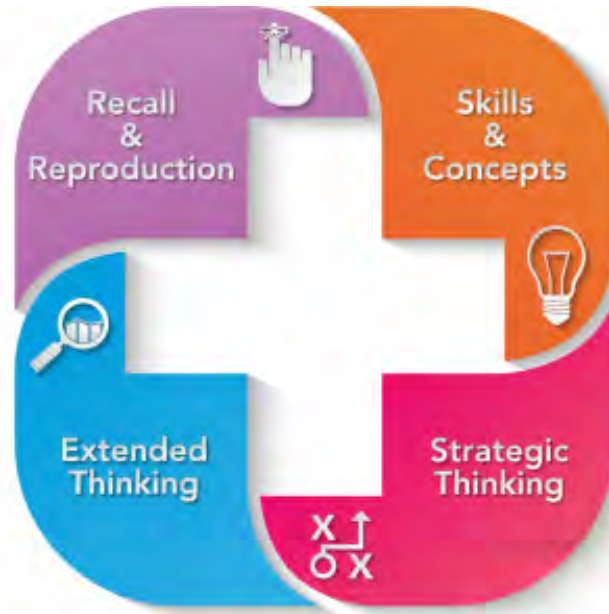


Depth of Knowledge



Bill Morelan, Ph.D.

EDLD Program Director
Arkansas Tech University

Bill Morelan: Director, Educational Leadership (EDLD) program at Arkansas Tech University.
30+ years in P-12 education

Norman Webb: Creator of the “Webb alignment” methodology and original DOK definitions in 1997. At the time, he was Senior Research Scientist for the Wisconsin Center for Education Research, funded in part by the National Science Foundation.

In 2023, Dr. Morelan published an article co-written with Dr. Webb to clarify DOK misconceptions (Edutopia, March 2023).

Depth of Knowledge

... is a process and criteria developed by Norman Webb (1997, 2002, 2019) for systematically analyzing the alignment between standards and standardized assessments.

It is also “one of the most misinterpreted and misrepresented concepts in education.”
(Francis, 2017)



DOK is not ...

... another trendy initiative.

It's a way of thinking about cognition that can significantly impact learning.



DOK is not ...

... a hierarchy with
higher level thinking skills at the top.
(It is not Bloom's Taxonomy.)



DOK is not ...

... a compartmentalized lists of verbs.
(There is no “DOK wheel.”)

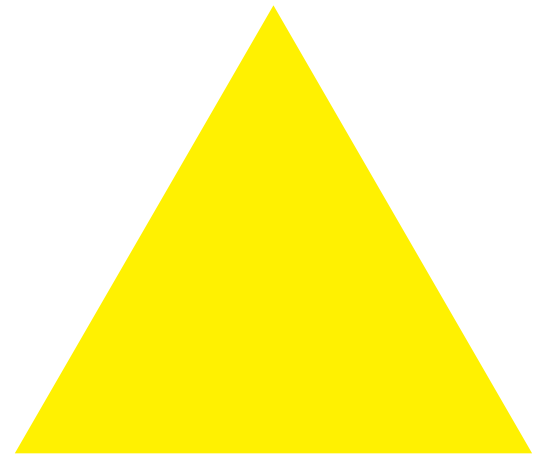
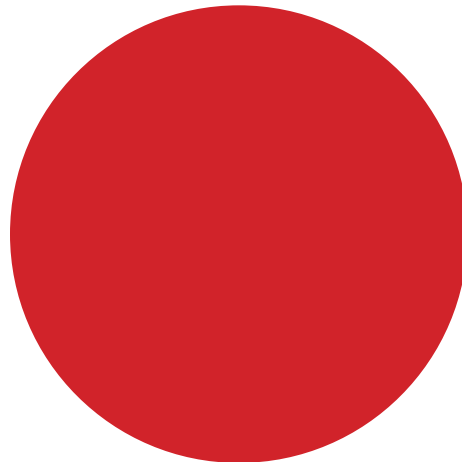


not!

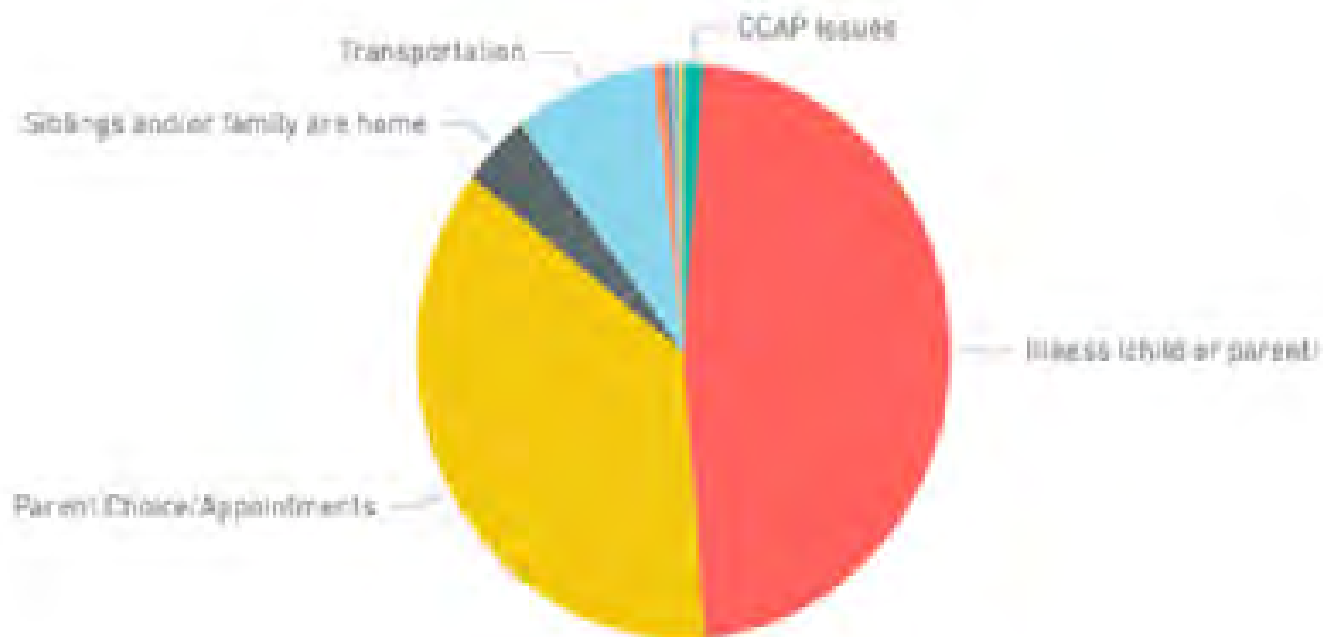


Verbs alone do not indicate the complexity of an expectation or task.

Identify the circle in this group of shapes.



Identify a strategy for addressing attendance issues using the following data.



Reasons for Absence



DOK is ...

“... a schema that focuses on the different levels of cognitive engagement needed to successfully complete a given task.”

- Norman Webb (2019)



In other words, **DOK** reflects how deeply a student must think in order to answer questions or complete activities.

Why is **DOK** important?

- Most teaching traditionally takes place at DOK Levels 1 or 2.
- **Standardized Tests** increasingly require skills at DOK Levels 3 and 4.
- **Post Secondary** requires the ability to perform at DOK Levels 3 and 4.
- Most **Careers** require the ability to function at DOK Levels 3 and 4.

Difficult vs. Complex

So it's obvious that schools must increase
RIGOR.

But “rigor” is often misinterpreted. It's not
just making assignments more difficult.

True rigor does not focus on **difficulty**,
but on **complexity**!

The **Game Show** Analogy (difficult vs. complex)

1



2



3



4



Masten, M. (2016)

DOK - Level 1

Recall / Rote Response

Level 1 tasks require students to primarily memorize and recall factual information.

Observation and recognition are also Level 1 skills, as are following simple procedures or rote responses using well-known formulas.



\$2,200

HUNTER

\$1,000

Amber

\$2,000

Barbara

Jeopardy

DOK - Level 2

Application of Concepts/Skills

Level 2 tasks require students to make decisions on how to approach a problem.

Level 2 skills include comparing, classifying, organizing, estimating, explaining, and predicting.

Level 2 tasks typically require multi-step procedures.



DOK - Level 3

Strategic Thinking

Level 3 tasks require students to use reasoning, planning, and evidence to solve problems with more than one answer, and to justify their responses.

Level 3 skills include developing logical arguments, recognizing and explaining misconceptions, and conjecturing or restructuring problems.

Examples include solving non-routine problems, designing an experiment, or analyzing characteristics of a genre.



Survivor

DOK - Level 4

Extended Thinking

Level 4 tasks require at least the complexity of DOK 3, but with extended time to complete the task. Students analyze and synthesize information from multiple sources over an extended period of time.

Level 4 tasks involve developing generalizations from obtained results and formulating strategies to solve new problems for a variety of situations.

Examples include designing a survey and interpreting the results, analyzing multiple texts and extracting themes, and writing an original myth in ancient style.



Shark Tank



Discuss different **DOK levels
required for your classes.**

**What are some ways you could
expand your **DOK** levels?**



To recap, **DOK** does not focus on how difficult an assignment is, but on the **complexity** required to complete the task successfully.

The **Scuba Diver** Analogy*

(the relationship between levels)



**Morelan, 2018*

The Relationship Between **DOK** Levels



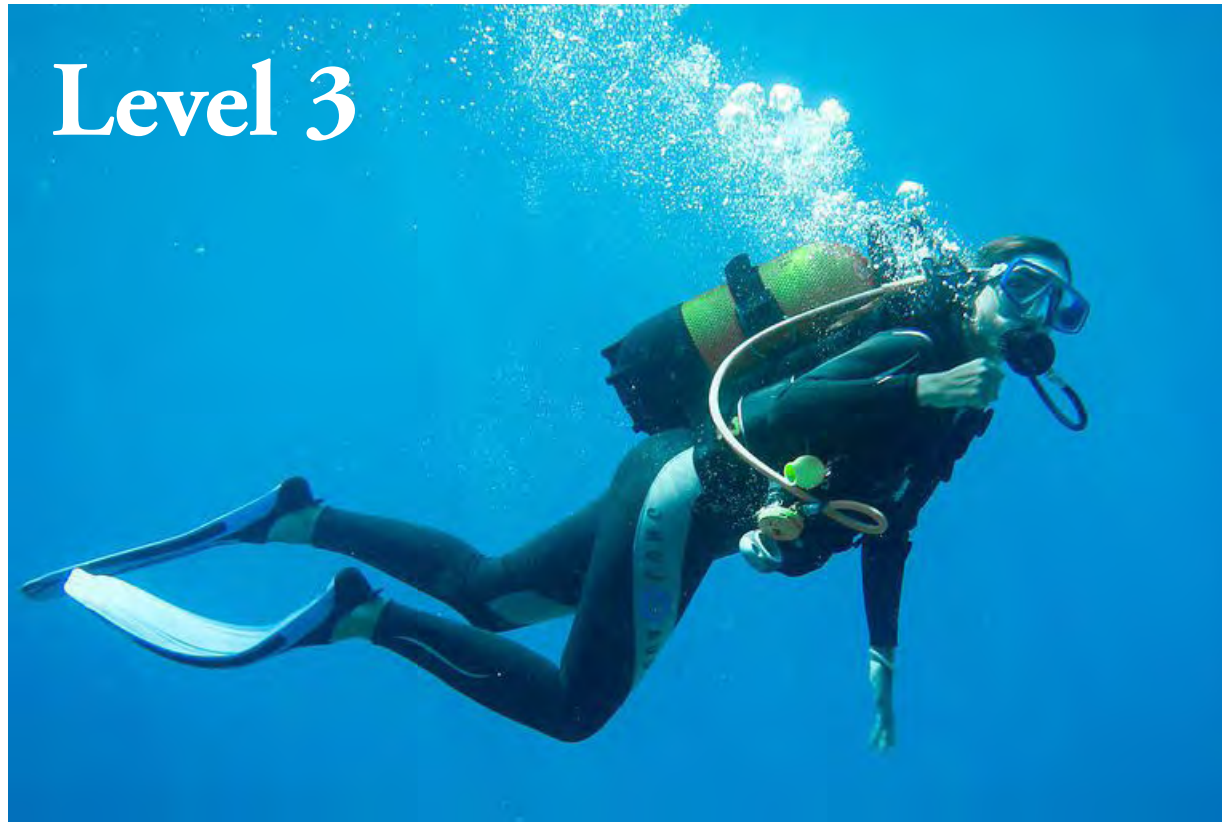
swimming

The Relationship Between **DOK** Levels



snorkeling

The Relationship Between **DOK** Levels



recreational diving

The Relationship Between **DOK** Levels



professional diving

Understanding the Relationship Between **DOK** Levels

Level 1



Level 2



Level 3



Level 4





Properly applied **DOK** leads to better lesson planning and deeper learning for students at any level.



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