

# Metacognitive Tools to Differentiate Thinking Skills

by Leonard Geddes



Students will begin the 2022–2023 academic year in our post-quarantine world with optimism and excitement to join their peers on campus. But many students will soon struggle as the reality of college work sets in. Their academic success depends on their ability to activate one specific metacognitive skill: students must know how to differentiate their thinking skills.

Here's a comparison to help illustrate what's happening with students. Around second or third grade, they learn to distinguish different monetary values. During this tender age they learn, for example, that a dime is worth ten cents, a quarter is worth twenty-five cents, and a dollar bill is worth one hundred cents. After nailing down the basics, they then learn that if they stack a ten-dollar bill, a five-dollar bill, and four nickels together, they have fifteen dollars and twenty cents.

Intriguingly, they learned to differentiate units of money well before they possessed

money. Why did they learn this skill so early? Because the skill of differentiating between monetary units is so essential that kids must learn it before participating in the economic world.

Unfortunately, such forethought was not put into the academic world. The ability to differentiate among thinking skills is a threshold skill. Students must possess this skill to do cognitively complex work. It is as indispensable to academics as differentiating among monetary units is to finances. Yet this skill isn't usually taught.

Differentiating thinking skills is essential to academic work because it enables students to do three critical regulatory functions:

1. Figure out the cognitive performance requirements of academic tasks.
2. Align their cognitive skills with the task requirements.
3. Ensure that what they've learned matches what professors will assess.

As research suggests, students who lack this skill will waste time by shifting their effort in the wrong direction or studying for the wrong outcomes.<sup>1</sup> When this skill is missing, academic work is untenable, and success is inconsistent.

Have you noticed that students may perform well on quizzes and low stakes writing assignments, yet these same students fail tests and fall short on complex writing projects? Well, the likely reason is that the thinking requirements are qualitatively different. This problem can't be solved by hard work. However,

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<sup>1</sup> Kelemen, W.L. (2000). Metamemory cues and monitoring accuracy: Judging what you know and what you will now. *Journal of Educational Psychology* 98(4) pp. 800 - 810.



it can be solved by effective thinking. And it's impossible for students to think effectively if they can't differentiate among thinking skills.

I've created six metacognitive tools that have helped students differentiate among thinking skills. Here's an introduction to three of these tools.

### The ThinkWell-LearnWell Diagram



Help students become more attuned to the mental mechanisms that produce the correct study outcomes. This tool empowers students to control their thinking.

### The Outcome Decoder Tool



Help students figure out the language educators are using to communicate their cognitive standards. This tool equips students to align their thinking.

### The Awareness and Optimization Activity



Help students become more sensitive to their past thinking and adjust for future success.

Using even one of these tools will put students on a path to take control of their academic performance. In the beginning, use these tools as external guides for students to map out their learning. The ultimate goal, however, is for students to internalize these tools and use them as metacognitive metrics to gauge their thinking and learning. If you're looking for "the one thing" that you can do that will give you the greatest return, then I suggest you use these tools to teach yourself, your

student, your child, or anyone you care about to differentiate among thinking skills.

Visit [thelearnwellprojects.com/tools](https://thelearnwellprojects.com/tools) to access these tools. Also, check out my videos on YouTube at [youtu.be/cuB\\_4jImrZk](https://youtu.be/cuB_4jImrZk) and [youtu.be/eaTGkBLGsu0](https://youtu.be/eaTGkBLGsu0) for a more in-depth overview on differentiating thinking skills.

In the next article, I will continue sharing how this skill changes the very essence of academic work by changing the quality metrics students use to judge their learning and knowledge.



Leonard Geddes is founder of The LearnWell Projects, an academic success organization devoted to making learning more visible, manageable, and effective. His work leverages metacognition research to optimize student learning, enhance faculty instruction, and improve institutional outcomes. Leonard provides workshops and trainings for colleges and universities throughout North America.

## Testimonials

"I never realized how much control I could have over my thinking and performance until I learned this skill."

SANTANA, UNIVERSITY OF CALIFORNIA AT SAN DIEGO

"I wish I had learned this skill earlier. I am now completing my dissertation, and my work has been much smoother since using the ThinkWell-LearnWell Diagram."

PARTICIPANT, 2021 SACSCOC QEP ANNUAL MEETING