

Testing critical thinking skills
in a large lecture course

Bobbi Langkamp-Henken

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- On the first day of class we discuss the syllabus and the critical thinking process.
- We use the same steps in the critical thinking process throughout the course (i.e. during lecture, for bonus activities, and on exams).
- Correcting exams is not so burdensome using this format (see last slide).

Nutrition through the Life Cycle

Dr. Langkamp-Henken

Tuesdays and Thursdays 5:10 – 6:00 p.m.



Course Objectives

- Determine nutrient requirements throughout life
- Describe nutrition-related concerns at each stage
- Discuss the impact of socioeconomic, cultural, and physiological factors
- Apply elements of reasoning and critical thinking

Critical Thinking

- Define
- List elements of reasoning
- Apply critical thinking techniques to future assignments

Critical Thinking

Process of gathering, conceptualizing, applying, analyzing, synthesizing, and evaluating information to logically answer a question for which all the relevant information may not be known.

Elements of Reasoning

Concepts / theories

Facts

Assumptions

Points of view

Curiosity

Conclusions / implications



Curiosity – What caused the white lines on the sidewalk? Use your critical thinking skills to come up with the likely cause.







Critical Thinking Exercise
 Clyde Hall is a 5'10", 350#, 50 YOWM who came to your office because he was having a difficult time "getting around". Why is he having this problem?

Elements of Reasoning

- Concepts / Theories

What concepts / theories do we know about as to why it may be difficult for him to get around?

Concepts / Theories

- Reasons for not “getting around”

- Overweight or obese
- Physical disability

Concepts / Theories

- Reasons for not “getting around”

- Overweight or obese
 - BMI
 - 25-29.9 = overweight
 - ≥30 = obese

Elements of Reasoning

- Facts
 - What are the facts related to determining whether Clyde is overweight or obese?

Elements of Reasoning

- Facts
 - What are the facts?
5'10", 350#

BMI = 50
IBW = 166# ± 10%

Concepts / Theories

- Reasons for not "getting around"
 - Physical disability

Concepts / Theories

- Reasons for not “getting around”
 - Physical disability
 - overweight and obesity are associated with increased need for knee replacement from osteoarthritis

Related Facts

- Physical disability
 - What facts would we look for?
 - Did you go beyond the facts?

Elements of Reasoning

- Assumptions
 - What are the assumptions?
 - Information that would change your conclusions but is not available
 - Typically relevant concepts for which you lack facts (i.e., information)

Elements of Reasoning

- Assumptions
 - Does not have any physical disabilities that prevent him from getting around

Elements of Reasoning

- Points of view
 - What are other points of view?

 - Were they taken into consideration?

Elements of Reasoning

- Points of view
 - What are other points of view?
other medical conditions – CHF?
COPD? anemia?
 - Were they taken into consideration?

Elements of Reasoning

- Curiosity
 - What questions do you want to ask?
 - What information would be important to know to draw your conclusions?

Elements of Reasoning

- Conclusions/implications
 - What are the possible consequences of your decision?
 - Did you look at all the possible consequences?

You try it now!

- Use your critical thinking skills and the elements of reasoning to answer this question: Could M.B.'s diet be contributing to her problem with constipation?

M.B. is a 5'3", 120#, 60 YOWF who came to your office to see you.
Chief complaint: constipation
Medical history: No previous history of gastrointestinal problems.
Social history: M.B. works 40 hours/week at a desk job. She is divorced with no children. She does not smoke cigarettes or drink alcohol.
Diet history: M.B.'s typical dietary intake is below. M.B. does not take any dietary supplements. She does all of her own grocery shopping and makes all of her own meals. She eats out at fast-food restaurants on occasion. She does not exercise, and she drives her car to work.

<u>7 a.m.</u>		<u>6:00 p.m.</u>
½ cup apple juice		1 fried chicken breast or pork chop
2 slices white bread – toasted		½ cup mashed potatoes
2 tsp margarine		2 Tbsp gravy
1 cup coffee - black		½ cup jellied cranberry sauce
<u>Noon</u>		1 white dinner roll
sandwich		1 tsp. margarine
2 slices white bread		1 cup whole milk
1 slice American cheese		
1 oz. luncheon		
2 tsp margarine		<u>Snacks or beverages during the day or evening</u>
1 can diet soda		none
2 chocolate chip cookies		

NOTE: THIS IS THE EXACT FORMAT THAT WILL BE USED FOR CRITICAL THINKING QUESTIONS ON THE EXAMS

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The answer key is posted on E-Learning

Use your critical thinking skills and the elements of reasoning to answer this question: Could M.B.'s diet be contributing to her problem with constipation?

1) **CONCEPTS:** What do you know about this topic that will be helpful in answering this question? Only list the concepts important to answering the question. (2 points for at least 2 relevant concepts)

2) **FACTS:** What information is given that will help you answer this question. Only list the facts important to answering the question. (2 points for at least 4 relevant facts)

3) **ASSUMPTIONS:** What assumptions are you making in answering this question or what information would change your conclusions but is not available? Only list the assumptions important to answering the question. (1 point)

4) **BRIEFLY** describe how you put together the facts, concepts, and assumptions to answer the question. (2 points)

4) Could M.B.'s diet be contributing to her problem with constipation? Check the correct response. (2 points)

Yes, M.B.'s diet could be contributing to her problem with constipation.
 No, M.B.'s diet is probably not contributing to her problem with constipation.
