Basic-Level Thinking Skills

Students need a solid knowledge base from which to draw information for answering questions requiring higher-level thinking. Knowledge refers to information committed to memory as well as knowing how to find needed information. Students also must be aware of all the resources available that can be used to find the information needed to solve problems and make decisions related to patient care. The skills in this category provide this foundation.

Basic-level thinking skills include:
- Identifying signs and symptoms,
- Recalling knowledge about diagnostic tests, and
- Understanding the physiology of body systems.

Identifying Signs and Symptoms
An ability to identify signs and symptoms of disease, side effects of drugs, and a host of other causes is based on knowledge of normal functioning. Higher-order thinking skills, such as comparing and contrasting, are used to differentiate normal from abnormal.

Recalling Knowledge About Diagnostic Tests
Laboratory and diagnostic tests provide a window into the patient's internal environment. These studies provide critical information necessary for an accurate assessment, the basis for the subsequent steps of the nursing process. Nurses must be aware of all aspects of diagnostic testing. This knowledge is necessary for properly scheduling tests, ensuring the most accurate results, and carrying out post-procedure care so no harm comes to the patient as a result of the testing.

Understanding the Physiology of Body Systems
Understanding the physiology of body systems serves as a foundation for performing an accurate and complete physical assessment. Knowing what is normal is key to detecting abnormalities. This knowledge is necessary for recognizing signs and symptoms of disease, diagnosing actual and potential problems, and evaluating the effect of nursing interventions.
Gathering Data

Each of the thinking skills listed in this category is commonly used when a nurse gathers data. These skills include:

- Assessing systematically and comprehensively,
- Checking accuracy and reliability,
- Clustering related information,
- Collaborating with co-workers,
- Determining the importance of information,
- Distinguishing relevant from irrelevant information,
- Gathering complete and accurate data and then acting on that data,
- Judging how much ambiguity is acceptable,
- Recognizing inconsistencies, and
- Using diagnostic reasoning.

Assessing Systematically and Comprehensively

Assessing systematically and comprehensively is a critical-thinking strategy applied to all areas of nursing practice. Nurses use a systematic method such as a body-systems or a head-to-toe approach so no areas are forgotten.

A systematic and comprehensive approach is also used when collecting data during a shift report. Most nurses use a specific format for gathering patient data to ensure that all important areas of information are noted.

Checking Accuracy and Reliability

Nurses must make judgments about the accuracy and reliability of information. Decisions about what nursing actions to take are based on this information. Problems can develop or even harm can come to a patient if care is based on information that is not accurate and reliable.

Clustering Related Information

Clustering related information refers to grouping together information with a common theme. This is the process used when formulating nursing diagnoses. Related signs and symptoms are clustered together to form the basis for a nursing diagnosis.

Collaborating with Co-workers

The critical thinking needed to solve problems seldom happens when working alone; many people can be involved. In soliciting information and suggestions from others, new perspectives on a problem are realized. Various approaches and solutions may be suggested.

Present-day health care is a complex environment requiring the input and cooperation of many members working as a team. Team members engage in a critical-thinking process when they examine delivery of care, noting compliance with standard of care and adherence to accepted protocols. This team approach, with all members collaborating and working together, strengthens patient care and fosters positive outcomes.
Determining the Importance of Information

Nurses have a myriad of information to sort through for every patient. This information may change often throughout the course of a day. Therefore, nurses must be able to determine the importance of information, act on that which is important, and disregard that which is not.

Distinguishing Relevant from Irrelevant Information

The thinking skill of distinguishing relevant from irrelevant information refers to the nurse deciding which information is pertinent or connects with the matter at hand. All information about a patient may be important for the patient's overall care, but the nurse must sort out which information is relevant to a particular problem or situation currently under consideration.

Gathering Complete and Accurate Data then Acting on That Data

Gathering complete and accurate data is fundamental to critical thinking. Data is collected from all sources available to the nurse. The data is then used as the basis for solving problems and making decisions, so it is important that data collection is complete and accurate.

Judging How Much Ambiguity is Acceptable

“Ambiguous” refers to a situation that is unclear, uncertain, or vague. Ambiguity occurs when factors relating to a situation make it somewhat unclear or gray rather than “black and white.” Many situations appear similar on the surface but actually differ when all factors are carefully considered.

Recognizing Inconsistencies

The beginning point of the nursing process is assessment. Throughout the assessment, both subjective and objective data are collected. In reviewing all this data, nurses are cognizant of any inconsistencies that may indicate additional problems that may not be readily apparent.

Using Diagnostic Reasoning

The word “reasoning” refers to using critical thinking to solve problems and make decisions. Generally speaking, reasoning can be used as a synonym for critical thinking. Diagnostic reasoning applies this type of thinking to clinical practice. Specifically, it refers to the formulation of nursing diagnoses about a patient’s health status.

Diagnostic reasoning is a complex process that takes into account many factors about the patient, such as current health status, family history, prior illnesses, and a host of other factors. When using diagnostic reasoning, it is always important to consider how the patient is coping with the situation or problem. Although helpful with the diagnostic process, assessing the patient’s coping is often an overlooked aspect of data collection.
Providing Nursing Care

Each one of the thinking skills listed below is commonly used when nurses provide care to patients. These skills include:

- Applying the nursing process to develop a treatment plan,
- Communicating effectively,
- Predicting and managing potential complications,
- Resolving conflicts,
- Resolving ethical dilemmas,
- Setting priorities, and
- Teaching others.

Applying the Nursing Process to Develop a Treatment Plan

The nursing process is the framework for providing safe, effective, and humanistic nursing care. This process is applied systematically by all nurses and serves as the basis for all the nurses’ actions.

Students may think of the nursing process as labor intensive, based on their experience writing student care plans. It is helpful for them to learn that the nursing process is used continuously throughout the day as a way of thinking. Consider the nurse’s response to a patient’s report of pain. The nurse immediately:

- assesses all characteristics of the pain,
- formulates a goal and outcome criteria,
- develops a plan for controlling the pain,
- implements the plan, and
- follows up with the patient to evaluate the effectiveness of the interventions.

All this happens within a matter of minutes. It is automatic and second nature to expert nurses.

Communicating Effectively

Communicating effectively is a highly complex process. Many factors influence communication. Examples of these factors include environment, territoriality, values, personal space, attitudes, and time. The nurse must be aware of these and other factors and not let them block effective communication. It is difficult to carry out effective critical thinking when communication is breaking down.

Predicting and Managing Potential Complications

Predicting and managing potential complications requires critical thinking. Nurses must look at the big picture in order to predict potential complications that may exist for individual patients. The starting point is to know common complications related to a patient’s condition, then consider individual differences that may address additional concerns.

For example, all surgical patients are at risk for atelectasis and pneumonia. Interventions such as deep breathing and coughing exercises, early ambulation, and the use of an incentive spirometer are planned. However, an 18-year-old athlete in excellent physical condition who has undergone a laparoscopic appendectomy is at much less risk for these complications than a 60-year-old obese patient with a history of cigarette
smoking who has undergone a colon resection.

**Resolving Conflicts**
Conflict cannot be avoided. Conflict happens on a daily basis. Nurses are often in a rapidly paced climate, full of urgency and serious consequences if errors are made. In this kind of environment, conflict is inevitable.

Nurses in all areas of patient care must be able to maintain calm, avoid conflict, and if conflict should occur, handle it in a constructive manner. These characteristics serve to promote an atmosphere that is optimal for critical thinking to take place.

**Resolving Ethical Dilemmas**
Because ethical dilemmas are typically extremely complex issues, they require professionals to use critical-thinking skills. A code of ethics provides a point of reference for nurses to use when faced with ethical dilemmas. The American Nurses’ Association, the International Council of Nurses, and the Canadian Nurses’ Association have all adopted a code of ethics. Nurses can use these to help guide their thinking processes when faced with an ethical dilemma.

**Setting Priorities**
Setting priorities or prioritizing is a thinking skill constantly used by nurses in all patient care environments. Prioritizing can be a simple task or a complex task that involves comparing and contrasting data and sorting relevant from irrelevant information.

Nurses prioritize:
- when caring for a group of patients and deciding which patients to see first and which patients can wait, and
- when caring for a specific patient to determine which assessments and interventions are most important and must be carried out first.

In some settings, protocols are in place to help with prioritizing. For example, triage nurses in the emergency department typically follow a procedure in which patients with chest pain or eye injuries take priority. For other patient problems, these nurses use their established knowledge base and experience to determine which patients must be seen first.

**Delegating**
When delegating care, nurses engage in many critical-thinking skills and strategies. According to the National Council of State Boards of Nursing (1997), delegating refers to “transferring to a competent individual the authority to perform a selected nursing task in a selected situation” (p. 2). Delegating requires nurses to engage in assessing, planning, assigning, supervising, and evaluating. Each of these roles requires a high degree of critical thinking and decision making. When engaged in delegation activities, nurses are accountable that the delegation process is accurately and responsibility carried out in all patient care situations.

**Teaching Others**
In all aspects of life, teaching is empowering. Nurses empower patients through teaching. Teaching can occur informally any time a nurse interacts with a patient. Teaching is also formalized through the written plan of care. One example is discharge
teaching, which typically addresses specific areas such as medications, diet, activity restrictions, and follow-up visits. Another example of formalized teaching is diabetic teaching, which often involves written guidelines with a checklist to ensure all areas are covered.

Critical-thinking skills are used in teaching. Nurses consider all factors, looking at the big picture, in order to individualize the teaching plan. For example, discharge teaching has a different focus if the patient is going home alone, discharged home with a caregiver, or transferred to an extended-care facility.
Evaluating Responses

The thinking skills in this category include:
- Evaluating and correcting thinking,
- Evaluating data, and
- Supporting conclusions with evidence.

**Evaluating and Correcting Thinking**

After using critical thinking to resolve a problem, make a decision, or plan patient care, it is important to evaluate the thinking that occurred. Evaluating thinking means reflecting on what just happened, how the situation was handled, and what lessons can be learned for use in similar situations in the future.

This type of self-evaluation promotes professional development, enhances self-esteem, and fosters insight into one’s own thinking. Thinking about one’s thinking is part of the total critical-thinking process. The following questions may be used to evaluate thinking:

- What thinking skills were used? Were they effective?
- Were the outcomes what was expected? If not, were the outcomes acceptable or perhaps better than expected? If the outcomes were not acceptable, what might be done differently in the future?
- How did the thinking impact all the people affected, such as the patient, significant others, and other healthcare providers? Was the impact positive or negative?

It is helpful to discuss with co-workers the thinking skills used in a situation. Ask how they might have handled the situation and be ready to change if change is needed.

**Evaluating Data**

Evaluating data is the basis for several steps of the nursing process. Data collection is part of the assessment step. Accurate and complete data collection provides a database on which to formulate diagnoses and interventions. Data collection is carried out again during the evaluation step to determine if the interventions were effective.

Because data collection is such an important part of the nursing process, it is necessary for nurses to evaluate the data for accuracy. Many times, nurses must question the data collected, collect additional data, or take further steps to verify accuracy. Inadequate data collection can have a detrimental effect on patient outcomes.

**Supporting Conclusions with Evidence**

Nurses often have intuitive feelings about what is happening with patients. Intuition can be quite helpful as a starting point but should not be the sole means for identifying problems. It is important for nurses to collect data that support suspected problems and formulate nursing diagnoses based on evidence rather than jumping to conclusions and focusing in the wrong direction. Applying the steps of the nursing process helps ensure a systematic, scientific approach to data collection and analysis.