for implementation in clinical practice?
3. What are the main barriers to research utilization?
4. What strategies/actions may be effective in eliminating/lessening these barriers?
5. What are the consequences of using nursing interventions that are not based on research?
6. What strategies can you, as a student, develop to lessen the barriers to research utilization?

CRITIQUING GUIDELINES FOR EVALUATING A QUANTITATIVE RESEARCH REPORT

The purpose of critiquing a research report is to objectively and critically evaluate the strengths and the weaknesses of an entire study. Each component of the study is examined to determine both positive and negative aspects of the report. Because all studies have weaknesses, the key to critically evaluating a study is to determine if the strengths of a study outweigh the weaknesses, that is, to evaluate the impact of the weaknesses on the entire study.

A. Problem Statement:

7. ***Has the problem been clearly identified? What is it?***
8. What background information has been provided on the importance of the problem? Has a rationale for selecting the research problem been provided?
9. Is the problem timely in terms of current trends in nursing?
10. Is the problem significant to nursing in that the results could benefit nursing practice, improve patient/client health or contribute to nursing knowledge?
11. Is a quantitative approach appropriate for investigating the problem?
12. Have the purpose, aims, or goals of the study been identified?

B. Literature Review:

8. What topics are addressed in the literature review? Are all of the topics relevant to the study?
9. Are references well documented and current (unless relevant classical literature and studies are cited)?
10. Is it clearly identified what the relationship of the problem is to previous research?
11. Are both supporting and opposing research and theories or a range of points of view on the problem presented?
12. Have important gaps of what is known about the problem or inconsistencies of findings of previous research been clearly stated? What evidence has been provided to support the need for this particular study?
13. Is the organization of the literature review logical?
14. Does the literature review conclude with a brief summary of the literature and directions for research?

C. Theoretical Framework:

5. Is the research theory linked? If not, should a theory have been used? If so what theory would you suggest?
6. If the study is theory linked, is theory being tested or verified?
7. Is the theoretical framework clearly identified? Is it consistent or appropriate for the research problem? Is the framework useful for clarifying pertinent concepts and relationships?
8. Are significant assumptions clearly stated and logical?

D. Research Questions, Hypotheses and Variables:

8. Are research questions or hypotheses used in the study? Are they appropriately used?
9. If hypotheses are being tested, what are the hypotheses and have the hypotheses been clearly stated?
10. Does each hypothesis logically relate to the research problem?
11. What are the dependent and independent variables in each hypothesis?
12. Is the direction of the relationship in each hypothesis clear?
13. Is each hypothesis consistent with the literature review and the theoretical framework?
14. Has each variable been clearly defined operationally and conceptually?

E. Research Methods/Design:

6. What research design has been chosen by the researcher(s)? Is there a clear statement identifying the design?
7. Is the chosen design appropriate for the purpose of the study? (i.e. to determine cause–and-effect relationship, to determine relationships of association, or to describe/identify factors)
8. Does the design seem to flow from the proposed research problem, theoretical framework, literature review, and hypotheses/research questions?
9. What are the threats to the internal validity of the study? How did the researcher(s) attempt to control each of these threats? Are these controls at an acceptable limit?
10. What are the threats to external validity of the study? What are the limits of generalizability in terms of external validity?

F. Ethical Considerations:

6. Were vulnerable subjects used? What safeguards was used to prevent exploitation of these subjects?
7. Is the procedure for obtaining informed consent described?
8. Were the subjects subjected to any potential risks and does the researcher describe these risks and evaluate them? Did the benefits that accrued from the research outweigh any potential risks that might result from participation in the study?
9. Were appropriate steps taken to safeguard the privacy of subjects? How were anonymity and/or confidentiality of subjects maintained?
10. Did an Institutional Review Board or other similar committee on ethics approve the study?

G. Population and Sampling:

6. Has the target population been clearly identified?

7. How was the sample selected? Is this an appropriate sampling method for the design? Are potential sampling biases been identified?
8. What are the criteria for eligibility/ineligibility for sample selection?

9. What are the characteristics of the sample? Does this sample reflect the population as identified in the problem or purpose statement? To what population may the findings be generalized?
10. Is the sample size appropriate? How is it substantiated? Has subject drop out been identified?

H. Data Collection:

Data-Collection Instruments

6. Are the instruments appropriate for the methods/design of the study?
7. Has the researcher(s) discussed the rationale for selecting each instrument?
8. Has each instrument been described as to purpose, content, strengths and weaknesses?
9. Has the validity of each instrument been described in terms of type and coefficient (if appropriate)?
10. Has the reliability of each instrument been described in terms of type and size of the reliability coefficient (if appropriate)?

Data-collection Procedures

4. Have the steps in the data-collection procedure(s) been clearly described?
5. Are the data-collection procedure(s) appropriate for the study?
6. Are data collection procedures similar for all subjects?

I. Data Analysis:

8. What descriptive and/or inferential statistics are reported?
9. ***What level of measurement is used to measure each of the major variables?***
10. Were the statistical procedures appropriate to the level of measurement?
11. Has data been analyzed in relation to the purpose of the study?
12. Has each hypothesis been tested and were the results reported accurately?
13. Has the level of significance been reported? Is this an appropriate level?
14. If tables or figures were used:
    c) Is the information consistent with the text?
    d) Are they clear and well labeled?

J. Interpretation of Findings and Discussion:

1. Were the interpretations based on the data?
   Were the findings discussed in relation to the purpose of the study?
2. Were the findings in relation to the theoretical or conceptual framework and/or previous research?
3. Were generalizations warranted by the results?
4. Was a distinction made between statistical and clinical relevance and were these appropriately discussed?
5. Have the conclusions been based on the data?
6. Are the conclusions clearly stated?
7. Are the limitations of the study appropriately discussed?
8. Are the implications for nursing plausible and relevant?

9. Have the recommendations been clearly formulated and appropriate?

K. Additional Considerations:

7. Is the investigator qualified?

8. Is the title appropriate, accurately reflecting the problem?
9. Is the abstract an accurate and concise summary of the content?
10. Is the report well organized and does if flow logically?
11. Are grammar, sentence structure, and punctuation correct?
12. Are references accurate and complete?

L. Rating the Scientific Merit of a Research Report:

4. In summary, does your critiques indicate that the study satisfies the basic requirements of scientific research? Are there some exceptions/
5. OR does your critique indicate that the study does not satisfy the basic requirements with some exceptions?
6. Should the findings from this study be utilized in practice? What are the benefits/risks of applying the findings to practice?

CRITIQUING GUIDELINES FOR EVALUATING A QUALITATIVE RESEARCH REPORT

The purpose of critiquing a research report is to objectively and critically evaluate the strengths and the weaknesses of an entire study. Each component of the study is examined to determine both positive and negative aspects of the report. Because all studies have weaknesses, the key to critically evaluating a study is to determine if the strengths of a study outweigh the weaknesses, that is to evaluate the impact of the weaknesses on the entire study.

A. Problem Statement:

1. Is the problem (phenomenon of interest) clearly identified?
2. Has the background information on the problem been presented?
3. Is the rationale for selecting the problem clear?
4. Is the problem timely in terms of current trends in nursing?
5. Is the problem significant to nursing in that the results could benefit nursing practice and /or contribute to nursing practice?
6. Is the qualitative approach appropriate for investigating the phenomena of interest?

B. Literature Review:

1. Is the documentation of the references clear and concise?
2. Is the organization of the review logical?
3. How is the review relevant to the study?

C. Purpose of the Study:

1. Is there a clear statement describing the purpose as to what the researcher plans to do?
2. Has the researcher stated clearly and logically the significant assumptions?

D. **Design/Method**:

1. Is the research method appropriate for the purpose of the study (i.e. phenomenology, grounded theory, ethnography, or other)?

E. Ethical Considerations:

1. Were vulnerable subjects used? What safeguards was used to prevent exploitation of these subjects?
2. Is the procedure for obtaining informed consent described?
3. Were the subjects subjected to any potential risks and does the researcher describe these risks and evaluate them? Did the benefits that accrued from the research outweigh any potential risks that might result from participation in the study?
4. Were appropriate steps taken to safeguard the privacy of subjects? How were anonymity and/or confidentiality of subjects maintained?
5. Did an Institutional Review Board or other similar committee on ethics approve the study?

E. Sampling

1. How were the subjects (participants) selected? Is it clear that the participants who

have been selected are appropriate to inform the research?
2. Are the sampling methods clearly described? Are these methods appropriate for the design chosen?

G. Data Collection:

1. How/why was the study setting selected? Is the setting appropriate for the study?
2. What/who are the data sources?
3. Are the data-collection methods/procedures described explicitly (such as interviews, observation, personal diaries, etc)?
4. Are the data-collection strategies appropriate for the research method and problem?
5. Is there evidence of data saturation?

H. Data Analysis:

1. How was data analyzed? Are the data-analysis procedures clearly and logically described? Are they appropriate for the research method?
2. Are the data coding procedures described?
3. Do the themes, theory or hypothesis relates to the purpose of the study?
4. Is there evidence that the researcher has remained true to the data (i.e. use of narrative)?

I. Confirmability of the Findings

1. Credibility**:** Did the participants validate that the reported findings truly reflect their own experiences? Is there evidence that the researcher's interpretation captured the participant's' meaning?

2. Auditability**:** Can another individual follow the documentation of data collection and analysis that led to the researcher's conclusion? Are there examples provided to guide the reader from raw data to the researcher's synthesis?

3. Transferability: (Fittingness). Are the findings transferable (that is applicable outside of the research situation)? Are the results or findings meaningful to individuals who were not in the study but who are in similar situation(s)?

J. Interpretation and Discussion of Findings:

1. Are the interpretations appropriate for the phenomenon of interest?
2. Are the findings discussed in relation to the research question or problem?
3. Are findings discussed in relation to relevant literature including existing theory and findings of other studies?
4. Are the researchers conceptual categories or theoretical formulations supported by the data?
5. Are the conclusions clearly stated? Are the conclusions logically consistent with the phenomena of interest and within the context of the study?
6. Are the limitations of the study appropriately discussed?
7. Are the implications for nursing plausible and relevant?
8. Have appropriate recommendations been clearly formulated?

K. Additional Considerations:

1. ***Is the investigator qualified?***
2. Is the title appropriate, accurately reflecting the problem?
3. Is the abstract an accurate and concise summary of the content?
4. Is the report well organized and does if flow logically?
5. Are grammar, sentence structure, and punctuation correct?
6. Are references accurate and complete?

L. Rating the Scientific Merit of a Research Report:

1. In summary, does your critiques indicate that the study satisfies the basic requirements of scientific research? Are there some exceptions/
2. OR does your critique indicate that the study does not satisfy the basic requirements with some exceptions?
3. Should the findings from this study be utilized in practice? What are the benefits/risks of applying the findings to practice?

Marking Guideline
NS 4970/NS 3010
Quantitative Research Critique

Part A: Body of Paper

1.0 Introduction to article/Significance to nursing (5)

2.0 Problem Statement / Purpose (5)

3.0 Literature Review (5)

4.0 Theoretical framework (5)

5.0 Research Questions/Hypotheses/Variables (5)

6.0 Research Methods/Designs (5)

7.0 Ethical Considerations (5)

8.0 Population and Sampling(5)

9.0 Data collection (10)

10.0 Data Analysis (10)

11.0 Interpretation and discussion (10)

12.0 Additional considerations (5)

13.0 Rating of the merit of the research report (5)

/85

Part B: Writing Format/Style

1.0 APA format (5)

2.0 Development of ideas (5)

3.0 Introduction and conclusions (5)

/15

TOTAL: /100 = /45%

Marking Guideline
NS 4970/NS 3010
Qualitative Research Critique

Part A: Body of Paper

1.0 Introduction to article/significance to nursing (5)

2.0 Problem statement / phenomenon of interest (10)

3.0 Literature review /Theoretical framework (5)

4.0 Purpose (5)

5.0 Research methods/design (5)

6.0 Ethical considerations (5)

7.0 Sample/participants (5)

8.0 Data collection(5)

9.0 Data analysis (10)

10.0 Findings (10)

11.0 Interpretation and discussion (10)

12.0 Additional considerations (5)

13.0 Rating of the merit of the research report (5)

/85

Part B: Writing Format/Style

1.0 APA format (5)

2.0 Development of ideas (5)

3.0 Introduction and conclusions (5)

/15

TOTAL: /100 = /45%