Using Short Cases to Teach Thinking

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In the following chapter Dr. Oermann shares her expertise on the use of short clinical cases to externalize and evaluate evidence of critical thinking in her nursing students. Her discussion of the need to think aloud for students is exactly true, and the practice of doing so is one of the most valuable gift that can be offered to the clinical student by an expert critical thinker and diagnostican. The “think aloud” method was first described in 1920 by behaviorist John Watson as the way to learn more about how people think. We believe that cultivating this habit of mind is also one of the most helpful strategies for growing one’s critical thinking skills at any age.

Class Session and Students:
This example demonstrates the use of short cases, integrated in a nursing class, for promoting the development of critical thinking skills. Short cases, which apply concepts being learned to hypothetical clinical situations, provide an opportunity for students to identify varied patient problems, propose multiple alternatives for resolving them, decide on the best approach from among those alternatives, and develop a rationale to support their thinking. Short cases can be developed for any nursing class, in pre-licensure through graduate programs, and this teaching method is easily adapted for classes in other health sciences.
The Goal of the Class Session:
My goal for this type of class session is to provide experiences for students to carry out in depth analysis of clinical cases. An in depth analysis would include: identifying possible problems that a patient might experience, exploring multiple alternatives for resolving them, comparing alternatives, and making decisions about the best approaches in consideration of what is known about the case. All of these cognitive exercises involve critical thinking and can be accomplished through the use of the 'short case.' A short case is a simulated clinical situation, but one with all the characteristics of an authentic clinical case. The short case also assists students to practice applying content learned in class and through readings to simulated clinical situations, and later to actual clinical cases. This class guides students in the practice of their critical thinking skills with an emphasis on interpretation, analysis, and inference skills. These skills can be seen in the learning objectives below.

Learning Objectives:

Students who participate in this class will be able to:

- Identify multiple patient problems using concepts learned in class.
  (Emphasis: interpretation and analysis).
- Propose alternative approaches that might be used to resolve those problems.
  (Emphasis: inference and explanation).
- Arrive at an informed decision about the best approaches to use in the simulated case situation.
  (Emphasis: inference, and evaluation).
- Develop a rationale that supports their thinking and decisions
  (Emphasis: analysis and explanation).

What I do Before Class Begins: As I prepare my notes for class, I identify the critical thinking skills to be developed and if the case will focus on (a) identifying multiple patient problems using concepts learned in class or (b) proposing alternate approaches that might be used in the clinical scenario. I then write short cases with open ended questions for the class. For each class session, I always bring additional short cases for use if students have difficulty applying new concepts to the scenarios and for small group work if our discussion ends early. For this session, I developed four cases on the care of patients with chronic pulmonary problems.

My example cases for this lesson:

Table 1. Sample Short Cases for Teaching Skills of Interpretation, Analysis, and Inference

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<th>CASE</th>
<th>QUESTIONS</th>
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| Your elderly patient with severe COPD is developing sores on his back but refuses to get out of bed. He asks you to please leave him sleep. | 1. What is the priority problem in this case that needs to be solved? Why do you think this is the priority?  
2. What additional data would you collect before you planned your nursing care? Why is this information critical to your decision making? |
| Your patient in the clinic has an elevated temperature, a sore throat, and a cough. | 1. What additional information would you collect first and why?  
2. Name 2 possible problems that could occur with these symptoms. For each problem identify lab values that you would expect. Which of these problems seems most likely and why?  
3. A few days later the patient returns to the clinic. Propose a new symptom that would alter your decision about the problem you listed in #2. |
Mrs. J, your 70-year-old patient with pneumonia, appears to be coughing more than the nurse indicated in the change-of-shift report. You check the medical record, and the nurse who cared for Mrs. J for the last 2 days noted that the patient was “coughing more” and was “too short of breath to get out of bed.” As a result the nurse kept Mrs. J in bed for that time period.

1. Do you agree with this plan of care? Why or why not?

2. What information would you look for the medical record? Record what you found and develop a new plan of care. Provide a rationale including evidence for your approaches.

You are discharging a 7-year-old child who had been admitted following an asthma attack. In talking with the mother, you learn that the child has been seen in the Emergency Department at your hospital and elsewhere nearly monthly for the last year.

1. What are 2 different actions you could take at this time?

2. Which of these would you do and why?

How I write the cases
Each case usually has two parts: a brief description of a patient situation that relates to the concepts presented in the class, and open-ended questions about the case for students to answer in small groups. I keep the case descriptions short to avoid directing student thinking in advance toward a particular problem or approach. Since this is a teaching strategy used throughout the course, the cases increase in complexity over a period of time and the focus (identifying potential problems or alternatives) varies. In developing these cases, I also integrate concepts learned in prior courses.

The questions that are developed for the case depend on the outcomes of thinking (e.g., interpretation, analysis, and inference) that the teacher is intending to promote. For example, questions can ask students to identify all possible problems from the data presented in the case and how a clinician would decide which problem is the priority problem. Or they might ask students to propose multiple alternatives for resolving a problem and then to determine the best approach to use. For all answers, students provide a rationale for their thinking.

How I teach this lesson
To prepare students for how short cases are used in the course, I begin one of the first class sessions with a sample case that presents problems and approaches that they have learned in a prior nursing course. I analyze the case for students, “thinking aloud” about potential problems in the case scenario, significant cues, alternate approaches to consider, what I would decide for this patient, and why. In this way I can model thinking step-by-step through the case.

After presenting theoretical information about a patient condition, I use the short cases that apply this new information to a simulated client situation. Students receive different cases to analyze, all of which relate to the clinical condition presented in that class and foster development of critical thinking. Students divide into small groups, with three or four students in each group, or when I am teaching larger classes in classrooms with immovable seats, they work in pairs with the student sitting next to them. I only give them a limited amount of time (e.g., 5 minutes) to read the case and answer the questions. I limit the time so students keep their discussion focused on the case and the intended outcomes of their group work. A short time frame also simulates actual clinical practice where health professionals need to identify quickly the critical features of a patient situation (i.e., a case) and decide what to do. Students must come to a group consensus about their answers to questions related to the case.
In small classes, one student from the group presents the case and answers to the entire class. The other students then critique the responses and suggest other possibilities. In large classes, I randomly choose students to report their answers to the group. With all cases, students must explain how they arrived at their decisions and their reasoning.

What I Expect from the Class Participants

In small group classrooms, I expect each student to make a contribution to the analysis of and discussion about the case. Although one student may emerge as a leader, this exercise is a group activity requiring cooperation and collaboration. When the cases focus on problem identification, I expect students to think about the data in the case, propose varied problems that might be possible, and explain how they would decide on the problem. In their discussions students should identify significant cues in the case that influenced their thinking and explain why the cues are significant.

If the questions for the case ask about interventions, I expect students to generate multiple approaches that could be used. Using what they know and what they are learning in class, I want them to weigh the benefits and costs of each potential approach, and decide as a group which approaches would be “best.” Students must come to group consensus, which encourages students to explain and support their thinking to the group.

The Student Work Product

Assessment of student critical thinking skills as applied to clinical practice occurs in two forms: through classroom testing using higher level items and clinical evaluation. Higher level test items present new information for interpretation and analysis by students; with these items, students cannot memorize an answer but need to analyze the case and the new data in it. While difficult, these higher level items assess students’ skill in interpretation, analysis,
and inference. Figure 1 shows two examples of test items for evaluating the learning outcomes of this class session follow. The first one is an essay item and the second example uses a modification of the multiple-choice format.

The most important assessment, though, is in the practice setting. In clinical practice students can be observed on their competency in interpreting patient data, examining evidence, identifying possible problems, suggesting alternate approaches that might be effective for their patients, and evaluating those approaches to decide on the best possible ones.

**Feedback from Students**

Student feedback about the short cases is consistently positive. Not only do students recognize the importance of learning how to apply concepts from class to patient situations, in preparing them for future practice, they comment frequently on the value of group discussion of these cases. By analyzing cases in small groups, students learn from one another and have a safe environment to discuss their thinking and reasoning. Additionally, analyzing short cases in small groups provides for active learning in class, which maintains student interest.

**References:**


Although this series focuses on health science content, the techniques are transferrable to all types of training programs and educational projects.

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