Critical Thinking Instruction and Technology-Enhanced Learning from the Student Perspective

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Critical thinking capability and familiarity with information and communication technology are important for graduates

Critical thinking—necessary in healthcare education to prepare for professional practice and competent, safe decision-making in acute, unstable, complex patient situations

Technological change, information overload, and the need to maintain clinical expertise and research knowledge are challenging for healthcare educators and students

Formal instruction of critical thinking and integration of technology into education emphasized

MIIXED METHODS RESEARCH STUDY

Expectation of demonstration of critical thinking from students without explicit instruction on what it is or how to develop such capability

Inclusion of critical thinking and technology into courses often sporadic and inconsistent

In-class and online technology integrated into course to support instructional strategies to develop critical thinking:

— **Classroom Response System**: Active learning with immediate feedback to ascertain student understanding, application of knowledge learned, and critical thinking capability

— **Online discussion forum**: Time for absorption and reflection of course information, contributes to deeper learning, leading to critical thinking

Critical thinking instruction:
-- *Explicit*
--*Aligned with course content and professional knowledge*
-- *Related to practice*

RESEARCH STUDY

- Critical thinking instruction purposefully incorporated into the design and implementation of a course
- Critical thinking explicitly described and related to professional practice
- In-class and online technology included as learning environments for inquiry and discussion
- Questions and prompts developed to engage students in further inquiry, discussion, and reflection

Implementation: Novice undergraduate students beginning nursing-specific content in the program

Purpose of Study:
- To gain student perspective on critical thinking development and use of technology-enhanced learning
- To develop and identify instructional strategies, course material, and questioning helpful to student learning and critical thinking development
- To determine the extent a course designed and implemented with explicit critical thinking instruction and technology support student learning

FINDINGS from STUDENT PERSPECTIVE

Intentional integration of explicit critical thinking instruction:

❑ "I had to critically think about the topic and create a cohesive response. It required me to think about the topic and *everything that influences* the topic."

Types of questions helpful to developing critical thinking:

Connect and apply learning to real life situations, personalize learning, lead to discussion, and encourage reflection

❑ "application questions"

❑ "ethical questions, problem-solving scenarios"

❑ "ones addressing current headlines on the news"

Benefits of Online Discussion Forums:

Being asked to incorporate personal perspective, apply course knowledge, and incorporate practice scenarios

❑ "I like how the discussion questions place us in different situations . . . forces us to combine both the lecture material to real life. This helps cement what we learned beforehand and in our readings by making it more personal and thus, more meaningful."

Value of Two TELEs:

❑ "different methods of reinforcing my learning"

❑ "having both technologies encouraged participation and critical thinking"

❑ "present two ways of answering questions"

COURSE DESIGN AND IMPLEMENTATION

Study findings noted helpful features to include:
- Critical thinking instruction intentionally and explicitly integrated into course and aligned with content
- Specific development and appropriate use of technology-enhanced learning environments
- Instructor presence projected in-class and online which is supportive, respectful, personable, and knowledgeable
- Developing relevant questions aligned with domain knowledge and level of thinking sought
- Orientation and IT support for instructor and students on the use of the chosen technology

SUMMARY

❖ Student perspective on instructional strategies can inform educators on most useful measures to support student learning and better facilitate critical thinking development

❖ Potential of online TELEs to overcome time and space constraints by extending further discussion and learning online outside the classroom

❖ Potential of online TELEs to further inter-professional education in extending student collaborative learning to online environment in face of scheduling challenges

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