

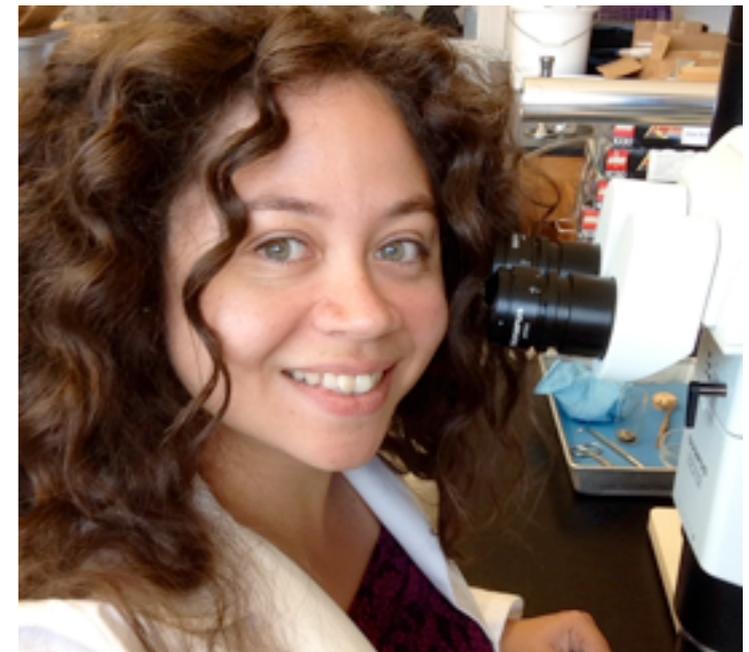
Developing as a Teacher

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Introductions

Active learning techniques

Practical hints

Enhancing participation & inclusivity

What to do for yourself

Resources at UCONN

Q&A

What we know about learning (Wood 2009).

- Multiple levels of understanding.

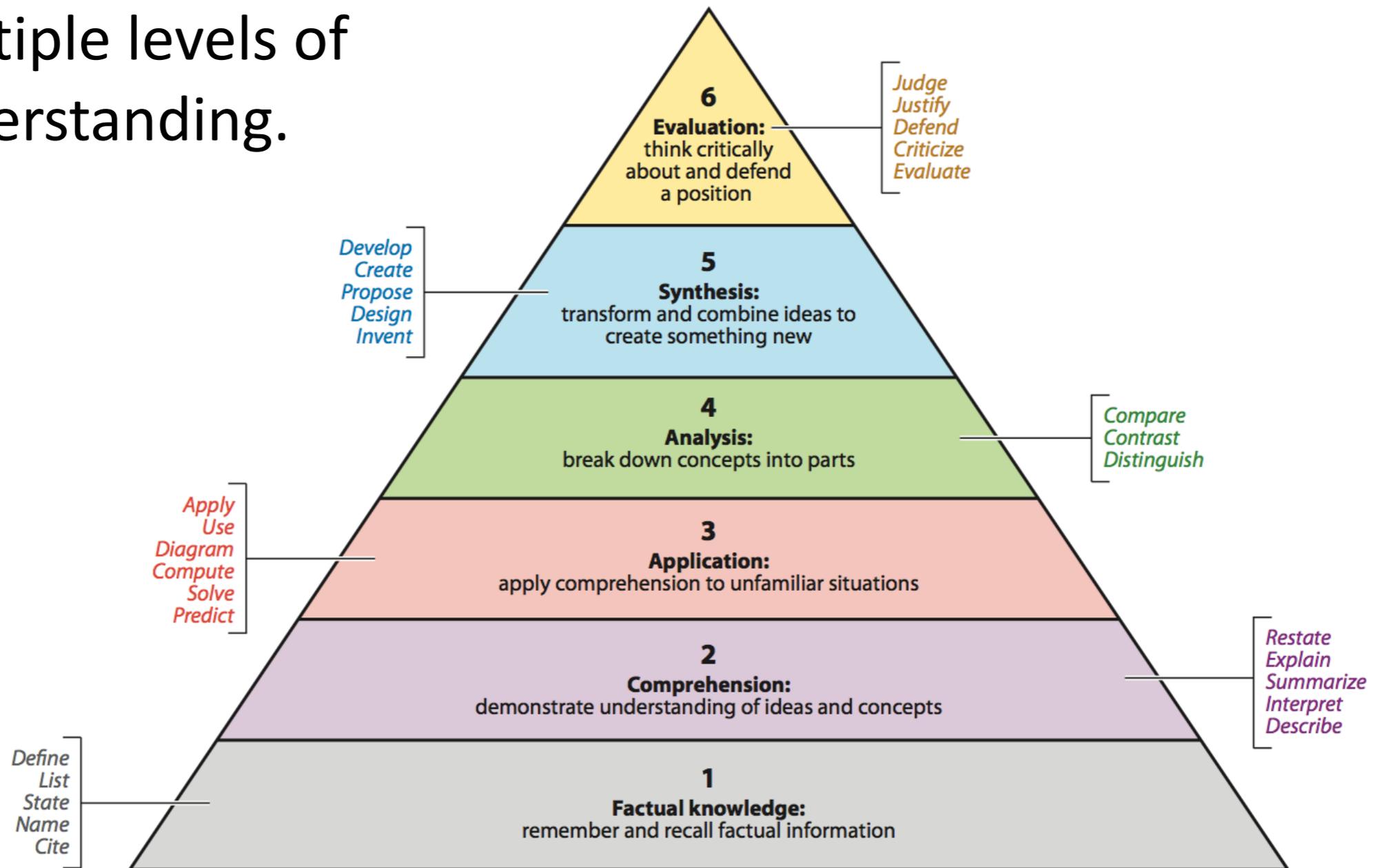


Figure 1

Bloom's levels of understanding. Originally termed Bloom's taxonomy of the cognitive domain, this schema defines six levels of conceptual understanding according to the intellectual operations that students at each level are capable of (Bloom & Krathwohl 1956). The italicized verbs have been added to the original hierarchy; they indicate performance tasks that test achievement of learning goals at each level. Fine distinctions in the hierarchy are difficult, and some educators prefer to classify goals on only three levels: low (1, 2), medium (3, 4), and high (5, 6). (Based on Allen & Tanner 2002.)

Multiple levels of understanding. **Active learning best.**

Multiple ways of learning. Each student responds to different forms of learning.

Using multiple activities in an hour can make a real difference.

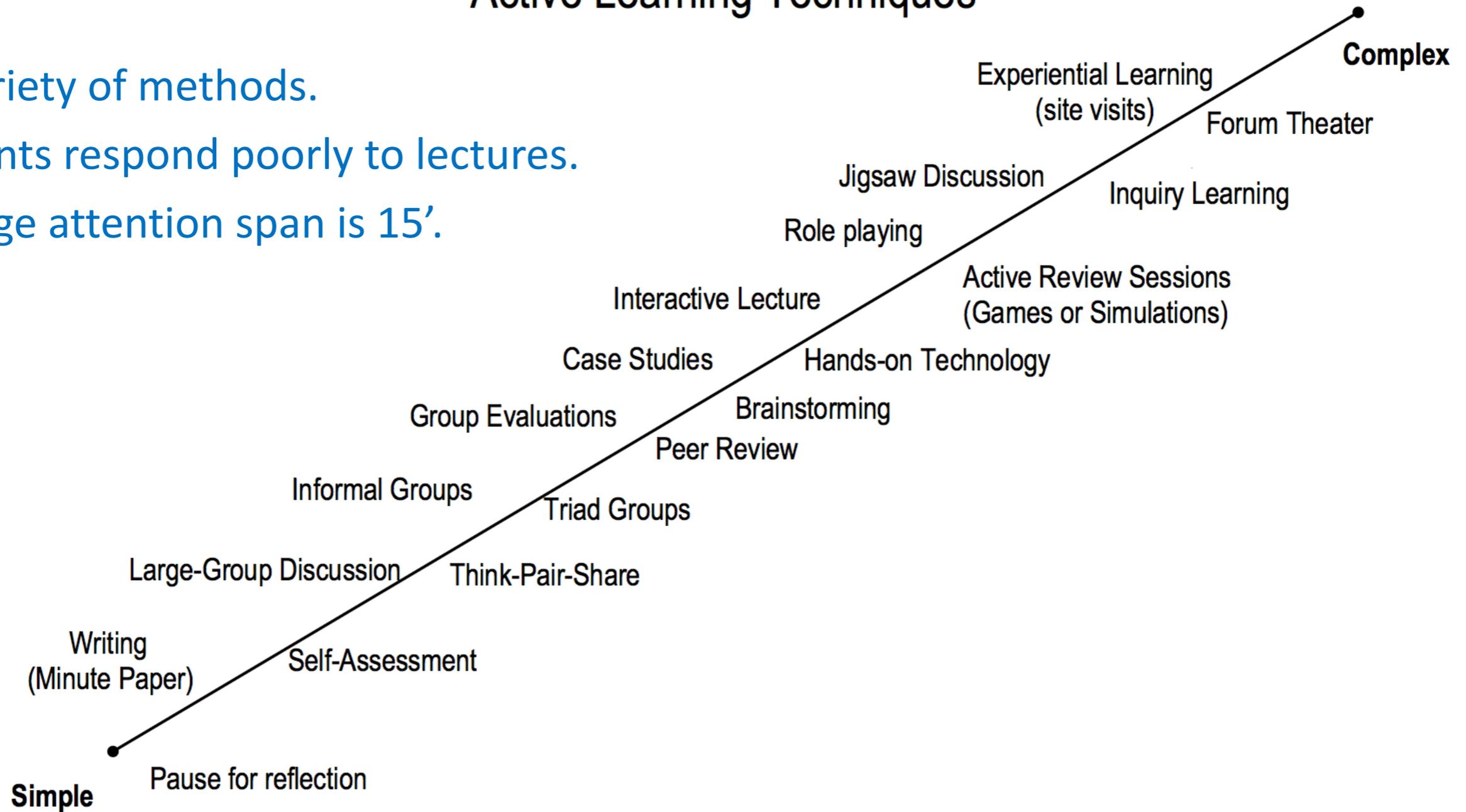
Self evaluation helps.

Active Learning Techniques

Use a variety of methods.

Students respond poorly to lectures.

Average attention span is 15'.



This spectrum arranges active learning techniques by complexity and classroom time commitment.

Prepared by Chris O'Neal and Tershia Pinder-Grover, Center for Research on Learning and Teaching, University of Michigan

Active learning. (n.d.). Retrieved September 1, 2005, from University of California at Davis, Teaching Resources Center: <http://trc.ucdavis.edu/trc/ta/tatips/activelearning.pdf>

Bonwell, C.C. (1996). Enhancing the lecture: Revitalizing a traditional format. In T.E. Sutherland, C.C. & Bonwell (Eds.), *Using active learning in college classes: A range of options for faculty.* (pp.31-44). San Francisco: Jossey-Bass Publishers.

Felder, R.M., & Brent, R. (1994). Cooperative learning in technical courses: Procedures, pitfalls, and payoffs. (*ERIC Document Reproduction Service, No. ED 377038*).

McKeachie, W.J. (2005). How to make lectures more effective. In *Teaching tips: Strategies, research, and theory for college and university teachers* (11th ed.) (pp. 52-68). New York: Houghton Mifflin Co.

Paulson, D.R., & Faust, J.L. (n.d.). *Active learning for the college classroom.*

California State University:

<http://www.calstatela.edu/dept/chem/chem2/Active/>

Connect new knowledge to old (even incorrect)
(E.g., re-do clicker questions)

Collaborative learning



**This is your
source for
Clicker
Information
at UConn**

Contact us:
Phone: 860-486-5052
Email: clickers@uconn.edu
Rowe CUE 422, Storrs CT 06269

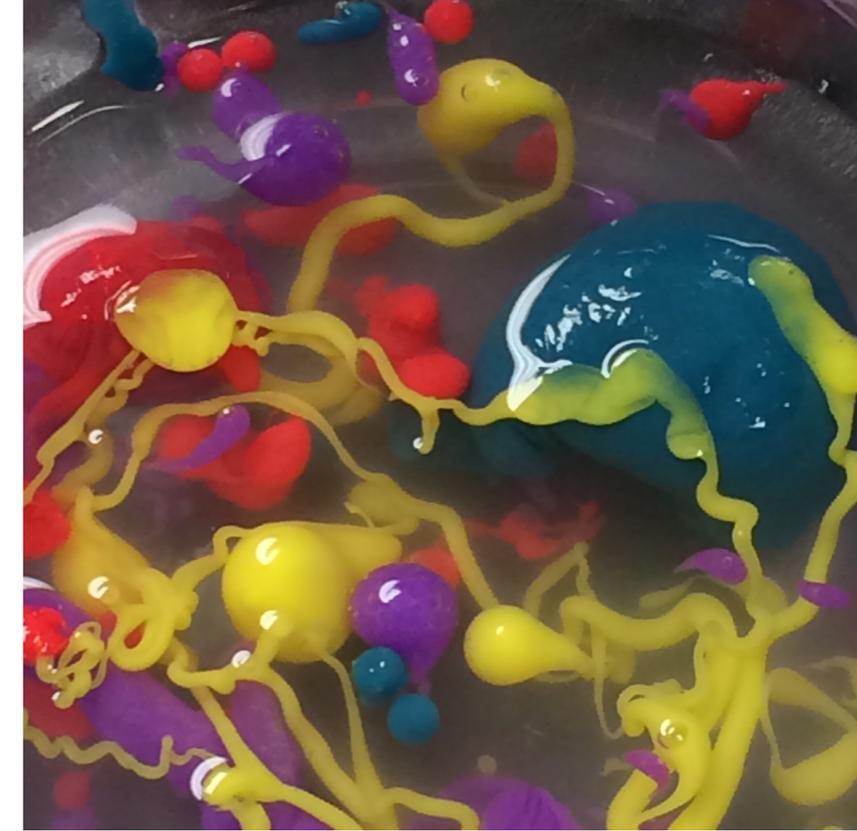
Put together pieces in unexpected ways.
Which is faster, a swimming algal cell or a 747 when
size scaled? [hint: It's the cell!]

Demos of foods made from algae.

What's wrong with this picture?

Show an image that misrepresents something we know
and ask students to point out & correct the
misinformation.

Flip presentation of laboratory exercises.
Blind spot example



*colorful algae gels made in
class by students
demonstrate importance of
ionic cross links in forming
algal gels*

Self evaluation

Research has shown that having students evaluate themselves is very important.

“Wrappers”

Used after a quiz or exam to help students to process/reflect on graded work more deeply than just looking at the grade.

Evaluate what they did well and what needs improvement.

Evaluate their level of preparation.

Reflect on the nature of their errors to find recurring patterns that could be addressed.

example wrapper

This activity is designed to give you a chance to reflect on your exam performance and, more importantly, on the effectiveness of your exam preparation. Please answer the questions sincerely. Your responses will be collected to inform the instructional team about students' experiences surrounding this exam and how we can best support your learning. They will have no impact on your grade.

- Approximately how much time did you spend preparing for this exam? 12 hours
- What percentage of your test-preparation time was spent in each of these activities?

a. Reading the OLI section(s) for the first time	_____
b. Re-reading textbook section(s)	_____
c. Re-reading the OLI material	<u>40%</u>
d. Reviewing your own notes	<u>30%</u>
e. Working the practice exam questions	<u>30%</u>
f. Reviewing materials from blackboard (What materials? _____)	_____
g. Other (Please specify: _____)	_____
- Now that you have looked over your graded exam, estimate the percentage of points you lost due to each of the following (make sure the percentages add up to 100):

a. Trouble with applying definitions	<u>10%</u>
b. Trouble remembering structures	_____
c. Lack of understanding of the concepts	<u>20%</u>
d. Unclear expectations	<u>30%</u>
e. Not knowing how to approach the problem	_____
f. Careless mistakes	<u>40%</u>
g. Other (Please specify: _____)	_____
- Based on your responses to the questions above, name at least 3 things you will do differently in preparing for the next exam. For instance, will you just spend more time, change a specific study habit or try a new one (if so, name it), try to sharpen some other skill (if so, name it), use SI more, participate in more review opportunities, something else?
 - 1) For the next exam, I will begin studying a few days before the exam
 - 2) I will participate in more review opportunities
 - 3) I will spend more time on the practice exam questions
- What can we do to help support your learning and your preparation for the next exam?

Provide answers to the my responses in O.L.I.

PLEASE CONTINUE ON THE BACK ON ANY QUESTION WHERE YOU NEED MORE ROOM.

Practical hints

- Be predictable and explicit about grading, expectations, etc.
- Help students understand how to interact with you. E.g., tell them how to address you via email and how quickly to expect a response. You are not expected to be available 24/7.
- Get many opinions on how to teach.
- How to manage the classroom environment.

Enhancing participation

Inclusivity in the classroom.

Be aware of reasons that people don't participate, including
“stereotype threat.”



What to do for yourself?

- Teaching evaluations. They are yours and you can and should see them and keep track of them.
- Develop a teaching philosophy.

Resources at UConn

<http://cetl.uconn.edu/for-teaching-assistants/>

<http://itl.uconn.edu/2015/10/01/active-learning-strategies-feb-2015/>