

## Enhancing Medical Learning

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The following table summarizes the Six Levels of the Cognitive Domain first identified in 1972 by Benjamin Bloom. His explanation of how we learn has stood the test of time and has implications for medical education.

The levels he identified represent a progression from memorization to assessment of a process, product or program. In medical education, memorization, paraphrasing and interpreting, while important, are not sufficient in and of themselves. For physicians to understand and grapple with the complexities of the medical world, they must be able to analyze synthesis and at times assess what they are seeing.

Medical educators have built on Bloom's work and have suggested types of questions which can facilitate the higher order thinking important for reflective clinicians. Both educators and learners can use these questions to enhance thinking and learning.

	Type of Question	Descriptor	Examples
<p><i>Necessary but NOT Sufficient For Effective Learning</i></p>	<b>1. Memorization</b>	Factual and informative	Who, what when where, why What are the common characteristics of . . .
	<b>2. Paraphrasing</b>	Express ideas in a different ways	What is meant by . . . How can I restate . . .
	<b>3. Interpretation</b>	Recognize relationships	How is this similar to or different from . . . What are the implications of . . . What will the result be?
<p><b>TARGET</b></p> 	<b>4. Analysis</b>	Recognize and apply rules Break down into parts so the organization is clear/ See if conclusion supported by evidence	When is it appropriate to use . . . How do these examination maneuvers for ascites differ?*
	<b>5. Synthesis</b>	Use creative thinking for problem-solving Put elements into a whole Create an original plan	When might this work in a different setting? What would have to change? <i>Explain how mental status is related to physical condition.*</i>
	<b>6. Evaluation</b>	Make a judgment about the value or worth of material and methods	Did this have the desired effect? How satisfied am I with the outcome? Why do you think test A is more valuable than test B?*

Based on *Bloom's Taxonomy of the Cognitive Domain*.

\*Adapted from: Edwards, J. C, Friedland, J. A., and Bing-You, R (2002.) *Resident teaching skills*. New York: Springer Publishing.