

# Chapter 13

## Critique Process

Carol Boswell and Sharon Cannon

### Chapter Objectives

*At the conclusion of this chapter, the learner will be able to*

1. Provide a rationale for completing a research critique
2. List the necessary elements in a research critique
3. Evaluate evidence needed for clinical decision making
4. Utilize evidence-based practice guidelines to deliver holistic nursing practice

### Key Terms

- Critique
- Qualitative research
- Hypothesis
- Quantitative research

## Rationale for Doing a Research Critique

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When a critical question in nursing practice has been posed, an immediate reaction often prompts the question—What’s in the literature? A common assumption by most people is that the printed words are absolute or true. This assumption is even more common if the literature is a researched study. Unfortunately, not all published research is scientifically sound. As a result, it is imperative that a nurse be able to critically assess a report. Burns and Groves (2001) indicated that in the 1940s and 1950s nursing research generated critiques that were less than pleasant. Consequently, little nursing research was undertaken until the 1980s and 1990s. No studies are without some imperfections, but that is not a valid reason for not conducting research. As a result of this realization, analyses focusing on the limitations and strengths of studies are now commonplace. This shift from criticism to analysis provides a more positive approach to examining the usefulness of the scientific data generated. Fain (1999) suggested that nurses must critically assess research studies to determine the appropriate application to practice. Melnyk and Fineout-Overhold (2005) supported this sentiment in relation to research and evidence-based practice (EBP). In EBP, research provides the evidence that guides clinical practice in making decisions about the care nurses provide.



Think  
the Box

Why would you want to do a critique? Is one enough? What are some of the reasons for doing research critiques?

Polit and Beck (2006) indicated that a research critique is a mechanism to provide feedback for improvement. They further suggested that nurses who can critically review a study contribute to the body of nursing knowledge.

Finally, considering a rationale for a research critique can be found in the definition of the word *critique* as offered by Webster’s (Editors of Webster’s II College Dictionaries, 1999). Critique is a “critical review or commentary, especially one dealing with a literary or artistic work” (p. 268). If one thinks of nursing as an art and a science, a critical review of nursing research can be seen as a work of art. Studies withstanding the test of time through careful exploration of findings and implementation in nursing EBP allow nurses to practice the art and science of the profession.

## Elements of a Research Critique

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Perhaps, before considering the elements of a research critique, we should discuss the types of critiques. Burns and Grove (2001) listed nine

types of critiques. The types of critique range from a student critique to the critique of research proposals. Students learn to critique in their nursing education programs. Practicing nurses analyze studies for evidence on which to base the care provided. Educators approach critiques from the aspect of improving instruction. Nurse researchers focus on building a program of research emphasizing the review of studies in one specific area. Abstracts are frequently reviewed for use in presenting research findings. Presenting research at meetings, conferences, and workshops allows participants to verbally critique studies. Several nursing journals allow for published critiques and allow authors to respond. These are often done in letters to the editor. Another type of critique is for an article submitted for publication. This is a review by peers who assess the quality of the study. A final type of critique is for obtaining funding for research studies from agencies such as the National Institute of Nursing Research (NINR). Critiques are essential to EBP and are expressed in the various forms just discussed.

Regardless of the type of critique, certain elements comprise a critique. Brink and Wood (2001) suggested, “the purpose of a research critique is to determine whether the findings are usable for you” (p. 57). Some general questions can be associated with the elements of a critique.

### Study Purpose

The first element of a research critique generally involves determining the purpose of a study. Questions to be asked about this element include the following:

- Is the purpose clear?
- Is it relevant to your practice?
- Is there a need for the study?
- Will the study improve nursing practice and add to the body of nursing knowledge?

Answers to these questions guide the critique. If the responses are negative, then EBP doesn't exist.

### Research Design

A second element involves the design of the research. Questions to ask about this element include the following:

- Is there a framework/theory to guide the study?
- If there is no framework/theory, are you able to identify how data will be collected?

- Who will be studied?
- What is the plan for conducting the study?

“Designing and producing research is a complex activity” (Brockopp & Hastings-Tolsma, 2003, p. 59). Adequate planning is important to allow the use of the best evidence for incorporation in nursing practice. A well-thought-out design allows for assurance that the evidence has practicality. The research design can be likened to a set of instructions allowing the builder to put together the pieces of a puzzle resulting in a usable product.



What aspects of a research article do you perceive as important and why?

### Literature Review

Another element to consider is the literature review regarding the problem presented. Questions to ask about this element include the following:

- Is the literature review comprehensive?
- Is the literature review current, i.e., within the last 5 years?
- Are there benchmark publications?
- Are the majority of sources primary or secondary?
- Is the literature review well organized, including an introduction and a summary?

A thorough literature review allows for credibility of the study. Of major importance in beginning a research study is the need to ask, “What has been written about the problem?” The literature review provides the foundation for the study’s significance and relationship to practice.

### Research Question/Hypothesis

The next element of a research critique is the research question(s) or hypothesis(es). This element of the critique is of extreme importance, as it should reflect the purpose of the study. Research questions in EBP are the “who, what, when, where, why, and how” guiding the nursing care provided to our patients. Thus, it is essential to assess the following:

- Is the research question clearly stated?
- Does it match the purpose of the study?

A study sometimes contains a hypothesis rather than a research question. Polit and Beck (2006) defined a hypothesis as “a prediction, usually a statement of predicted relationships between variables” (p. 501). Simply put, a hypothesis may predict, propose, suppose, explain, or

test a quality, property, or characteristic of people, things, or settings. We have all talked about or discussed “hypothetical situations.” A hypothesis proposes a solution. Questions to ask about a hypothesis include the following:

- Are all variables described?
- Is the hypothesis clearly stated?
- Does the hypothesis reflect the purpose of the study?

The establishment of the research question or hypothesis is paramount to the focusing of the study. Each aspect of the wording within the questions/hypotheses needs to be clear and concise to allow for the effective concentration of the research endeavor.

### Study Sample

Another element of the research critique involves the sample. Questions regarding the sample should include the following:

- Who is identified as the target population?
- How were the subjects chosen (e.g., randomly, conveniently)?
- Who is included (e.g., males, females, children, adults)?
- Who is excluded (e.g., elderly, pregnant women, minorities)?
- How large is the sample?

Answers to these questions can help the nurse decide if decisions about patients and clinical problems are relevant. Clarification about the sample population must be denoted. Each aspect of the sampling process should be carefully and thoroughly described within the discussion of the project.

### Data Collection

Essential to the critique is a description of how the data was collected. Questions about this element include the following:

- What steps were taken to collect the data?
- How often was data collected and for how long?
- What instruments or tools were used?
- Who designed the tools?
- Are the tools valid and reliable?
- Are the tools adequately described for you to understand what the score means?
- Were data analysis procedures appropriate?

Data collection gives information about the research question or hypothesis. Data is often collected by a survey mechanism that provides a score for analysis. As a result, a clear understanding of how and where



Debate the importance of including the theoretical foundation for a study. Frequently, this aspect seems to be omitted in research articles due to the page restrictions from the journal.

the data was collected, the description of the instrument (tool) that was used, and how the results were analyzed statistically is essential.

### Study Results

A critique should provide the results of the study. Questions about results include the following:

- Is the research question/hypothesis answered?
- Were there limitations?
- Can generalizations be made?
- Are the results supported in the literature?
- Were there any unexpected findings?

The elements of the critique summarize the study, what was found, and the application of its findings to similar situations. The summary of the findings needs to be carefully presented to allow for generalization to other settings and populations.

### Study Recommendations

The final element of the research critique is the section regarding recommendations. Questions for this element include the following:

- Are suggestions for further use in practice included?
- Is there an identified need for further research?
- Could you make a change in your practice based on the results of this study?
- What are the benefits to using the information learned?

The necessary elements in a research critique can be compiled in a series of questions. Those questions form the basis for beginning the process for conducting a research critique.

## Process for Conducting a Research Critique

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The word *critique* can also be defined as “a critical review or commentary, especially one dealing with works of art or literature; a critical discussion of a specific topic; the art of criticism” (Editors of the American Heritage® Dictionaries, 2005, p. 1 of 1). Although *research critique* is the term frequently used, several other terms, such as *critical*

*analysis, review, evaluation, and appraisal*, can be associated with the process (CyberNurse, 2005). Any of these terms could be, and are, used as the *modus operandi* for assessing a published research article.

To gain a true understanding and appreciation of the process of a research critique, one must recognize the expectations for conducting the process. As the definition implies, the examination of research is set forth to allow individuals to carefully and thoroughly examine a research endeavor. The outcome is not anticipated to be a negative grilling of the project to identify all of the shortcomings. Wood and Ross-Kerr (2006) affirmed, “in your best judgment, you decide if what you have read will serve your purpose” (p. 65). The materials need to be practical and applicable to your individual practice setting and the patient situation. According to San Jose State University (2005), studies are scrutinized for merits, limitations, implications, and consequence. Each and every report needs to be assessed with a critical eye toward each unique setting. Rodger (1997) concluded that a critique should be “balanced, including strengths and weaknesses, and constructive, providing suggestions for how the study might be improved” (p. 1 of 2). It is envisioned to be a review or analysis of the research undertaking. Both the strengths and limitations within the process of the research study are judiciously examined to verify that the ending results can truly be generalized to the target population.

Think Outside  
the Box



If nurses do not value research, the engagement into the critique process and participation in research studies is decreased. So identify steps and incentives that could be used to get you and your peers involved in doing research critiques and/or research projects.

By completing an effective research critique, a reviewer then becomes aware of the shortcomings within the research project. By identifying these concerns, the assessor can then efficiently incorporate the results based on this in-depth knowledge of the study findings. The incorporation of the results into nursing practice is thus based on an understanding of the comprehensiveness of the study. Every study has limitations. Researchers must make multiple methodological judgments that influence the significance, integrity, and value of the resulting research outcomes (San Jose State University, 2005). No study is ever perfectly conducted unless it is not done on humans. Research that is conducted on laboratory animals can be controlled with greater domination than projects in which humans are the subjects. When working with laboratory animals, the variables can be manipulated. However, if the same project were envisioned using human subjects, the ethical ramifications could be increased, because manipulation for

human subjects might result in damages. Human research always has nuances that must be considered as the results are considered and implemented into practice. As nurses are asked to become involved with the critiquing of research articles for EBP, several formidable factors emerge. Several Internet sites are available to use as resources for exploring EBP (**Table 13-1**). The austere style of journal articles triggers concerns. Journal space is proscribed by the publishing companies. As a result of these restrictions regarding page length and word limits, key elements within the research process must be succinctly presented within the publication of the research article. Depth of discussion about the basic research principles must therefore be limited or omitted.

Think Outside  
the Box



Look at some research articles. Can you identify within them any discussion related to patient preferences that is part of evidence-based practice? Discuss your thoughts concerning your findings.

A second aspect that deters nurses from participating in research critiques is the unfamiliar jargon. Statistical aspects are quite intimidating to many practicing nurses. The definitions used within research to discuss sampling, variables, hypotheses, and quantitative and qualitative methods are foreign to the practicing nurse. Although many of these are common terms, such as *independent*, *dependent*, *convenience*, and *variable*, within a research project, the terms take on new meanings. This specificity of the terms within research leads to conflict and misunderstanding for novice evaluators of research. According to the University of Saskatchewan College of Nursing (2005), nurses “are going to be increasingly challenged to base your practice on evidence.” Because nurses must become proficient at reading and understanding research reports to incorporate their findings into EBP, they need to take a deep breath and plunge into the critiquing process.

**Table 13-1**

Suggested Resources for Research Critique Formats

<http://www.sonoma.edu/users/n/nolan/n400/critique.htm>  
[http://www.runet.edu/~kcarter/Course\\_info/nurs442/chapter12.htm](http://www.runet.edu/~kcarter/Course_info/nurs442/chapter12.htm)  
<http://www.indstate.edu/mary/N322/Critqguide.html>  
<http://www.marquette.edu/~ryanp/291/fall99critique.htm>  
<http://classes.kumc.edu/NURS460smith/460critiquingresearch.html>

The ability to accomplish critical appraisals is a skill that must be developed through repeated practice. The University of Saskatchewan College of Nursing (2005) acknowledged that completing research critiques “will become a rewarding intellectual challenge that keeps getting easier and more interesting with experience” (p. 3). The principal outlook regarding the process is to continue doing research critiques, because practice does diminish the confusion and overwhelming nature of the process. By reading research articles, nurses become increasingly accustomed to the format and terminology. Evidence-based nursing practice mandates that nurses begin to build a steady diet of digesting at least one research report each week. Jolley (2002) challenged nurses to get involved in some manner. By accepting the challenge to become comfortable with research reports, nurses will find that the different aspects of the report become commonplace and less threatening. Not all nurses will strive to carry out research activities, but it is imperative that all nurses become comfortable with using research results to advance the discipline of nursing and ultimately improve nursing care.

Initially, some general areas of the research study must be considered. The author(s) of the study needs to be evaluated. An evaluation of who is completing the research, including their job title(s) and qualifications to conduct the project, needs to be carefully contemplated. After the author information is pondered, an assessment of the study title provides valuable information. The title of the project should reflect a clear, concise description of the project. It should provide a prompt perception of the fundamental nature of the paper (CyberNurse, 2005). At this point, the abstract is examined to further clarify the focus for the research endeavor. The abstract should impart a condensation of the main points from the research project. A quick read of the abstract and discussion sections can provide valuable insight into the complexity and applicability of the study to a unique practice setting.

Holder (2003) presented four key aspects to carefully address when initiating a research critique:

- Understanding the purpose and problem, while determining if the design and methodology are consistent with the study purpose
- Determining if the methodology is applied properly
- Assessing if the outcomes and conclusions are believable and supported by the findings
- Reflecting on the overall quality, strengths, and limitations, which contribute to knowledge and suggestions for improvement in the study, are provided

According to San Jose State University (2005), a research critique should follow some basic guidelines (**Table 13-2**):

**Table 13-2**

Critique Worksheet	
Topic/Questions	Discussion
Title of the study:	
Author credentials:	
In your own words, state the purpose of the study:	
Identify literature written about the problem:	
State the theory/framework, concepts, and the relationship to nursing:	
State the research question or hypothesis:	
List the dependent and independent variables:	
State all definitions given:	
List the tools with their reliability and validity information:	
Describe the sample:	
Describe the ethics of the study, i.e. IRB:	
State the data collection procedures:	
Discuss the data analysis:	
Discuss results, recommendations, and implications for your practice:	

- Read the entire study carefully
- Examine the organization and presentation
- Identify terms you don't understand
- Highlight each step of the research process
- Identify the strengths and weaknesses objectively
- Suggest modifications for future studies
- Determine how well the study followed the rules for ideal study

These guidelines are fairly general, but they do provide a place to start. A careful, general reading of the entire study must be the beginning point for any critique. According to Holder (2003), the examiner should “read the research report in its entirety to get a sense of the study and its contribution to knowledge development, then read again paying attention to the questions appropriate to each stage of the critiquing process” (p. 2). The use of a photocopy of the article may facilitate the research critique process, because areas can be highlighted, questions can be added to the margin, and key points can be circled. Following this universal overview of the research project, a more thorough examination is conducted. As a reader begins this initial review of the research project, an apparent feel for the organization of the article becomes evident, as does the manner of presentation of the entire research process. At this point, the examiner becomes aware of the complexity of the identified material. To become somewhat relaxed with the content, he or she should expect to read the article several times. Each time the article is read, the examiner comes to terms with a different aspect of the article. Frequently, an initial question relates to the researcher's ability to verbalize the process in a manner that nurses can understand and thus be able to utilize. The reader may also find that some of the initial questions raised in the introductory section are answered in other sections within the article. After this general overview of the article, a more critical examination of the documentation can then be completed.

Each aspect within a research article is examined to identify areas of concerns and assets (**Table 13-3**). The evaluator benefits from taking the time to highlight each of the steps of the research process, spotlighting the hypothesis(es), literature review, sample, ethical considerations, and research design. During this focused examination, any limitations identified by the researchers should be noted. Another area to recognize is the operational definitions, which reflect the standards used within a research project to clarify the specific variables. By noting the operational definitions for each of the variables, a reviewer should not have many additional terms that require explanation. The evaluator should define any term that continues to be unfamiliar to enable him or her to better understand the entire process. Each reader should con-

**Table 13-3**

Rules for Ideal Study	
Research Problem	<ul style="list-style-type: none"> <li>• Significance of problem noted</li> <li>• Clarification of aim of study</li> <li>• Practicality of study</li> <li>• Clarity, significance, and documentation</li> </ul>
Review of Literature	<ul style="list-style-type: none"> <li>• Organization of literature</li> <li>• Progression toward study question through previous research reports</li> <li>• Rationale and direction for the study presented</li> </ul>
Study Conceptual Framework/Theory	<ul style="list-style-type: none"> <li>• Clear link between conceptual framework/theory and research question/purpose</li> <li>• Any maps/models logically presented</li> </ul>
Research questions or hypotheses	<ul style="list-style-type: none"> <li>• Expressed appropriately and clearly</li> <li>• Logically related to the research purpose/aim and framework/theory</li> </ul>
Variable	<ul style="list-style-type: none"> <li>• Concepts identified within the framework/theory identified</li> <li>• Variable operationally defined</li> <li>• Conceptual definition consistent with operational definition of each variable</li> </ul>
Research design	<ul style="list-style-type: none"> <li>• Design appears appropriate</li> <li>• Clearly defined protocol for conducting research project evident</li> <li>• Any treatment closely scrutinized to guarantee consistency</li> <li>• Threats to internal validity minimized</li> <li>• Logically connected to sampling method and statistics used</li> </ul>
Sampling Method	<ul style="list-style-type: none"> <li>• Sampling method appropriate to result in representative sample</li> <li>• Biases identified</li> <li>• Human rights protected</li> <li>• Setting described and appropriate for target population</li> </ul>
Measurements	<ul style="list-style-type: none"> <li>• Instruments sufficient for measuring the study variables</li> <li>• Instrument validity and reliability levels checked</li> <li>• Instrument scoring techniques clearly described</li> </ul>
Data Collection	<ul style="list-style-type: none"> <li>• Techniques for using observation clearly described</li> <li>• Methods for recording measures clearly described</li> <li>• Interrater reliability described when appropriate</li> <li>• Process clearly, consistently, and ethically described</li> </ul>
Data Analysis	<ul style="list-style-type: none"> <li>• Procedures suitable to the type of data collected</li> <li>• Analysis procedures clearly portrayed</li> <li>• Outcomes offered in an comprehensible way</li> </ul>
Modified from: Reading and Critiquing Research (2005).	

struct a pattern of looking up unfamiliar terms instead of skipping over them, which only allows them to remain unfamiliar. The objective of critiquing any research report is to become familiar with the language and procedures used regularly within the scheme.

At this point in the research critique, the identification of strengths and limitations of the presented research process is undertaken. The reviewer should be aware that the limitations identified might result from the lack of space allowed within the documentation of the research endeavor rather than from the omission of the aspect. All journal articles have space limitations, which can result in some items being omitted due to space rather than not necessarily being included in the study. These strengths and limitations are based on the research process.

One foremost challenge for novice research readers is the aspect of statistics. In considering this aspect of any research process, the key guideline is to ask for help. University of Saskatchewan College of Nursing (2005) strongly suggests that reviewers either find someone to provide help or obtain a book similar to *Statistics for Dummies* to aid in the consideration of the statistical data. Nurses who practice evidence-based nursing are not expected to become statisticians. Nurses are, however, expected to acknowledge their limitations and seek help from statisticians and others as needed to improve the evaluation of research results for incorporation into everyday nursing practice.

## Critically Assessing Knowledge for Clinical Decision Making

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The various aspects of EBP are of fundamental importance in considering the assessment of knowledge related to clinical decision making. The University of Saskatchewan College of Nursing (2005) stated, “the evidence you will require to guide your practice in a matter of clinical importance will not come from reviewing a single independent study” (PowerPoint Slide 8). The practicing nurse comes to the research critique process with a foundation of clinical experience. Thus, the critique of the research endeavor is tempered by this clinical expertise. Yoder (2005) supported the idea that “clinical decisions require that one use a problem-solving approach to clinical practice that integrates a systematic search for and critical appraisal of the relevant evidence to answer the clinical questions” (p. 1 of 3). Every nurse has been taught a problem-solving methodology. It becomes essential for nurses to utilize the critical thinking framework already incorporated into practice to validate and conceptualize the research critique process. The idea behind a research critique is to provide a systematic process for critically appraising research projects. Within this process, nurses must become comfortable with looking at all aspects of the various studies to assess the strengths and limitations that might be apparent. Carefully considering these different aspects facilitates critical thinking concerning the results reported and the applicability of those results to the workplace.

One paramount aspect to be considered within any research critique is the determination of the sampling process. According to Pajares (2005), “the key word in sampling is representative” (p. 5 of 9). Determining the appropriateness of the sampling method is critical in any study appraisal. When a convenient sampling method is used, the rationale and limitations related to this methodology must be meticulously discussed.

## Decisively Evaluating Quantitative Research Evidence

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*Quantitative research* reports tend to be slightly easier to critique, because of the concreteness of the quantitative research design. The different aspects of quantitative research document the expectations for all of the various elements, such as the introduction, literature review, hypothesis(es), sampling, research design, statistical testing, and discussion. Although each of these areas has considerable levels and components, the clarity of the descriptions of these aspects is more distinct than in qualitative methodologies. According to Carter (2006), the critiquing of quantitative research reports should address four basic areas: (a) comprehension, (b) comparison, (c) analysis, and (d) evaluation. Each of these four levels of review adds a different dimension to the resulting scrutiny. Comprehension and comparison provide the overall appraisal of the report. Analysis then takes the investigation of the report to the level of reflecting on the continuity among the different parts (Carter, 2006). At this point of assessing the report, the principal concern is whether the hypothesis flows into the sample, which is appropriately managed by the research design. The final aspect carefully considers the meaning and significance of the study process for implementation into nursing practice. The focus of this aspect is to determine whether the findings, implications, and recommendations are truly supported and presented.

A principal aspect that is unique to the quantitative research appraisal is the use of a conceptual or theoretical framework (Pajares, 2005). Although it can be provided in any of the research methodologies, this framework is essential in all quantitative research endeavors. Having said this, within printed articles documenting quantitative research, the discussion of the conceptual/theoretical framework is frequently omitted. It is thought that this omission results from the journal page length requirements. The omission could also be the result of the researcher not incorporating a conceptual/theoretical framework. The total omission of this framework would be a marked limitation within a quantitative research methodology.

## Decisively Evaluating Qualitative Research Evidence

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In evaluating *qualitative research* endeavors, the examination of the entire process takes on a slightly different focus from that of a quantitative research endeavor. Assessment of the clarity of the purpose and statement of the phenomenon remains consistent with that of any other methodology critique. These components must be presented upfront. From that point on, the specificity of the qualitative design must be considered. Broad research questions, instead of hypotheses, are frequently employed within this type of research design. The literature review may follow the data collection aspect rather than driving the research endeavor. A framework may or may not be clearly presented. Qualitative research reviews must carefully discuss the researcher-participant relationship, because this aspect is critical to the collection of data. Ethical considerations are also significant within this methodology.

Carter (2006) presented five standards to keep in mind when conducting a qualitative research critique. The research report must present a comprehensible depiction of the research environment, data collection process, sampling process, and the researcher's thought process. A second standard relates to the importance of congruence among the methodological aspects. According to Carter (2006), this section should indicate "rigor in documentation, procedural rigor, ethical rigor, and auditability" (p. 2 of 3). The third standard is the analytical preciseness. With regard to this aspect, the researcher's thoughts and decisions related to the data should be evident in the report. The fourth standard stresses the importance of addressing the theoretical connectedness presented within the report. The fifth and final standard from Carter (2006) suggests that the relevance (value of the study) needs to be apparent within the documentation of the research project. Appropriate examination of each of these facets within a research report presents a strong, valid depiction of the research project.

The data collection aspect is a crucial component of the presentation of qualitative research projects. The reader must be walked through the entire process from identification of the participants to the management of the data. The congruence of the data collected with the research purpose, question, and tradition needs to be assessed. The researcher is obliged to discuss how the field engagements and observations ought to build trust and ensure validity of the data collected. Another aspect that should be identifiable within the report is the ongoing and concurrent nature of data collection and analysis. Since data collection and analysis are occurring in tandem, discussion about the codes used as categories and the process utilized to determine data saturation must be evident

within the presentation. The research report should also address triangulation, peer review of the research process, articulation of researcher biases, member checking, and external audit by expert consultants. A final aspect that must be noted within qualitative research reports is the sampling data. Since the sample population is usually small and focused, a description of this population is critical to allowing the reader to determine if the data are transferable to other populations.

Qualitative research involves additional terminology, which can cause further confusion and frustration. As a result, the critique of qualitative research tends to be an area that is best entered into after learning how to conduct critiques of quantitative research endeavors. Qualitative research tends to be less structured than quantitative.

## Decisively Evaluating Mixed Method Evidence

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Mixed method research embraces both quantitative and qualitative design aspects. According to Creswell (2003), the mixed method approach takes advantage of both quantitative and qualitative strengths by employing sequential, concurrent, and transformative strategies of inquiry. As a critique of a mixed method research study is undertaken, the reader does have to consider both methodologies within the discussion. A unique aspect of a mixed method research critique is the expectation of a stated rationale for the use of this method. The quantitative and qualitative data in a mixed method research report are frequently presented separately, which allows the reader to concentrate on one type of data prior to considering the other type. Quantitative data are customarily presented initially and is then followed by the qualitative data. The discussion section should provide the integration of the two types of data to reflect the strengthening of the resulting outcomes. When a transformative study design is employed, this section should address the advancement of the agenda for change or reform that has developed as a result of the research.

## Employing EBP Guidelines: Instruments for Holistic Practice

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EBP requires that multiple related articles be correlated to provide a sum of evidence rather than a single data set. Contradictory evidence must be reconciled through the evaluation and association of data from multiple quality research projects. Of course, this process of reconciling contradictory evidence and multiple research discussions generates additional questions that need to be investigated at some point in time.

According to the Oncology Nursing Society (2005), the EBP process comprises six steps. These six steps are (a) identifying the problem; (b) finding the evidence; (c) critiquing the merit, feasibility, and utility of the evidence; (d) summarizing the evidence; (e) applying the ideas to practice; and (f) evaluating the results. Each of these steps, with the exception of the application to practice, can be visualized within the research critique process. Research critiques require the identification of the problem; an examination of the literature review; a critique of the merits, feasibility, and use of the research process; summarization of the research process; consideration of the applicability of the research results to practice; and evaluation of the results.

## Summary Points

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1. Critiques of research are essential to EBP and allow nurses to practice the art and science of the profession.
2. There are nine different types of critiques.
3. The necessary elements in a research critique can be compiled in a series of questions for the process of critiquing research.
4. Critiques should be balanced, identifying both strengths and limitations.
5. Journal articles have restrictions on page limits and word limits, which sometimes result in information being omitted.
6. Jargon in research reports deters nurses from doing research critiques.
7. The critical appraisal of research is a skill to be developed through repeated practice.
8. General areas of the research study include (a) author qualifications, (b) purpose, (c) design, (d) sample, (e) methodology, (f) outcomes, (g) limitations and strengths, and (h) recommendations.
9. Nurses in EBP do not need to be statisticians but do need to ask for help in evaluating the statistical analysis.
10. Quantitative research studies are concrete and should include a theoretical framework.
11. Qualitative research studies contain broad research questions, are unstructured, and must consider ethics.
12. Mixed method research studies embrace both quantitative and qualitative design aspects.
13. Research critiques should consider the applicability of the research results to practice.



## RED FLAGS

- A critique is not a negative process but should be a careful examination of all aspects of the research process.
- A research critique should identify gaps within the process.
- Future research possibilities should be presented within the process.
- Recommendations for advancement of the nursing profession should be documented in transformative research.
- For evidence-based practice, multiple related articles need to provide a sum of evidence rather than a single data set.

## Suggested Readings

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## Multiple Choice Questions

- Question 1:** Nurses must critically assess research studies to
- A. Understand that all research is scientifically sound
  - B. Determine the application to practice
  - C. Know all studies are perfect
  - D. Obtain a negative approach to research utilization
- Question 2:** Of the nine types of critiques, which of the following are considered essential to EBP?
- A. Student, practicing nurse, and peer review critiques
  - B. Abstracts, presentations, e-mail critiques
  - C. Program of research, letters to the editors, and lay journal critiques
  - D. National Institute of Nursing Research, educator groups, and newspaper critiques
- Question 3:** The purpose of a study applies to EBP when it
- A. Adds to the body of nursing knowledge
  - B. Is complete and requires multiple readings
  - C. Is relevant to the authors
  - D. Is hard to find in the literature
- Question 4:** A hypothesis may be described by the following terms:
- A. Results, introduces, criticizes, reviews
  - B. Findings, improvements, collections, sets
  - C. Studies, plans, appreciates, concerns
  - D. Proposes, predicts, supposes, tests
- Question 5:** Essential to a critique is a description of how the data was collected. Which statement below indicates the best data collection description?
- A. Data collection was timely and used a tool developed by the researcher.
  - B. Multiple tools were used to collect the data.
  - C. The data was collected at 2-week intervals using a pretest/posttest procedure.
  - D. The score for the tool is easily understood and needs little description.
- Question 6:** Results of the study should include
- A. Unexpected findings
  - B. Unanswered questions
  - C. Pictures of subjects
  - D. Endorsements of peers

**Question 7:** A research study recommendation should include

- A. No further need for research
- B. No benefits for use in practice
- C. Ways to change practice based on results
- D. Ways to avoid using the results in other studies

**Question 8:** The definition of a research critique is understood to imply

- A. Analytical examination or commentary of a research report
- B. A negative assessment related to the weaknesses of a research report
- C. An analytical evaluation of the literature review
- D. A positive assessment of the research design

**Question 9:** Although many aspects are discussed within a research critique, the basic aspects that the critique is attempting to identify are

- A. Hypothesis(es) and literature review
- B. Strengths and limitations
- C. Research design and sampling methodology
- D. Shortcomings and critical problems

**Question 10:** Evidence-based nursing practice requires that nurses initiate a pattern to facilitate effective utilization of research results. The best method for improving a nurse's ability to incorporate research results into practice is

- A. Incorporating a monthly session to complete a literature review
- B. Completing a critique of a single research project
- C. Assessing at least one research report on a weekly basis
- D. Reviewing abstracts from selected research projects

**Question 11:** Several basic guidelines can be used to make the research critiquing procedure less threatening. Which of the following reflects the utilization of these guidelines? The nurse

- A. Reads the entire discussion section carefully to gain an overview of the research report
- C. Identifies shortcomings that are unfamiliar, to clarify the limitations within the study
- D. Reads the entire study meticulously to acquire a general understanding of the research report
- E. Identifies modifications for the selected research report

**Question 12:** Quantitative research design tends to be easier to critique due to the

- A. Length of the research reports
- C. Incorporation of triangulation into the process
- D. Use of convenient sampling methodology
- D. Concreteness of the research design

**Question 13:** When attempting to critique a qualitative research endeavor, individuals must be able to

- A. Easily identify the hypothesis(es)
- C. Carefully assess the data collection and management processes
- D. Quickly determine the conceptual framework utilized
- E. Effectively understand the statistical results

**Question 14:** One unique aspect present in reports of mixed method research projects is a(an)

- A. Rationale for the utilization of the method
- B. Clear delineation of the sampling method
- C. In-depth discussion of the methodology
- D. Listing of the strengths and limitations

## Discussion Questions

### Discussion Question 1:

You and your peers, as staff nurses, have found a research article that has the potential to change the way you practice. List questions that contain elements to guide your critique.

### Discussion Question 2:

Using the critique worksheet, select an article on a research project for your practice area and complete the worksheet. Would you change your practice based on the information you obtained?

### Discussion Question 3:

You are a manager on a medical/surgical acute care unit. Your facility is moving toward an evidence-based practice format. As a result, each unit has been charged with establishing a process for involving the staff nurses in this process. You have decided to implement a journal club for staff nurses to review and critique research articles for potential inclusion in evidence-based policies. What would you set up as the ground rules for the implementation of this journal club activity?