Quality Initiative Faculty Exploration Group Kick Off Meeting
4:30-6:00 p.m. - Sep 27, 2016
LRC 650

QI Proposal sent to attendees prior to meeting
Place paper & pens on tables

I. Welcome (Todd Huspeni et al., Refer to PowerPoints, 5 min.)
   a. Introduction of Group
   b. Review of Project and Quality Initiative
   c. Introduction of Key Objectives

II. Group Discussion 1 (Dona Warren et al., Refer to Word Document, 30 min.)
   a. What Critical Thinking is, How Students Demonstrate it, and Challenges
   b. What Might Help and How You Would Like to Benefit from This Initiative
   c. What You Are Doing Now

III. Argument Mapping (Dona Warren et al., Refer to PowerPoints, 25 min.)

IV. Group Discussion 2 (Dona Warren et al., Refer to Word Document, 15 min.)

V. Wrap Up (Todd Huspeni et al., Refer to PowerPoints, 15 min.)
   a. D2L Resources
   b. Next Meetings
   c. Feedback Card
GROUP DISCUSSION 1

WHAT CRITICAL THINKING IS, HOW STUDENTS DEMONSTRATE IT, AND CHALLENGES

CRITICAL THINKING

- “a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.”
- "purposeful, reflective judgment which manifests itself in reasoned consideration of evidence, context, methods, standards, and conceptualizations in deciding what to believe or what to do."
- "the disciplined mental activity of evaluating arguments or propositions that can guide the development of beliefs and taking action."

HOW STUDENTS DEMONSTRATE IT
(RESPONSES DRAWN FROM SPRING 2016 SURVEY)

- Analyzing, summarizing, and assessing information and arguments
- Being open to multiple perspectives
- Posing key questions and identifying or designing ways to answer those questions
- Forming judgments and drawing conclusions based on appropriate information
- Defending judgments and conclusions with strong arguments
- Effectively communicating judgments, conclusions, and arguments

CHALLENGES TO TEACHING CRITICAL THINKING (RESPONSES DRAWN FROM SPRING 2016 SURVEY)

- Students tend to be “fact focused,” wanting to know the right answers rather than the reasons and resistant to exploring multiple perspectives.
- Students have difficulty reading long and complex material, tend to read for information rather than connections, and tend not to read critically.
- Students can be reluctant to take a stance on controversial issues, or reluctant to critically examine the stances that they do take.
- Students lack basic writing proficiency.
- It’s hard (almost impossible) to teach course content and critical thinking all at once.
- Giving meaningful feedback on student work appears inconsistent with maintaining a healthy work / life balance.
- Instructors are so busy with their current teaching load that there’s no time to rethink or revise a course.
WHAT DO YOU FIND TO BE MOST CHALLENGING?

- Resistance to risks of re-examining positions. Not wanting to rethinking.
- Uncomfortable with middle position, gravitating toward polar positions.
- Empathy with other people’s points of view.
- Instructors aren’t trained in teaching critical thinking.
- Students are stuck in assumptions without understanding that they are assumptions.
- Lack of reflection upon actions or decisions.
- Using Toulmin, students have trouble identifying warrant.
- Students have difficult identifying assumptions.

WHAT MIGHT HELP AND HOW YOU WOULD LIKE TO BENEFIT FROM THIS INITIATIVE

WHAT MIGHT HELP
(RESPONSES DRAWN FROM SPRING 2016 SURVEY)

- Resources such as techniques and step-by-step methods to help encourage critical thinking, examples of how to revise assignments and quizzes to require critical thinking, assessment rubrics that make it easier and quicker to give useful feedback.
- Professional development sessions and workshops to support the integration of critical thinking into courses.
- Discussion groups to share concerns and ideas.

HOW WOULD YOU LIKE TO BENEFIT FROM THE INITIATIVE?

- Cross-disciplinary conversations, especially for foundation level courses.
- The ability to assume that students know particular things.
- Learning ways to help students to see things that aren’t (or maybe even are) immediately apparent to them – assumptions, inferences, etc.
- Exploring the possible differences between CT in different fields (STEM vs. other).

WHAT YOU ARE DOING NOW

WHAT ARE YOU CURRENTLY DOING TO TEACH CRITICAL THINKING?

- Introduce students to different arguments in order to break fixation with facts.
- Looking at domino-ing effects. What are we trying to effect? What might we effect by accident?
- Looking at context.
- Case studies, assign student roles.
- Social media to find bad arguments and contrast with better information.
GROUP DISCUSSION 2

HOW DO YOU THINK THAT ARGUMENT MAPPING MAY APPLY OR SUPPLEMENT WHAT YOU ARE DOING?

- Lucidchart
- Empathize with different points of view
- Looking beyond the facts
- Models and choices of models
- Breaking down positions, reasons
Quality Initiative
Faculty Exploration Group
Kick Off Meeting

September 27, 2016
WELCOME

• Introduction of Group
• Review of Project and Quality Initiative

KEY OBJECTIVES

• Discuss your experiences teaching critical thinking and how you would like to benefit from this initiative
• Learn about a specific approach to teaching critical thinking
• Form connections with colleagues who share similar interests
• Learn about October and November meetings
Group Discussion 1
Argument Mapping

• Tupperware doesn’t need to fundamentally change your diet.

• You can use piece of Tupperware even if you don’t buy the entire set.
• Learning involves the acquisition and automation of schema – cognitive constructs that organize elements of information and the relationships between those elements. (Sweller 1994).

• Students appear to lack well-developed argument schema.

• Arguments can be represented graphically in a way that exposes their structure (Harrell and Wetzel 2015) thereby reducing cognitive load and easing the acquisition of argument schema. (Hoffmann 2011).

<table>
<thead>
<tr>
<th>Diagram</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>2 \downarrow 1</td>
<td>Idea 2 is a reason to believe idea 1. “2 therefore 1.” “1 because 2.”</td>
<td>2 + 3 \downarrow a + 4 \downarrow 1</td>
<td>‘a’ is an unstated subconclusion.</td>
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<tr>
<td>3 \downarrow 2 \downarrow 1</td>
<td>Idea 3 is a reason to believe idea 2. Idea 2 is a reason to believe idea 1. “3 so 2. Therefore 1.” “1. After all, 3 so 2.”</td>
<td>2 + a \downarrow 1</td>
<td>‘a’ is an unstated premise.</td>
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<tr>
<td>2 + 3 \downarrow 1</td>
<td>Ideas 2 and 3 jointly constitute a reason to believe idea 1. “2 and 3. Therefore 1.” “1 because 2 and because 3.”</td>
<td>3 \downarrow 2 \downarrow 1</td>
<td>Idea 2 is a reason to believe Idea 1. Idea 3 is a reason to disbelieve idea 2.</td>
</tr>
<tr>
<td>2 \rightarrow 3 \rightarrow 1</td>
<td>Idea 2 and idea 3 independently constitute reasons to believe idea 1. “1. After all 2. Furthermore 3.” “2 therefore 1. Besides 3.”</td>
<td>3 \downarrow 2 + a \downarrow 1</td>
<td>Idea 2 is a reason to believe Idea 1. This assumes that ‘a’ is true. Idea 3 is a reason to disbelieve idea ‘a’.</td>
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<td>Diagram</td>
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<td>2↓1</td>
<td>“2. Online classes allow students to learn at times that are convenient for them. Therefore 1. they’re perfect for working adults.”</td>
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<td>3↓2↓1</td>
<td>“1. Traditional college students should be discouraged from taking online courses. After all, 2. online courses retard social integration because 3. they can be completed without meeting other students in the class.”</td>
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<tr>
<td>2↓3↓1</td>
<td>“2. Online classes allow students to work at their own pace and 3. students tend to learn better when they can work at their own pace so 1. online courses can enhance student learning.”</td>
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<tr>
<td>2 3</td>
<td>“2. Online courses are inexpensive to run so 1. they’re a good choice for most colleges. 3. They tend to attract students, too.”</td>
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<td>4</td>
<td>“2. Online classes don’t teach higher level thinking skills, 3. College classes should teach higher level thinking skills. And 4. only college classes should transfer in. Therefore, 1. online classes shouldn’t transfer in.” (a = Online classes shouldn’t be college classes.)</td>
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<td>2↓a</td>
<td>“1. Online classes are apt to engage the students because 2. they lend themselves to gamification.” (a = Students are engaged by gamification.)</td>
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<td>3</td>
<td>“Some people argue that “1. online classes are apt to engage the students because 2. such courses lend themselves to gamification. That’s clearly mistaken, though, because 3. nothing that’s graded can really be gamified.”</td>
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<tr>
<td>3↓2↓1</td>
<td>“The fact that 2. online classes lend themselves to gamification is taken to show that 1. online classes are apt to engage the students. But this argument fails because 3. students are insulted by the gamification of education.” (a = Students are engaged by gamification.)</td>
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• Some sentences will need to be ignored or rephrased.
• Some sentences will need to be divided into their component parts and some ideas will emerge from summarizing longer passages.
• Not all inference connectors will be signaled with words like “therefore” and “because.”
• Some elements will be poorly communicated.

It’s hard to find a black chicken in the dark. But it’s even harder if you don’t know what a chicken looks like.
Understanding Arguments

Evaluating Arguments

Constructing Arguments

Grasp of Argument Schema

Visual Representation of Argument Structure
Understanding Arguments

Evaluating Arguments

Constructing Arguments

Grasp of Argument Schema

Visual Representation of Argument Structure
“Not all students should go to college. For one thing, some students want to pursue vocational training and vocational training isn’t best offered by colleges because most colleges focus on providing a broad education in the liberal arts. Furthermore, college is expensive so only students who have a good chance of succeeding should go. Not all students do have a good chance of succeeding. It’s popular, of course, to deny this, and to say that all students can succeed in college, but that ignores that fact not all students are equally motivated.”

1. What is the main conclusion?
2. For all other ideas:
   a. Is this idea important?
   b. If so, how does it relate to what’s gone before (support, rebuttal, added, or separate?)
1. Not all students should go to college. For one thing, some students want to pursue vocational training and vocational training isn’t best offered by colleges because most colleges focus on providing a broad education in the liberal arts. Furthermore, college is expensive so only students who have a good chance of succeeding should go. Not all students do have a good chance of succeeding. It’s popular, of course, to deny this, and to say that all students can succeed in college, but that ignores that fact not all students are equally motivated.
Only students who have a good chance of succeeding should go to college.

Not all students do have a good chance of succeeding.

Not all students should go to college.
Not all students should go to college.

Most colleges focus on providing a broad education in the liberal arts.

If focus on providing a broad education in the liberal arts then vocational training isn’t best offered by.

Vocational training isn’t best offered by colleges.

Not all students do have a good chance of succeeding.

Only students who have a good chance of succeeding should go to college.
Not all students should go to college.

Most colleges focus on providing a broad education in the liberal arts.

Vocational training isn’t best offered by colleges.

- Only students who have a good chance of succeeding should go to college.
- Not all students do have a good chance of succeeding.
- If an institution focuses on providing a broad education in the liberal arts then vocational training isn’t best offered by that institution.

Not all students should go to college.
Not all students should go to college.

Most colleges focus on providing a broad education in the liberal arts.

Vocational training isn’t best offered by institutions that focus on providing a broad education in the liberal arts.

Only students who have a good chance of succeeding should go to college.

Not all students do have a good chance of succeeding.

Vocational training isn’t best offered by colleges.
Constructing Arguments

Evaluating Arguments

Understanding Arguments

Grasp of Argument Schema

Visual Representation of Argument Structure

Constructing Arguments

Evaluating Arguments

Understanding Arguments

Grasp of Argument Schema

Visual Representation of Argument Structure
1. Is this true?
2. Could someone who doesn’t already believe the conclusion think this is true?

1. What hidden premise is being assumed by this inference?
2. Is that premise true?
3. Could someone who doesn’t already believe the conclusion think that this premise is true?

1. If Bob, a perfectly gullible and perfectly rational person, believed the ideas at the top of this inference, how likely would he be to believe the idea at the bottom?
If you don’t like this idea, don’t just reject it. Instead, assess the reasoning for it.

If you decide that the argument is good then you should be inclined to accept the ultimate conclusion.

But if you decide that the argument is bad, you should not decide that the ultimate conclusion is false.
We want E.

Justification of Comparison

Here are some facts about M1 and M2.

Comparison

M1 is a better way than M2 to get E.

Justification of Means

Here’s the connection between M1 and E.

Means

If we do M1 then we’ll get E.

Justification of End

Here’s why E is desirable.

End

We want E.

Recommendation

We should do M1.
1. What is your question?
2. What are some possible answers?
3. What answer do you like best?
4. What’s a reason to believe that answer to be true?
5. Is the reasons true? If not, can you revise it?
6. Is the reason acceptable to the audience? If not, what reason can you give to accept it?
7. Is the inference strong? If not, what missing reason is required?
8. Are there other, completely different sorts of reasons to believe that your answer is true?

1. What do you want to say first?
2. What do you want to say next?
3. How can you help your reader to see the connection between those ideas?
Online Resources

Rationale
https://www.rationaleonline.com/

Truth Mapping
https://www.truthmapping.com/
Group Discussion 2
WRAP UP

• D2L Resources

• Next Meetings
  • Noon, Friday, October 21, 2016
    Argument Mapping in more detail
    Form smaller FEGs of 2-8 (share ideas, create and share materials, present at conferences, etc.)
  • Noon, Friday, November 18, 2016
    Argument Mapping tutorial/practice
    Discuss role AM might play within discipline

• Feedback Card
  Does argument mapping look like it may assist you in teaching CT to your students? If so, how so? If not, why not?
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