Key Term Review

- **Algorithmic methods** use computer programs and math formulas such as the maze and split-half method.
- **Conceptual models** concretize an idea and aid memory.
- **Construction models** emphasize the parts in a sequential manner and can be used for a year-end report, for ordering information, or for building a clinical unit.
- **Creative problem solving** involves identifying assumptions, using multiple techniques to approach a problem (including visualization, modeling, and using metaphors), and asking for criticism and suggestions.
- **Critical thinking** is the process of actively conceptualizing, applying, analyzing, synthesizing, and/or evaluating information to guide action.
- **Decision making** anticipates potential problems.
- **Design models** are used to plan an overall pattern; if harmony is the goal, all the components of achieving a harmonious whole are presented.
- **Diagnostic reasoning** helps settle on a client's condition by ruling out improbable conclusions.
- **Lateral thinking** uses a set of systematic techniques, not just one technique, to change concepts and perceptions and to generate new ones.
- **Logic client concept maps and models** use a visual format to develop an account of illness or health issue.
- A **model** is a simplified, concrete, visual, or symbolic representation of reality.
- **Problem solving** provides a format for critical thinking.
- A **public solution** helps workers take responsibility for others' problems and fosters problem-solving and decision-making skills by posting the problem and asking for suggestions.
- **Recipe models** emphasize proportions and ingredients; spice or flavor can be added to give a recipe a twist; toolkits can be used, along with formulas for success.
- **Structural models** concretize physical structures.
- **System models** portray a collection of interacting elements that work together to accomplish a specific goal.
- A **systematic trial-and-error method** includes searching for a solution with a plan in mind and keeping a record of attempts and failures.

Leadership Development Exercises

Leadership Development Exercise 6-1

Develop three high-level critical-thinking questions, using verbs such as *compare*, *contrast*, *analyze*, and/or *evaluate*. Share them with at least three colleagues, and obtain feedback.

■ **Leadership Development Exercise 6-2**

Pick a problem that needs to be solved. Identify any assumptions that could prevent a solution. (See the "Identifying Assumptions" section in this chapter for ideas, p. 118.)

■ **Leadership Development Exercise 6-3**

Construct a design or system model.

■ **Leadership Development Exercise 6-4**

Construct a structural or recipe model.

Advanced Leadership Development Exercises

■ **Leadership Development Exercise 6-5**

Sit in on a task group (or join with your classmates who agree to portray a task group), and use the decision steps that follow to chart the group's process to making a decision.

Steps in the Decision	Examples
a. Stating the problem/decision	
b. Clarifying and elaborating	
c. Developing alternative solutions	
d. Keeping the discussion relevant	
e. Testing the group's commitment to the emerging decision	
f. Summarizing	
g. Agreeing to the decision	
h. Testing the consequences of solutions	

Leadership Development Exercise 6-6

Use the Six Hats method to enhance group decision making. Choose a common nursing leadership situation from the following list or develop your own and use the Six Hats method to solve the problem or keep the group from getting bogged down in argument.

- Staffing
- Role transition
- Conflict management

Leadership Development Exercise 6-7

Teach critical thinking techniques to a group of nursing students or staff members.

Leadership Development Exercise 6-8

Develop a research problem statement for some aspect of critical thinking. Obtain critiques from at least two nurses with advanced research skills.

Leadership Development Exercise 6-9

Develop a research design to test our problem statement. Obtain feedback from at least two nurses with advanced research skills.

References

Akinsanya, C., & Williams, M. (2004). Concept mapping for meaningful learning. *Nurse Education Today*, *24*(1), 41–46.

Baumberger-Henry, M. (2005). Cooperative learning and case study: Does the combination improve learners' perception of problem-solving and decision making skills? *Nurse Education Today*, *25*, 238–246.

Benner, P. (1984). *From novice to expert: Excellence and power in clinical nursing practice*. Menlo Park, CA: Addison Wesley.

Burke, W. W. (1994). Diagnostic models for organizational development. In A. Howard, *Diagnosis for organizational change: Methods and models* (pp. 53–84). New York: Guilford Press.

Clark, C. C. (2003). *Group leadership skills* (4th ed.). New York: Springer.

Cote-Arsenault, D. (2004). Planning for a new baby: A creative approach to learning, *Nurse Educator*, *29*(1), 6–9.

de Bono, E. (1995). Serious creativity. *Journal for Quality and Participation*, *18*(5), 12–18.

Ellermann, C. R., Kataoka-Yahiro, M. R., & Wong, L. C. (2006). Logic models used to enhance critical thinking. *Journal of Nursing Education*, *45*(6), 220–227.

Facione, P. A. (1992). *The California critical thinking dispositions inventory* (2nd ed.). [Test manual.] Millbrae, CA: California Academic Press.

Harris, R. A. (2002). *Creative problem solving: A step-by-step approach*. Los Angeles: Pyrczak.

Ibarreta, G. I., & McLeod, L. (2004). Thinking aloud on paper: An experience in journal writing. *Journal of Nursing Education*, *43*, 134–137.