

Less Teaching, More Learning



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Agenda

Welcome

Agenda and Learning Outcomes

Questions to ponder

Teaching vs. Learning

What are students should know

Carnegie Study

Debate

Bloom's Taxonomy

Authentic Activities

Activity

Wrap-up and debrief




Learning Outcomes

Participants will be able to:

- Explain the difference between “teaching” and “learning” and why our focus needs to shift from “what we teach” to “what our students’ learn”
- Describe the levels of low level- high level thinking
- Compare and contrast Bloom’s and Anderson/Krathwahl’s taxonomy
- List a range of authentic assignments
- Apply the taxonomy’s into own teaching



Questions to Ponder

1. What is our role as professor as it relates to teaching and learning?
 2. What percentage of your overall course time do you spend “teaching” vs. your students spend “learning”?
 3. In what ways do you “teach”?
 4. In what ways do your students “learn”?
 5. What are your students “learning”?
 6. How do you know if they have “learned”?
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Discuss

In small groups discuss those “questions to ponder”

Feedback to full group



Teaching vs. Learning

- Teaching= Input
- Learning= Output
- Our goal as professors should be to engage students in learning.



Less is More

- Good news for us is that LESS is MORE
- **As professors, we should be spending less time and energy in our “teaching” (presenting content) and more time and energy in engaging our students in “learning activities”**



Providing Information vs. Accessing and applying Information

- Information age- more information than can possibly store
- Easily available
- Changing and growing
- Key is not for students to “know” and store facts but rather...


– HOW TO ACCESS INFORMATION

– HOW TO DETERMINE IF IT IS
ACCURATE/APPROPRIATE= DECISION-
MAKING

– HOW TO APPLY AND USE THE
INFORMATION



What do we want our students to “know” and “learn”

- **KNOWLEDGE**-content
 - **SKILLS**
 - **PROFESSIONAL DISPOSITIONS**
 - **HOW to LEARN**- Metacognitive strategies for accessing, organizing, analyzing, problem solving, creating
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Engagement of Learning

- Ownership by students in their own learning
- Relevant, meaningful, purposeful learning
- Higher level, critical thinking
- Active participation in the learning process
- Reflective practice



Reality is...

- We actually will be spending as much/more time planning, marking and facilitating learning....but far less time....lecturing and providing information



Bloom's/Krathwohl's Taxonomy of Educational/Learning Objectives

Old Version- *nouns*

- Knowledge-low level
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

(Bloom, 1956)


New Version- *action verbs*

- Remembering – low level
- Understanding
- Applying
- Analyzing
- Evaluating
- Creating

(Anderson & Krathwohl, 2001)



Carnegie Study


- Learning for the 21st Century- when I was doing my undergraduate education- sorry, I cannot find the citation! But this had a lasting impact on me
 - Over 30 years ago- research stated that if we want students to be prepared for the 21st Century we must focus on higher level critical thinking rather than on low level factual information
 - Observed k-12 and higher education
 - What do you think they found?
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Findings

- 80% of time focus on low level
- 20% of time on high level
- across the board- k-26+
- repeated the study years later and found the very same thing
- We need to shift to include more higher level/critical thinking teaching and learning



Activity

- Truthfully, reflect on your own teaching, how much time is devoted to:
 - You providing information rather than the students accessing information to be used and applied?
 - You focusing on facts and low level thinking rather than you facilitating students to apply, analyze, create, etc?
 - You assessing your students' knowledge of facts and low level thinking (i.e. tests) rather than using performance based authentic assessments?
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Discuss

- Is this the best way to teach and to have students learn?



But this doesn't apply to my courses!

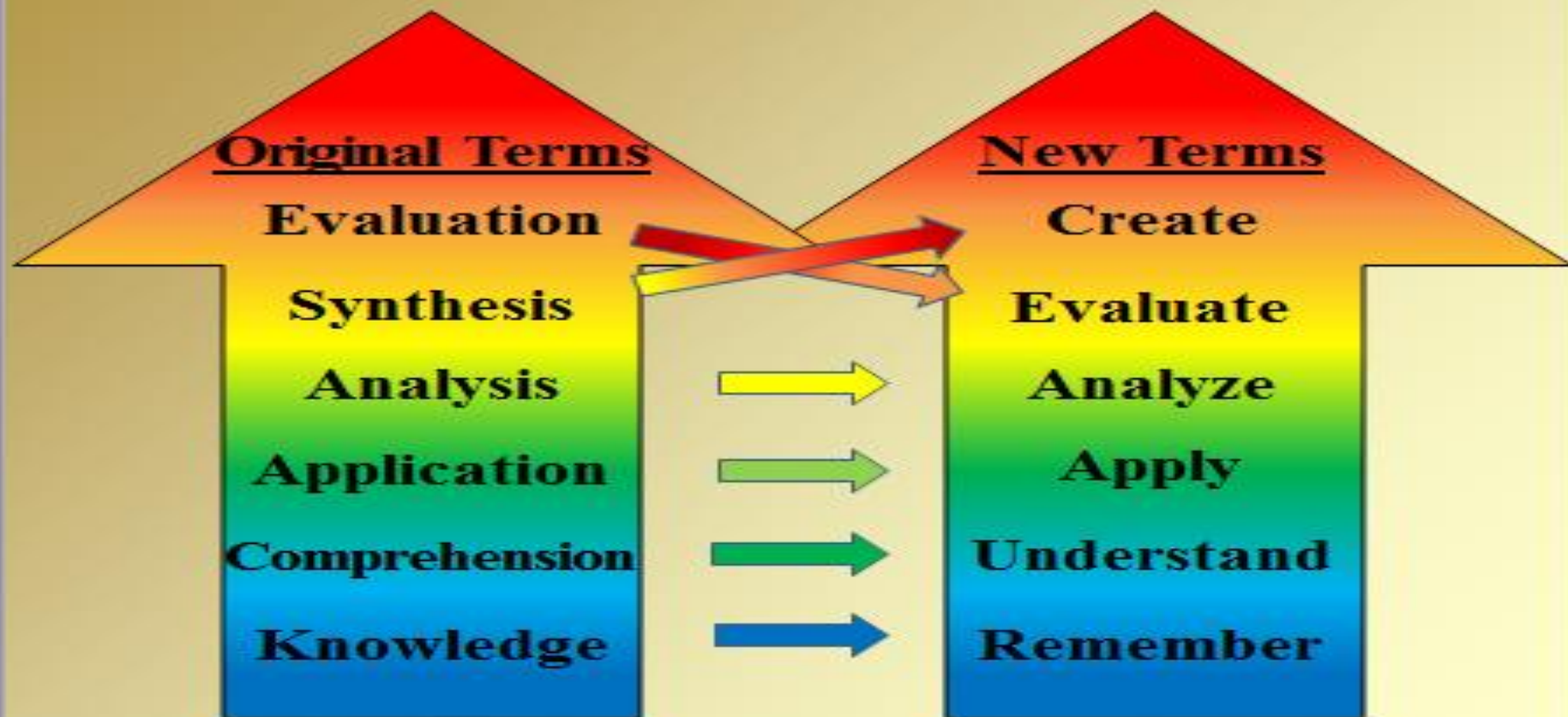
- Often hear in the sciences and medical fields that this “doesn't apply to my courses because my students must know the correct content in order to”
 - Do well on standardized tests to get into graduate school or medical school
 - So much content that we must cover
 - They have to get it right because it could mean the difference between life and death



But it is through Higher Level Learning...

- Yes, students must know facts and information
- However, it is through higher level learning (applying, analyzing) that they will truly learn (internalize and understand) lower level information
- Memorization can only go so far..."playing with information, manipulating, analyzing" will allow the information to solidify

Bloom's Revised Taxonomy of Educational Objectives: Higher Level Thinking & Learning



(Based on Pohl, 2000, Learning to Think, Thinking to Learn, p. 8.)

And How?

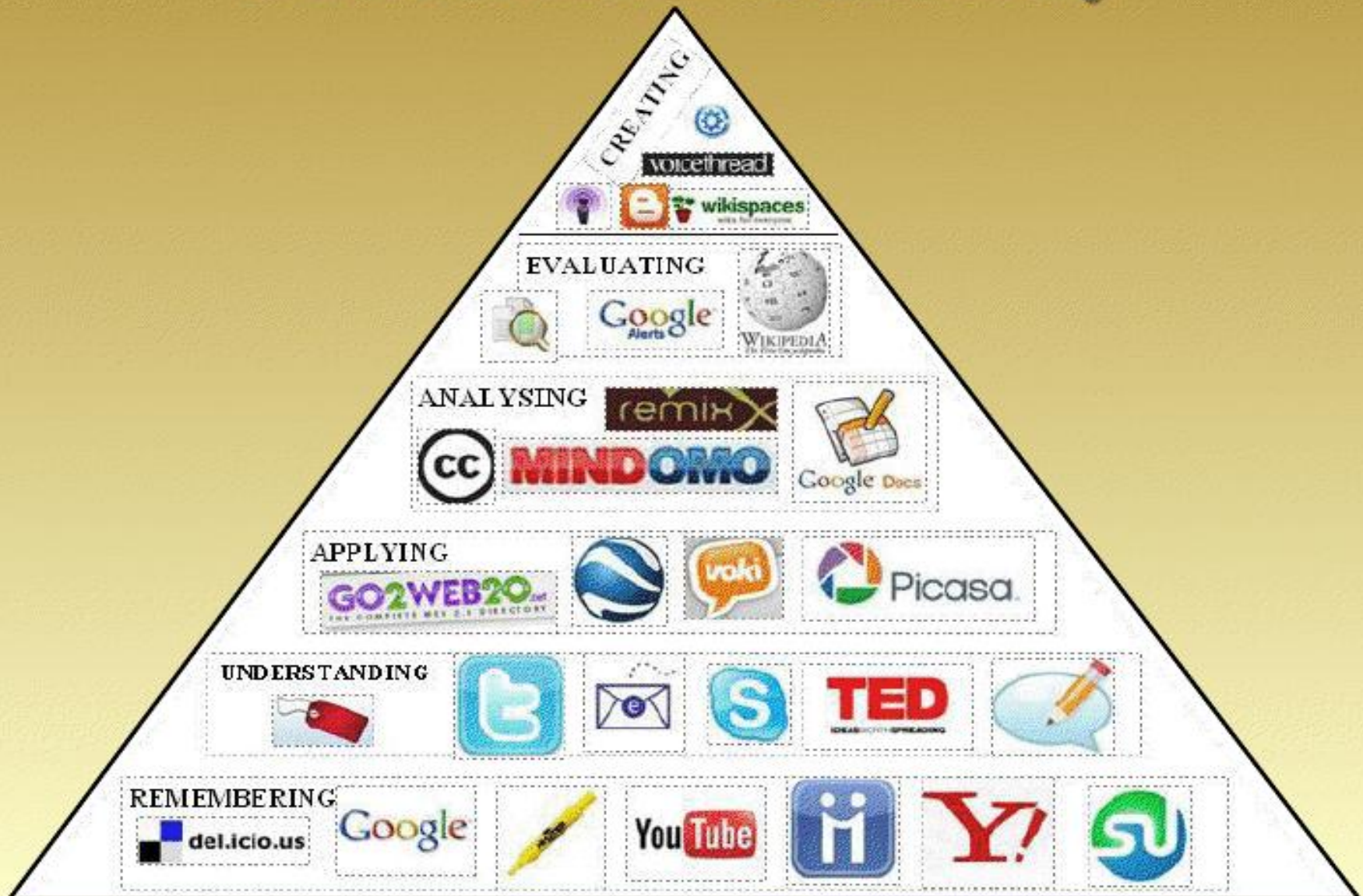
- Take the levels of Bloom/Krathwahl and Anderson and turning them into learning outcomes:



Learning Outcomes for Bloom's Revised Taxonomy

Domains	Verb	Product
Creating	Change, combine, invent, compose, create, devise, formulate, hypothesise, predict and improve.	Cartoon, story, book, multimedia, game, poem, theory, concept model, scientific hypothesis, improve on design (SWOT)
Evaluating	Appraise, defend, dispute, judge, justify, prioritise, select, support and verify.	Critique, judgement, opinion, recommendation, report, self-evaluation, evaluation product.
Analysing	Appraise, compare, contrast, differentiate, distinguish, examine, infer, outline, and sequence.	Chart, plan, questionnaire, spreadsheet, summary, survey.
Applying	Classify, demonstrate, illustrate, practice, solve, use, execute, implement, edit and apply concept.	Collection, interview, model building, presentation, role playing, scrap book, simulation.
Understanding	Discuss, describe, comment, categorize, infer, paraphrase, annotate, explain, interpret, classify.	Peer teaching, show and tell, story, drawing, summary sheet, blog, wiki, discussion activity.
Remembering	Define, duplicate, list, name, recall, reproduce, underline, bookmark, locate, highlight, recognise, favour, search.	Definitions, facts, charts, list, recitation, worksheet.

Using Technology with Bloom's Taxonomy



Authentic Activities and Assessments

- Authentic Assignments/Activities and Assessments engage students in “real life” learning experiences that can be directly applied in purposeful, meaningful, relevant ways
- Directly measure students’ performance through “real life tasks” or “situations” that resemble “real life situations” (Wiggins, 1989)
- Often used synonymously with “alternative assessments” or “performance assessments”
- Examples include demonstrations, debates, field work, simulations, problem solving



Cannot measure thinking

- Thinking is an internal process that cannot be seen or measured (well actually it now can through MRIs and other brain scans but typically don't have them in our class)
- We can only assess what we can observe or measure- so we must turn learning into measurable outcomes through activities and assignments



Comparing Authentic Assessment to Traditional Assessments

Authentic Assessments

- Portfolios, demonstrations, field work, case studies, assignments, lab reports
- Students take an active role in process
- Qualitative
- Interpretive
- Focuses on process and product
- High level thinking
- Use of rubric/criterion levels for evaluation
- Part of teaching and learning process
- Shows mastery and learning performance
- Generally extends over time

Traditional Assessments

- Multiple choice tests, true-false, fill in the blanks
- External- teacher driven
- Quantitative
- Objective
- End product
- Standardized or norm referenced
- Isolated facts
- Low level content
- Generally occurs in “one sitting”



Activity

- In small groups of 2-3
- Select one of your courses
- Create learning outcomes based on some of these higher level/critical thinking levels
- Either for a specific class session
- Or for assignments/assessments
- Or for your full course
- Share and discuss



Does this apply to you?

- Can and will you do this?
- How will you do this?
- Not suggesting to totally throw out what you are doing...simply make some subtle shift in your approach and focus.



Setting an Action Plan

- Take the % that you wrote down for the following, and come up with a goal of some shift toward more higher level learning
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Wrap-Up and Debrief

Are you able to:

- Explain the difference between “teaching” and “learning” and why our focus needs to shift from “what we teach” to “what our students’ learn”
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References

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