THE PROFESSOR'S GUIDE TO USING Bloom's Taxonomy

How to put America's most influential pedagogical model to work in your college classroom

BY **PHILIP PREVILLE**

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The Pedagogical Model that Shook the World

It's a triumphant saga that begins in deep obscurity. At the 1948 convention of the American Psychological Association, a group of assessment experts and college examiners agreed that it would be useful to be able to classify educational goals, in order to better assess student performance in American colleges.[1] So they did what academics do: they formed a committee. Chaired by University of Chicago professor Benjamin Bloom, the committee met every year thereafter, coming together following every APA convention to build and refine their classification system.

In 1956 the inaugural *Taxonomy of Educational Objectives* was published, complete with a triangular diagram showing how educational attainment rises through six different orders of learning, from basic information recall through application to analysis and evaluation. Today, more than 60 years later, Bloom's taxonomy—the fruit of an academic committee's eight years of labor—is arguably the single most influential

Bloom's taxonomy is arguably the most influential work in American education, shaping learning from kindergarten classrooms to graduate laboratories

work in American education, shaping the content and delivery of learning everywhere from kindergarten classrooms to graduate laboratories.

WHY BLOOM'S MATTERS AT THE COLLEGE LEVEL

Bloom's taxonomy is foundational knowledge for every undergraduate program in education and in cognitive psychology. Though it was initially intended simply as an assessment aid, it has become an emblem for curriculum design, used to set learning objectives and design classroom activities.[2] It has been adapted for use in elementary and high school classrooms and applied to every academic discipline under the sun. It has inspired countless blog posts, technology apps and a multitude of unusual resources (such as this crash course in Bloom's via the TV show *Seinfeld*). And while it has been the object of controversy among educational theorists, Bloom's taxonomy has been revised only once—proof of the concept's durability and timelessness.

Yet for all its influence, many college educators

remain unfamiliar with Bloom's taxonomy. Ironically, though Bloom and his colleagues had intended the taxonomy to be used in higher education, it took deepest root in the K-12 field. The reason is simple: K-12 teachers were all steeped in Bloom's taxonomy as part of their education degrees. College faculty, who typically don't study teaching before becoming teachers, often begin their instructional careers—and even continue for years—without Bloom's help.

HOW BLOOM'S CAN DELIVER TANGIBLE RESULTS

Increasingly, they can't do without it. More and more state accreditors and university administrations are demanding that faculty clearly state the learning objectives for each of their courses. Professors must then make good on those objectives: planning their lectures and activities to help students meet them, and assessing their progress both on the fly and at semester's end. New technologies, from online courses to in-class smartphone apps to digital textbooks, are upending traditional lecture-based teaching. And today's distracted students are disoriented in the classroom, unclear on how to learn in a college setting.

A basic understanding of Bloom's taxonomy, and how to apply it for higher education, makes it easy for faculty to clarify learning objectives, adapt technology and develop classroom activities for any course. Instructors can even use Bloom's to cut through the noise of distraction by helping students set expectations for themselves. All this from a 1956 committee report that predates the widespread adoption of the television.

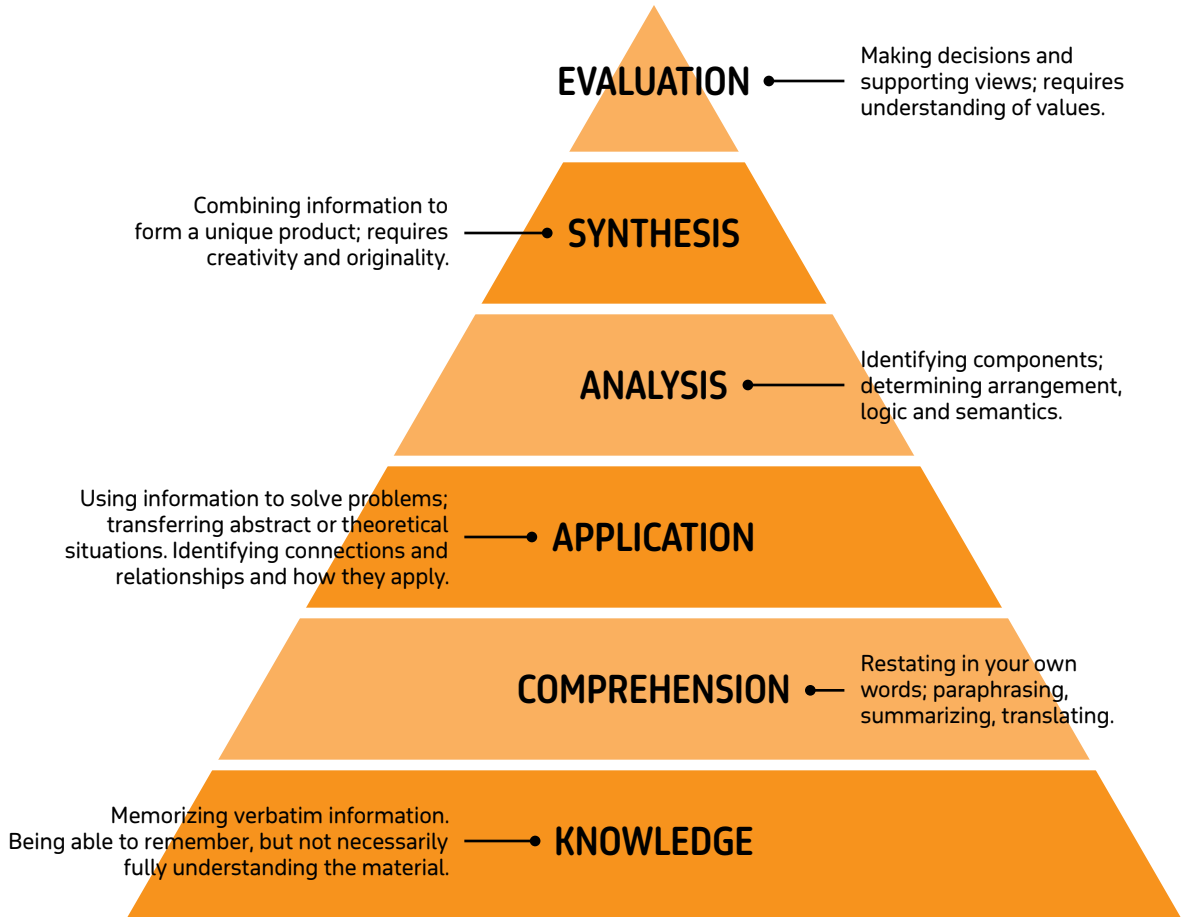
CHAPTER 1

A Bloom's Taxonomy Boot Camp

As taxonomies go, Bloom's is refreshingly elegant. Unlike the taxonomic classifications of the plant and animal kingdoms, Bloom's makes no use of Latin. Nor does Bloom's branch off into hundreds of strands, as some economic or military taxonomies tend to do. It's comprised of a mere six orders of learning, explained in simple language, that reflect both academic rigor and simple common sense. It's nearly impossible for any university graduate to look at the pyramid for the first time and not recognize in it one's own personal cognitive development.

The original Bloom's taxonomy pyramid named its orders of learning with nouns: beginning with knowledge, the pyramid rose up through the stages of comprehension, application, analysis and synthesis, culminating in evaluation as the highest order of learning. The original taxonomy was intended for use as an assessment tool, to help formulate exam and evaluation questions. But the use of nouns

The Original Taxonomy (1956)

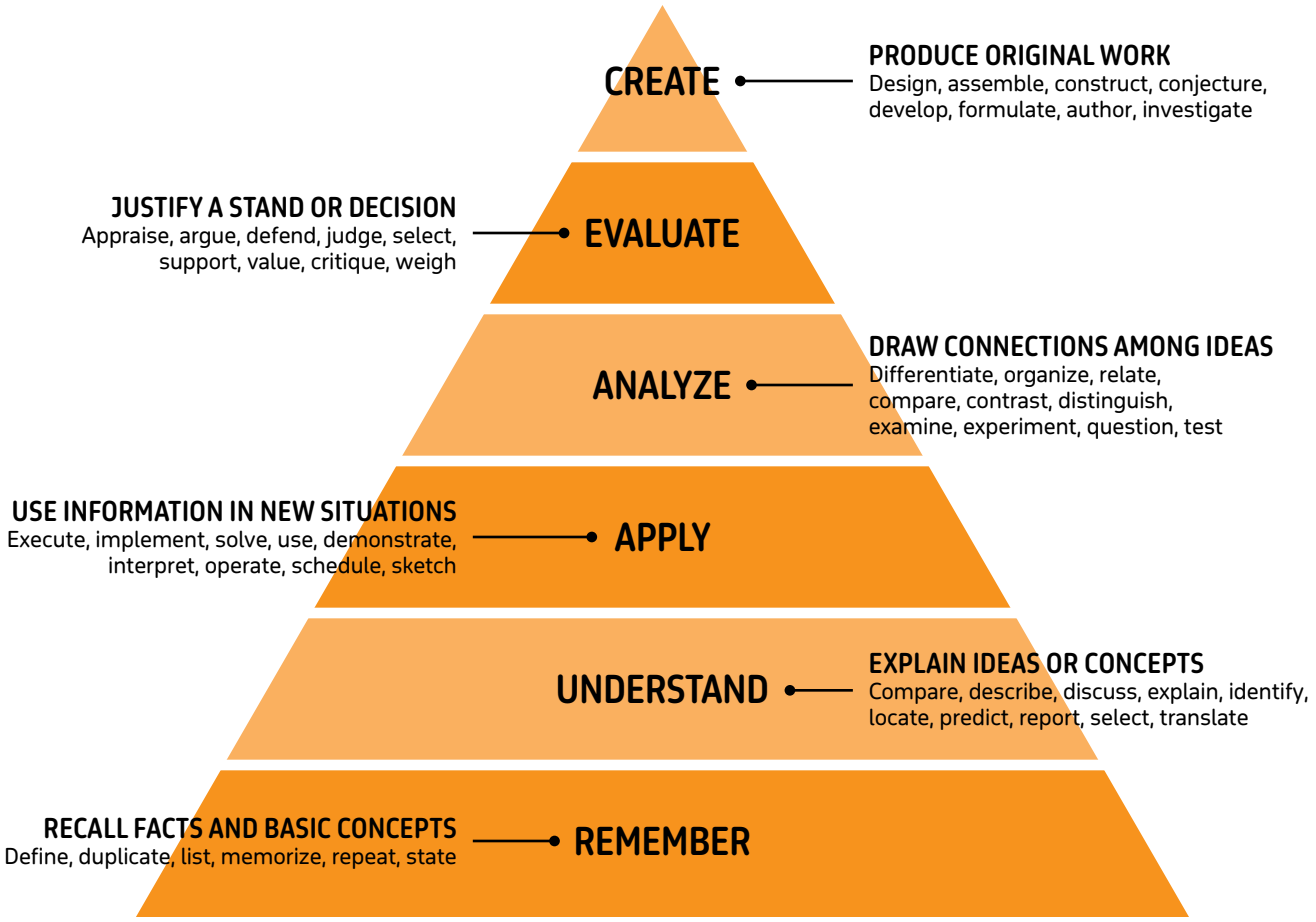


to name each order of learning had the unintended effect of making Bloom's taxonomy unnecessarily abstract and less easy to apply.

In the 1990s, Bloom's taxonomy was revised through a new assembly of experts led by one of Bloom's former students, Lorin Anderson.[3] Published in 2001, the revised version uses verbs instead of nouns to describe the orders of learning, while also inverting the top two orders of learning: remembering, understanding, applying, analyzing and evaluating, with creating as its summit.

The main purpose of the revision, aside from placing

The Revised Taxonomy (2001)



creativity and creation atop the pyramid, was to emphasize the broader use of the taxonomy as a tool for curriculum planning and delivery as well as assessment.

Each order of learning has a corresponding list of actionable verbs to animate questions aimed at assessing student achievement.[4] For example, if professors are assessing students' *understanding* of a topic, they'll put questions or assign tasks to students which ask them to "compare," "discuss" or "predict." If an instructor wants to assess students' ability to *analyze*, they'll ask students to "compare," "investigate" or "relate." With

Bloom's taxonomy, faculty are able to be much more precise and focused on precisely which cognitive abilities students must demonstrate in a given course activity, and on an examination.

Although Bloom's was originally intended solely for assessment, any professor who uses Bloom's taxonomy for that purpose quickly discovers that Bloom's puts a magnifying lens on all aspects of course design. With greater clarity in assessment, professors are able to more clearly state a course's learning objectives. Bloom's taxonomy also allows faculty to see how other aspects of their course—its topics, lectures, assignments and classroom activities—can be refined to better help students succeed in moving upwards from lower to higher orders of learning.

In this sense, applying Bloom's taxonomy is like putting the courses you teach through boot camp: it whips them back into shape. "Faculty don't have to redesign their courses or rewrite their syllabi when they apply

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Bloom's," says Saundra McGuire, Professor Emerita of Chemistry and Director Emerita of the Center for Academic Success at Louisiana State University. "What Bloom's taxonomy does is shine a fresh light on their courses." McGuire says that, with Bloom's, professors can quickly identify which order of learning they are trying to lead students up to and adjust their lectures and presentations accordingly.

CHAPTER 2

Bloom's Evangelists and Discontents

Because of its many qualities—its simplicity, its ease of understanding and application, its utility, its universality, its durability—it's easy to forget that Bloom's taxonomy is not a natural law, it's merely a theoretical construct. It's not infallible, and it has garnered its share of critics in its lifetime.[5]

Some scholars point out that the taxonomy remains prone to misapplication: some believe that it's appropriate to achieve only lower orders of learning in first-year college courses, when in fact students at any level—including primary school—can climb through to the top of the pyramid with age-appropriate activities. Others have labeled Bloom's taxonomy an anachronism that fails, even in its revised form, to address more recent developments in cognitive psychology. It's understood today that students "create" knowledge in their own minds as they engage in meaningful learning, but Bloom's taxonomy does not take this constructivist perspective into account. If students have an

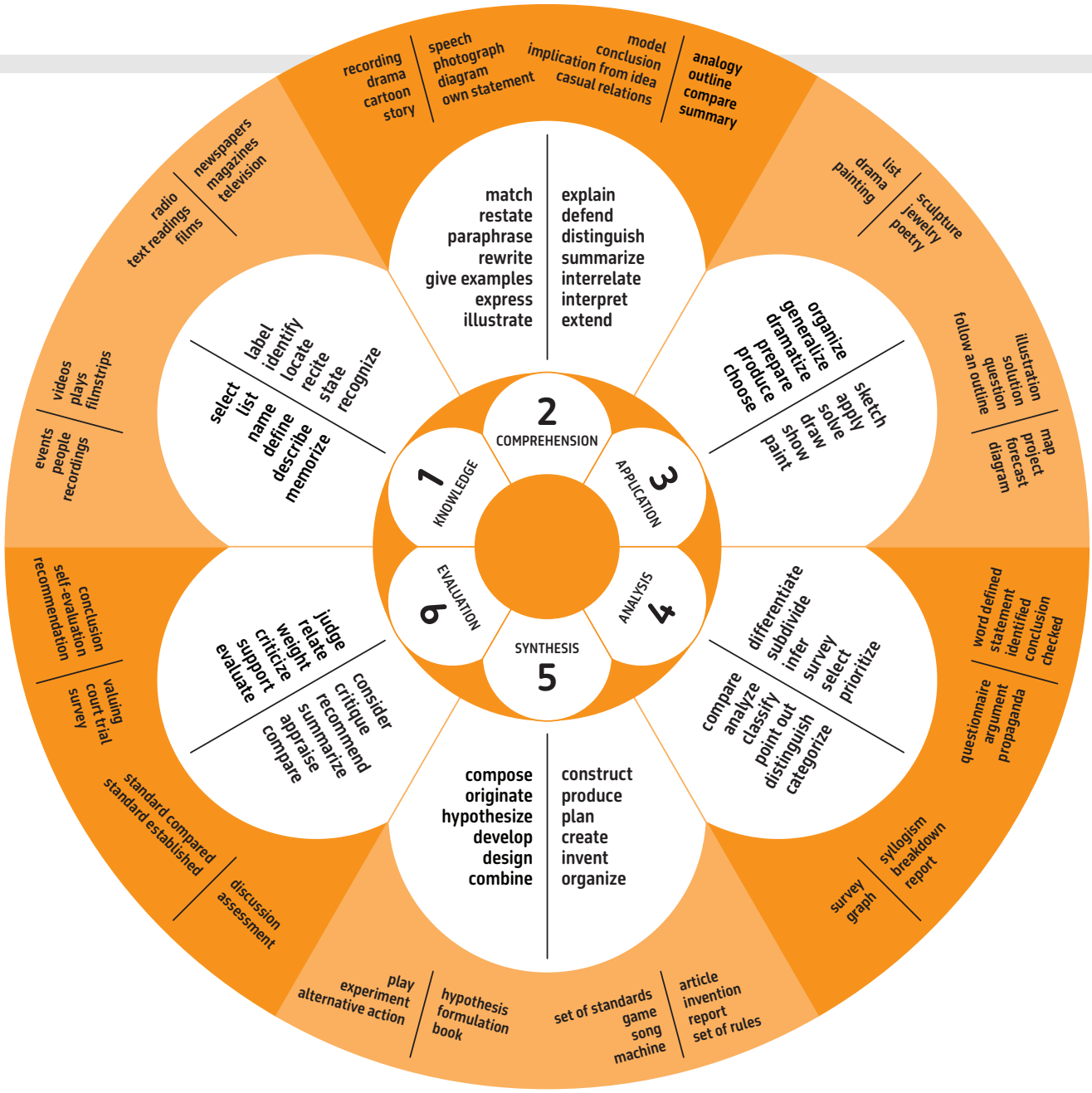
epiphany that suddenly allows them to analyze a particular problem, have they *analyzed* or *created*?

"Bloom's is a very seductive instructional theory, but it's implicitly transmissive," says Roland Case, a former director of the Vancouver-based Critical Thinking Consortium, which works with educators to help them elevate students' critical thinking skills. "It implies that you've got to start at the bottom and front-load all the lower-order information before you can engage in meaningful inquiry about it." A common result, says Case, is students being spoon-fed information without context. He prefers to problematize information from the outset: for instance, ask students to explain the three major factors contributing to the outbreak of WWI, and let them set out to discover the information themselves, which will result in more effective *remembering* of knowledge.

Indeed, the most common criticism of Bloom's taxonomy, even among its adherents, is its hierarchical structure. Many of its champions have attempted to revise its graphic visualization accordingly. One revisionist graphic depicts the taxonomy as a circular flower with six petals,

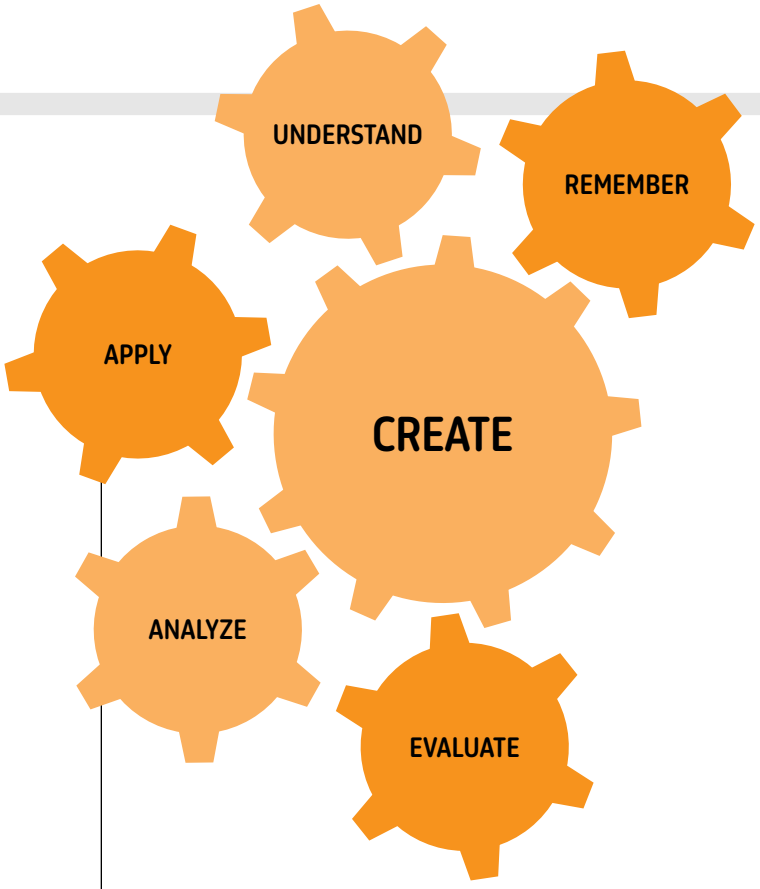
Saundra McGuire, Professor Emerita of Chemistry and Director Emerita of the Center for Academic Success at Louisiana State University

"When I first started giving presentations about Bloom's taxonomy in 2002 I would ask my audiences if they'd heard of it, and no hands would go up. Now nearly all of them go up."



another as a series of concentric circles. One of the most popular revisions portrays Bloom's orders of learning as interlocking cogs (a kind of phonetic symbol for "cognition") with the highest order, Create, as the largest wheel in the centre, and all the others connecting to it.

Regardless of how you visualize it, Bloom's taxonomy has proven useful enough to outlast its critics and gain widespread acceptance. "When I first started giving presentations about Bloom's taxonomy in 2002 I would ask my audiences if they'd heard of it, and no hands would go up,"



says McGuire. "Now nearly all of them go up."

McGuire, the author of two books based partly on Bloom's taxonomy, *Teach Your Students How to Learn* and *Teach Yourself How to Learn*, feels that the taxonomy is most useful in getting both instructors and students to think about metacognition—the process of thinking about one's own thinking—which enables students to transfer their learning to new contexts and situations. McGuire sees metacognition as part-and-parcel of Bloom's higher orders of learning. "Metacognition is what students need to be able to do to succeed in college, and Bloom's lays out a pathway for educators to lead them there."

McGuire also strongly encourages faculty to show the taxonomy to their students and explain it. "When I have shown Bloom's taxonomy to students, a lightbulb goes on for them," she says. Once students see it, they can articulate what order of learning they had to reach to get As in high school—inevitably they point to Remember and Understand—and how they'll have to be able to apply, analyze and evaluate in order to succeed in college.

"It helps them to understand their role in the learning process," McGuire says. "They have all been told that they are going to have to operate at a 'higher level' in college, but none of them know just what that is supposed to look like. Bloom's paints a picture in their head."

CHAPTER 3

Classrooms in Bloom

When faculty first become acquainted with Bloom's taxonomy, it helps them see their teaching differently. In no time at all, it also helps them do their teaching differently as well. "Because of the nature of Bloom's taxonomy, the way it moves from lower to higher order learning, it can be a really good scaffolding tool for course design," says Tony Erben, Chair of Education at the University of Tampa and a specialist in second-language education. "It's a nice heuristic even for people who don't have a lot of training in teaching or education."

John Redden, an assistant professor in the department of physiology and neurobiology at the University of Connecticut, has been a devotee of Bloom's taxonomy in the classroom for five years now. And he uses a metaphor to explain metacognition to his anatomy and physiology students. "I tell them that they all know what a hammer is, what lumber is, what nails are—but that doesn't mean they know how to build a

house," he says. "And I tell them that by the end of this course, they ought to be able to build a house. That's the goal they need to set for themselves: to be able to explain how all the parts come together and work together."

Faculty such as Erben and Redden typically use Bloom's in three ways: to set learning outcomes; to structure classroom activities; and to assess progress.

1 SET LEARNING OUTCOMES

Bloom's taxonomy helps establish learning outcomes for a course by encouraging instructors to be crystal clear about what students will learn: the knowledge they will gain, and how they will be able to manipulate it. Faculty can pinpoint which order of learning students need to attain, and describe it with precision.

When Redden teaches anatomy—a course renowned for the massive volumes of material that need to be covered, and in which many students try to succeed through pure memorization—he takes

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learning outcomes a step further: he posts 10 to 15 learning objectives for every week of class time. For the renal system, for instance, Redden provides two pages' worth of learning objectives, from "draw

a nephron and label the segments" to "make a flow chart showing the sequence of structures through which fluid flows" and beyond.

It may sound overwhelming, but in a course with a reputation for overwhelming students, it helps to break it down for them. "In my experience, students tend to focus on the lower orders of learning," he says. "You have to lift them out of that by reminding them to apply and analyze knowledge, not just remember it."

One of the unanticipated benefits of giving students weekly learning objectives, says Redden, is that "it makes the conversations go better when they are struggling. I can point to the objectives and identify the things they should be able to do. It helps students focus their studies."

2 STRUCTURE CLASSROOM ACTIVITIES

Once you have set clear learning outcomes for the course, you can then use Bloom's taxonomy to plan homework and in-class assignments to make sure they align with the order of learning you're trying to achieve. The actionable verbs that accompany each order of learning, developed by Bloom to help assessors identify what kind of cognitive activity is happening in the brain, also serve as a helpful guide for the design of classroom assignments and group discussions.

For instance, when seeking to ensure comprehension, assignment activities can ask students to *identify, recognize, describe* or *explain*; for assigned activities that encourage a higher order of learning such as analysis, ask students to *categorize, compare, debate* or *experiment*. Using the actionable verbs can help instructors avoid a common pitfall of using Bloom's taxonomy: setting learning outcomes at higher-order levels of learning, then neglecting to align their teaching to help students meet those outcomes.

Erben structures his Spanish-as-a-second-language courses

FOR A FULL SET OF TEACHING RESOURCES DESIGNED TO HELP YOU PUT BLOOM'S INTO ACTION, CHECK OUT THE TOP HAT TEACHING TOOL KIT AT THE END OF THIS E-BOOK.

so that students can climb the scaffolding he's built for them. "If the unit is about shopping, I'll start by exposing students to all the vocabulary for goods and currency and negotiation," he says. "Then I'll pair them up, one as a seller and one a shopper, and give them each different information, and a task to accomplish. I'll say, 'You are cooking for your parents tonight so go buy what you need,' or 'You have 100 pesos, now buy your girlfriend a birthday gift.'"

Using Bloom's taxonomy to design learning activities can be especially helpful with online courses. When instructors don't have the opportunity to meet and observe their students on a regular basis, it can be challenging to track their progress. Giving students a variety of assignments that have been specifically targeted to Bloom's orders of learning can paint a more vivid picture of where students are at, both individually and as a group.

3 ASSESS STUDENT PROGRESS

Assessment is, after all, the *raison d'être* of Bloom's taxonomy—it's designed to help faculty structure questions that will truly probe the extent of each student's mastery of material. Not all types of questions are suitable for assessing higher-order learning: multiple-choice questions, for instance, are best for assessing lower-order levels. Regardless of format, what matters most is to align assessments with the learning outcomes you've set out for the course. It's about transparency—students need to know that you will measure them on what you agreed to on day one.

Redden is now experimenting with a two-part exam: part one is about recall and understanding, while the part two focuses on higher-order learning levels. "It's a way of priming them," he says. "The idea is for them to start by bringing the basics to the forefront, so that they are more

ready to tackle the application and analysis questions."

Redden also cautions against a classic instructor pitfall: turning a higher-order question into a lower-order question. "If you give them an analysis exercise during the semester and then put that same exercise in the exam—or worse, if you tell them that question will be on the exam—you've turned it into a recall exercise," he explains. "That question no longer measures analysis, it just measures memorization."

Redden, like McGuire, says he finds it useful to talk to students about metacognition at the start of the semester so that they can paint a picture in their heads of what's expected of them. "In the past I've had students come to me and say, 'I memorized everything, I know the names of everything, I've got all the material committed to memory, so why did I do so poorly on the exam?'" he says. "The reason is that they didn't achieve a higher-order understanding of the topic. So now I am more explicit about outcomes and expectations." Redden doesn't show them Bloom's taxonomy per se, but he does talk to them about educational psychology and about what they'll need to be able to do. "I tell them that they'll need to be able to recall the function of a specific type of cell. But I also tell them they'll need to be able to explain what would happen to the human body if someone took a drug that killed those cells."

Assessment is the *raison d'être* of Bloom's—it's designed to help faculty structure questions that probe the extent of each student's mastery of material

CONCLUSION

The Higher-Order Professor

Across its 60 years of existence, Bloom's taxonomy has slowly but definitively changed America's educational landscape. Of all the reasons for its influence, perhaps the most overlooked is the versatility of its appeal.

In some, Bloom's taxonomy ignites passion for learning, teaching and for learning about teaching; it is surely the only taxonomy in the world to have inspired its own army of evangelizing missionaries, spreading the Bloom's gospel to those who haven't heard the news. Some, however, merely see in it a simple and helpful image of a learning pathway. Some just use it as intended, for assistance with assessment. Others use it more extensively, to set learning outcomes and design course activities. Some don't like its hierarchical structure, so they adapt the schematic to convey

CONCLUSION

Bloom's taxonomy is user-friendly: Spend 15 minutes learning about it and you'll quickly be able to see how it can be put to use in your teaching

something less rigid—while keeping the taxonomy's categories intact. Some share it with students because they think it will inspire them; others share it with students to clarify expectations.

The point is that you don't have to be a born-again devotee of Bloom's taxonomy to find its classifications useful. It's as user-friendly a tool as any instructor could ask for: spend 15 minutes learning about it and you'll quickly be able to see how it can be put to good use in your teaching. It can also help professors develop stronger relationships with their students by giving them a common reference point for assessing progress.

And in an era of rising student distraction, it's more important than ever to set clear expectations. Distraction is often a byproduct of rudderlessness: if students don't see where a course is leading them, their attention is more likely to wane. Bloom's taxonomy helps instructors be crystal clear about outcomes and expectations. And when students know just how high they are expected to reach to get the grade they want, they're more likely to stay engaged.

THE AUTHOR

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APPENDIX: THE TOP HAT TOOLKIT

Lecture Plan

LECTURE PLAN

COURSE CODE:

DATE: ___ /___ /20___

Topic:

Goal:

Learning Objectives

Introduction

Assessment Description

Action

Assessment Description

Consolidation

Assessment Description

Reflection & Next Steps

Activities that worked

Topics to be revisited

Strategies/Activities

- ☐ Graphic organizer
- ☐ Think/Pair/Share
- ☐ Modeling
- ☐ Collaboration
- ☐ Discussion question
- ☐ Learning stations

Assessment *for* Learning

- ☐ Observations
- ☐ Conversations
- ☐ Anecdotal notes
- ☐ Work sample
- ☐ Conference
- ☐ Checklist
- ☐ Diagnostics

Assessment *as* Learning

- ☐ Self-assessment
- ☐ Peer-assessment
- ☐ Presentation
- ☐ Graphic organizer
- ☐ Collaboration
- ☐ Homework

Assessment *of* Learning

- ☐ Test
- ☐ Quiz
- ☐ Presentation
- ☐ Project
- ☐ Published work
- ☐ Rubric

APPENDIX: THE TOP HAT TOOLKIT

Actionable Learning Objectives

USING BLOOM'S TO CREATE LEARNING OBJECTIVES

COURSE CODE:

DATE: ___ /___ /20___

Use this resource to create actionable, specific and appropriate learning objectives that bridge the gap from students' existing knowledge to what you hope they'll understand by the end of the class. There are two things that must be considered when creating an effective learning objective.

1 What do I want my students to be able to do after this class?

PRO-TIP: When thinking through your goals, stick to actionable and measurable verbs—see some examples when you download the template.

2 How do I know that my students have achieved it?

PRO-TIP: Think about how you will be assessing students once they have performed the task. Be as specific as you can!

LEARNING OBJECTIVES: WHAT WORKS

✕ NON-ACTIONABLE

Students will understand the importance of homeostasis in the human body.

WHY THIS DOESN'T WORK:

"Understand" is not an actionable word. This not only makes it harder for you to formulate a standard assessment for your students, it also makes it hard for your students to know what to do in order to "understand." What is also not clear is to what extent students should be "understanding." How do the students know that they have understood the importance of homeostasis to the degree that they have met your expectations?

✓ ACTIONABLE

Students will be able to explain the importance of homeostasis in the human body including its effects on the body's physiological systems.

WHY THIS WORKS:

We have replaced "understand" with a verb that students can assign an action to—"explain." We also made sure the verb was chosen with the assessment in mind. In other words, you want to focus on building the student's analytical skills. We've chosen an action that demonstrates an individual's ability to analyze. Since there are so many possible degrees of correctness, we also made sure to specify to what degree students must "explain" homeostasis.

CREATING ACTIONABLE LEARNING OBJECTIVES

Reminder: Ask yourself these two questions when building your learning objectives.

1 **What do I want my students to be able to do after this class?**

PRO-TIP: When thinking through your goals, stick to actionable and measurable verbs—see some examples when you download the template.

2 **How do I know that my students have achieved it?**

PRO-TIP: Think about how you will be assessing students once they have performed the task. Be as specific as you can!

Example: Course Topic 1 – Homeostasis

Learning Objectives 1.1: Students will be able to explain the importance of homeostasis in the human body including its effects on the body's physiological systems.

Course Topic 2 :

Learning Objective 1.1:

Learning Objective 1.2:

Learning Objective 1.3:

Course Topic 3 :

Learning Objective 1.1:

Learning Objective 1.2:

Learning Objective 1.3:

ACTIONABLE LEARNING OBJECTIVES

COURSE CODE:	**DATE: ___ /___ /20___**

Course Topic:

Learning Objectives:

Course Topic :

Learning Objectives:

Course Topic:

Learning Objectives:

Course Topic:

Learning Objectives:

APPENDIX: THE TOP HAT TOOLKIT

Effective Assessment Methods

HOW TO CHOOSE EFFECTIVE ASSESSMENT METHODS

When connecting a learning outcome to a form of assessment it's worth remembering that assessment is a tool for teaching, not a scale that determines success or failure. This worksheet will help bridge the gap between what you're asking students to achieve (through your learning outcomes) and how you're going to measure their success through various forms of assessment.

To help with this we've created a four-step approach:

1. **Develop an actionable learning objective (if needed please reference Creating Actionable Learning Objectives, our second Teaching Tool)**
2. **Identify the action verb within that learning outcome (i.e. explain, identify, categorize, etc.)**
3. **Determine which cognitive learning level (Bloom's level) this verb fits into (i.e. explain → analyze)**
4. **Choose an effective assessment method (see Bloom's taxonomy, below)**

Bloom's taxonomy is one of the most useful tools available to educators. Why? It's the answer key to how students learn and helps equip educators with the knowledge they need to design valid assessment techniques. Below, we've outlined the different levels of learning for your students and the most appropriate technique to assess the domain you're looking to enhance.

PRO-TIP:
Start thinking about how your various assessments will fit into your formative or summative plans of evaluation.

Bloom's Level of Learning

Assessment Technique	Remember	Understand	Apply	Analyze	Evaluate	Create
Multiple Choice questions	✓	✓	✓	~		
True/False questions	✓	✓				
Matching	✓	✓				
Short Answer/Word Answer	✓	✓	✓	~		
Discussion/Essay			~	✓	✓	✓
Oral			~	✓	✓	✓
Anecdotal, comments	~	~				✓

✓ Always appropriate ~ Can be appropriate in some situations

EFFECTIVE ASSESSMENT METHODS

PRO-TIP: Keep in mind our four-step approach when filling out this chart.

1. **Develop an actionable learning objective (if needed please reference Creating Actionable Learning Objectives, our second Teaching Tool)**
2. **Identify the action verb within that learning outcome (i.e. explain, identify, categorize, etc.)**
3. **Determine which cognitive learning level (Bloom's level) this verb fits into (i.e. explain → analyze)**
4. **Choose an effective assessment method (see Bloom's taxonomy, below)**

Topic:

Learning Outcomes	Action Verb	Cognitive Domain (Bloom's)	Assessment Technique(s)
Example: **Learning Outcome 1.1** Students will be able to **explain** the importance of homeostasis in the human body including its effects on the body's physiological systems.	Explain	Analyze	• Discussion questions • Essay questions • Oral

EFFECTIVE ASSESSMENT METHODS

Topic:

Learning Outcomes	Action Verb	Cognitive Domain (Bloom's)	Assessment Technique(s)

APPENDIX: THE TOP HAT TOOLKIT

Innovative Activities

INNOVATIVE ACTIVITIES TO ENGAGE YOUR STUDENTS

REMINDER: Ask yourself these three questions when choosing your classroom activities.

1. **What cognitive level of Bloom's is your learning outcome driving at?**
2. **How can you formulate questions based on the particular verb in the learning outcome?**
3. **How would you like to present those questions to the students?**

	Actionable Verbs	Questions	Activities
Remember	Define Describe Recall Recognize	• Find the meaning of... • Who/What was it that...? • Can you tell why...? • ... True or False?	• Discuss with a partner, your definition of... • Make a facts chart. • List all the...in a narrative. • Come up with a clever analogy.
Understand	Compare Discuss Explain Predict	• Can you provide an example of what you mean...? • Who do you think...? • Can you write in your own words...? • Who was the key character...?	• Create a chart of similarities and differences. • Retell the story in your words. • Illustrate what you think the main idea was. • Write a summary report of an event.
Apply	Determine Discover Express Predict	• What do you think will be the end result? • What more information can you gather on...? • How does this connect with....? • What do you think will happen when...?	• Create a synopsis of steps taken to determine the end result. • Research different methods used today. • Form a panel to discuss views, i.e. "Learning at School." • Think-pair-share with a partner about what will happen next.
Analyze	Compare Identify Investigate Relate	• What do you see as other possible outcomes? • What are some of the problems of...? • Can you compare your ... with that presented in...? • How does this connect with your everyday life?	• Construct a graph to illustrate selected information. • Make a diagram linking to the source of the problem. • Write a report about how this ties to what we're learning. • Discuss with a partner how this connects to you.
Evaluate	Conclude Interpret Support Validate	• Do you think ... was a good or a bad thing? • Is there a better solution to...? • Can you defend your position about...? • How effective was...?	• Prepare a case to present your view about... • Make a booklet about five rules you see as important. • Write about your feelings in relation to... • Give it a name and plan a marketing campaign.
Create	Develop Formulate Incorporate Summarize	• What ways can you expand your findings? • What questions still need to be addressed? • Can you give an example of what you mean by...? • Can you distinguish between...?	• Make a booklet about five rules you see as important. • Write a letter to ... advising on changes needed at... • Tie your learnings to another course you have taken and present. • Prepare a flow chart to show...

INNOVATIVE ACTIVITIES TO ENGAGE YOUR STUDENTS

	Actionable Verbs	Questions	Activities
Remember			
Understand			
Apply			
Analyze			
Evaluate			
Create			

HOW TO SELECT INNOVATIVE ACTIVITIES TO ENGAGE YOUR STUDENTS

Now that you have mastered the art of creating actionable learning outcomes and choosing effective assessment techniques, it's time to think about how you will be delivering your material to the students. Choosing innovative activities that support the learning outcomes you have set for your students will ensure that they are engaged and set up for success from the start of class!

Here are a few questions to ask yourself as you get started:

1 What cognitive level of Bloom's is your learning outcome driving at?

PRO-TIP: Recall the hierarchical structure i.e. Remember - Understand - Apply - Analyze - Evaluate - Create

2 How can you formulate questions based on the particular verb in the learning outcome?

PRO-TIP: Recall that each level of Bloom's has associated actionable verbs i.e. Define = Remember

3 How would you like to present those questions to the students?

PRO-TIP: For example, would you like students to answer those questions with a peer or own their own?

Linking learning outcomes and assessment techniques to chosen activities

Learning Outcomes	Cognitive Domain (Bloom's)	Assessment Technique	Activities
Example: **Learning Outcome 1.1** Students will be able to **explain** the importance of homeostasis in the human body including its effects on the body's physiological systems.	Analyze	Short-answer, Long-answer, Anecdotal	1. Students pair up with each other to create a visual representation which will be presented to the class.

The learning outcome above uses "explain" as its action verb, which requires students to analyze in this learning process.
This should immediately inform us what we should be able to assess (long answer responses, anecdotal data and/or short-answer responses) as a result of the performance of a particular activity.

Because students will have to explain homeostasis, an activity was created to explicitly drive the act of explaining.
You know you have selected the most appropriate activity if the outcome of the activity is tied to your assessment techniques.

SOURCES

1 Shields, Richard W. (2001). "1965: Benjamin Bloom publishes *Taxonomy of Educational Objectives.*" In D. Schugurensky (Ed.), *History of Education: Selected Moments of the 21st Century*. Retrieved May 25, 2018.

2 "Bloom's Taxonomy." *Encyclopedia Britannica*. Retrieved May 25, 2018.

3 Forehand, M. (2005). "Bloom's taxonomy: Original and revised." In M. Orey (Ed.), *Emerging Perspectives on Learning, Teaching and Technology*. Retrieved May 25, 2018.

4 "Bloom's Taxonomy Action Verb List for the Cognitive Domain." From Bloom et al (1964), *Taxonomy of Educational Objectives*. Retrieved May 25, 2018.

5 Soozandehfar, S. and Adeli, M. (2016). "A Critical Appraisal of Bloom's Taxonomy." In *American Research Journal of English and Literature*, Vol. 2. Retrieved May 25, 2018.

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