



Boonshoft
School of Medicine

WRIGHT STATE UNIVERSITY

**Course Redesign:
Opportunities to Create
Significant Learning Experiences
in Medical Education**

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The Situation

The Situation

To redesign a course that:

- lost the course director and most of the faculty
- students did not see relevancy, did not find the material significant

“It would be very helpful to introduce the course by telling us what the course is about... This course needs a very clear and complete introduction so that we know what we're doing.”

...in a three-month timeframe!



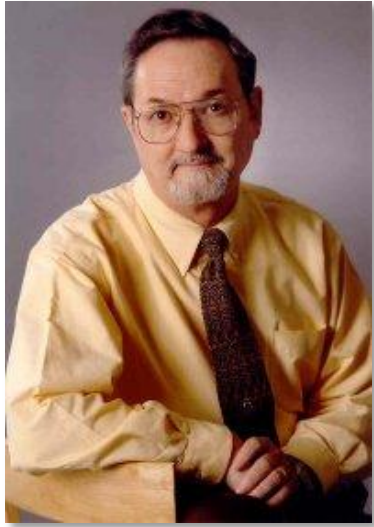
The Opportunity

The Opportunity

To design a course that:

- uses integrated course design
- is learning-centered
- promotes significant learning
- motivates faculty and students
- improves/maintains course content mastery

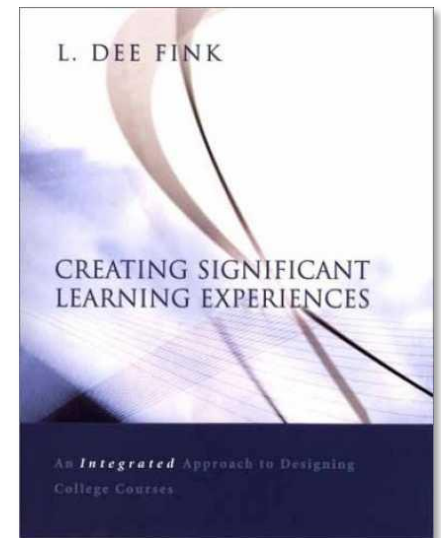
The Solution



Dee Fink's Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses

Significant learning offers:

1. Enhances the individual
2. Allows contribution to community
3. Prepares individual for world of work



Learning-Centered Teaching

The focus on "learning" is an essential part of the course design:

- "What are the major kinds of learning that we want students to achieve?"

Learning-centered

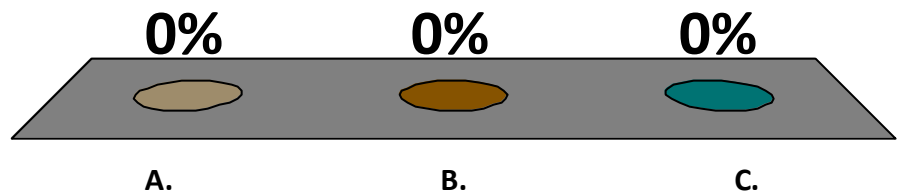
Rather than:

- "What are the main topics that I need to cover?"

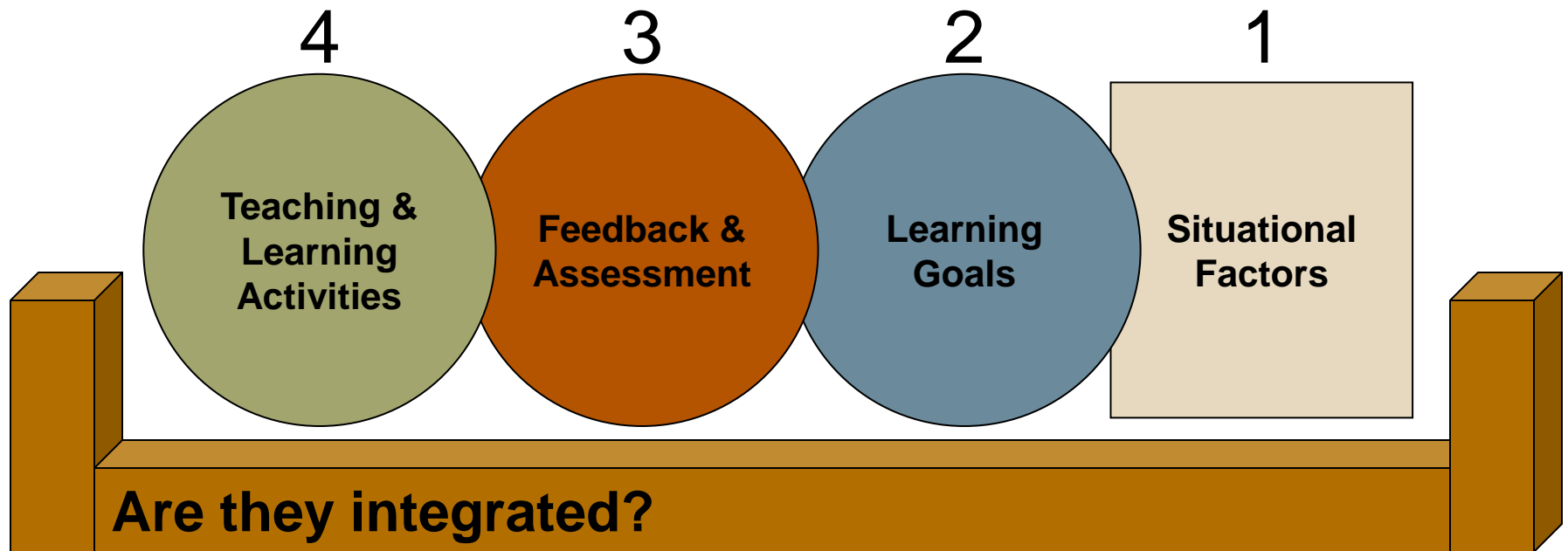
Teaching-centered

Which sequence do you follow?

- A. create teaching activities,
write learning goals,
write exam questions
- B. write learning goals,
create teaching activities,
write exam questions
- C. write learning goals,
write exam questions,
create teaching activities



Backward Design



Situational Factors

What are some important Situational Factors for your course?

- 100 students
- Very little clinical experience
- Statistics? .. Students don't see value/relevance
- No integration in the curriculum
- New faculty



Learning Goals

- what you would like students to DO with the knowledge years from now.
- write high quality learning goals, and then use these goals to determine the kinds of assessment activities and learning activities that students need.



Learning Goals

Different sources of ideas for writing your learning goals:

BLOOM'S TAXONOMY

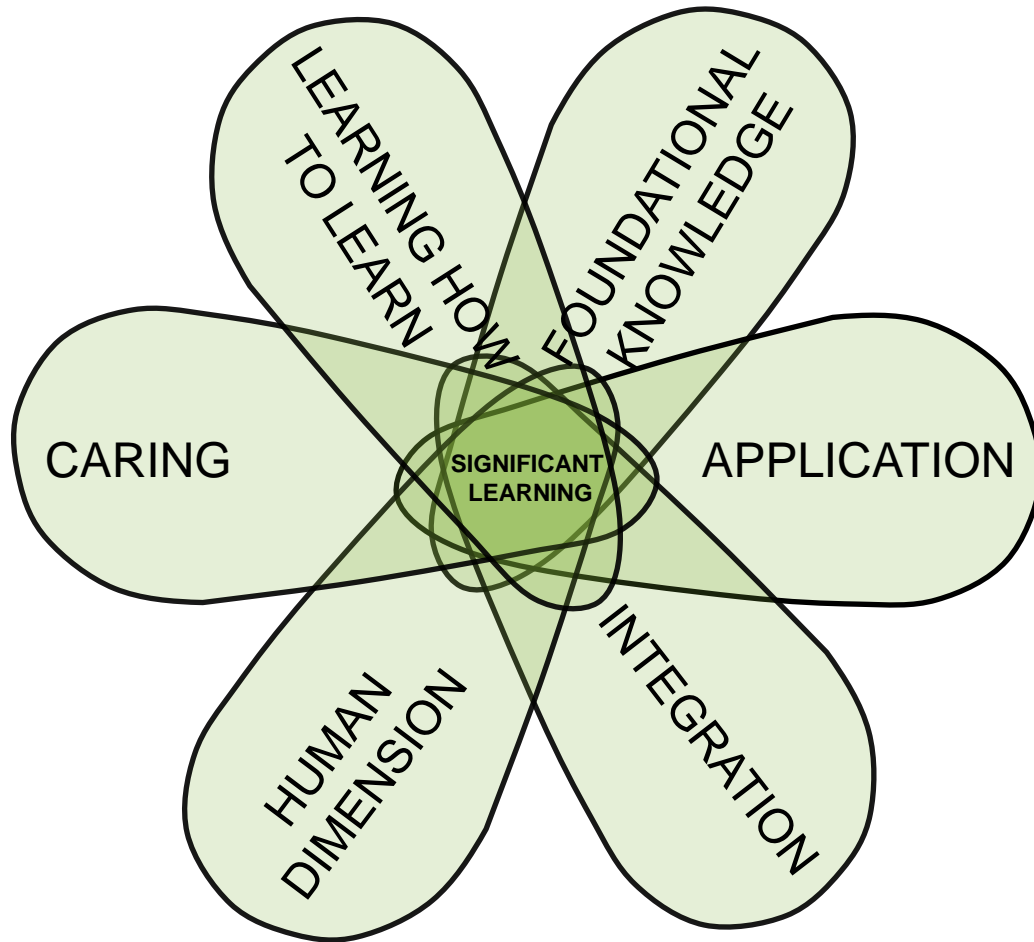
- Evaluation
- Synthesis
- Analysis
- Application
- Comprehension
- Knowledge

SIGNIFICANT LEARNING TAXONOMY

- Learning How to Learn
- Caring
- Human Dimension
- Integration
- Application
- Foundational Knowledge



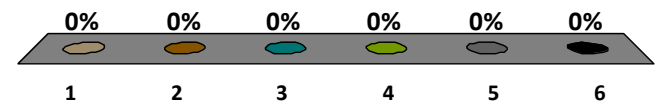
Significant Learning Taxonomy



- It is not hierarchical; it is interactive: having students achieve any one kind of learning helps them achieve the other five kinds of learning.
- It includes more than cognitive learning:
 - human dimension
 - caring
 - learning how to learn

What is the primary focus of your current teaching activities?

1. Foundational Knowledge
2. Application
3. Integration
4. Human Dimension
5. Caring
6. Learning How to Learn



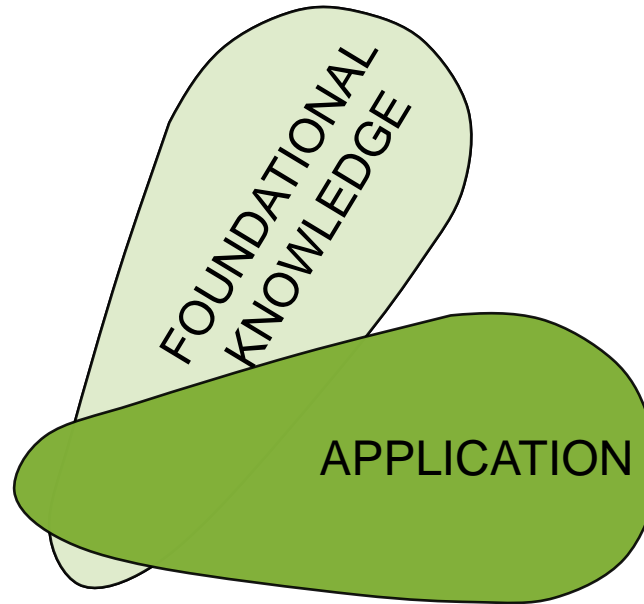
Significant Learning Taxonomy



Understanding
and remembering:

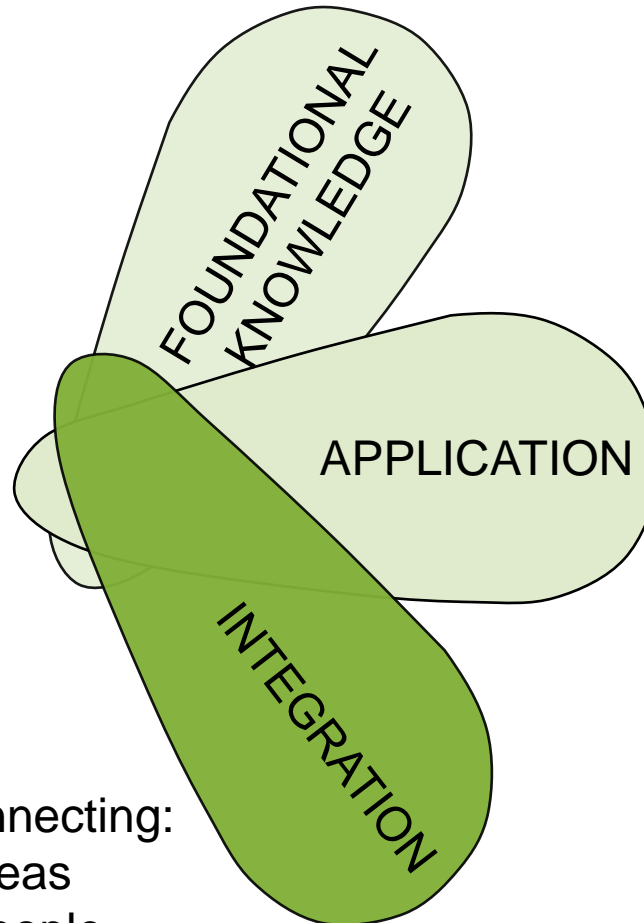
- Information
- Ideas

Significant Learning Taxonomy



- Skills
- Thinking
 - Critical
 - Creative
 - Practical

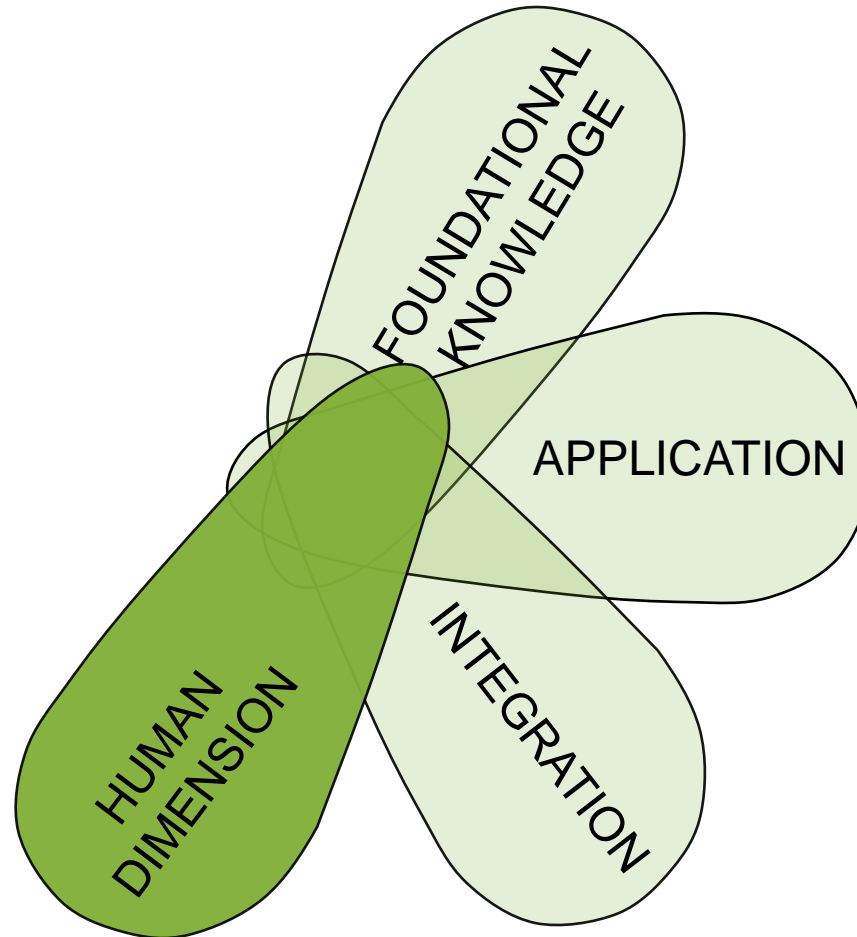
Significant Learning Taxonomy



Connecting:

- Ideas
- People
- Realms of life

Significant Learning Taxonomy



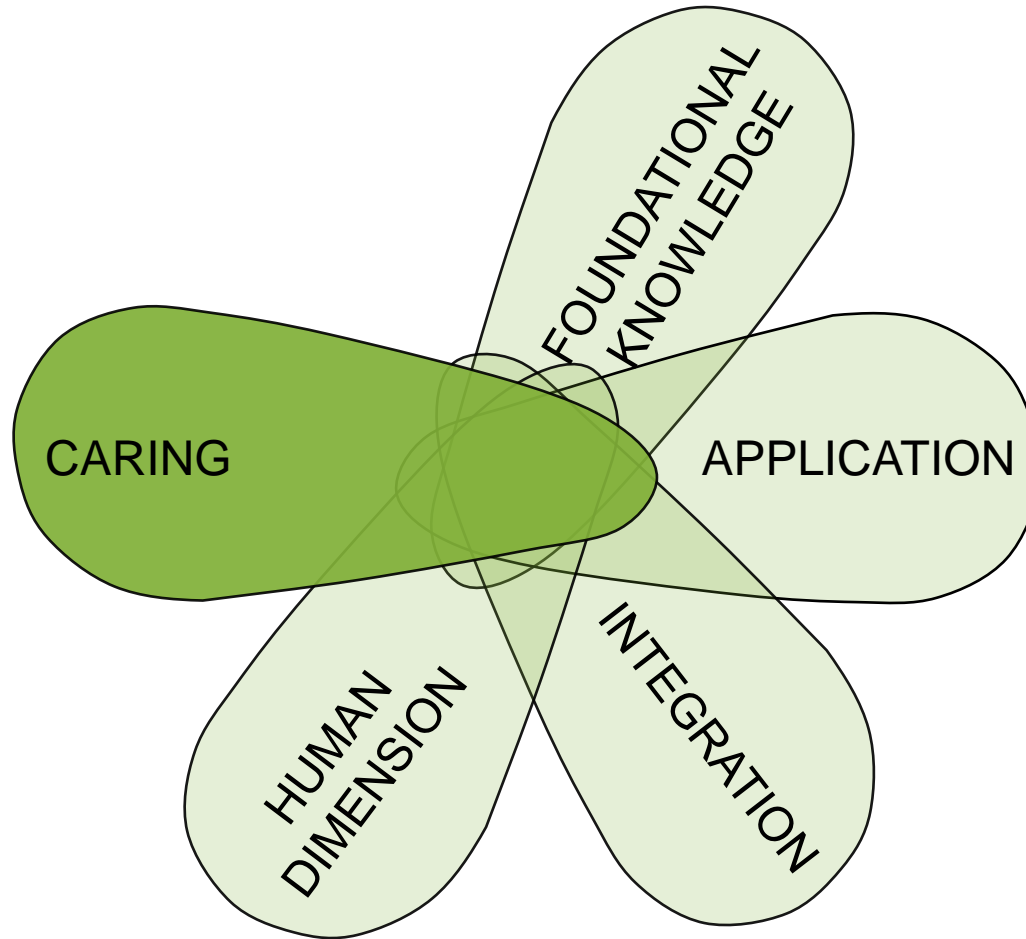
Learning about:

- Oneself
- Others

Significant Learning Taxonomy

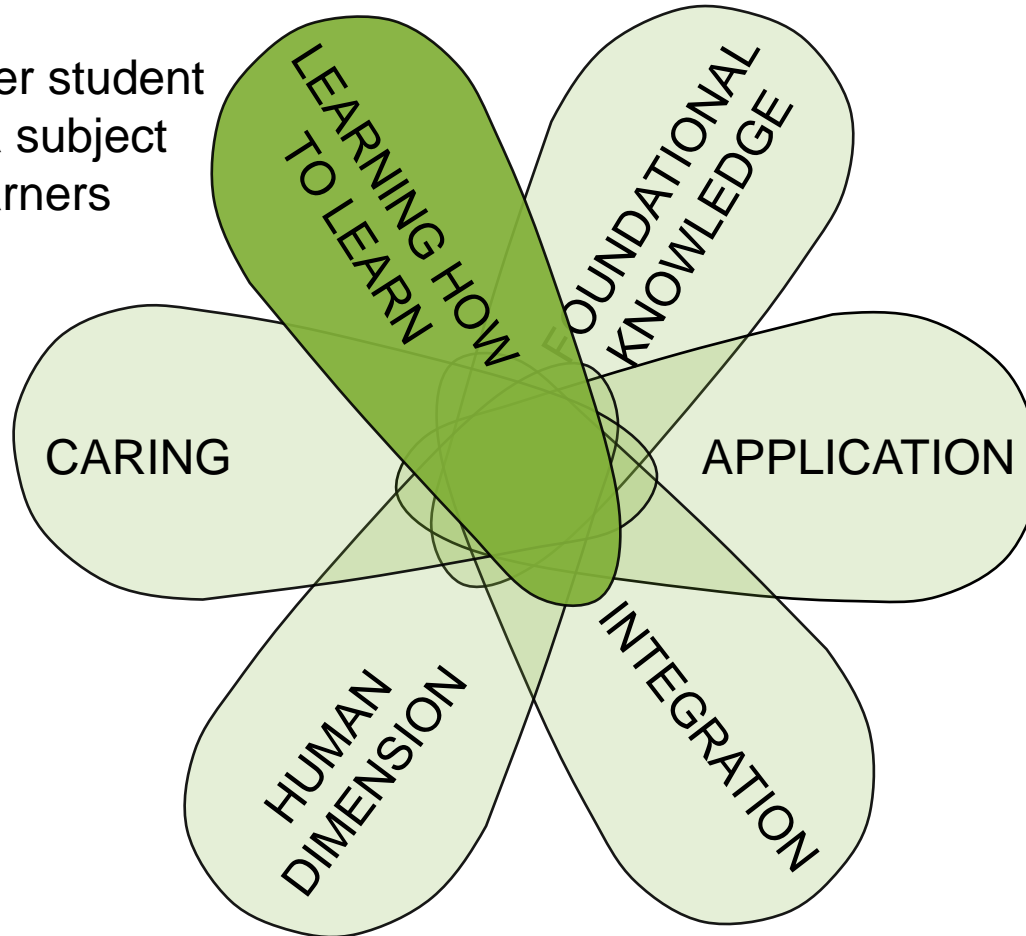
Developing new:

- Feelings
- Interests
- Values

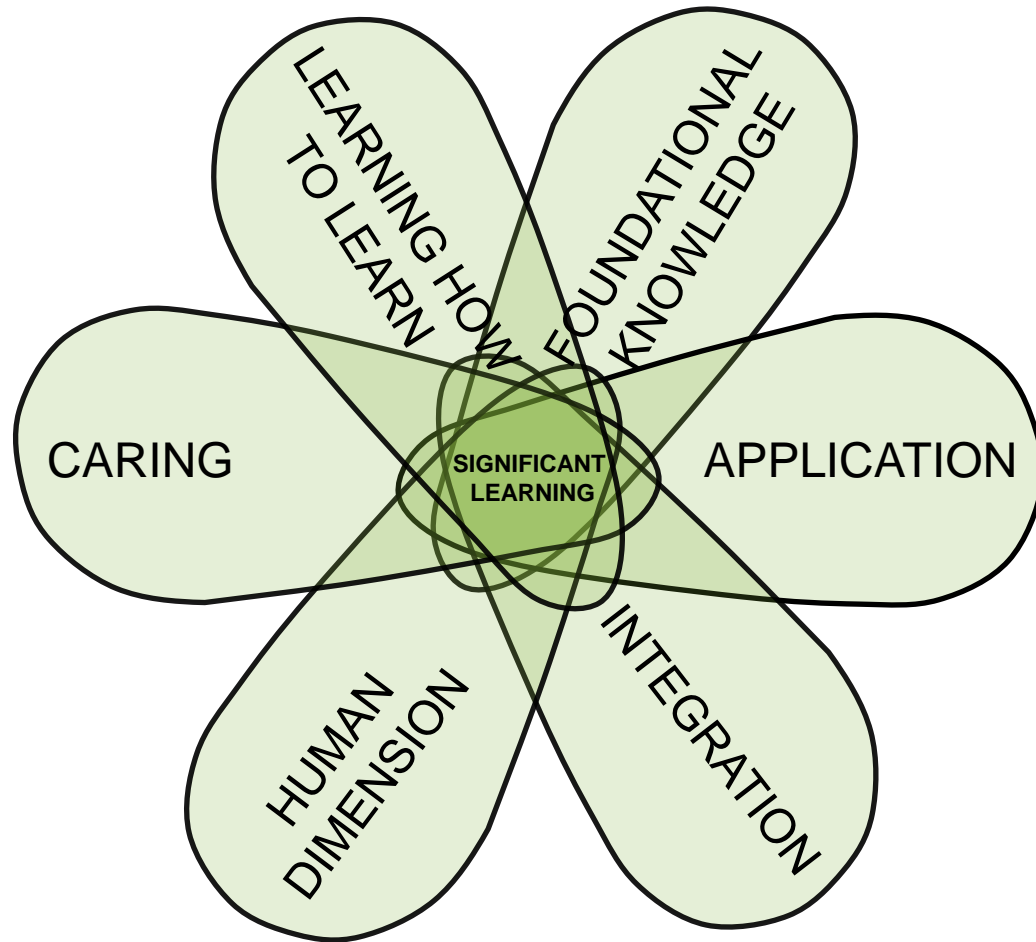


Significant Learning Taxonomy

- Becoming a better student
- Inquiring about a subject
- Self-directing learners



Significant Learning Taxonomy



Learning Goals Examples

Foundational Knowledge

- Ask specific questions about treatment, prognosis, and diagnosis that are answerable by clinical care research
- Search in electronic and other resources to find clinical care research evidence that addresses questions about treatment, prognosis, and diagnosis

Application

- Critically appraise clinical care research evidence about treatment, prognosis, and diagnosis in terms of its validity, importance, and applicability to clinical decisions

Integration

- Interpret quantitative and qualitative results of clinical care research about treatment, prognosis, and diagnosis, both what was found and what the potential clinical impact would be if evidence were used in decisions

Human Dimension

- Recognize some common influences on decisions about treatment, prognosis, and diagnosis, and how to avoid common pitfalls in these decisions

Caring

- Realize the important role of evidence in clinical decision making as a method to improve patient care and outcomes

Lifelong Learning

- Understand how finding, appraising, and applying research evidence is a critical component of clinicians' plans for lifelong learning



Feedback & Assessment

What is it that students need to do, that would enable them and us to know how well they have learned what we want them to learn?



Feedback & Assessment

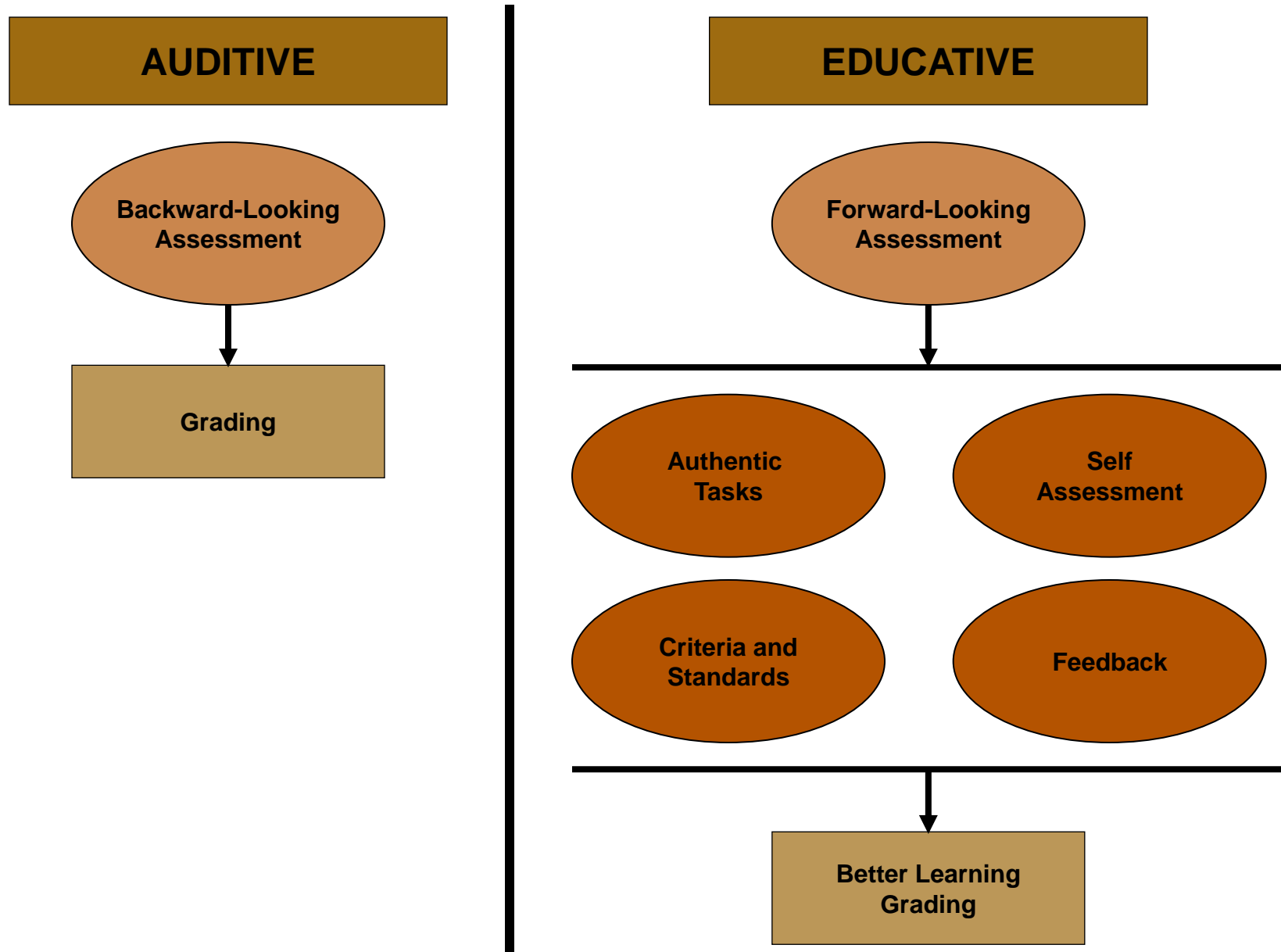
Different Kinds of Assessment for Different Kinds of Learning

- foundational knowledge
 - application
 - integration
- multiple-choice questions
- clicker questions
 - stats practice
 - TBL™ exercises
 - exam

- human dimension
 - caring
 - learning how to learn
- reflecting writing
 - projects
- theme cases
 - reflections
 - search projects
 - CAT project



Feedback & Assessment



Backward Design

The 3-Column Table

1. learning goals	2. assessment activities	3. learning activities
What do you want students to learn?	What will students need to do, for you to know whether they have learned that?	What will students need to do, to learn that?

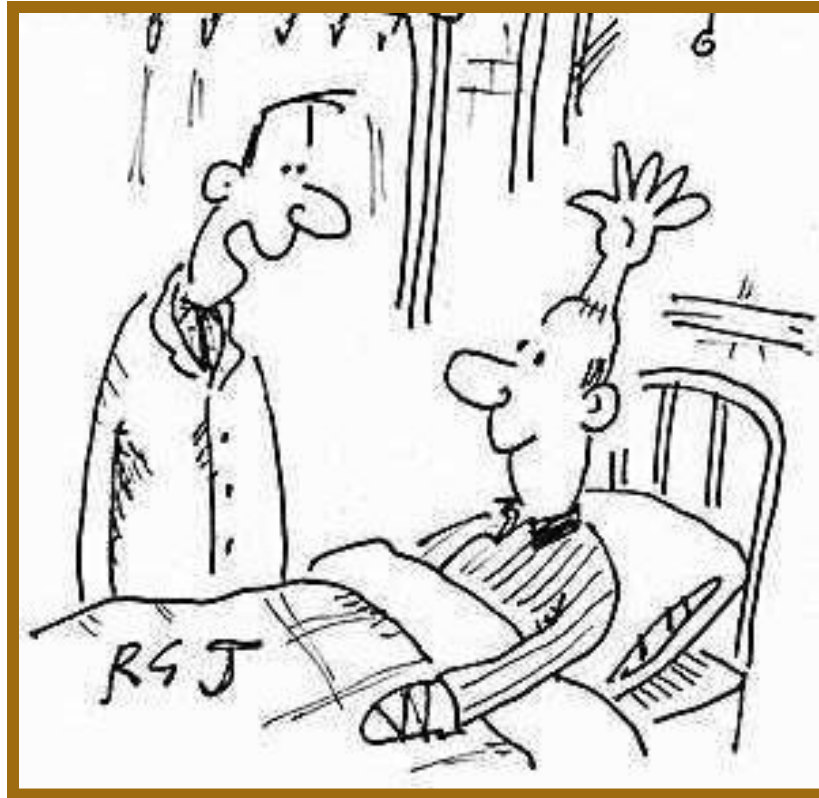


The Castle Top: Week 2

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
IN CLASS	<ul style="list-style-type: none">▪ Interactive lectures▪ Stats practice review	<ul style="list-style-type: none">▪ Interactive lectures▪ Search lab	<ul style="list-style-type: none">▪ Reflection review▪ Interactive lectures▪ TBL	<ul style="list-style-type: none">▪ CAT project
OUT OF CLASS	<ul style="list-style-type: none">▪ Read textbook▪ Complete stats practice exercises	<ul style="list-style-type: none">▪ Read textbook	<ul style="list-style-type: none">▪ Search project▪ Write reflection▪ Read textbook	<ul style="list-style-type: none">▪ Read articles▪ CAT worksheet



Good News Bad News



The good news is we were able to re-attach your severed hand.

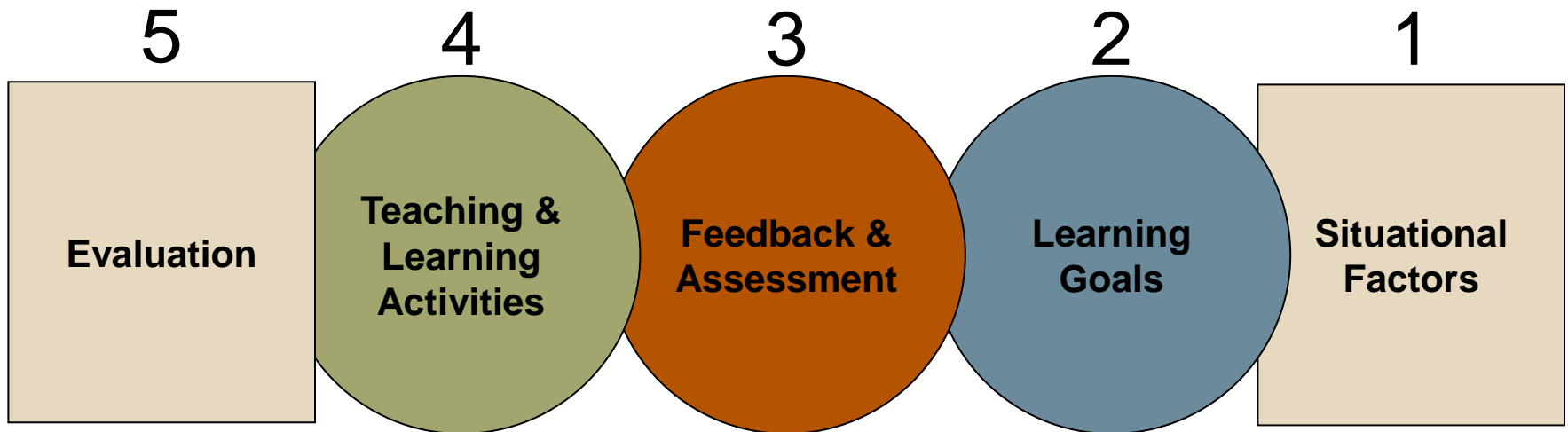


Challenges

What do you think?

- A. “This design process is too complex, I don’t have the time for this!”
- B. “This active learning stuff takes too much class time, I won’t be able to cover the content...”
- C. “This is just bells and whistles... what’s wrong with lectures? That’s how we learned back in the day.”
- D. “This is too backwards. My way works just fine: create content in PowerPoint, write learning objectives (if I’m forced to), deliver lecture, write exam questions.”
- E. “This would be mission impossible: I have too many teachers in my course.”

Evaluation



Evaluation Tools

Goals to design a course that:	Evaluation Tools
<ul style="list-style-type: none">▪ uses integrated course design▪ is learning-centered	Checklist
<ul style="list-style-type: none">▪ is well received by students	Course Evaluation
<ul style="list-style-type: none">▪ achieves content mastery	Grades
<ul style="list-style-type: none">▪ motivates faculty and students▪ promotes significant learning	Reflections

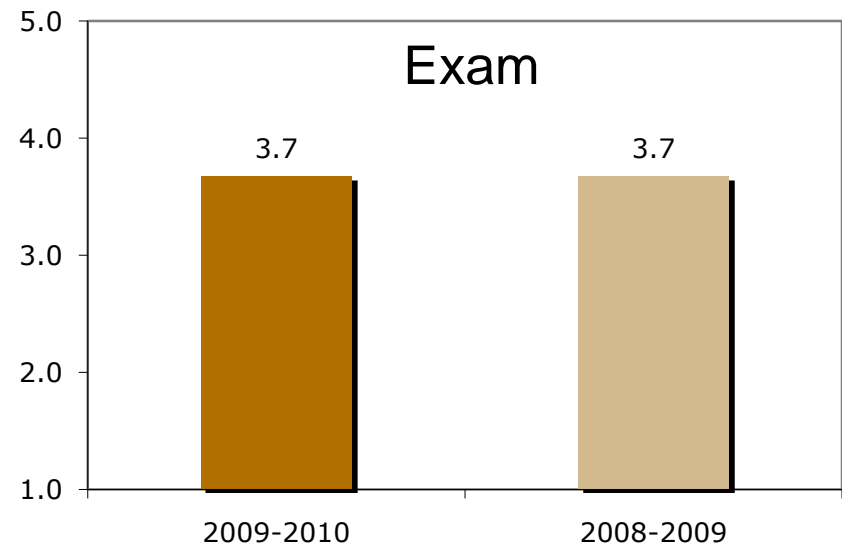
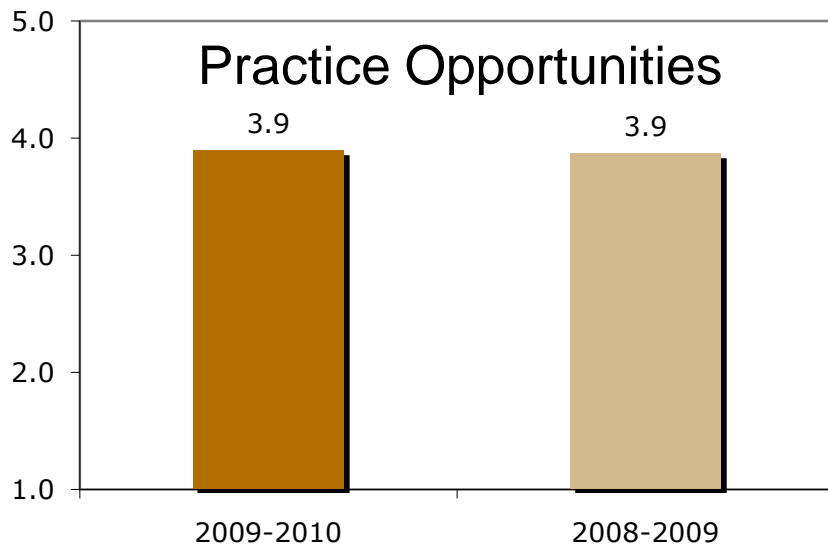
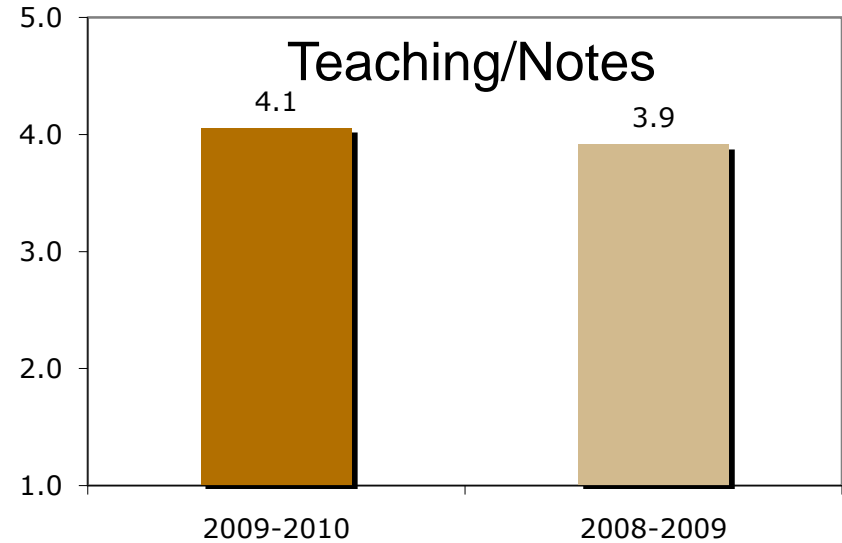
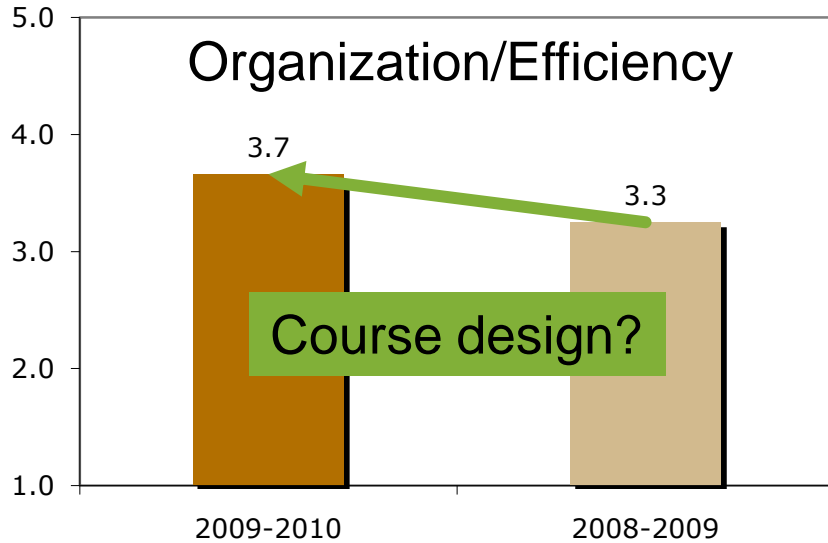
comparison to previous course

Checklist: followed design process

- integrated course design = improved followed, but rushed, only 3 months
- learning-centered = improved however previous course was also learning-centered

Evaluation: well received by students

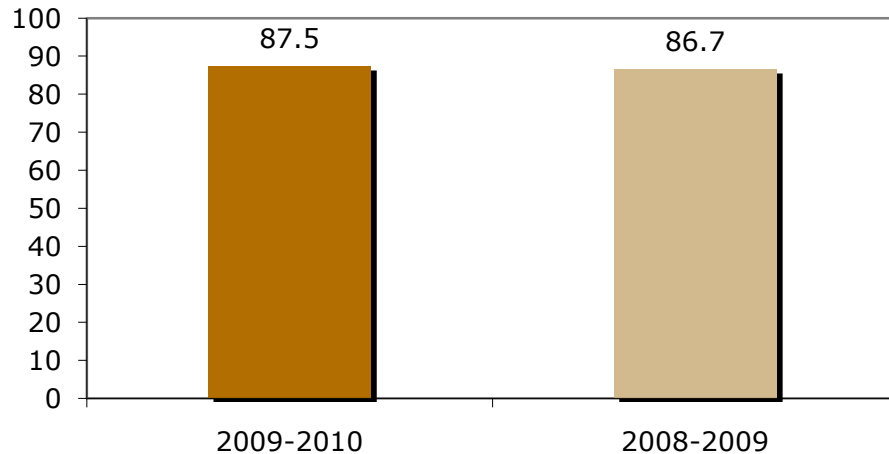
- students' ratings = maintained



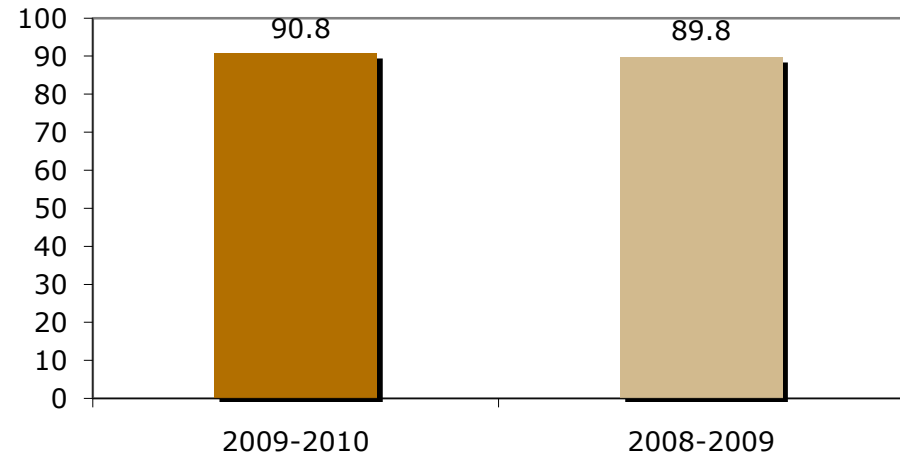
Grades: high content mastery

- cognitive related results = maintained
 - Foundational Knowledge
 - Application
 - Integration

Grades - Exam



Grades - Course Average



Reflections: high significant learning

- Significant Learning/Motivation = improved

Human Dimension	“Today's discussion did a nice job of taking into account what the patient wants, thereby respecting and honoring their autonomy.”
Caring	“Hearing the fourth year describe her experience of using EBM throughout 3rd year reinforced the fact that this will be extremely important to our future training and practice.”
Learning How to Learn	“Learning how to find and evaluate medical evidence will have a huge affect on the way we will continue to improve our practice of medicine during our careers.”

Reflections: positive faculty attitude

- faculty attitude = positive

Teacher A	“The use of the clicker questions was more powerful than I had anticipated.”
Teacher B	“The student feedback (reflections) has been highly informative. The session was well received and students were really on board with the concept of MANAGING information rather than MASTERING it.”
Teacher C	“I find the Muddy Waters blog very useful as a communication and explanatory platform for the class.”



Questions?