PROMOTING DEEP LEARNING THROUGH PROBLEM-BASED WRITING ASSIGNMENTS OR SMALL GROUP TASKS

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Tips for Participating in Adobe Connect

Technical tips
Audio:
• Your computer speakers (or headphones) provide the audio. | Closing other programs can improve your audio. | We recommend using an updated version of Flash.

Full Screen Option:
• During the presentation, the “Full Screen” button at the upper right will allow you to switch back and forth between full screen and normal view.

Troubleshooting:
• Closing browser and rejoining event often corrects technical issues.

Participation tips
Use the Chat window to:
• Introduce yourself;
• Share questions or comments; or
• Communicate a technical issue.

Activities:
• We will use polls and additional chats throughout the event for interaction.
• Participation is required when Continuing Education credits are available.

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Welcome

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PROMOTING DEEP LEARNING THROUGH PROBLEM-BASED WRITING ASSIGNMENTS OR SMALL GROUP TASKS
Learning outcomes

This workshop will help you:

• Design critical thinking problems connected to your course goals
• Develop a repertoire of ways to give critical thinking problems to students to promote deep learning
• Appreciate low-cost ways for assigning and grading exploratory writing or microthemes
• Generate new ideas for assignments that you can use immediately in your classroom

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Powerful Homework

“... I find it fascinating that in faculty discussions about curriculum and course structure ... 90 percent of our discussion focuses on what material and ideas to cover in class. We pay far less attention to the details of homework assignments. So it is good for faculty to learn from students that the design of homework, and how we ask students to do that homework, matters a lot ...” (51).

(Light, 2001)
Interactive response

One-minute thought question
If you could change the way students study for one of your courses, what changes would you hope for and why?
THINKING ABOUT STUDENTS’ STUDYING PROCESSES

Imagine that you are teaching an “Introduction to Psychology” course, primarily to first year students early in their college careers.

It is Monday. For Wednesday’s class you want them to read the textbook chapter explaining some of the important modern schools of psychology.

How might students’ studying and thinking processes differ depending on the way you give the homework task? (see next slide or handout)
Three ways to assign the homework

1. For Wednesday, read Chapter 2.
2. For Wednesday, read Chapter 2 and be prepared for a quiz.
3. For Wednesday, read Chapter 2 and then write a half-page thinking piece (single-spaced) that addresses the following question:

   Suppose you are a parent who goes to a child psychologist for advice on how to get your 10 year old child to practice the piano. It seems the child rushes out of the room screaming every time you insist he practices. What different advice would you get if the child psychologist were a behaviorist, a psychoanalyst, or a humanistic psychologist? Come to class with your completed thinking piece and be prepared to share your ideas with classmates.

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Interactive response

If you decided to try out Strategy 3, don’t worry for now how you would handle all those thinking pieces. We’ll deal with that question later. *For now just explore how students would read and study differently depending on how the homework task was assigned.*

- Read the chapter
- Read the chapter and expect a quiz
- Read the chapter and write the thinking piece

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DIFFERENCES BETWEEN DEEP LEARNING AND SURFACE LEARNING
Surface learning approach

Intention: to cope with course requirements

• Studying without reflecting on purpose or strategy
• Treating the course as unrelated bits of knowledge
• Memorizing facts and procedures routinely
• Finding difficulty in making sense of new ideas presented
• Feeling undue pressure and worry about work

(Sims, 2006)
Deep learning approach

Intention: to understand ideas for yourself
• Relating ideas to previous knowledge and experience
• Looking for patterns and underlying principles
• Checking evidence and relating it to conclusions
• Examining logic and argument cautiously and critically
• Becoming actively interested in course content

(Sims, 2006)
DEEP LEARNING ROOTED IN STUDENTS’ ENGAGEMENT WITH YOUR COURSE’S “BEAUTIFUL PROBLEMS”
“[Highly effective teachers confront students with] intriguing, beautiful, or important problems, authentic tasks that will challenge them to grapple with ideas, rethink their assumptions, and examine their mental models of reality” (Bain, 2004, p.18).

“It seems to me, then, that the way to help people become better writers is not to tell them that they must first learn the rules of grammar, that they must develop a four-part outline, that they must consult the experts and collect all the useful information. These things may have their place. But none of them is as crucial as having a good, interesting question” (Kilcup, 1980?).
Deep learning rooted in engagement

1. Establish your course goals (often stated in syllabus as learning outcomes)
   • subject matter goals—the new knowledge (facts, concepts, theories, methods) that you want students to learn
   • critical thinking or disciplinary thinking goals—new ways that you want students to see or think: disciplinary processes of inquiry, critical reading, analysis, and argument
Deep learning rooted in engagement

2. Design critical thinking problems connected to your course goals.
   • Problems should cause students to use subject matter knowledge while promoting disciplinary ways of thinking, analyzing, and arguing
   • Highest level of critical thinking typically comes from “messy,” “ill-structured,” or open-ended problems with no algorithmically attained “right answer”—problems that lead to a claim with supporting arguments.

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Deep learning rooted in engagement

3. Develop a repertoire of ways to give critical thinking problems to students

- Questions for in-class freewrites and subsequent in-class discussions
- Tasks for small-group problem solving or debates
- Thought provokers for out-of-class exploratory writing ("thinking pieces"; posts to course discussion boards; journal or blog entries; other kinds of informal, non-graded writing)
- Short (2-3 page) writing assignments or very short (less-than-a-page) microtheme assignments.
- Longer, formal writing assignments often requiring research
- Practice essay exam questions (or actual essay exam questions)
Deep learning rooted in engagement

4. Think of homework assignments as a crucial part of course design
   • “Reverse engineer” your course by designing the final assignment first ( “backward design”)
   • Create earlier assignments that develop the skills needed for the final assignment (sometimes called “scaffolding assignments”)
   • Consider adding informal low-stakes writing to help students explore ideas and promote learning
   • Consider short formal writing assignments (microthemes, 2-3 page papers) in lieu of longer research papers
   • Consider giving all students the same “problem” (as opposed to freedom of choice of topics)

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Deep learning rooted in engagement

5. Develop scoring criteria and give them to students in advance
   • Simple numerical or +/- check/- scales for exploratory writing
   • 6-point holistic rubric and “models” feedback for microthemes
   • More detailed rubrics for longer formal writing
USING WRITE-TO-LEARN TASKS TO CREATE POWERFUL HOMEWORK
Creating a write-to-learn task

1. Ask students to explain a course concept to a new learner (requires students to understand the concept at a level deeper than memory)
   - Explain to your English major friend that the word “significance” has a different meaning to statisticians than it does to the average person.
   - Explain to a grade school child who has just been diagnosed with Type 1 diabetes what is meant by the glycemic index of foods.
Interactive response

What is an important concept in your course that might be the focus of a write-to-learn task? (“Explain to someone who missed class last week what is meant by X”)

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Creating a write-to-learn task

2. Give students a thesis to support or attack (teaches disciplinary use of evidence to make arguments)
   – The overriding religious view expressed in Hamlet is (is not) a stable medieval Catholicism.
   – Prescribing Ritalin and other psychotropic medications is (is not) an appropriate treatment for behavioral problems of children.

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Interactive response

What is a controversial thesis, relevant to your discipline, that might initiate debate in your course—a statement that invites opposing or alternative responses?
Creating a write-to-learn task

3. **Give students a problematic question (teaches students to propose and support their own thesis)**
   - What should Hisako propose to her supervisor in response to the problems that have cropped up in Week Three? [part of a business management case]
   - What is your theory for explaining the increase in age of first marriage since the 1970s? [sociology]
Additional write-to-learn tasks

See Handout for Tasks Based on:

• Analyzing data sets
• Summarizing and responding to readings
• Wrestling with peer-reviewed articles
• Writing dialogues exploring alternative views
• Posing their own questions
Write-to-learn tasks using generic questions

Promotes reflection and metacognition

• What confused you in today’s class or today’s readings?
• How does your personal experience relate to what you studied today?
• What effect is this course having on your personal life, your beliefs, your values, your previous understanding of things?
• How does what we have been studying recently relate to your other courses or to other parts of this course?
# Using microthemes for write-to-learn tasks

<table>
<thead>
<tr>
<th>Exploratory Writing (Informal)</th>
<th>Microthemes (formal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Not revised</td>
<td>• Revised (multiple drafts)</td>
</tr>
<tr>
<td>• Thesis-seeking writing</td>
<td>• Thesis-supporting writing</td>
</tr>
<tr>
<td>• Often not graded or graded primarily for ideas and effort</td>
<td>• Graded as finished writing</td>
</tr>
<tr>
<td>• Little or no concern for organization, correctness</td>
<td>• Ideas, organization, correctness all part of grade</td>
</tr>
<tr>
<td>• Feedback primarily from class discussion, brief teacher comments, or peer response</td>
<td>• Feedback from showing models of stronger and weaker performance</td>
</tr>
</tbody>
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Using microthemes for write-to-learn tasks

- **Example from Environmental Studies:** In the attached op-ed piece, conservative columnist George F. Will celebrates Americans’ “stunning abundance of fossil fuels—beyond their two centuries’ supply of coal.” Will cites vast reserves in the Canadian tar sands as well as reserves of natural gas recoverable through fracking. Drawing on the British Petroleum energy tables we have studied in class, write a letter to the editor (no more than 300 words) that begins with either of the two following thesis-statement options: “George Will’s claim that we have a ‘stunning abundance of fossil fuels’ (*Seattle Times*, Jan. 1, 2012) is (a) dangerously optimistic or (b) well supported by existing data.”

See handout for another example from physics

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A GENERAL RATIONALE FOR EXPLORATORY WRITING AND MICROTHEMES
General rationale for exploratory writing

1. Continually presents students with high-order critical thinking problems
   • Allows instructors to create a questioning, problem-posing environment for the course
   • Immerses students in complexity without being threatening
General rationale for exploratory writing

2. Changes the way students approach reading assignments
   - Encourages students to read for meaning and then to "speak back" to texts
   - Promotes reading for high-level synthesis and understanding
   - Promotes an exploratory stance
General rationale for exploratory writing

3. Creates higher levels of class preparation and richer discussions

- Students come to class ready to discuss readings
- Students want to find out what others said in their thinking pieces
- Generates ideas for discussion; during lull moments a student can be asked what he or she wrote in the thinking piece
- Plants seeds and gives germination time for ideas; ideas first explored in thinking pieces often get developed in formal papers

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General rationale for exploratory writing

4. Enjoyable to read

• Changes the way you read student writing—you focus on ideas and forget your "red pencil" role
• Can be read quickly—you can skim them, looking for insights, signs of life
• Can be sampled—each day you need to read only random samples of the thinking pieces
• Often lively with voice and personality

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General rationale for exploratory writing

5. Let's you learn a lot more about each of your students

- You'll see the characteristic ways their minds work
- You'll learn about their backgrounds and values
- You'll have insights into different kinds of problems they might have
General rationale for exploratory writing

6. Let's you assess learning problems on the spot
   • Will amaze you at the many ways students misunderstand what you say in class
   • Gives you a chance to re-explain something based on student confusion
   • Gives you a constant "reading" of student learning-in-progress

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A general rationale for microtheme writing

1. Has many of the same benefits as exploratory writing
   • Presents students with higher-order critical thinking problems
   • Encourages deep learning of course ideas
   • Gives immediate assessment of student learning

2. Promotes multiple drafts (because short)

3. Requires complete range of writing skills (ideas, organization, clarity, correctness)

4. Is easy (and quick) to grade

5. Can use “models feedback” rather than feedback through teacher comments

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GRADING EXPLORATORY WRITING AND MICROTHEMES
Grading exploratory writing

• Refer to handout
• See also Bean (2011), pp. 120-145
Grading microthemes

• Refer to handout
• See also Bean (2011), pp. 111-115

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Interactive response—a poll

Return now to the ideas you noted in the opening one-minute thought question about how you would like to change your students’ study habits. Which of the following strategies might you consider trying as a way of deepening students’ learning?

- Out-of-class exploratory writing (thinking pieces, blogs, chat room posts) based on “beautiful problems” from your course?
- Out-of-class exploratory writing based on generic reflections or metacognitive questions?
- Formal microthemes using models feedback?
- In class freewrites based on your course’s “beautiful problems”
- In class small group tasks based on your course’s “beautiful problems”
- Other ideas

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References

- Kilcup, Rodney. (1980s). *Puget Sound Writing Project Newsletter*

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