

Putting Discussion Back in the Discussion Board Through Metacognition and the Community of Inquiry Model

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- Creating the space for meaningful discussion that leads to critical thinking and deep learning is challenging in asynchronous online discussions.
- Metacognition, the awareness of one's own learning process, is a precursor to critical thinking and can be taught (Akyol & Garrison, 2011).
- The Community of Inquiry theoretical framework has been used as a model for the environment for effective learning in the online environment. The model has 3 interdependent elements:
 - Social presence
 - Cognitive presence
 - Teaching presence with an emphasis on design, facilitation, and instructional direction (Arbaugh et al., 2008).

3 Steps to promoting metacognition and critical thinking using the Community of Inquiry Model in asynchronous discussions

1. Effective discussion board design
2. Asking questions that promote metacognition and critical thinking
3. Self-evaluation and teacher evaluation for metacognition and critical thinking

1. Effective discussion board design

a. Team-based-

- i. Students are divided into teams of 3-4 students
- ii. Teams remain consistent throughout the semester

b. Instructor facilitator-

- i. Instructor creates the teams (purposeful based on student interests or random)
- ii. Identifies material to be read or viewed
- iii. Sets objectives for the discussion board
- iv. Composes one question for each team
- v. Asks probing questions or redirects discussion as necessary

c. Student led-

- i. Teams identify a leader for each discussion board
- ii. The leader composes additional questions so that each team member has a question to answer
- iii. Team members write a substantial post that addresses the assigned question using both assigned material and outside material
- iv. All team members respond to each question post
- v. Leader posts a summary of the discussion



This design gives structure to the discussion board and gives ownership to the students for the discussion. The student leader is given the responsibility to identify meaningful questions that address the objectives for the discussion. The student leader engages in synthesis of the discussion board and identifies how the objectives for the discussion were met. The summaries are easy to find and all students (from all teams) are encouraged to read each other's summaries. The instructor can use points from all team summaries to reflect on the objectives for the discussion and reinforce salient points expressed (or not expressed) in the discussion. This organized schematic is easier to navigate and grade. Snyder & Dringus (2014).

2. Asking questions that promote metacognition and critical thinking

- a. Identify objectives for each discussion board
- b. Instructor question provides a model for the team leader to develop questions
- c. Encourage team leaders to find a controversial topic or current event that relates or exemplifies an objective for the discussion board and formulate questions from that event or topic.
- d. Provide a list of question stems that encourage critical thinking.
- e. Instructor engages in Socratic questioning to guide or redirect discussion

| Thinking Skills | Purpose | Sample Action Prompts | Example Questions ¹ |
|----------------------|--|--|---|
| <i>Lower Levels</i> | | | |
| Remembering | memorize & recall facts | recognize, list, describe, identify, retrieve, name | What do we already know about...? What are the principles of ... ? How does ... tie in with what we learned before? |
| Understanding | interpret meaning | describe, generalize explain, estimate, predict | Summarize ... or Explain ... What will happen if ... ? What does ... mean? |
| <i>Higher Levels</i> | | | |
| Applying | apply knowledge to new situations | implement, carry out, use, apply, show, solve, hypothesize | What would happen if...? What is a new example of...? How could ... be used to...? What is the counterargument for...? |
| Analyzing | break down or examine information | compare, organize, deconstruct | Why is ... important? What is the difference between... and...? What are the implications of...? Explain why / Explain how? What is ... analogous to? How are ... and ... similar? |
| Evaluating | judge or decide according to a set of criteria | check, critique, judge, conclude, explain | How does ... affect...? Why is ... happening? What is the best ... and why? Do you agree or disagree with the statement...? What evidence is there to support your answer? What are the strengths and weakness of? What is the nature of...? |
| Creating | combine elements into a new pattern | design, construct, plan, produce | What is the solution to the problem of...? What do you think causes...? Why? What is another way to look at...? |

King, A. (1995). Inquiring minds really do want to know: Using questioning to teach critical thinking. *Teaching of Psychology*, 22, 13-17.

- 3. Evaluating for metacognition and critical thinking**
- a. Self-evaluation and instructor evaluation
 - b. Educating students on self-evaluation
 - c. Rubrics

Identify your engagement in metacognition. Give yourself 1 point for each (at least 3 in each category) and provide examples from your posts.

| Metacognition in a Community of Inquiry | | |
|--|--|--|
| Knowledge of Cognition (KC) (Entering Knowledge/Motivation) | Monitoring of Cognition (MC) (Assessment/Task Knowledge) | Regulation of Cognition (RC) (Planning/Strategies) |
| Pre-Task Reflection <ul style="list-style-type: none"> • Knowledge of the inquiry process • Knowledge of critical thinking and problem solving • Knowledge of factors that influence inquiry and thinking • Knowledge of self as a learner • Entering motivational state • Knowledge of discipline • Knowledge of previous experiences • Expectancy of success | Reflection on Action <ul style="list-style-type: none"> • Declarative; judging • Commenting on task, problem or discussion thread • Asking questions for confirmation of understanding • Commenting about self's and others' understanding • Making judgments about validity of content • Commenting on or making judgments about the strategy applied • Asking questions about progression or stalling • Expressing emotions during learning • Assessing motivational state an effort required | Reflection in Action <ul style="list-style-type: none"> • Procedural; planning • Setting goals • Applying strategies • Providing/asking for support • Challenging self or others • Asking questions to deepen thinking • Asking for clarification • Request information • Self questioning • Questioning progression, success • Taking control of motivation and effort • Facilitating/directing inquiry |

Figure 1. The metacognition construct adapted from Akyol, Z. & Garrison, R.D. (2011). Assessing metacognition in an online community of inquiry. *The Internet and Higher Education*, 14, 183-190.

Model for identifying engagement in critical thinking

Rate what level of critical thinking you achieved in your discussion in each area.

| CLARIFICATION | | | | |
|--|---|---|--|---|
| All aspects of stating, clarifying, describing (but not explaining) or defining the issue being discussed | | | | |
| Proposes an issue for debate 1 | Analyses, negotiates or discusses the meaning of the issue 2 | Identifies one or more underlying assumptions in a statement in the discussion 3 | Identifies relationships among the statements or assumptions 4 | Defines or criticizes the definition of relevant terms 5 |
| ASSESSMENT | | | | |
| Evaluating some aspect of the debate; making judgments on a situation, proposing evidence for an argument or for links with other issues | | | | |
| Provides or asks for reasons that proffered evidence is valid 1 | Provides or asks for reasons that proffered evidence is relevant 2 | Specifies assessment criteria, such as the credibility of the source 3 | Makes a value judgment on the assessment criteria or a situation or topic 4 | Gives evidence for choice of assessment criteria 5 |
| INFERENCE | | | | |
| Showing connections among ideas; drawing appropriate conclusions by deduction or induction, generalizing, explaining (but not describing), and hypothesizing | | | | |
| Makes appropriate deductions 1 | Makes appropriate inferences 2 | Arrives at a conclusion 3 | Makes generalizations 4 | Deduces relationships among ideas 5 |
| STRATEGIES | | | | |
| Proposing, discussing, or evaluating possible actions | | | | |
| Describes 1 action 1 | Evaluates 1 possible action 2 | Describes more than 1 possible action 3 | Evaluates possible actions 4 | Predicts outcomes of proposed actions 5 |

Perkins, C., & Murphy, E. (2006). Identifying and measuring individual engagement in critical thinking in online discussions: An exploratory case study. *Educational Technology & Society*, 9(1), 298-307.

Pictograph of results from a qualitative study evaluating presence of metacognition in a student-led asynchronous discussion board.



Snyder, M. M., & Dringus, L. P. (2014). An exploration of metacognition in asynchronous student-led discussions: A qualitative inquiry. *Journal of Asynchronous Learning Networks*, 18(2), 1-19.

- Akyol, Z. & Garrison, R.D. (2011). Assessing metacognition in an online community of inquiry. *The Internet and Higher Education*, 14, 183-190.
- Arbaugh, J. B., Cleveland-Innes, M., Diaz, S. R., Garrison, D. R., Ice, P., Richardson, J. C., & Swan, K. P. (2008). Developing a community of inquiry instrument: Testing a measure of the community of inquiry framework using a multi-institutional sample. *The Internet and Higher Education*, 11(3), 133-136.
- King, A. (1995). Inquiring minds really do want to know: Using questioning to teach critical thinking. *Teaching of Psychology*, 22, 13-17.
- Kingsley, P. (2011). The Socratic dialogue in asynchronous online discussions: Is constructivism redundant?. *Campus-Wide Information Systems*, 28(5), 320-330.
- MacKnight, C. B. (2000). Teaching critical thinking through online discussions. *Educause Quarterly*, 23(4), 38-41.
- Nandi, D., Hamilton, M., & Harland, J. (2012). Evaluating the quality of interaction in asynchronous discussion forums in fully online courses. *Distance Education*, 33(1), 5-30.
- Perkins, C., & Murphy, E. (2006). Identifying and measuring individual engagement in critical thinking in online discussions: An exploratory case study. *Educational Technology & Society*, 9(1), 298-307.
- Snyder, M. M., & Dringus, L. P. (2014). An Exploration of Metacognition in Asynchronous Student-Led Discussions: A Qualitative Inquiry. *Journal of Asynchronous Learning Networks*, 18(2), 1-19.
- Whiteley, T. R. (2014). Using the Socratic method and Bloom's taxonomy of the cognitive domain to enhance online discussion, critical thinking, and student learning. *Developments in Business Simulation and Experiential Learning*, 33. 65-70.
- Yang, Y. T. C., Newby, T. J., & Bill, R. L. (2005). Using Socratic questioning to promote critical thinking skills through asynchronous discussion forums in distance learning environments. *The American Journal of Distance Education*, 19(3), 163-181.