

# **The Colket Center Approach to AI and Student Learning**

Compiled by the Colket Center Offices: Office of Culturally and Linguistically Diverse (CLD) Education, Ruth Barth Writing Center, Quantitative Reasoning Center (QRC), Spatial Literacy Center (SLC), and Speaking Center

## **Colorado College's Motto**

**Scientia et Disciplina: "Learning Through Hard Work"**



### **Colket Center Approach to AI Use**

In an academic climate calibrated to challenge all students, the Colket Center facilitates student learning, cultivates intellectual community, and supports students in developing skills they can apply broadly across and beyond the curriculum. To do this, we take an intentional approach to learning that views effort, productive struggle, and sociocultural contexts as crucial components of the learning process and developing knowledge. By valuing the learning process over finished products, learned material is better internalized for future recall and application. With regard to Generative AI, we support use that aligns with these principles. We recognize the [College's philosophy and guidelines](#) for AI use and offer observations and strategies for learning that we have seen lead to academic success for students.

## **WHAT DOES THE ABOVE STATEMENT MEAN FOR STUDENTS?**

Based on our current knowledge of AI and the learning process, it's probably best to avoid AI use in your studies unless your professor has purposefully integrated it into the course.

## WHAT ARE THE CONCERNS WITH USING AI IN YOUR STUDIES?

Current research does not support using AI for learning new material or in retaining your existing knowledge/skills.

- **AI reduces brain activity and connectivity.** Or as Kosmyna et al. (2025) put it, “Over four months, LLM users consistently underperformed at neural, linguistic, and behavioral levels.”
- **Students who study with AI retain less knowledge** than people who study with traditional means (Barau, 2025).
- **AI use can lead to “metacognitive laziness”** which means allowing AI to do all the goal-setting and reflection for you (Dizon et al. 2026). As a result, you are less aware of your learning and cognitive processes.
- **AI use can make you lose the skills you already have**, a process known as “deskilling.” Doctors who used AI to identify cancerous growths became less reliable at identifying those growths themselves, and software engineers who relied on AI to complete coding tasks scored worse on a quiz about those tasks than engineers who did the work without AI (Lenharo, 2026).

Why does this happen? Is there something different about AI?

Not really. Technologies of all kinds can make learning “too easy.” Prior to AI, Google Maps has led to people being worse at reading and navigating maps ([Dahmani and Bohbot, 2020](#)). Relying on technology can reduce our mental engagement to such a point that we are no longer learning but becoming dependent on that technology to think and act for us.

If some technology can inhibit learning, that leads to a new question...

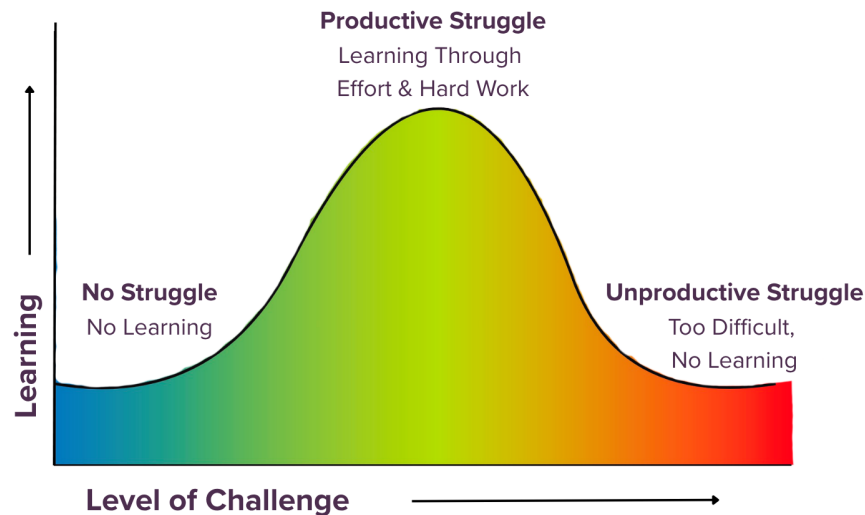
## HOW DO WE LEARN?

As stated above, the Colket Center views learning and developing knowledge through two central principles:

- 1) Learning is a result of effort and hard work
- 2) Social interaction facilitates learning

## EFFORT AND HARD WORK

In order to learn anything, from schoolwork to a new sport to a new hobby, we need to expend effort. This **productive struggle** is what the CC motto is about: Learning through hard work. One way to view this is through a struggle spectrum.



Taking a class on how to text your friend would not involve struggle or effort, so you wouldn't learn. At the other end of the spectrum, jumping straight from Algebra to Calc 2 would put you in the far right -- you don't have the foundation to be successful, so no amount of effort or struggle may help you succeed.

No matter how hard you work, the big picture of learning and developing knowledge combines 3 key elements:

1. working to remember and recall what you've learned (i.e., retrieval)
  2. continually connecting old material with new material (i.e., interleaving)
  3. varying what you learn by applying in new contexts (i.e., transfer)
- Combining and using these three elements, the big picture is that "learning" occurs as facts and information become consolidated as knowledge in long-term memory (for more on this, talk to QRC director Steve Getty or check out Brown, Roediger, McDaniel, 2014)

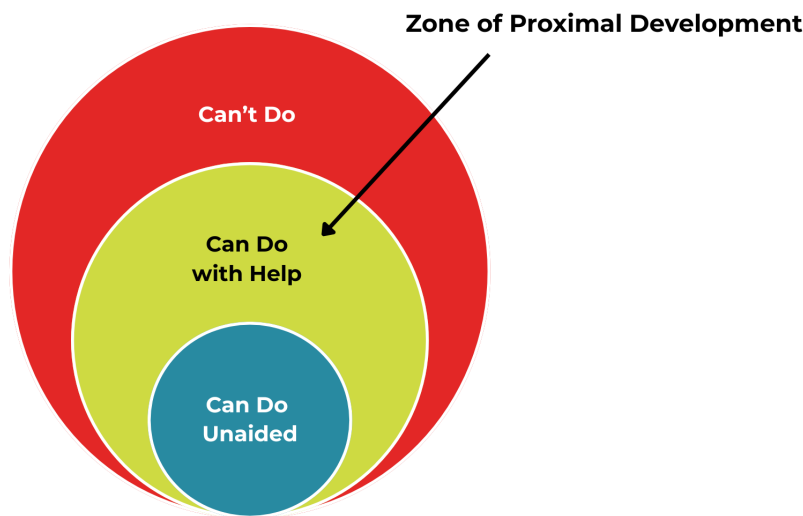


Consider AI again. You'll see that AI can interfere with all three of these key elements of knowledge creation. If you are underperforming mentally and not retaining information, you will find it difficult to build knowledge.

## SOCIAL INTERACTION FACILITATES LEARNING

Can you learn on your own? Of course you can. But one of the reasons we go to school is because **interacting with others takes our learning to the next level.**

The Zone of Proximal Development is an excellent visual model for how learning works in social contexts.



We have a much greater capacity for learning when we involve other people, whether those people are family, friends, classmates, peer tutors, college staff, professors, or other professionals working in their field. This is not just because these people may have more knowledge than us. It's because they have developed behaviors and processes that help us learn.

When you work with a professor or go to a tutor, you don't just see the final products they make. **You see them engaging in behaviors that you can replicate**, whether that's the kind of questions they ask of a text, the way they write out an equation, or how they interact with a certain technology. This gives you a **model** for how to approach learning (Svinicki 2004).

Ultimately, the reason collaborative learning can be successful is because you have more information; it stimulates creativity; and it enhances information recall because participants are actively involved in the process. In addition, students are more satisfied with the outcome (Beebe 2021).

## COLKET CENTER CONSIDERATIONS REGARDING AI USE

- **Keep it social** - Use AI with another person. Using AI by yourself can lead to a closed feedback loop – AI is trying to give you the answers you want, rather than the ones that would actually help you grow. Put another person in the loop to break that cycle and critically evaluate what AI is saying.
- **Support your cognitive processes, don't replace them** – Think of your brain as a muscle – you need to exercise it in order for it to get “stronger” and for you to get “smarter” and know more. For example:
  - Make your own flash cards, and don't have AI do it. Flash cards aren't just for testing your memory. The process of making the cards is where you synthesize content for assessments of your learning. Be aware of the process, not just the product.
  - Use self-testing and quizzes from your course to support recall and transfer. This helps you see your progress, where you might be falling short, and best next-steps.
- **Use AI as a starting point** – Just as you might use Wikipedia to get a quick overview of a new topic, or to remind you of material you learned before, AI can help you get your feet wet. However, you should quickly move to credible published sources.
  - Be careful when brainstorming. Does your professor intend for you to use your own knowledge base, or are you allowed to use AI to suggest new directions? Also make sure you are guiding it rather than it guiding you.
- **Avoid using AI for a process (like coding or analyzing data) unless you already have mastery of the foundational skills and concepts** – If you have not mastered basic skills and had opportunities to practice thinking through ideas for yourself, it is difficult to recognize the limitations of inaccurate responses from GenAI. Despite the confidence exuded in a GenAI response, the tool is not infallible. Never accept an AI-generated result without checking it against official resources, documentation, or literature.
  - Even then, remember “deskilling.” Relying on AI too much for these processes can make you lose the skills you've developed, so approach such use with caution.

## ALTERNATIVES TO USING AI

- **Are you looking up sources?** Do a regular Google search – without the AI Overview. Research shows that using traditional web search methods improves learning: ([Shah & Bender, 2022](#); [Melumad & Yun, 2025](#)).
  - *Pro-level:* Talk to the research librarians! Also, check with your instructor regarding the reference list you've compiled.
- **Are you summarizing readings?** Reading and synthesizing material is an essential skill, not just in college, but in life. Beware of giving that skill over to AI. Carve out time for reading.
  - *Pro-level:* Talk to tutors or staff in Colket, the Advising Hub, and Accessibility Resources about reading strategies that will increase your speed and comprehension without sacrificing your cognitive development.
- **Are you studying?** Studying requires effort and concentration, and should be difficult. If you're using AI to make it easy, you may be short-circuiting a key part of the learning process. Don't use AI to make flash cards or write your notes (Van der Weel & Van der Meer, 2024; Lau, 2022). The process of creating those things is where you learn. You can also study in groups, so you can reap the benefits of peer learning. Your instructor might also have study tips from their experience teaching that course.
  - *Pro-level:* Go to Colket for help with your studies.
- **Are you handling data?** Don't rely on AI to do it all for you. If you don't know the basics behind the data, you won't know how to write useful prompts or how to assess the output AI gives you.
  - *Pro-level:* Go to the QRC and SLC.
- **Are you running out of time?** We all have experienced a time crunch just before a project is due. But if you rely on AI to finish it now, what will happen when you're not short on time? Will you still use it? Research suggests you will. Don't get caught in the habit. You don't get stronger by skipping your workout. You won't get smarter by bypassing learning.
  - *Pro-level:* Have an honest conversation with your instructor regarding possible solutions.
  - Go to Colket for help with your academics. Consider academic coaching from the Advising Hub to help with time management.

- **Are you writing?** Some writers use AI for spell check, idea generation, and critiquing or honing arguments. However, beware of letting AI do all your thinking for you. Not only does this harm your cognitive development, it can be a slippery slope to becoming increasingly reliant on AI for all aspects of writing.

Even more important, don't let AI take over your voice. AI has been shown to flatten writing, until everyone's writing sounds similar. Your writing voice is an important part of your identity and can uniquely express what you bring to the table. Don't give that up.

- *Pro-level:* Go to the Writing Center. If you are a CLD writer, you can also go to the CLD office or meet with CLD certified tutors in the Writing Center.
- **Are you preparing for a speech?** Anxiety plays a large role in attitudes around public speaking. The audience for your speech will be human, so practice with and get tips from a human to raise confidence and enhance your credibility.
  - *Pro-level:* Go to the Speaking Center