

Engaging Students in Postsecondary Classrooms



Dr. Roger Fisher
Fanshawe College
Western Science Education Conference
July 9, 2013

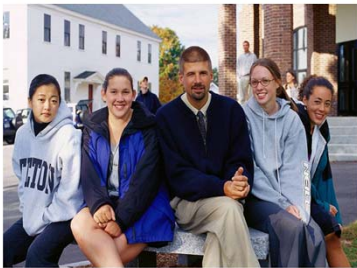
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I would like to hear,
even occasionally,
“Teach or Perish”

Ernest Boyer

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Purpose/Focus of this Presentation:



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Today's Agenda:

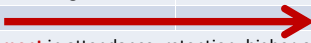
- I. Core Principles of Learning
- II. Effective Teaching Strategies
(Rich Learning Activities)

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I. Core Principles of Learning

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I. Core Principles of Learning

Traditional Paradigm	New Paradigm
Teacher-centred	Student-centred
"Sage on the Stage"	"Guide on the Side"
Lecture format (teacher talk)	Interactive learning activities
Student as passive recipient	Student as active participant
Memorize content	Explore , relate, question
Sit, listen, take notes	Discuss, question, engage
Surface learning (information)	Deep learning (patterns)
Individual learning	Shared collaborative learning
	
Improvement in attendance, retention, higher-order thinking, participation, engagement, and student success.	

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Traditional "Passive" Learning



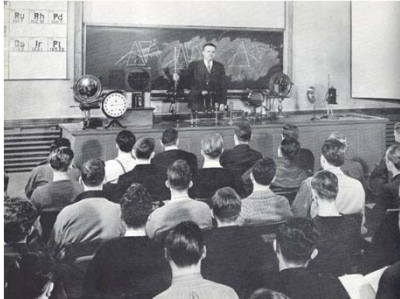
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Teacher-centred Learning



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The "Sage on the Stage"



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Traditional PSE Lecture



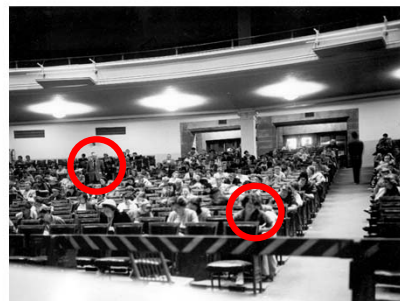
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Traditional PSE Lecture



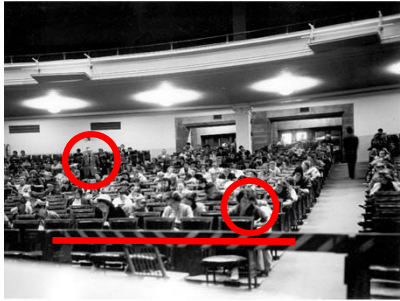
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Traditional PSE Lecture



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Traditional PSE Lecture



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The “Guide on the Side”



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Student-centred Learning



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Shared, Collaborative Learning



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Exploratory Learning



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I. Core Principles of Learning

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→

Increase in attendance, retention, higher-order thinking, participation, engagement, and student success.

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(pause in lecture)

What do you think of this?

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(pause in lecture)

What do you think of this?

- Any questions?
- Concerns?
- Issues?
- Problems?
- Disagreements?
- How does this relate to your own experience as a learner?
- As a teacher?

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Today's Agenda:

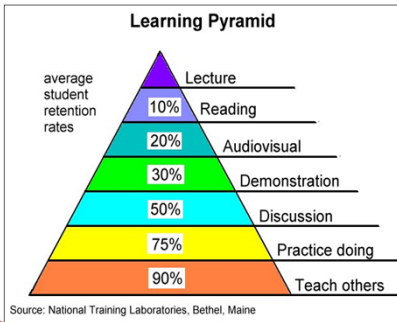
- I. Core Principles of Learning
- II. Effective Teaching Strategies (Rich Learning Activities)

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II. Effective Teaching Strategies

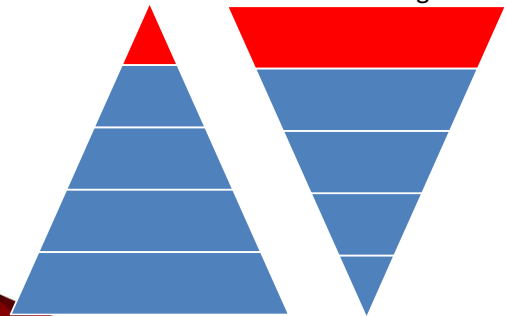
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II. Effective Teaching Strategies



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Traditional Lecturing:
Effectiveness vs. Common Usage



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Interactive PSE Lecture



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II. Effective Teaching Strategies

The challenge is to present course material in ways that make students *do something with the information, interact with it*, manipulate the ideas, and relate them to what they already know.

Alison King

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Challenging questions:

- What is being **assumed** here?
- Why is this **important**? To you?
- How does this **relate** to what we have previously discussed?
- How does this relate to **your own experience**?
- How would you **apply** this if . . . ?
- How can you **verify** this information?
- What **criteria** should be used to **evaluate** this?
- What are some **challenges** to implementing this?

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Challenging questions (in Pharmacology):

- What other physiological processes might be impacted?
- How do you balance these conflicting reactions?
- How can one drug be healthy for one person and not for another?
- Should drugs be regulated? Why or why not? By whom?
- When might the needs of the customer conflict with the goals of the pharmacist?
- Who should determine the cost of drugs?
- Should costs be standardized or customized?
- **What latitude should a pharmacist have in interpreting doctors' prescriptions?**

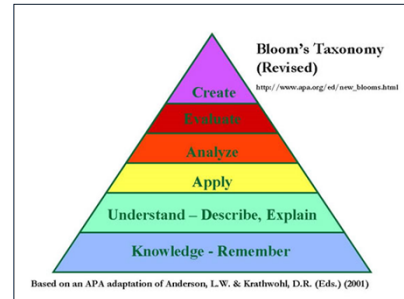
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II. Effective Teaching Strategies

Challenging Questions: Bloom's Taxonomy

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Bloom's Taxonomy



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Bloom's Hierarchy Learning Activities

Learning Outcomes	Student Learning Activities (stated as Verbs)
Create	Combine, compose, design, integrate, modify, synthesize, innovate, imagine
Evaluate	Appraise, defend, justify, validate, predict, select & justify criteria, develop & employ rubrics
Apply	Solve problems, employ in different context, simulate, transfer, demonstrate, adapt
Analyze	Compare/contrast, describe relationships, correlate, discover patterns, schematize
Understand	Explain, discuss, interpret, summarize, classify
Remember	Memorize, define, recall, label, recite, identify

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II. Effective Teaching Strategies

Experiential Learning

plus

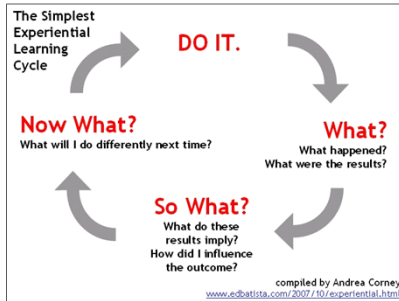
Follow-up questions/Debriefing

Hands-on activities must also pass the test of being *minds-on*.

G. Hein

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II. Effective Teaching Strategies



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Small/Large Group Discussion Questions
following an
“experiential learning activity”:

- Most satisfying experience?
- Least satisfying experience?
- Most unexpected?
- Most disturbing?
- How did it relate to course material?
- What would you do differently?
- How would you rate it as a learning experience?
- Who else shared these reactions?

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II. Effective Teaching Strategies

Think, Pair, Share

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(pause in lecture)

Small group activity:

Based on your experiences, create a list of *challenges* and *obstacles* to implementing “interactive lectures”.

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Some challenges to “interactive lectures”:

- not enough *time*; need to *cover the course*
- “I’m paid to deliver content; it’s the students’ responsibility to learn it.”
- *large classes*; too many students to do it well
- *losing control* of lecture; dominant students
- lack of reward/recognition for effective teaching
- *resistance* from colleagues/administrators
- *resistance from students*

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(pause in lecture)

Large group activity:

Based on your experiences, generate some *suggestions /solutions* to implementing “interactive lectures”.

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Today’s Agenda:

I. Core Principles of Learning

- Student-centred
- Student as active participant
- Deep learning (patterns, relationships)
- Exploring, questioning
- Engaging, interacting with content
- Relating content to previous learning
- Relating content to personal experience
- Collaborative, shared learning

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Today’s Agenda:

II. Effective Teaching Strategies (Rich Learning Activities)

- Interactive lecture
- Challenging questions
- Bloom’s Taxonomy
- Experiential Learning (plus debriefing)
- Think – Pair - Share

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The last word ...

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My message:
shift the focus from “teaching”
to “helping students learn”.

Eric Mazur
Dean Applied Physics, Harvard
Author: *Confessions of a Converted Lecturer*

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“... helping students learn ...”



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Selected Resources:

- Bloom, B., & Krathwohl, D. (1956). *Taxonomy of educational objectives*. NY: Longman, Green.
- Fisher, R. (2011). *Instructor’s guide to classroom engagement*. Toronto: Nelson.
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Thank You

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