“5 HIGH IMPACT TEACHING PRACTICES”

Presentation by:
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Educational Consultant in Higher Education
Author of: Creating Significant Learning Experiences

University of Southern Maine
Title III Symposium
May 25, 2017
5 High Impact Teaching Practices

Your Situation at Southern Maine

• Funding Support for “First Year Success…”
• Ultimate Goal: Help your students...
  ➢ Learn well
  ➢ Stay in college
  ➢ Graduate

Professional Responsibility:

• How can I support this goal, in my own courses?

Personal Question: “Your Life as a Teacher”

• What makes [or would make] it fulfilling – for you?
5 High Impact Teaching Practices

Your Situation at Southern Maine

Question now:

What can you do, in your own courses, to:

a. Help your students learn well?

b. Play your role in helping this university fulfill its obligations?

c. Teach in a way that will be fulfilling to you (as well as to your students)?
Two Basic Perspectives:

1. Paradigm Shift: From “Teaching” to “Learning”

2. Continuous Improvement
Basic Argument:

If we want BIG IMPROVEMENTS in STUDENT LEARNING,

We must make BIG IMPROVEMENTS in OUR TEACHING!
5 High Impact Teaching Practices

Getting Better Over Time

Quality of Teaching

When You Began Teaching  NOW  Near Future
5 High Impact Teaching Practices

Origin of Idea of “High Impact Practices”

- 2000: National Survey of Student Engagement (NSSE)

- “High Impact Educational Practices”
  1. First-Year Seminars
  2. Learning Communities
  3. Service Learning
  4. Undergraduate Research
  5. Capstone Courses and Projects
GOOD NEWS:

LOTS OF BOOKS WITH POWERFUL IDEAS ON TEACHING & LEARNING
“New” Ideas on Teaching in Higher Education:

- How students learn
- Learning-centered teaching
- Designing learning experiences
- Identifying *what* students might learn
- Using active learning
- Using small groups
- Assessing student learning
- Motivating and enabling students to learn
- Using powerful teaching strategies
- Teaching large classes
- Using instructional technology
- Evaluating teaching
- Reflecting on your work as a student [teacher]
“5 HIGH IMPACT TEACHING PRACTICES”

1. Help Students Become Better Learners
2. Learning-Centered Course Design
3. Team-Based Learning
4. Engage Students in Service - With Reflection
5. Be a Leader with Your Students
5 High Impact Teaching Practices

“5 HIGH IMPACT TEACHING PRACTICES”

1. Help Students Become Better Learners
5 High Impact Teaching Practices

Saundra McGuire
Louisiana State University
5 High Impact Teaching Practices

Saundra McGuire: Using ‘METACOGNITION’ to Help Students Learn How to Learn
Students’ Big Needs:

1. Change their views about “Intelligence”

2. Change the way they study, i.e., what they do when they try to learn something
Students’ Big Needs:

1. Change their views about “Intelligence”
Counting Vowels in 45 seconds

How accurate are you?

How many vowels in the words on the next slide?
Dollar Bill
Dice
Tricycle
Four-leaf Clover
Hand
Six-Pack
Seven-Up
Octopus
Cat Lives
Bowling Pins
Football Team
Dozen Eggs
Unlucky Friday
Valentine’s Day
Quarter Hour
How many *items in the list* do you remember?

1. 2 or less
2. 3 - 5
3. 6 - 8
4. 9 - 12
5. 13 or more
Dollar Bill
Dice
Tricycle
Four-leaf Clover
Hand
Six-Pack
Seven-Up
Octopus
Cat Lives
Bowling Pins
Football Team
Dozen Eggs
Unlucky Friday
Valentine’s Day
Quarter Hour
NOW how many words or phrases do you remember?

1. 2 or less
2. 3 - 5
3. 6 - 8
4. 9 - 12
5. 13 or more
What were two major differences between your 1st and 2nd attempts?
1. We knew what the task was.

2. We knew how the information was organized.
The Study Cycle

1. **Set a Goal**
   - Decide what you want to accomplish in your study session
   - Time: 1-2 min

2. **Study with Focus**
   - Interact with material: organize, concept map, summarize, process, re-read, fill-in
   - Time: 30-50 min

3. **Reward Yourself**
   - Take a break: call a friend, play a short game, get a snack
   - Time: 10-15 min

4. **Review**
   - Go over what you just studied
   - Time: 5 min

**Preview before class** – Skim the chapter, note headings and boldface words, review summaries and chapter objectives, and come up with questions you’d like the lecture to answer for you.

**Attend class** – GO TO CLASS! Answer and ask questions and take meaningful notes.

**Review after class** – As soon after class as possible, read notes, fill in gaps and note any questions.

**Study** – Repetition is the key. Ask questions such as ‘why’, ‘how’, and ‘what if’.
- Intense Study Sessions* - 3-5 short study sessions per day
- Weekend Review – Read notes and material from the week to make connections

**Assess your Learning** – Periodically perform reality checks
- Am I using study methods that are effective?
- Do I understand the material enough to teach it to others?

*Intense Study Sessions

1. Set a Goal
   - Decide what you want to accomplish in your study session
2. Study with Focus
   - Interact with material: organize, concept map, summarize, process, re-read, fill-in
3. Reward Yourself
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**Average Exam Scores from 3 Courses**

General Chemistry I - East Tennessee Tech

- **Class sizes:** 70-90 students
- **Fall 2011:**
  - Teacher offered 50-minute intervention **after** 1st Exam
  - After that, reminded students to use their new learning strategies
- **Question:** How did exam scores compare to earlier years?
Average Exam Scores from 3 Courses
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![Bar chart showing exam scores for Fall 2009, Fall 2010, and Fall 2011 for 1st, 2nd, and 3rd exams.]
**Average Exam Scores from 3 Courses**

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![Exam Scores Chart]

- **Fall 2009**
- **Fall 2010**
- **Fall 2011**
The Story of Three LSU Students

Travis, junior psychology student
47, 52, **82, 86**  B in course

Joshua, first year chemistry student*
68, 50, 50, **87, 87, 97, 90** (final)  A in course

Dana, first year physics student
80, 54, **91, 97, 90** (final)  A in course

*2010 Summer Scholar
“5 HIGH IMPACT TEACHING PRACTICES”

1. Help Students Become Better Learners

2. Learning-Centered Course Design
5 High Impact Teaching Practices

“Learning-Centered Course Design”
MY GOALS FOR THIS WORKSHOP

My hope is that, by the end of the workshop, you will...

1. Be persuaded that course design is the most important single thing you can learn about college teaching.

2. Be able to design your courses more intentionally to achieve a high level of SIGNIFICANT LEARNING among your students.
THE AGENDA FOR THE WORKSHOP

1. Big Picture of Teaching - Place of Course Design
2. “Interior Reflection”: Dreaming Exercise
3. Integrated Course Design:
   - Situational Factors
   - Learning Goals
   - Teaching/ Learning Activities
   - Feedback & Assessment
   - Making Your Course Integrated
4. Question: “Will it be worth the time it takes?”
Paradigm Shift in Higher Education

• FROM: Teaching-Centered
• TO: Learning-Centered
5 High Impact Teaching Practices

3 FEATURES OF A HIGH QUALITY LEARNING EXPERIENCE

During Course/College:

1. Students are: ENGAGED

2. Student effort results in: SIGNIFICANT & LASTING LEARNING

End of course

After College:

3. The learning: ADDS VALUE

During Course/College:

1. Students are: ENGAGED

2. Student effort results in: SIGNIFICANT & LASTING LEARNING

End of course

After College:

3. The learning: ADDS VALUE
5 High Impact Teaching Practices

FUNDAMENTAL TASKS OF TEACHING

- Knowledge of the Subject Matter
- Interacting with Students
- Designing Learning Experiences
- Managing the Course

Beginning of the Course
FUNDAMENTAL TASKS OF TEACHING

Knowledge of the Subject Matter

Interacting with Students

Designing Learning Experiences

Managing the Course

Beginning of the Course
3 Ways of Designing Courses:

1. “List of Topics”

2. Need a way of designing courses that is:
   - Systematic
   - Integrated
   - Learning-Centered
Readiness Assessment Test (RAT)
FORM TEAMS
5 High Impact Teaching Practices

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<th>Immediate Feedback Assessment Technique (IFAT®)</th>
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Integrated Course Design:

SITUATIONAL FACTORS
Integrated Course Design

Situational Factors

In-Depth Situational Analysis

Learning Goals

Significant Learning

Teaching and Learning Activities

Integration

Active Learning

Feedback & Assessment

Educative Assessment

Situational Factors

In-Depth Situational Analysis
Situational Factors:
Collecting information about...

• **Specific Context**
• **Expectations** by people outside the course
• **Nature of the Subject**
• **Nature of Students**
• **Nature of Teacher**
Integrated Course Design

S I T U A T I O N A L    F A C T O R S

In-Depth
Situational
Analysis

Learning
Goals

Significant
Learning

Integration

Teaching and
Learning
Activities

Feedback &
Assessment

Educative
Assessment

Active
Learning

In-Depth
Situational
Analysis

S I T U A T I O N A L    F A C T O R S
Integrated Course Design:

LEARNING GOALS
Imagine:

• You had a class that could learn anything you wanted them to learn.

• They have graduated from college:

➤ In your “Dream of Dreams,” what is it that you would really like them to have learned in your course that will have a positive impact on their lives?
Taxonomy of Significant Learning
Taxonomy of Significant Learning

Learning How to Learn
- Becoming a better student
- Inquiring about a subject
- Self-directing learners

Foundational Knowledge
Understanding and remembering:
- Information
- Ideas

Application
- Skills
- Thinking: Critical, Creative, & Practical
- Managing projects

Integration
Connecting:
- Ideas
- People
- Realms of life

Human Dimensions
Learning about:
- Oneself
- Others

Caring
Developing new...
- Feelings
- Interests
- Values
In a course with **significant learning**, students will:

1. **Understand and remember** the key concepts, terms, relationship, etc.
2. Know how to **use** the content.
3. Be able to **relate** this subject to other subjects.
4. Understand the **personal and social** implications of knowing about this subject.
5. **Value** this subject and further learning about it.
6. Know how to **keep on learning** about this subject, after the course is over.
### 3-COLUMN TABLE:

<table>
<thead>
<tr>
<th>Learning Outcomes:</th>
<th>Assessment Activities:</th>
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University of Southern Maine

**Educational Goals of the Core Curriculum:**

“By the time students graduate, they will (be able to)…”

1. Understand the **interactions** between human culture and the natural world.

2. Engage in analytical, contextual, and integrative **thinking** about complex issues.

3. Engage in **critical reflection** and informed action in roles as participants in multiple communities.

4. Engage in **ethical action**, for social and environmental welfare, at local and global scale.
ALIGNING LEARNING OUTCOMES (LO)
Writing Significant Learning Goals for Your Course

For one of your own courses:

• Write a learning goal for Integration in the Taxonomy of Significant Learning.

• Preface: “By the end of the course, my hope is that students will be able to….”

• Suggestions:
  ✓ Pay close attention to your VERBS
  ✓ High “Visibility” Index
Integrated Course Design

**Learning Goals**

- **Teaching and Learning Activities**
  - Active Learning
- **Feedback & Assessment**
  - Educative Assessment

**Situational Factors**

- In-Depth Situational Analysis
Integrated Course Design:

FEEDBACK & ASSESSMENT
Integrated Course Design

Significant Learning

Learning Goals

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Situational Factors

In-Depth Situational Analysis
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Write an “Assessment Activity” for:

Your “Integration” Learning Goal
Feedback and Assessment: “EDUCATIVE ASSESSMENT”

- Important Learning
- Forward-Looking Assessment Task
- Criteria and Standards
- Self-Assessment
- Feedback
5 High Impact Teaching Practices

Integrated Course Design:

LEARNING ACTIVITIES
Integrated Course Design

SITUATIONAL FACTORS

In-Depth Situational Analysis

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Feedback & Assessment

Educative Assessment

In-Depth Situational Analysis
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<td></td>
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<tr>
<td>4. Human Dim.:</td>
<td></td>
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<tr>
<td>• Self, Others</td>
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</tr>
<tr>
<td>5. Caring</td>
<td></td>
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</tr>
<tr>
<td>6. Learning How to Learn</td>
<td></td>
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</tr>
</tbody>
</table>
## 3-COLUMN TABLE:

<table>
<thead>
<tr>
<th>Learning Outcomes:</th>
<th>Assessment Activities:</th>
<th>Learning Activities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Found. Know.</td>
<td>• Reading</td>
<td></td>
</tr>
<tr>
<td>2. Application</td>
<td>• In-class problem solving, with fdbk.</td>
<td></td>
</tr>
<tr>
<td>3. Integration</td>
<td>• Discussion (small group?)</td>
<td></td>
</tr>
<tr>
<td>4. Human Dim.:</td>
<td>• Reflections, essays</td>
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<tr>
<td>• Self, Others</td>
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<td></td>
</tr>
<tr>
<td>5. Caring</td>
<td>• Community projects</td>
<td></td>
</tr>
<tr>
<td>6. Learning How to Learn</td>
<td>• Project: learn something new</td>
<td></td>
</tr>
</tbody>
</table>
Write an “LEARNING Activity” for:

Your “Integration” Learning Goal
5 High Impact Teaching Practices

A MODEL OF ACTIVE LEARNING
(The Basic Version)

PASSIVE LEARNING:

RECEIVING INFORMATION & IDEAS

ACTIVE LEARNING:

EXPERIENCE

DOING

REFLECTIVE DIALOGUE, with:

SELF

OBSERVING

OTHERS
5 High Impact Teaching Practices

Holistic Active Learning

Experience
- Doing, Observing
- Actual, Simulated
- “Rich Learning Experiences”

Information & Ideas
- Primary/Secondary
- In-class, out-of-class, online

Reflection
- About the…
  - Subject
  - Learning Process
- Via: Journaling, Learning Portfolios
Multiple Activities that Promote ACTIVE LEARNING

<table>
<thead>
<tr>
<th>GETTING INFORMATION &amp; IDEAS</th>
<th>EXPERIENCE</th>
<th>REFLECTIVE DIALOUGE, with:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DIRECT</strong></td>
<td>&quot;Doing&quot;</td>
<td>Self</td>
</tr>
<tr>
<td>• Original data</td>
<td>• Real Doing, in</td>
<td>• Reflective thinking</td>
</tr>
<tr>
<td>• Original sources</td>
<td>authentic settings</td>
<td></td>
</tr>
<tr>
<td><strong>INDIRECT, VICARIOUS</strong></td>
<td>&quot;Observing&quot;</td>
<td>• Journaling</td>
</tr>
<tr>
<td>• Secondary data and</td>
<td>• Direct</td>
<td>• Live dialogue</td>
</tr>
<tr>
<td>sources</td>
<td>observation</td>
<td>(in or out of class)</td>
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<tr>
<td>• Lectures, textbooks</td>
<td>of phenomena</td>
<td></td>
</tr>
<tr>
<td><strong>ONLINE</strong></td>
<td>• Stories</td>
<td></td>
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<tr>
<td>• Course website</td>
<td>(can be accessed</td>
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<td>• Internet</td>
<td>via: film,</td>
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<td></td>
<td>literature, oral</td>
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<td></td>
<td>history)</td>
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<td></td>
<td>• Teacher can assign students to &quot;directly experience&quot; ...</td>
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<tr>
<td></td>
<td>• Students can engage in &quot;indirect&quot; kinds of experience online</td>
<td>Students can reflect, and then engage in various kinds of dialogue online.</td>
</tr>
</tbody>
</table>
Study by Carl Wieman et al., in *Science* (May 13, 2011)
5 High Impact Teaching Practices

**Recent Study** by Carl Wieman, Nobel Prize Winner in Physics
(Science, May 13, 2011, pp. 862-864)

1. **What they did**
   - 2 large sections of a physics class
   - Only changed activities for 1 week
   - Change: Students worked problems in class - in groups - immediate feedback

2. **What happened when they did that?**
   - Attendance: 57% → 75%
   - Student engagement: 45% → 85%
   - Student learning? Doubled!
Test scores [12 questions] by students in 2 sections, on material studied in the 12th week of the course:
Integrated Course Design:

INTEGRATION
Integrated Course Design

Learning Goals

Integration

Teaching and Learning Activities

Active Learning

Feedback & Assessment

Educative Assessment

Significant Learning

Situational Factors

In-Depth Situational Analysis
2 Kinds of Integration:

1. Functional

2. Chronological
INTEGRATING THE COURSE

1. Functional:
   • 3-Column Table
3-COLUMN TABLE:

<table>
<thead>
<tr>
<th>Learning Goals:</th>
<th>Assessment Activities:</th>
<th>Learning Activities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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</tbody>
</table>
INTEGRATING THE COURSE

1. Functional

2. Chronological:

WEEKLY SCHEDULE:

• Teaching Strategy
• Culminating Project
• String of Activities
<table>
<thead>
<tr>
<th>Learning Goals:</th>
<th>Assessment Activities:</th>
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<tbody>
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<td>Week #</td>
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<td>15</td>
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</tr>
</tbody>
</table>
5 High Impact Teaching Practices

Set of Learning Activities A

Set of Learning Activities B

Set of Learning Activities C

Set of Learning Activities D

TIME
# Building Your Weekly Schedule (F2F)

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Topics/ Themes/ Major Questions</th>
<th>Development of “Doing” Projects</th>
<th>Parallel, Individual Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>Foundational Knowledge (mostly)</td>
<td>Application, Integration, Human Dimension/ Other</td>
<td>Caring, Hum. Dim./ Self, Learning How to Learn</td>
</tr>
<tr>
<td>5-8</td>
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<td>9-12</td>
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<td>13-15</td>
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</tbody>
</table>
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<td>5-8</td>
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<td>Step “B”</td>
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<td>9-12</td>
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<td>Step “C”</td>
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<td>13-15</td>
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<td>Culm. Project</td>
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</tr>
</tbody>
</table>

**Inside Class**

- **Step “A”**
- **Step “B”**
- **Step “C”**
# Building Your Weekly Schedule (F2F)

<table>
<thead>
<tr>
<th>Weeks:</th>
<th>Topics/ Themes/ Major Questions</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>Topic “A”</td>
<td><strong>Step “A”</strong></td>
<td>Caring, Hum. Dim./ Self, Learning How to Learn</td>
</tr>
<tr>
<td>5-8</td>
<td>Topic “B”</td>
<td><strong>Step “B”</strong></td>
<td></td>
</tr>
<tr>
<td>9-12</td>
<td>Topic “C”</td>
<td><strong>Step “C”</strong></td>
<td></td>
</tr>
<tr>
<td>13-15</td>
<td>Et cetera</td>
<td><strong>Culm. Project</strong></td>
<td></td>
</tr>
</tbody>
</table>

- **Read: Before Class**
- **Test: During Class**
- **Inside Class**
# Building Your Weekly Schedule (F2F)

<table>
<thead>
<tr>
<th>Weeks:</th>
<th>Topics/Themes/Major Questions</th>
<th>Development of “Doing” Projects</th>
<th>Parallel, Individual Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>Topic “A”</td>
<td>Step “A”</td>
<td>Ex: “String of Activities”</td>
</tr>
<tr>
<td>5-8</td>
<td>Topic “B”</td>
<td>Step “B”</td>
<td>X</td>
</tr>
<tr>
<td>9-12</td>
<td>Topic “C”</td>
<td>Step “C”</td>
<td>X</td>
</tr>
<tr>
<td>13-15</td>
<td>Et cetera</td>
<td>Culm. Project</td>
<td>Culminating Report</td>
</tr>
</tbody>
</table>

- Read: Before Class
- Test: During Class
- Inside Class
- “Doing”: In/Outside of Class
- Refl. Writing: Out of Class
INTEGRATING THE COURSE

1. Functional

2. Chronological:

WEEKLY SCHEDULE:

- Teaching Strategy
- Culminating Project
- String of Activities
TEACHING STRATEGY:

• A particular COMBINATION of learning activities...

• arranged in a particular SEQUENCE

Two Examples:

• Problem-based learning

• Team-based learning
“CASTLE-TOP” DIAGRAM:
A Tool for Identifying Your Teaching STRATEGY

<table>
<thead>
<tr>
<th>Mon</th>
<th>Wed</th>
<th>Fri</th>
<th>Mon</th>
<th>Wed</th>
<th>Fri</th>
</tr>
</thead>
</table>

In-Class Activities:

Out-of-Class Activities:

Assessm’t & Feedback
**QUESTION:**
- This strategy creates a high likelihood that most students will...

1. Be *exposed to* the content.
2. *Understand* the content.
3. Be able to *use* the content.
4. *Value* the content.
QUESTION:

• This strategy creates a high likelihood that most students will...

1. Be exposed to the content.
2. Understand the content.
3. Be able to use the content.
4. Value the content.
INTEGRATING THE COURSE

1. Functional

2. Chronological:

WEEKLY SCHEDULE:

• Teaching Strategy
• Culminating Project
• String of Activities
<p>| | | | | |</p>
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<td>15</td>
<td>Learning Portfolio: Part 4 - Plan for Learning More</td>
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<tr>
<td>Week</td>
<td>Task</td>
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<tr>
<td>Week 1</td>
<td>Define the purpose of your teaching portfolio and learning portfolio</td>
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<tr>
<td>Week 3</td>
<td>Find Resources on Teaching &amp; Learning</td>
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<tr>
<td>Week 5</td>
<td>Find 10 major topics on college-level teaching</td>
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<tr>
<td>Week 7</td>
<td>Select the 4 topics most urgent for you</td>
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<tr>
<td>Week 9</td>
<td>Select 1 topic - and learn about it NOW</td>
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<tr>
<td>Week 13</td>
<td>For 3 remaining topics - Identify a learning strategy for each one</td>
<td></td>
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<tr>
<td>Week 14</td>
<td>Topics &amp; Learning strategies = PLAN for future professional development</td>
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<tr>
<td>Week 15</td>
<td>Insert your Plan as Part 4 in your Teaching Portfolio &amp; Learning Portfolio [Culminating Projects for course]</td>
<td></td>
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</tr>
</tbody>
</table>
Integrated Course Design

- Significant Learning
- Learning Goals
- Integration
- Teaching and Learning Activities
- Feedback & Assessment
- Active Learning
- Educative Assessment

Situational Factors

In-Depth Situational Analysis
5 High Impact Teaching Practices

Learning I MAGI NED

Big Dream → Culminating Project

Learning Outcomes
1. Xxx
2. Xxx
3. Xxx
4. Xxx
5. Xxx
6. Xxx

3-Column Table

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Ass’m’t Activ.</th>
<th>Learning Activ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Xxx</td>
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<td>2. Xxx</td>
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<td>3. Xxx</td>
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<td>6. Xxx</td>
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</tbody>
</table>

Learning ACHI EVED

Weekly Schedule

<table>
<thead>
<tr>
<th>Week:</th>
<th>Mon</th>
<th>Wed</th>
<th>Fri</th>
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<tbody>
<tr>
<td>1</td>
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Big Dream → Culminating Project
Integrated Course Design:

DOES IT WORK?
Does It Make a Difference?

- Bill Weeks, University of Missouri at Rolla
- Course: Coding in Computer Science
- Small class (18 students), traditional time structure (M-W-F)
- Initially: Lecture + homework
- Results: Students overwhelmed by complexity of the math - frustration - apathy - low course evaluations
5 High Impact Teaching Practices

Changes Made:

1. Completely re-wrote his **learning goals**: (examples)
   - For a given communication channel, students will be able to compute the maximum rate of reliable transmission.
   - Students will learn how to work effectively in a group setting.
   - Students will be able to direct their own learning in relation to understanding, designing, and evaluating new codes.

2. New **teaching strategy**: Used TBL

3. Used **reflective writing**: Learning portfolios

4. Oral presentations

5. Had students re-submit their homework
RESULTS:

• Students did the readings, and did as well as before on exams of Foundational Knowledge.

• TEACHER: “...drastic improvement in student morale...They worked harder - and reported enjoying it more.”

• STUDENTS:

  • ...an interesting learning experience I will never forget...provided me with knowledge to carry out independent study.

  • I enjoyed this course to the fullest...course was entertaining and at the same time enlightening.
TEACHER’S REACTION:

• “Teaching such an excited group of students was an unforgettable experience.

• It made my job seem worthwhile and very fulfilling.

• I will be feeding off that student excitement for years.”
QUESTIONS about:

1. Helping students “learn how to learn”??

2. Designing courses for significant learning??
“5 HIGH IMPACT TEACHING PRACTICES”

1. Help Students Become Better Learners

2. Learning-Centered Course Design

3. Team-Based Learning
“Team-Based Learning: A Special Way of Using Small Groups”

Larry Michaelsen
QUESTION:
Many teachers are using small groups these days. WHY?

ANSWER:
Constructivism vs Transmitting Knowledge
- Individual
- Social

But: Not all ways of using small groups are equally good.
5 High Impact Teaching Practices

AGENDA

1. TBL: What is it?
2. Creating a TBL Course: Backward Design
3. Key Steps:
   a. Forming Groups
   b. Readiness Assurance Process (RAP)
   c. Application Exercises
   d. Peer Evaluation
   e. Grading System
4. Student Reactions
5. Resources for Learning More
5 High Impact Teaching Practices

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5. Resources for Learning More
**TBL: What is it?**

- A carefully structured set of learning activities,...
- aimed at transforming “groups” into “teams”, ...
- that then takes advantage of the power of teamwork collaboration to ...
- engage students in a very powerful form of learning.
5 High Impact Teaching Practices

3 “DIALOGUE” BOXES OF TBL

Dialogue BY Oneself

Dialogue WITHIN Groups

Dialogue AMONG Groups

⇒

High Quality LEARNING
5 High Impact Teaching Practices

**TBL: What It Is and What it Isn’t**

≠ Weekly RATs all semester long
≠ Just a Group RAT
≠ Graded group work without Peer Evaluation
≠ Permanent, intentionally-formed groups
≠ Individual & Group RAT’s

= In-Class, SG Application Exercises
= Graded Group Assignments
= Peer Evaluation
5 High Impact Teaching Practices

The Sequence of Learning Activities in Team-Based Learning

- Covering a 2-3 Week Block of Time
- Covering One Major Topic Within the Course

### Three Phases of Team Learning:

<table>
<thead>
<tr>
<th>Preparation</th>
<th>Application (Practice with Feedback)</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.A.P.:</td>
<td>Group Work (Simple)</td>
<td>Group Work (Complex)</td>
</tr>
<tr>
<td>1. Individual test</td>
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**Approximate Level of Content Understanding at Each Phase:**

- R.A.P.: 40%
- Group Work (Simple): 50%
- Group Work (Complex): 60%
- Corrective Instruction: 70%
- Appeals: 80%
- CULMINATING PROJECT: 90-100%
- EXAM: Individual or Group
AGENDA

1. TBL: What is it?
2. Creating a TBL Course: BACKWARD DESIGN
3. Key Steps:
   a. Forming Groups
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   c. Application Exercises
   d. Peer Evaluation
   e. Grading System
4. Student Reactions
5. Resources for Learning More
Creating a TBL Course: Backward Design

Plan Backwards

1. End-of-Course: What do you want students to DO?
2. Students practice doing “that” and get immediate feedback.
3. Start of each unit: What do students need to KNOW, to do “that”?

It happens Forward.
AGENDA

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4. Student Reactions

5. Resources for Learning More
a. **Forming Groups**

- Identify 3 - 5 student characteristics that constitute “assets” or “liabilities” in terms of achieving the learning outcomes.

- Distribute those characteristics across groups, as evenly as possible.

- Once you create the groups, they are permanent for the whole term.

[DEMONSTRATED]
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5. Resources for Learning More
b. **Readiness Assurance Process (RAP)**

- **Start:** “For this unit, what do students *really* need to KNOW, to do the concluding project of this unit properly?”
- **Then:**
  1. **ASSIGN READING** for whole unit
  2. **INDIVIDUAL** Readiness Assessment Test (iRAT)
     - 10-15 multiple choice questions
  3. **TEAM** test (tRAT)
     - Use IF-AT form, if possible
  4. Appeals
  5. **Corrective feedback** (as needed)
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c. Application Work

- Two kinds:
  1. Culminating project (at end of unit)
  2. Practice exercises
    - Step-by-step, get students ready for the culminating project
    - All this is done: in-class, in teams

- Follow the Rule of the “4 S’s”
  1. Significant problem
  2. Same problem
  3. Specific choice
  4. Simultaneous reporting

- Process: Movement thru “3 Boxes”
Question:

What is the main reason that the “3 Boxes” sequence is so powerful?

1. It has more student-talk than teacher-talk.

2. It generates dialogue from multiple perspectives, focused on a key issue or question.

3. Students are teaching each other, rather than being taught by the teacher.

4. The course becomes more enjoyable for students because they are likely to be actively engaged.
Wording of Application Exercise - AGRONOMY:

**Learning Objective:** Ensure that students can identify the weed varieties commonly found in (this area).

1. Identify (i.e., make a list of) the varieties of weeds that are commonly found in lawns in this area.

2. Identify the distinguishing physical characteristics of the 5 varieties of weeds that are most often a problem in lawns in this area.

3. Identify and appropriately tag an example of each weed variety growing in Plot #1 (laid out by the instructor) in the lawn immediately behind this building.
Learning Objective: Ensure that students can assess the factors affecting specific sites as desirable locations for various types of business ventures.

1. Identify the key factors that should be considered when deciding where to locate a new business, and be prepared to explain why each is important.

2. Select what you think would be the ideal site for a new dry cleaning business in (this town). Identify the single most compelling reason for your decision, and be prepared to explain your rationale.

3. Identify the single most important factor for evaluating potential sites for locating a new business in (this area), and be prepared to explain your rationale.
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d. **Peer Evaluation**

- **Why** needed?

- **How** do it?
  - Different ways of doing this
Fink: “Percentage Multiplier” Method

1. **Students:** Distribute 100 points among other members of their team

2. **Teacher:**
   a. Add up points for each person on team
      
      Note: The total will be ~100 points
      
      • Hard workers will be higher, e.g., 110 pts.
      • Not so hard workers will be less, e.g., 90 pts.
   b. Use these scores as “percentages”
      
      • Multiply (a) the Total Team Points by (b) the percentage that each team member received
      • Result: Hard workers will get a “Bonus”
      
      Not-so-hard workers will get a “Deduction”
d. **Peer Evaluation**

- **Why needed?**
- **How do it?**
  - Different ways of doing this
- Value of doing a *mid-term “practice” Peer Evaluation*
  - **Purpose:** give early feedback.
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e. **Grading System**

- Your course grading system needs to have three parts to it:
  1. Individual Work (60-70%)
  2. Graded Team Work (30-40%)
  3. Peer Evaluation
    - Addition or percentage multiplier
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Student Reaction

• Comments from a student in a course using TBL

• Course: “Preparing for College-Level Teaching” - for graduate students in Engineering and the Sciences
1. **NEED**

   • “An engineering professional is *almost always a part of a team*. Engineering projects of any significant size are simply too much work or too much responsibility for one person to handle.”
5 High Impact Teaching Practices

1. **NEED**

2. **RESULTS**
   
   • “[Students] learn the material better, which is the obvious reason for using TBL.

   • “But there are so many other positives that emerge from the process, namely:
     
     • social, writing, speaking, presenting and thinking skills all get improved during TBL.

     • Students can learn more about scheduling, time management, working with difficult people, and organizing collective work through TBL.”
5 High Impact Teaching Practices

1. **NEED**

2. **RESULTS**

3. **IMPLICATIONS**

   • “Without at least some TBL in their curriculum, they are significantly under-prepared for what is waiting for them in industry.”
Are top students held back by their team?

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5. Resources for Learning More
1. **Handout: “Keys to Effective Use”**
   - Beginning - Middle - End of course

2. **Other Resources for Learning More**
   - Books
     - “Getting Started with Team-Based Learning” (Stylus, 2016)
     - “Team-Based Learning for Health Professions Education” (Stylus, 2008)
     - “Team-Based Learning in the Social Sciences and Humanities (Stylus, 2012)
   - TBL Website: [www.teambasedlearning.org](http://www.teambasedlearning.org)
   - Listserv: Join from the TBL website [learntbl.ca/listserv/](http://learntbl.ca/listserv/)
5 High Impact Teaching Practices

“5 HIGH IMPACT TEACHING PRACTICES”

1. Help Students Become Better Learners

2. Learning-Centered Course Design

3. Team-Based Learning

4. Engage Students in Service - With Reflection
Engage Students in Service:

“Service Learning”, “Civic Engagement”: What does that mean?

- Link courses or co-curricular actions to SERVICE to a community group or organization.

> Service

= Service + Link to Course + Reflection
Service + REFLECTIONS:

- Reflect on:
  - what they experienced
  - The possible impact of those experiences on “My understanding of...

1. The SUBJECT of this course, this discipline
2. OTHER PEOPLE - their background, their situation, their feelings, their behavior, etc.
3. MYSELF - my beliefs, values, actions, life goals, career choices - How these have changed or need to change?
Engage Students in Service:

Service + REFLECTIONS:

- These Reflections can occur in the form of:
  - One-minute papers
  - Learning journals
  - Learning portfolios
"Students Reflecting on Their Own Learning"
“TAKING CHARGE OF ONE’S OWN LEARNING”
5 High Impact Teaching Practices

Meta-Learner:
5 High Impact Teaching Practices

Meta-Learner: One Who Takes Charge of their...

Own Learning/Development

- Own Knowing/Beliefs
- Own Thinking
- Own Performance
- Own Caring/Values

Teacher/Coach

St1 → St2
Learning Portfolios: KEY QUESTIONS

1. **WHAT** did you learn?

2. **HOW** did you learn?
   - What helped and didn’t help you learn?
   - What does this tell you about: *YOURSELF AS A LEARNER? About the NATURE OF LEARNING?*

3. **SIGNIFICANCE FOR YOU**, of what you learned?

4. Plan for **FUTURE LEARNING**:
   - **WHAT ELSE** do you want or plan to learn?
   - **HOW** will you learn that?
5 High Impact Teaching Practices

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“Be a Leader With Your Students”

Ken Bain
5 High Impact Teaching Practices

FUNDAMENTAL TASKS OF TEACHING

Knowledge of the Subject Matter
Interact with Students
Designing Learning Experiences
Managing the Course

Beginning of the Course
FUNDAMENTAL TASKS OF TEACHING

Knowledge of the Subject Matter
Designing Learning Experiences
Interact with Students
Managing the Course

Beginning of the Course
LEADERSHIP:

“Motivating and enabling others to do something important well.”

Question:
What can teachers do, to LEAD students?

General Answer:
Create the right kind of relationship with students – caring, respectful, collaborative
Creating the Right RELATIONSHIP with Students: (Based on Bain)

1. Interact in a way that shows **YOU CARE**!

2. Interact in a way that **MOTIVATES** students.

3. Dynamic **COMMUNICATION SKILLS**

4. **TRUSTWORTHY** - in Power: Trust issues
Creating the Right RELATIONSHIP with Students:

1. Interact in a way that shows YOU CARE!
   • about students, student learning, teaching-learning process,
   • about the subject of the course
Creating the Right RELATIONSHIP with Students:

2. Interact in a way that MOTIVATES students.
   - Give praise in a way that motivates
   - Listen well to the learners
   - Motivate by interacting differently with different students
Creating the Right RELATIONSHIP with Students: (Based on Bain)

3. Dynamic COMMUNICATION SKILLS
   - Sense of drama, rhythm
   - Good use of language
     - Use language of “promises” > “demands”
     - Express belief in students’ ability to learn
     - Celebrate achievements
     - Use warm language
4. TRUSTWORTHY - in Power: Trust issues

- Don’t use classroom to demonstrate power.
- Build trust relationships
- Give power to students to make decisions about their own learning
- Interact fairly (same policies for all)
Creating the Right RELATIONSHIP with Students:

1. Interact in a way that shows **YOU CARE**!
2. Interact in a way that **MOTIVATES** students.
3. Dynamic **COMMUNICATION SKILLS**
4. **TRUSTWORTHY** - in Power: Trust issues
“5 HIGH IMPACT TEACHING PRACTICES”

1. Help Students Become Better Learners
2. Learning-Centered Course Design
3. Team-Based Learning
4. Engage Students in Service - With Reflection
5. Be a Leader with Your Students
QUESTIONS about:

3. Team-Based Learning??

4. Service learning – with reflection via learning portfolios??

5. Being a Leader with your students??
5 High Impact Teaching Practices

SUMMARY
1. Learning-Centered Design of Learning Experiences

2. Re-Orienting Students’ Views of Learning: Start - LEARNING PORTFOLIO OSS

3. Focused small-group dialogue

4. Service Learning Opportunities

5. Leadership

L-PF:
BENEFITS TO...

• Society
• Your Institution
• Your Students
• Yourselves
5 High Impact Teaching Practices

Getting Better Over Time

- Quality of Teaching
- Student Learning

When You Began Teaching

NOW

Near Future

WOW!!
Higher Education:
Let’s make it all that it can be and needs to be!
5 High Impact Teaching Practices

OR, A NEW START??

Teaching for the 21st Century . . . Let’s Get Started!!