

From Task Completion to Cognitive Engagement: Making the Case for the Hourglass Paradigm of Learning

📅 October 27, 2025 ✎ Dr. Daniel Super and Dr. Jeremy Logsdon(<https://www.facultyfocus.com/author/ff-superlogsdon/>)



College students are mastering the art of “doing school” – but far too few are actually learning (Geddes et al., 2018; Stevens & Ramey, 2020; Weinstein et al., 2018). The widespread use of artificial intelligence tools among students complicates the learning process by blurring the line between genuine understanding and task completion (Gawande et al., 2020; Jie & Kamrozzaman, 2024). It is incumbent on faculty to design learning experiences that prevent students from mistaking a passing grade for a genuine education.

This hourglass paradigm, created by Western Kentucky University education faculty, outlines key stages of effective learning and aligns with current understanding of how the brain processes and retains information (Mahan & Stein, 2014). It functions as a conceptual guide, helping students contextualize instructional content within a broader framework of cognitive engagement. The hourglass shape represents the complexity and intellectual rigor inherent in genuine learning – an endeavor that far exceeds the passive acts of listening, reading, and rote repetition. Many students, shaped by their P–12 educational experiences, have developed habits that emphasize completing tasks over engaging deeply with the learning process. In high school, success often comes from passive methods like re-reading notes or even something as simple as listening attentively in class (Gurung & Dunlosky, 2023). These habits often persist into college, where students may misplace effort on checking boxes rather than meaningful engagement with the content. While this approach may yield favorable academic outcomes in the short term, it infrequently results in deep understanding.

(<https://s39613.pcdn.co/wp-content/uploads/2025/09/The-Reading-and-Learning-Hourglass.png>)

Figure 1 – *The Reading and Learning Hourglass*
Note. This figure was created by the authors.

Top Half of the Hourglass

The top half represents what students are expected to do when first exposed to novel material – either in lecture or when reading.

Step #1 – Establish a Purpose

This requires students orient themselves toward finding specific information. What specific information are they expected to discern while listening or reading? What are they supposed to do with the information they find? Purpose establishes reason for attention – a key component in encoding the visual/auditory stimuli (Dubinsky & Hamid, 2024). Good teaching provides purpose and directs attention to the most important information.

PRACTICAL APPLICATION FOR INSTRUCTORS

Clearly communicate the purpose of each lecture, reading, or activity. Assign reading surgically – not whole chapters at once. Frame lessons with guiding questions or objectives that help students focus their attention and recognize what they are expected to learn and apply.

Step #2 – Extract Evidence

As students encounter information meeting the established purpose, they deliberately document (extract) the evidence. This, too, is an important part of the encoding process. It focuses attention, moving students from a passive state during which the mind is prone to wander to an active state of responsibility requiring productivity.

PRACTICAL APPLICATION FOR INSTRUCTORS

Assign students a specific task during lectures or readings (e.g., identifying key arguments, examples, or terms) and require them to record and reflect on these findings. This encourages active engagement and accountability during knowledge acquisition.

Step #3 – Make Sense

Sense and meaning are both necessary for long-term learning, but they are different constructs. Sense means that something is *readily comprehensible* and *consistently applied* (Sousa, 2011). After students have extracted the evidence, do they comprehend the material? This is a stopping point if the answer is “No.” They should either revert to the material to try to make sense of it or ask questions of the instructor/classmates (or even generative AI, as permitted) to ensure comprehension.

PRACTICAL APPLICATION FOR INSTRUCTORS

Pause periodically to ask comprehension questions or pose simple checks for understanding. Encourage students to identify confusing parts and model how to work through confusion by thinking aloud or unpacking difficult concepts together.

Step #4 – Form Meaning

Meaning is about connections and relevancy. Once the information has been extracted and is comprehensible, the next step is determining how it connects to other information. To what other concepts is it related in the subject/discipline? How does it connect to something the student knows personally? Formation of meaning and sense making are both crucial steps in the process of consolidation – the second step in the formation of long-term memory/learning.

PRACTICAL APPLICATION FOR INSTRUCTORS

Help students connect new content to prior knowledge by explicitly referencing past lessons or real-world examples. Use prompts such as “How does this relate to what we learned last week?” or “Where have you seen this concept applied outside of class?”

Bottom Half of the Hourglass

With the passage of time comes opportunity to study the information. Studying requires consolidation, retrieval, and active production. If students are simply re-reading information or listening again to recorded lectures, they are still in the top half of the hourglass and are not yet studying – they are simply revisiting the knowledge event. Sometimes review is necessary to ensure sense and meaning. However, students need to understand that unless they are producing something new through active retrieval, they are not studying.

Step #5 – Integrate Knowledge

After students have read multiple assignments and listened to numerous lectures, the resulting notes must be integrated into a cohesive body of knowledge. Students must synthesize this information rather than treating each reading or lecture as a discrete element – a process that supports deeper consolidation over time (Squire et al., 2015).

PRACTICAL APPLICATION FOR INSTRUCTORS

Design cumulative tasks that require students to synthesize information into thematic essays, comparative analyses, or concept maps. Encourage students to revisit and reorganize their notes periodically to build coherence across topics.

Step #6 – Reproduce Knowledge

The best way to study to facilitate long-term learning requires active retrieval (Karpicke, 2012; Sosa et al., 2018). This process strengthens neural connections by repeatedly firing related pathways, leading to long-term potentiation – essentially, learning. Crucially, retrieval typically involves unaided recall; the value lies in the act of retrieval itself, not the product it creates. Reflection and verbal production counts as retrieval even though the product is intangible.

PRACTICAL APPLICATION FOR INSTRUCTORS

Design assignments that require students to produce something from memory (e.g., timed short-answer questions, practice exams, or unprompted written explanations). Encourage use of retrieval-based study tools and de-emphasize passive review.

Step #7 – Share Knowledge

Students often do not know when to stop studying. Many are surprised when asked when studying should stop – the answer feels obvious: “When the test is on my desk!” In reality, studying ends when one can teach the material to someone else. As the final step of the process, the reproduction of knowledge should be so comprehensive and fluent that the students can teach the material to a peer or another individual unfamiliar with the subject matter.

PRACTICAL APPLICATION FOR INSTRUCTORS

Create opportunities for students to teach each other. Incorporate peer instruction, study partnerships, or group teaching assignments where students must explain key ideas to classmates or create short instructional videos.

In a time when grades are often mistaken for understanding and AI tools tempt students to outsource cognitive effort, we must reclaim the purpose of education. The hourglass paradigm reframes learning as an active, metacognitive process – one that challenges students to move beyond passive habits and toward lasting intellectual growth. By designing instruction that aligns with how the brain learns best, we as faculty can help students learn how to learn and not just how to pass. This is not just a pedagogical preference; it is a professional obligation.

Dr. Daniel Super is a Clinical Associate Professor in the School of Teacher Education and director of the Barbara and Kelly Burch Institute for Transformative Practices in Higher Education at Western Kentucky University.

Dr. Jeremy Logsdon is an Assistant Professor in the School of Teacher Education and director of the Center for Literacy at Western Kentucky University.

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RE: [EXTERNAL] Re: Article Submission for Faculty Focus

From Matt Nieman <Matt.Nieman@magnapubs.com>

Date Tue 9/16/2025 10:05 AM

To Super, Daniel <daniel.super@wku.edu>

Cc Logsdon, Jeremy <jeremy.logsdon@wku.edu>

Hello Daniel!

Thank you so much for checking in and my sincerest apologies for the missed communication on my end! I did review, approve, and place your and Jeremy's submission in our publication queue, but looking back in my records, completely missed actually communicating that to you after my initial message! I'm very sorry for that!

Our publishing schedule is currently full through September and the first half of October so my plan is to publish your piece in the end of October. I will be working on those weeks throughout the rest of this month so I will give you an official date by the end of September.

Apologies again and let me know if you have any questions or need anything else!

Thank you!

Matt Nieman

Faculty Focus Editor

Content Coordinator

Magna Publications, Inc.

2718 Dryden Dr.

Madison, WI 53704

Phone: 608-227-8106

Email: matt.nieman@magnapubs.com

Website: www.facultyfocus.com, www.magnapubs.com

From: Super, Daniel <daniel.super@wku.edu>

Sent: Tuesday, September 16, 2025 9:26 AM

To: Matt Nieman <Matt.Nieman@magnapubs.com>

Cc: Logsdon, Jeremy <jeremy.logsdon@wku.edu>

Subject: Re: [EXTERNAL] Re: Article Submission for Faculty Focus

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Good morning, Mr. Nieman -

I hope this message finds you well. I am writing to inquire about the status of our submission to *Faculty Focus*. I realize that review timelines can vary, and Dr. Logsdon and I greatly appreciate the time and effort required to coordinate this process.

If you are able, we would be grateful for any updates regarding the review progress or anticipated next steps. Thank you very much for your attention and for the work you and your team do to facilitate the review process.

Daniel



Dr. Daniel Super | Director | 501 Regents Ave | 270.745.3510
Institute for Transformative Practices in Higher Education
<https://wku.zoom.us/my/dr.super>

From: Matt Nieman <Matt.Nieman@magnapubs.com>
Sent: Tuesday, June 17, 2025 9:44 AM
To: Super, Daniel <daniel.super@wku.edu>
Cc: Logsdon, Jeremy <jeremy.logsdon@wku.edu>
Subject: [EXTERNAL] Re: Article Submission for Faculty Focus

Hello Daniel!

Thank you both for your submission! The review process takes between four to eight weeks. Once we review the article, I will update you on its publication status.

Have a great day!

Matt Nieman

Content Coordinator

Magna Publications, Inc.

2718 Dryden Dr.

Madison, WI 53704

Phone: 608-227-8106

Email: matt.nieman@magnapubs.com

Website: www.magnapubs.com

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Good morning -

Please find attached our article, respectfully submitted for consideration for publication in *Faculty Focus*. Brief bios for each author are included below:

Dr. Daniel Super is a Clinical Associate Professor in the School of Teacher Education and director of the Barbara and Kelly Burch Institute for Transformative Practices in Higher Education at Western Kentucky University.

Dr. Jeremy Logsdon is an Assistant Professor in the School of Teacher Education and director of the Center for Literacy at Western Kentucky University.

Thank your for your consideration.
Daniel



Dr. Daniel Super | Director | 501 Regents Ave | 270.745.3510
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