Seven Levers for Deeper Learning

Research-based Guidelines and Strategies for Improving Teaching, Assessment & Learning

An Interactive Keynote in the *2016 Assessment Forum* on
*Enhancing Innovation in Learning, Teaching and Assessment:
Using Research-Based Strategies*

Sponsored by
The Office of Academic Assessment at

The University of Oklahoma

9:00-10:15 AM – Friday 16 September 2016

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Values Affirmation

Jot down 2 or 3 educational/ professional values you hold that motivate you to invest time and energy in this *Assessment Forum*.

_____

_____

_____

Which value(s) did you mention?

A.   Promoting equity

B.   Improving teaching effectiveness

C.   Improving student learning

D.   Promoting innovation

E.   Making assessment less burdensome

Why Might We Assess Learning? - I

Summative purposes

- To compare learners against each other
- To compare learning against criteria
- To certify competency
- To award qualifications
- To ration resources
- To provide accountability

Why Might We Assess Learning? - II

Formative purposes

- To focus learners' attention
- To illuminate and undermine misconceptions
- To increase motivation to learn
- To provide learners with feedback
- To improve performance
- To promote self-assessment & monitoring
- To develop independent, lifelong learning skills

In other words, virtually all of our core liberal learning values are expressed through <u>formative</u> assessment.

Yet the greater part of our time and effort is spent on <u>summative</u> assessment.

To do assessment as if
deep learning
matters most,
we must privilege
<u>formative</u> purposes . . .

. . . and make our summative assessments seamlessly aligned means to achieve our most valued educational end –
deep learning.

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Goal Ranking & Matching Exercise

What are your <u>Learning Goals</u> and/or <u>Burning Questions</u> for this Forum?

_____

_____

_____

My Intended Learning Outcomes (ILOs) for this Session

By the end of this brief session, you will have:

1. Identified at least two or three (2-3) strategies or techniques to improve teaching, assessment, feedback, and/or grading in your work

2. Identified at least two (2) useful resources and/or references for follow up

3. Committed to experimenting with at least one small change in your practice, and

4. Decided whether to attend my afternoon session

A First "Balcony" Question

Could there be advantages
to knowing something about
your students' goals? values?

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Applications Card

Ideas/Techniques

Possible Applications

Background Knowledge Probe   page 2

1. Of FY students in 4Y US colleges, what percentage graduated from:

   A. A traditional public school?   ___ %

   B. A charter/magnet public school?   ___%

   C. A private religious/parochial school?   ___ %

   D. A private independent prep school?   ___%

   E. Were home schooled?   ___%

Background Knowledge Probe   *page 2*

2. Of those same students, what %-age rated the following as "very important" reasons to go to college:

   A. To be able to get a better job?   ___ %

   B. To learn more about things that interest me?   ___%

   C. To get training for a specific career?   ___ %

   D. To gain a general ed. & appreciation for ideas? ___%

   E. To be able to make more money?   ___%

   F. To prepare myself for grad/prof school?   ___%

   G. To make me a more cultured person   ___%

Background Knowledge Probe page 2

3. Of those same students, what %-age thought they had a "very good chance of doing the following in college:

A. Socializing w/different racial/ethnic person?   ___ %

B. Earning at least a 'B' average?   ___%

C. Communicating regularly with profs?   ___ %

D. Protesting or demonstrating?   ___%

Background Knowledge Probe   page 2

4. About what %-age of the 2015 FYs had:

A. First parent with at least a 4-year degree?   ___ %

B. Second parent with at least a 4-year degree?   ___%

A "Balcony" Question

If you followed directions:

Are you more interested in learning the answers to questions on p. 2 than you would have been if I'd simply told that information to you?

Background Knowledge Probe   page 2

1. Of FY students in 4Y US colleges, what percentage graduated from:

   A. A traditional public school?   74%

   B. A charter/magnet public school?   8%

   C. A private religious/parochial school?   10%

   D. A private independent prep school?   7%

   E. Were home schooled?   1%

Background Knowledge Probe   page 2

2. Of those same students, what %-age rated the following as "very important" reasons to go to college:

A. To be able to get a better job?   85%

B. To learn more about things that interest me?   82%

C. To get training for a specific career?   76 %

D. To gain a general ed. & appreciation for ideas? 71%

E. To be able to make more money?   70%

F. To prepare myself for grad/prof school?   59%

G. To make me a more cultured person   49%

Background Knowledge Probe   *page 2*

3. Of those same students, what %-age thought they had a "very good chance of doing the following in college:

  A. Socializing w/different racial/ethnic person?   <u>71%</u>

  B. Earning at least a 'B' average?   <u>68%</u>

  C. Communicating regularly with profs?   <u>44%</u>

  D. Protesting or demonstrating?   <u>9%*</u>

  * College presidents all over the US ordered their Admissions Offices to identify this 9%.

Background Knowledge Probe   page 2

4. About what %-age of the 2015 FYs had:

   A. First parent with at least a 4-year degree?   61%

   B. Second parent with at least a 4-year degree?   60%

More "Balcony" Questions

Imagine that your first-year students had similar responses:

Could you see any implications for your courses? For the curriculum? For campus assessment efforts?

Six Dimensions of Higher Learning Outcomes

% Your Past?   *% Their Future?*

____   *Factual Learning*   ____

____   *Conceptual Learning*   ____

____   *Procedural Learning*   ____

____   *Conditional Learning*   ____

____   *Metacognitive Learning*   ____

____   *Reflective Learning*   ____

100%   **100%**

Balcony Question

Which of those six dimensions needs and deserves the most focus if we aim to foster:

Creative thinking?
Problem-solving?
Innovation?
Life-long learning?

HOT HIPs!

Higher Order Thinking
can be promoted effectively through

High-Impact Practices

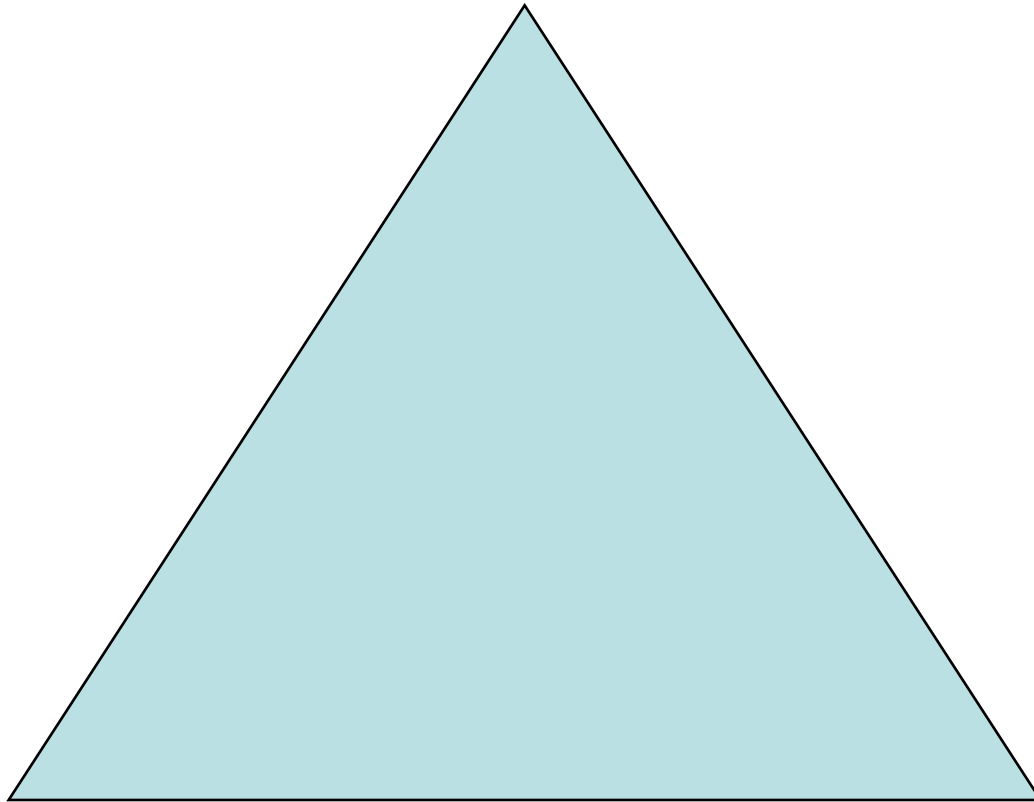# HIPs – High-Impact Educational Practices

- First-Year Seminars and Experiences
- Learning Communities
- Collaborative Assignments and Projects
- Undergraduate Research
- Diversity/Global Learning
- Service Learning/Community-Based Learning
- Clinical Placements/Internships/Co-ops
- Capstone Courses and Projects
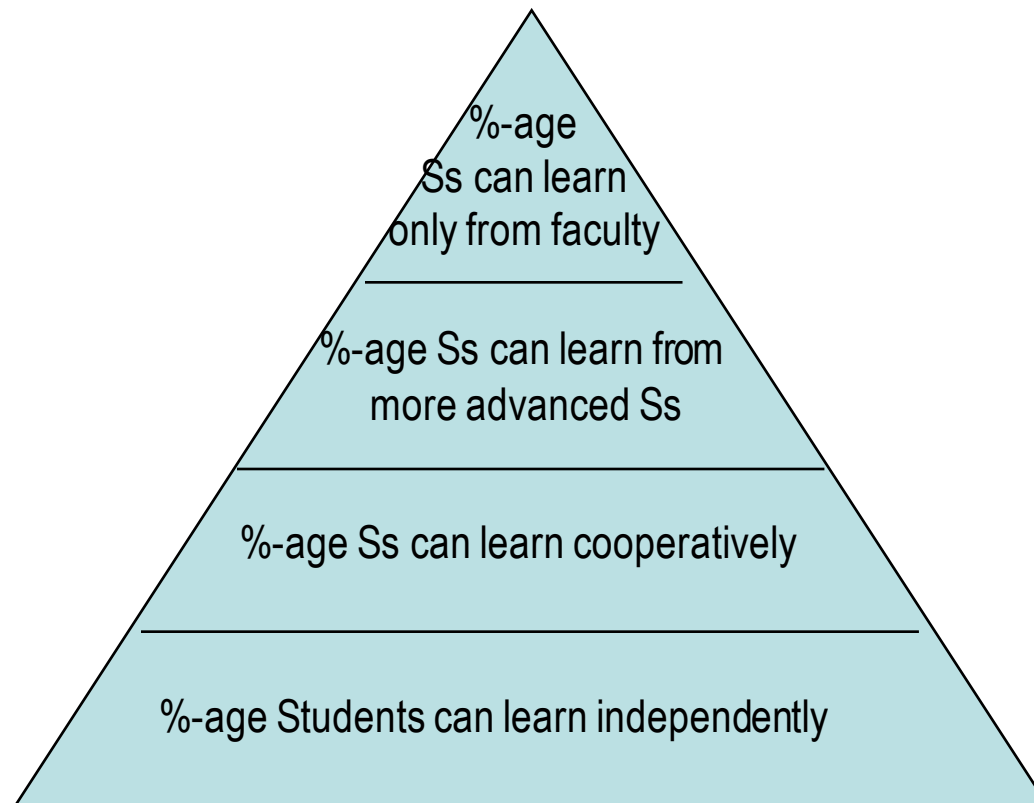- Writing-Intensive Courses

What makes these HIPs so HOT?

- **High expectations**
- **Explicit direct instruction**
- **Metacognitive scaffolding**
- **Deliberate practice**
- **Effective feedback**
- **Focused collaboration**

The Teaching & Learning Pyramid

The Teaching & Learning Pyramid

%-age
Ss can learn
only from faculty

%-age Ss can learn from
more advanced Ss

%-age Ss can learn cooperatively

%-age Students can learn independently

"It's not what *we* do, but what *students* do that's the important thing."

Biggs, J. & Tang, C. (2007). *Teaching for Quality Learning at University,* 3rd Edition. Berkshire: McGraw-Hill, p. 19.
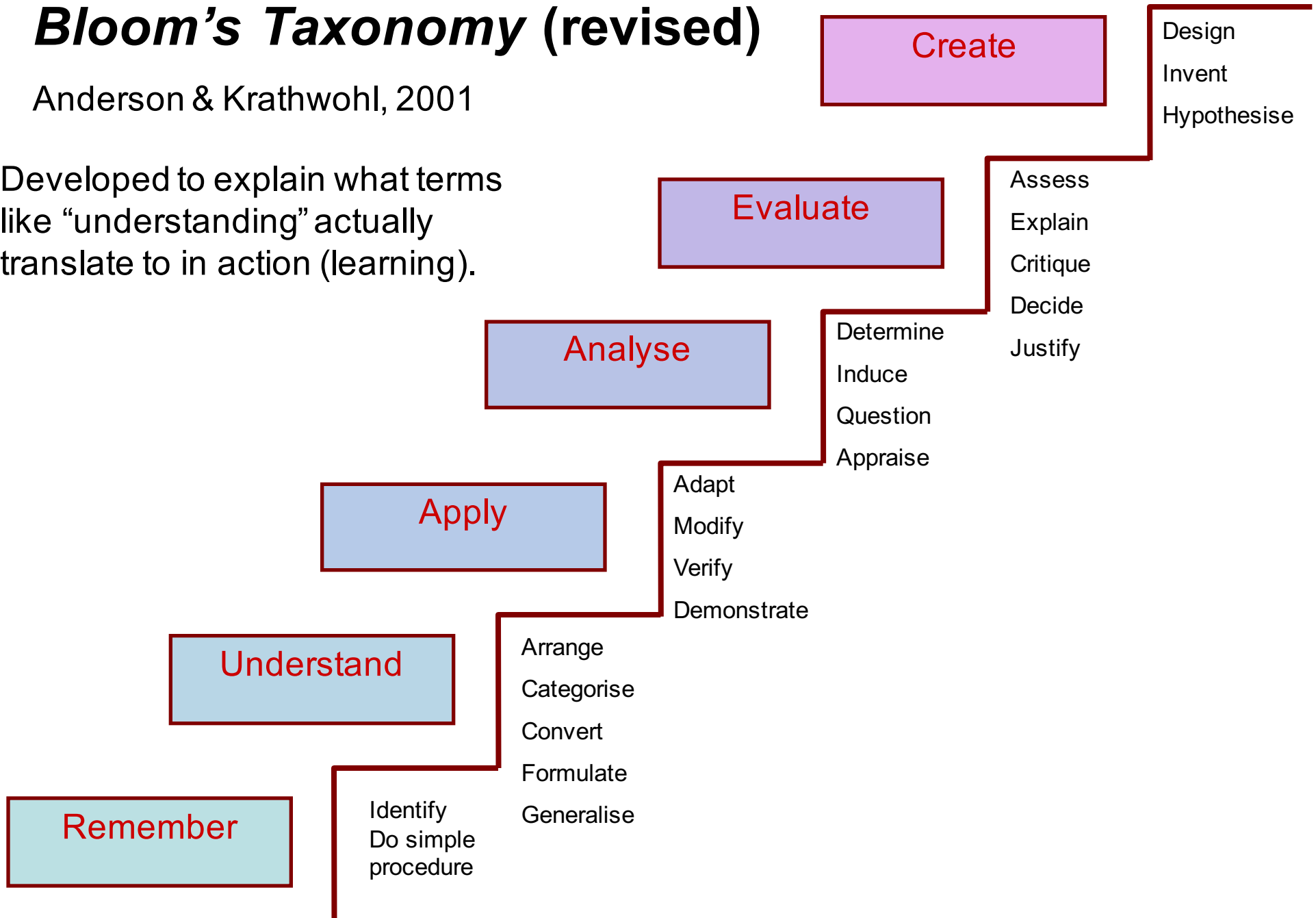
Seven Levers for Deeper Learning

1. Become aware of prior knowledge, beliefs & values

2. Set high, meaningful goals and expectations

3. Learn how to learn effectively

4. Understand assessment criteria and standards

5. Seek and find connections and applications

6. Collaborate effectively

7. Invest actively engaged time and effort
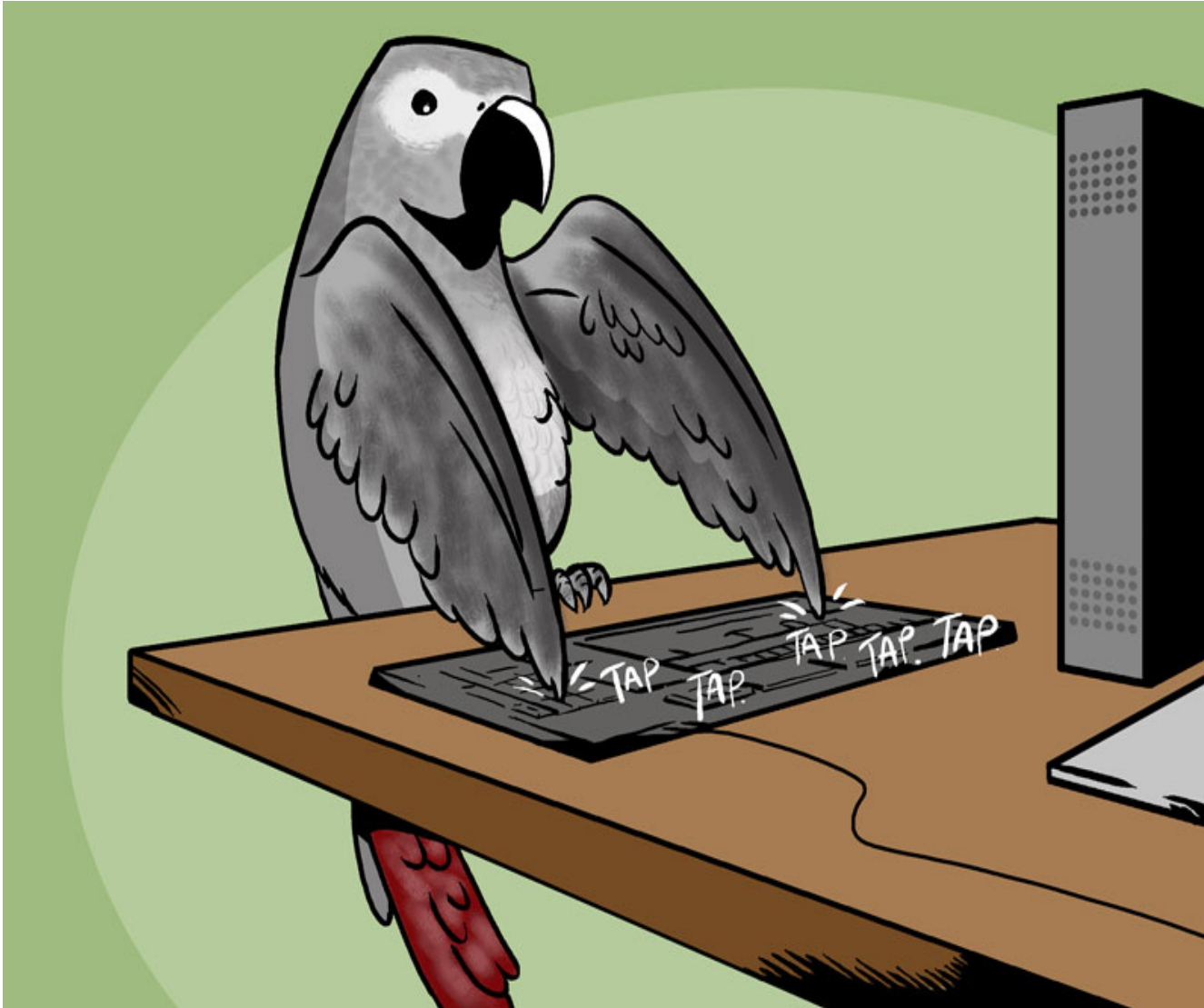
Bloom's Taxonomy (revised)

Anderson & Krathwohl, 2001

Developed to explain what terms like "understanding" actually translate to in action (learning).

Create
Design
Invent
Hypothesise

Evaluate
Assess
Explain
Critique
Decide
Justify

Analyse
Determine
Induce
Question
Appraise

Apply
Adapt
Modify
Verify
Demonstrate

Understand
Arrange
Categorise
Convert
Formulate
Generalise

Remember
Identify
Do simple procedure

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"Blooming" – Categorizing Questions
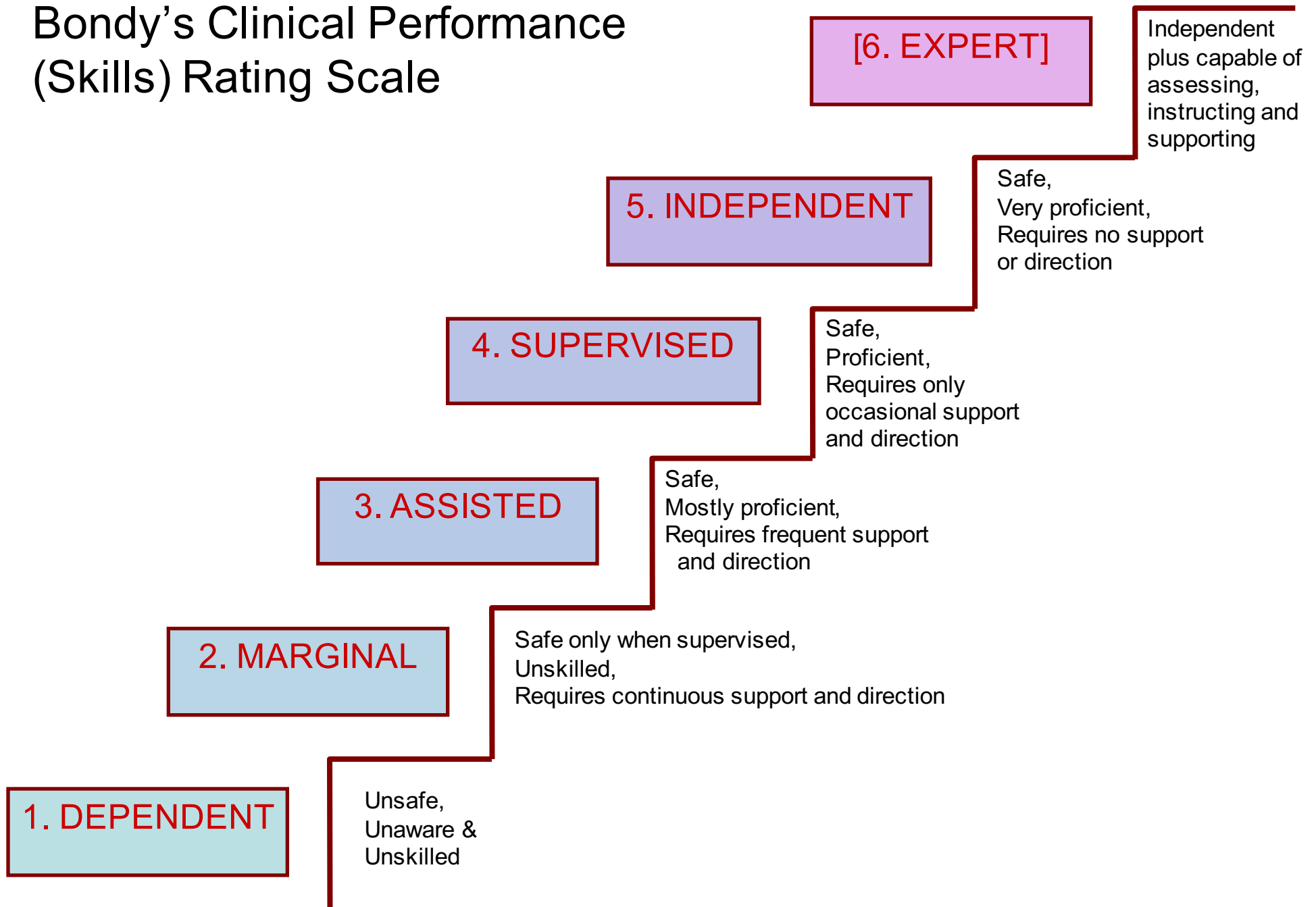
The Parrot Test

Categorizing Questions by Bloom's Taxonomy Levels (Blooming)

By systematically varying the elements of the task, we can better assess and promote transfer and deep learning.

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The Bondy Scale

Bondy's Clinical Performance (Skills) Rating Scale

[6. EXPERT]

Independent plus capable of assessing, instructing and supporting

5. INDEPENDENT

Safe,
Very proficient,
Requires no support or direction

4. SUPERVISED

Safe,
Proficient,
Requires only occasional support and direction

3. ASSISTED

Safe,
Mostly proficient,
Requires frequent support and direction

2. MARGINAL

Safe only when supervised,
Unskilled,
Requires continuous support and direction

1. DEPENDENT

Unsafe,
Unaware &
Unskilled

Effective Assessment is often just

Gap Analysis

- Find the gaps

- Mind the gaps

- Narrow the gaps

A Detailed Assessment/Grading Rubric

What matters most in this course?

How do you know?

"From the student's point of view, the assessment is the curriculum."

Paul Ramsden

FEEDBACK

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A Course/Teaching Feedback Form

What values do our course and teaching assessment systems convey to students?

To faculty?

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Lessons Learned in the Past 30 Years

"The effectiveness of teaching
is best evaluated
by what the students do
when the teacher
is not present."

T.A., 2012

Applications Card [5] – p. 11

Interesting
IDEAS/TECHNIQUES

Possible
APPLICATIONS

"A well-designed course
is a clever learning trap,
from which students cannot escape
without demonstrating
they have fully mastered
the intended learning outcomes
at the required high standard."

T.A.