“Developing Key Skills and Courses for the Core Curriculum”

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Agenda

• Quick Review – New Curriculum
• Teaching Thinking in LAR 101
• Critical Thinking – Sharing Effective Assignments
• Critical Thinking – Assessment
• Developing Ideas for LAR 201
The New Core

Foundational Areas of Knowledge, 21 credits
- Community and Identity
- Mathematical Reasoning
- Rhetorical Communication
- Global and Cultural Contexts
- Scientific Perspectives
- Human Creativity
- In Search of Meaning and Values

Liberal Arts Studies Seminar - LAR 101, 201, 301 or LCM 3xx {3 credits each} 9 credits

Experiential Studies 3 credits

Total number of Undergraduate Core credits 33 credits
Essential Learning Outcomes

Through the liberal arts curriculum and co-curricular activities, students will learn to:

• Understand *foundational areas of knowledge*.
• Develop crucial *intellectual skills*
• Build *connections of knowledge* across various disciplines.
• *Adapt* their liberal education to serve and to lead at all levels of citizenship.
• Pursue a *healthy lifestyle*
The FIRE Model: *Teaching for Thinking Project* of the Minnesota State Colleges and Universities

- **Factual Thinking**: to gather factual information and apply it to a given problem in a manner that is relevant, clear, comprehensive, and conscious of possible bias in the information selected.

- **Insightful Thinking**: to imagine and seek out a variety of possible goals, assumptions, interpretations, or perspectives which can give alternative meanings or solutions to given situations or problems.

- **Rational Thinking**: to analyze the logical connections among the facts, goals, and implicit assumptions relevant to a problem or claim and to generate and evaluate the implications that follow from them.

- **Evaluative Thinking**: to recognize and articulate the value assumptions which underlie and affect decisions, interpretations, analyses, and evaluations made by ourselves and others.
Playing with FIRE: Examples for Discussion

• FACTUAL Thinking: Thinking Clearly – (Green)
  – What facts are presented?
  – How reliable, fair-minded and clear are the facts presented?
  – What other factual information should be determined and considered before coming to judgment?

• INSIGHTFUL Thinking: Thinking broadly – (Yellow)
  – What is the big picture being presented? What language, images, and stories convey this picture?
  – What alternative “big picture” perspectives from which these issues can be plausibly understood?
  – What are alternative big picture questions that you can ask to better understand these issues?
  – Which perspective and which images provide the most insightful understanding of the issues? Why?

• RATIONAL Thinking – Thinking logically – (Blue)
  – What conclusions are argues for and what supporting evidence and reasons are given?
  – How credible is the evidence and how strongly does it support the conclusions? What assumptions and implications should be considered?
  – What other arguments, evidence, and implications should be considered? Which arguments are most relevant and powerful? Why?

• EVALUATIVE (Ethical) Thinking – Thinking deeply – (Red)
  – What feelings are being expressed (implicitly or explicitly) in the presentation of these issues?
  – How do those feelings translate into ethical statements or values?
  – From broader or alternative perspectives, what other values are at stake in these issues?
Focus on R:
A Modified Toulmin Model of Argumentation

Four Questions whose sequential answers make an argument:

1. So, what are you advocating? (claim)
2. Why do you believe that? (reasons)
3. Do you have anything to back that up? (evidence)
4. But what about? (counter-arguments)
Focus on R: Critical Thinking

The Argument: the argument proceeds from the author’s main point or claim.
What are the reasons for believing or asserting the claim?
What evidence does the author have for those reasons?

From the readers perspective:
What is the author’s claim? What reasons do s/he have for claiming that? On what evidence does s/he base those reasons?

From the writers perspective:
Here is what I claim because Here are the reasons for my claim because Here is the evidence for my reasons

Nevertheless Here are some plausible alternatives and possible objections, along with my responses . . .
S. Brookfield: *Teaching for Critical Thinking*. Results from Critical Incident Questionnaires

- **For students CT is a social learning process** – 80% peer exchange in small groups, discover assumptions and new perspectives when a peer brings it to their attention. But – interaction must be carefully structured with clear ground rules.

- **Professors need to model CT** – disclose a personal example of your own CT experience, talk about the reasoning behind your practice, explain to them the purpose of classroom assignments, readings, activities.

- **Learning CT is an Incremental Process** – move over time from providing models to applying critical thinking protocols to specific examples to challenging students to analyze their own assumptions.
Brookfield, tactics for students

Scenario analysis: fictional vignette in which a character is making a choice. Give students 3 tasks in group discussion
1. identify the assumptions of the character
2. identify ways in which the character could check her assumptions
3. suggest ways interpretations for the scenario that are different from the character

Crisis Decision Simulation: students in groups must make a choice under pressure of time, then in debrief discuss the reasoning processes that led them to a specific choice.

Quotes to Affirm and Challenge: Students choose one quote from text they wish to affirm and one they wish to challenge. Shared in groups then each group posts one example of each for entire class. Class comments on quotes chosen by other groups, then original group discusses (or do individual writing) on what the exercise tells them about their own thinking on a subject.
Brookfield, Tactics for Faculty

Speaking in Tongues

1. Prof. places five signs around room for different theories, intellectual traditions

2. Review content, then move in front of one sign and discuss it only from that framework, then move to a different sign etc.

3. Ask class to generate questions about a topic, then move in front of a sign and respond from that perspective

4. Put student groups at each sign to respond to questions from that perspective
Brookfield, Tactics for Faculty

• Compiling an assumptions inventory – stop in the middle of a presentation to discuss the most important assumptions in the material you have been presenting (why did you choose one theory over another, why did you present a math problem in this way, how can the skills you discussed apply to a real-life setting, how did you discern the meanings of the analogies you have identified in a poem)
Brookfield, Tactics for Faculty

• Structured Devil’s Advocacy

Present arguments that are counter to your own assertions – deliberately state an alternative view to a position you have just presented (or if team-teaching do a Point-Counter Point with the other teacher)
Brookfield, Tactics for Faculty

Critical Incident Questionnaires – applying critical thinking to your own actions as a teacher:

Ask students to write a response to these questions:

– At what moment in class this week did you feel most engaged in what was happening?
– At what moment in class were you most distanced from what was happening?
– What action that anyone (teacher or student) took this week did you find most affirming and helpful?
– What action that anyone took this week did you find most puzzling or confusing?
– What about class this week surprised you most?

Report back to the class on the chief themes.
End lectures and discussions with questions

- Point out the new questions that have been raised by the content

- Point out the questions from the start of the lecture that have been reframed or not yet answered

- Have student groups point out the questions that have been raised for them in discussions
Brookfield, Tactics

CIQ responses indicate that students find it most helpful to have concrete situations to learn CT: scenarios, case studies, particular experiments, specific texts. Easier to describe assumptions and alternative explanations in regard to a specific event.

Disorienting Dilemmas – triggers to a major re-examination of perspectives (an experiment with an opposite result, a strong critique of a well-thought of interpretation, etc.)
Brookfield and FIRE – Providing students models and questions to help analyze a text/image

1) What is the author’s claim, conclusion, argument? What are the strongest arguments? To what degree are they grounded in empirical evidence?

2) What assumptions does the author operate under? How open is the author about her/his biases or the biases of their method?

3) What inconsistencies or contradictions are revealed?

4) Do the major conclusions follow from the arguments?

5) What alternative explanations can you offer from the same evidence?

6) What information is not provided that you will need to evaluate the author’s conclusions?
Resources


Additional Examples from Brookfield and others: Discussion...

- Helps students explore a diversity of perspectives.
- Increases students’ awareness of and tolerance for ambiguity or complexity.
- Helps students recognize and investigate their assumptions.
- Encourages attentive, respectful listening.
- Helps students become connected to a topic.
- Shows respect for students’ voices and experiences.
- Affirms students as co-creators of knowledge.
- Develops the capacity for the clear communication of ideas and meaning.
- Develops habits of collaborative learning.
- Helps students develop skills of synthesis and integration.
Why Teachers Lose Heart for Discussion

- They have unrealistic expectations about the method.
- They have not prepared students for the experience.
- They have not paid sufficient attention to evolving ground rules for discussion.
- They have not created an explicit connection between the activity of discussion and the reward system for the class.
- They have not modeled participation in discussion before asking students to participate in this process.
Mistakes to Avoid at the Start of a Discussion

• Don’t Lecture.
• Don’t Be Vague.
• Don’t Play Favorites
• Don’t Fear Silence
• Don’t Misinterpret Silence.
Example:
Structured, Critical Reading

Ask students to probe particular questions about the text:

• What assumptions does the author hold?
• What experiences are omitted from the text that strike you as important?
• What voices are heard in the text?
• Does this text challenge or confirm prevailing ideas?
Start Discussion With

Debriefing the preparatory work.

• Ask students to complete a sentence:
  – What struck me most about the text we read today...
  – The question I’d most like to ask the author is...
  – The idea I most take issue with is...
  – The most crucial point in the text is...
Starting Discussion, continued

• Make a provocative statement about the text.
• Ask students in groups to generate 3 or 4 ideas they believe to be true based on the reading.
• Ask students to find quotes in the text that they wish to affirm or challenge.
• Ask students to talk about an experience in their own lives that relates to this topic.
Example: Think-Pair-Share

Instructor poses a problem, asks students to think individually, then discuss their response with partner before sharing with the class

• Individually read the quote “To teach is to engage students in learning. . .”

• Note the words and/or phrases that stand out for you –with which you agree or disagree

• Turn to the person next to you and talk about words and/or phrases that stood out
Circle of Voices

To make sure everyone talks: arrange students in groups of 3-5; pose a topic or question; give students three minutes to think about what they want to say, then have each speak in turn without being interrupted. When all are done, move into a general discussion.

Variation 1 – in the general discussion a student can only talk about an idea raised by another member of their group.

Variation 2 – students must begin by summarizing the remarks of the previous student and then relate their own thoughts to that summary.
Using Writing and Classroom Assessment Techniques to Initiate Active Learning

“Classroom Assessment is a simple method faculty can use to collect feedback, early and often, on how well their students are learning what they are being taught.” Thomas Angelo

These are ungraded, often informal methods used to measure student learning and adjust classroom teaching before students get to a graded assignment. The results of CATs are skimmed by the instructor and highlights are shared with the class in order to discuss goals, clarify assignments, stimulate discussion, or adjust strategies.

Examples from T. Angelo and K. P. Cross, *Classroom Assessment Techniques*, and E. Barkley, K.P. Cross, and C. Major, *Collaborative Learning Techniques*
Starting Discussions with CATS

• **CAT: The Minute Paper**
  Instructions: Please answer each question in one or two sentences.
  
  What was the most useful or meaningful thing you learned during this session?
  What questions remain uppermost in your mind as we end this sessions?

• **CAT: The Muddiest Point**
  What was the “muddiest” point in this session? (In other words, what was least clear to you?)
Focused Listing

Biology example:

Instructions: Without referring to your notes, please take three minutes to list the properties of life that were described in chapter one of your text and discussed in this week's lecture. This assignment is anonymous and ungraded.

- order
- reproduction
- growth and development
- energy utilization
- response to environment
- homeostasis
- evolutionary adaptation
Sample CAT from an Environmental Studies course used by a faculty member to assess students' views on nuclear energy before a course unit on this topic.

*Instructions:* Please respond anonymously to the following questions. I will share the results of this poll during the next class meeting.

If I found a great house at a great price, close to work and near good schools, that was within five miles of a nuclear power plant, I would (circle only one):

- a. Be absolutely willing to consider buying it, and not worried about the plant.
- b. Be somewhat willing to consider buying it, but concerned about the plant.
- c. Be very skeptical about buying it, and worried about the plant.
- d. Be absolutely unwilling to consider it because of the plant
Background Knowledge probes

Example (Introductory Statistics):
In response to each problem below, circle the number (1-4) that best represents your current knowledge. If you circle (4), please go ahead and solve the problem on the attached sheet of blank paper.

Suppose that you have a bag of M&M candies (plain, no peanuts) that contains 22 light brown, 20 dark brown, 18 yellow, 14 green, 12 orange, and 11 red M&Ms. If you draw one of these M&Ms out at random, what are the probabilities that it will be:
(a) yellow? (b) red? (c) neither yellow nor red?

1) I have no idea how to solve this problem
2) I once knew how to solve problems like this, but have forgotten
3) I think I could solve it, given enough time
4) I'm sure I can solve it right now
Note Taking Teams

Students take individual notes on a lecture or reading and then pair with another student. Each summarizes the main points they identified, share corrections and additions, and come to collective notes.

Science course with frequent lectures adding material not covered in text

• Assign students to pairs
• Allow 5-10 minutes at the end of major lectures to compare notes
• Have students add list of most important terms and definitions or list of questions on unclear topics
Jig Saw

Students work in small groups, each group developing knowledge about part of a topic. These groups then break up and students go individually to other groups where they serve as the experts, teaching the new group about their part of the topic.

American Literature

- The Prof. chose five authors. Each student chooses to research one of the authors and identify biographical details in their stories.
- Students work in expert groups based on author to develop information and determine how to present it to other groups.
- Students are reorganized by jigsaw groups, having one expert on each author, responsible to teach the other members of the group – they take turns leading the discussion.
- Move to whole class discussion on amount and type of biographical detail from each author.
EXPLAIN to Students the Behaviors that make for good discussion: You will have participated well if you:

- Ask a question/make a comment that shows you are interested in what another person says
- Ask question/make comment that encourages another person to elaborate
- Bring in a resource that adds new knowledge or perspectives
- Make a comment that links two people’s contributions
- Post a comment on-line that summarizes our discussions so far and suggests new directions or questions
- Indicate a specific comment by another that you found useful or provocative
- Build on what someone else says
- Summarize/synthesize several people’s contributions and suggest a theme or new direction
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