

CRITICAL THINKING
(Examples from September 13, 2012 LCC Faculty Workshop)

What does critical thinking look like in the following type of activities/assignments?

- Group work or group discussions
- On examinations or quizzes
- Through revisions on papers
- Art/Performances: acting, musical, speeches, art presentation or group presentations
- Lab journals
- Nursing plans
- Other (please specify)

Considering the types of activities/assignments above, discuss the following questions with your group.

What does critical thinking look like in your area? How and when do you capture it?

Examinations

1. **Link concrete example to abstract concept.**
2. **(Apply) fundamental concept to more complex problem.**

Revisions on Papers

- **Requiring drafts, revision itself.**
- **Annotated bibliography.**
- **Evaluation of sources.**
- **Peer review.**

Musical Performance

- **Practice, performance, essays, practice logs.**

Nursing Plans (community service learning)

- **Prioritize care and why it was chosen/nursing process; medication/math and clinical practice exams (scenario questions); simulation.**

Other Performance

- **Weld puddle control, weld must pass visual inspection, equipment fault troubleshooting, service reports.**

Other (Project-Based)

- **Computing can be difficult to capture. I do use some discussion forums to identify how students evaluate and answer something. Mostly I use projects that are live work-type experience and they are given specific objectives to complete.**

General

- **The logical application of a small set of fundamental assumptions to address a more specific question.**

2. How do you measure your students' critical thinking skills?

Examinations

1. Comprehension of a principle.
2. Application of model.
3. Recognition of principles in some real world situation.

Revisions on Papers

- Variety of sources, evidence.
- Recognizing improvement on drafts (reflected on final).
- Formation of argument and logical organization/assimilation.

Musical Performance

- Essay questions requiring students to self-assess, explore what problems they encountered in their practice and work, think about how they approached overcoming those challenges, and describe how they progressed as a result of such practice.

Nursing Plans (community service learning)

- Performance, papers, "discussion," exams.
- Rationale of care.
- Priority of care (discussion in clinical).

Other Performance

- How quickly students begin to understand that puddle has demands and welder is in control of puddle. Service report documentation.

Other (Project-Based)

- I use finished projects. By how well they completed objectives and if their completed project met requirements.

Other (Self-Reflection)

- Make thinking directly observable and explicit: in a paragraph, diagram, etc.

3. What steps can be taken to make student's critical thinking more transparent to faculty members?
Are any of these steps generalizable?

Examinations

1. Detailed explanations.
2. Identify technique (if techniques are named).
3. Identify concept (if concepts are named).

Revisions on Papers

- Self-assessment?
- Train faculty to pay attention to it.
- Write assignments designed to demonstrate critical thinking.
- Make students aware of expectation.
- Provide rubric.

Musical Performance

- Practice logs: which obstacles they encountered in practice, how they approached fixing it – did it work?

Nursing Plans (community service learning)

- Depends on the situation and discipline.
- Taught in steps (101-203).
- Evaluation process—quarterly.

Other Performance

- Student shows recognition and corrections required in weld sample.

Other (Project-based)

- Sometimes I have students document how they worked through a project and how they arrived at the final result.

Other (Self-Reflection)

- Use self-reflection/ self-assessment. It gives students something tangible as evidence of their learning.

General

- Students must identify incorrect applications of fundamental principles.

4. Consider an activity/assignment/problem you currently use or one you would like to create. How could it be changed, added to or tweaked to make your students' critical thinking more transparent to you?

Revisions on Papers

- Rubric—have students explain/justify their process.

Musical Performance

- Voice class assignment: describe anatomy of breath mechanism and how to take a proper breath for singing. Describe proper posture for singing. Lastly describe how applying this knowledge has affected or benefitted your own singing.

Nursing Plans (community service learning)

- Care plans.
- Group work.
- Simulation.
- One-on-one discussion/clinical.

Other Performance

- Welders make errors. I do not expect perfection. I wish to see corrections and ask student how error was recognized and what students did to correct error.

Other (Project-Based)

- I think if I had students write a final summary report to discuss how they worked through a process it would be more transparent.

Other (Self-Reflection)

- Students debrief in pairs to answer the question, "Why did you make the choices you did?" They can discuss, write a paragraph, diagram, etc. By debriefing with others, students have an opportunity to spell out the details of their thinking more explicitly than if they were working on this individually.
- Specifics might include:
 1. Explain the process of writing your paper.
 2. Explain the choices you made when revising your paper.
 3. Explain the process you used to solve a math problem.
 4. Explain why you reached the conclusion you did in seminar.
 5. Students solve ethical problems and explain the process they used to solve it. Students consider the same dilemma the last day of class and compare responses.
 6. In nursing, how did you know what was most important to do for your patient today.
 7. In microbiology, why did you take these steps to determine what kind of organism you have?
 8. Analyze a choice you made in your own life and consider how different choices might have led to different outcomes.
 9. We could create a faculty learning group where we explore the same kinds of questions:
 - Why did I create this assignment?
 - Why did I create this lesson plan?
 - Etc.