

Theoretical Framework

CHAPTER OVERVIEW

Chapter 2 introduces students to the nature of knowledge, both from nursing and other disciplines, discussed within the context of worldview. Philosophies of research and science are shown to form the basis for beliefs and assumptions that guide the selected approach to studying research problems. The link to research is demonstrated through a critical thinking decision path.

Next, students are introduced to frameworks for research, providing at the outset an example of a clinical situation that clearly shows the relationship between practice and research. This is followed by a section that illustrates how theory links research and practice. Inductive and deductive approaches to science are described, using the earlier clinical example. Models are described as a way to connect concepts and develop hypotheses. Reference is made to the idea of a “ladder of abstraction” that can be used to gain a research perspective and relate concepts, theories, and frameworks.

Theory is defined, and the purpose of a theoretical rationale is conveyed as a context in which to examine problems. More specifically addressed are types of theories—grand, midrange, and microrange—to introduce readers to theory as a framework to answer nursing questions. A focus on nursing knowledge and nursing theory development can provide students with the frame of reference that is so necessary to help nursing continue to define what it is, how it is unique, and how it differs from other disciplines.

Conceptual and theoretical frameworks are differentiated, and conceptual and operational definitions are illustrated for six different concepts. Criteria for critiquing a theoretical framework are identified to assist students in the development of their roles as research consumers.

LEARNING OUTCOMES

After reading this chapter, the student should be able to do the following:

- Define key concepts in the philosophy of science.
- Identify and differentiate between theoretical/empirical, aesthetic, personal, sociopolitical, and ethical ways of knowing.
- Identify assumptions underlying the post-positivist, critical, and interpretive/constructivist views of research.
- Compare inductive and deductive reasoning.
- Differentiate between conceptual and theoretical frameworks.
- Describe how a framework guides research.
- Differentiate between conceptual and operational definitions.
- Describe the relationships among theory, research, and practice.
- Discuss levels of abstraction related to frameworks guiding research.
- Describe the points of critical appraisal used to evaluate the appropriateness, cohesiveness, and consistency of a framework guiding research.

TEACHING STRATEGIES

The research consumer role should be expanded in discussions about the development of nursing knowledge. At this point, students can begin to engage actively in the consumer role to “test the waters” in relation to the critical appraisal of knowledge derived from various sources.

1. Critical Thinking Challenges

a. Stimulating Critical Thinking

The following questions may serve to stimulate critical thinking about material related to various sources of knowledge:

RECALL AND UNDERSTANDING

What are the two main paradigms of research?

- What are the major sources of human knowledge?
- How do qualitative and quantitative approaches to research differ?
- How are practice and research linked?
- What is the difference between induction and deduction?
- How would you define *model*?
- How would you define *theory*?

ANALYSIS AND SYNTHESIS

- What are your beliefs about nursing? About health? About human behaviour? Give examples of how you think these beliefs influence your clinical practice.
- What scientific paradigm do you feel most comfortable with? Why do you feel that way?
- Consider a nursing intervention you have used. On what assumptions is it based?
- What are your beliefs about nursing? About health? About human behaviour? Give examples of how you think these beliefs might influence your approach to research.
- How does theory influence the selection of study design?

b. Use of Discussion Questions

The use of discussion questions can foster critical thinking in relation to the parameters of a well-supported, logical, and clearly articulated theoretical framework. It also can serve as a means by which to meet the learning outcomes identified for Chapter 2. The following questions can be used to guide the discussion:

RECALL AND UNDERSTANDING

- What is the most prominent type of research conducted until recently in nursing research?
- How would you differentiate a conceptual from an operational definition?
- What is an assumption?
- What is the purpose of a theoretical framework?
- What is the ladder of abstraction?
- What are the central phenomena of concern to nursing?

ANALYSIS AND SYNTHESIS

- What nursing theories or models have you heard or learned about?
- How useful are they for practice?
- How would you evaluate the appropriateness of a particular operational definition?
- How are hypotheses related to models and theories?

2. Using the Learner’s Previous Experience

a. Everyday Experiences as a Consumer

A “warm-up” exercise used with beginning research students involves an everyday experience, for example, how one determines which shampoo to purchase. The purpose of this exercise is to show that different sources of information support how decisions are made. Students are asked what factors go into making this decision, and a list is written on a chalkboard, overhead

projector, or easel. Common responses focus on ingredients, media promotion, bottle colour, smell, cost, and goal for use (e.g., dandruff removal, conditioning). The use of personal knowledge derived from various sources to make decisions is related to problem solving typically used in research.

b. Comparing and Contrasting Processes Used to Generate Knowledge

Although students can identify how they make decisions in personal and clinical situations, they are less familiar with the scientific or research approach to generating knowledge. Comparing and contrasting the research process with the problem-solving process, which is familiar to students, is a strategy we have used to facilitate learning this content. An overhead or handout can be used to show the steps typical of these processes.

- (1) First, the problem-solving process is presented to students with specific emphasis on its relation to the nursing process, as follows:

PROBLEM-SOLVING PROCESS

- An obstacle to goal achievement is perceived.
- The underlying difficulty is identified and stated.
- Additional data are collected to validate the difficulty.
- Possible solutions are suggested and evaluated.
- The most plausible solutions are attempted.
- The solution is evaluated in relation to elimination of the original obstacle.

NURSING PROCESS

- An assessment of data is made.
- A patient health problem is identified, and a nursing diagnosis is formulated.
- Additional data are collected to validate the diagnosis.
- Possible interventions are suggested and evaluated.

- The most plausible interventions are implemented.
 - The patient's response is evaluated in relation to his or her goals.
- (2) Next, the following characteristics of the scientific method and the problem-solving process are compared and contrasted:

SCIENTIFIC METHOD

- Control of extraneous influencing factors
- Problem solving
- Evidence based on “objective” reality
- Purpose—to make a contribution to general knowledge

PROBLEM SOLVING

- No control of extraneous influencing factors
 - Does not necessarily involve research
 - May include subjective bias in investigation of problem
 - Concerned with a situation-specific solution
- (3) Finally, a clinical situation is used to emphasize the difference between problem solving and using research to generate knowledge. For example, a nurse may notice that Mrs. X has a pressure ulcer. Her statement of the situation-specific problem might be as follows: “How can further development of the ulcer be prevented, and how can the ulcer be healed?” If the nurse observes the development of pressure ulcers in many patients over time, he or she may ask the research question, “What is the most effective method for preventing pressure ulcers?”

3. Providing Experiential Learning Activities

a. Identifying the Basis of Nursing Techniques/Protocols

This learning activity provides students with an opportunity to question the theoretical basis of standard nursing interventions.

Student objectives for the learning activity:

- Based on the findings of this clinical exercise, identify the bibliographical sources used in the development of a selected nursing technique/protocol.
- Determine whether or not the nursing technique/protocol was based on research.
- Suggest potential problems that may arise from using non-research-based nursing techniques/protocols.

Directions for implementation. Assign this exercise at the beginning of the course. Have students select a nursing protocol/technique (such as urinary catheterization or intravenous maintenance) from a clinical agency's policy and procedure manual. (Explain that they may obtain a copy of the selected protocol from the agency's nursing or nursing education office.) Ask them to determine by whom the protocol (procedure) was written. This information may be obtained from an in-service educator or nursing administrator. Direct students to request an interview with one or more individuals who are involved in developing practice protocols for the agency. The purpose of the interview is to determine the basis for the existing protocol. Suggested interview questions include the following:

- Can you explain how protocols are written in your agency?
- On what information was this specific protocol based?
- Are there any references that will give me a better understanding of the rationale for the practices included in the protocol?

After the interview, students should submit a brief paper that describes the experience and states a conclusion about whether or not the protocol is research-based.

On completion of the clinical exercise, students may also be asked to present their findings in class.

During the discussion period it is important to consider the following questions:

- Was any reference to research made, either by the interviewee or in the protocol itself?
- If no reference is made or if the reference is a non-research source, how does one know that the selected technique/protocol is valid?
- What then is the basis of the selected practice?
- What is the value of research support of the selected technique/protocol or for any technique/protocol?

4. Using Diagrams to Show Relationships

Students respond to visual representations because diagrams often clarify a potentially confusing topic. When using examples in discussions about concepts, theory, research, and hypothesis development, you should map out specific relationships. Diagrams that clearly identify the variables being studied and the relationships between them will enhance students' understanding of the process used to summarize literature and arrive at hypotheses. In Figure 2-5 below, the link between the independent variables (stress, social support, coping) and dependent variable (health outcomes) is illustrated. The figure outlines the process through which a supportive intervention influences the health outcomes of homeless youth. Locate the article and work with the students to understand how the framework informed the hypothesized relationships.

5. Providing Experiential Learning Activities

FORMULATING DEFINITIONS

This learning activity is designed to give students experience in developing operational definitions in an effort to increase their ability to critique the definitions they read in research reports.

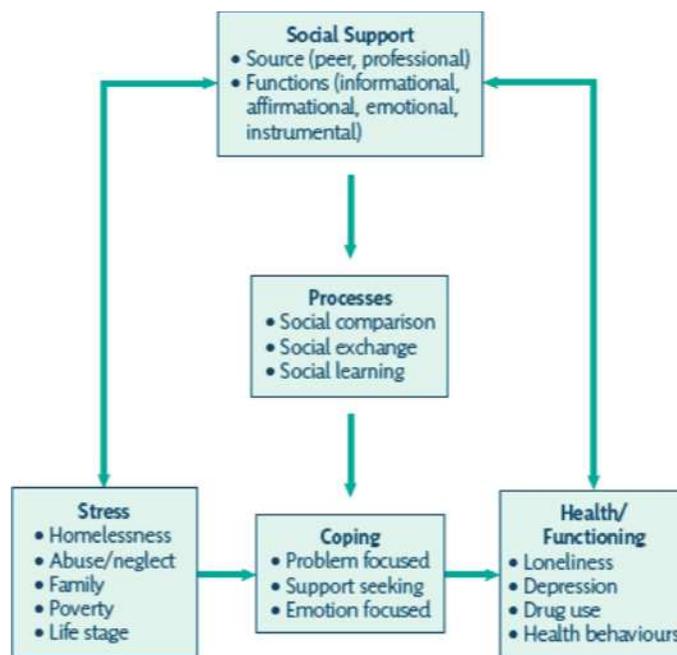


FIGURE 2-5 Model of conceptual foundation. From Stewart, M., Reutter, L., Letoumeau, N., & Makwarimba, E. (2009). A support intervention to promote health and coping among homeless youths. *Canadian Journal of Nursing Research*, 41(2), 54–77.

Student objectives for the learning activity:

- Construct a conceptual definition.
- Construct an operational definition.
- Evaluate an operational definition in terms of clarity and inclusion of an index of measurement.

Directions for implementation. Identify or ask students to name concepts. Select four to six of these concepts for students to define, both conceptually and operationally, using a library and other resources. Students can start with a dictionary definition and then read the work of a theorist who has examined the concept. To make this activity manageable for students, you can have each choose one of the identified concepts to define. Another option is to have only some students (equal to the number of

concepts to be defined) involved in this particular learning activity, while others can be engaged in different learning activities at other times in the research course. This activity also can be a written assignment completed out of class and then shared at a subsequent class session. You can also include the construction of an operational definition as an item on an examination.

Guidelines for discussion. After students share their definitions with the class, you can focus on the evaluation of each definition. Of course, students should be actively involved in the evaluation discussion. You can prompt students by asking them whether each definition is clear and unambiguous and to identify the specific index of measurement that operationalizes the definition.