

# Teaching Study Skills

Teaching students how to study while learning content is not currently popular, but we think it should be. We attended school in the 1970s and 1980s and were directly taught how to study. We were not expected to do something that we had not been taught, but some students have that experience now. It just doesn't seem fair to engage students in a summative assessment of their learning if they haven't been taught both the content and how to study that content.

We're not sure why study skills are less popular in this century. Perhaps new expectations consumed our collective energy and we focused on designing lessons to meet them. Or we focused on the role of learning in a specific discipline. Or we changed our assessments of student learning to be more problem- and project-based, so it seemed that students didn't need to know as much about studying.

To check our assumption about the decreased emphasis on study skills, we searched EBSCO databases of journal articles using the terms "study skills instruction" and "study skills strategies." The most recent article we found was from 2001, and most of the articles were from the 1980s and 1990s. At least by this reckoning, study skills are discussed less frequently now than they were in prior decades.

## Evidence for Study Skills

Hattie (2009) synthesized substantial research evidence in his book *Visible Learning*. Some have raised concerns about his approach (e.g., Shanahan, 2017), and yet the data are enduring and compelling. Although we recognize some of the technical limitations of the tools that Hattie used, it's hard to argue with the collected evidence that has more than 300 million students represented. Hattie summarized the research of others and generated effect sizes to estimate the impact that a given approach will have on students' learning. Effect sizes allow for comparisons across multiple studies and can be aggregated to determine whether something is likely to work. Study skills have an effect size of 0.59. This is well above the hinge point of 0.40 that Hattie identified as ensuring a year's worth of learning for a year's worth of schooling.

Well before Hattie (2009) wrote *Visible Learning*, Devine (1987) published a popular book titled *Teaching Study Skills*. He provided a rationale for the use of study skills techniques and tools that teachers could use to build their students' habits. In 2002, Gettinger and Seibert wrote a thoughtful review of the evidence for study skills and provided readers with ideas they could use in classrooms. Suffice it to say that there is evidence for study skills instruction within content area instruction.

## Study Skills Defined

Study skills are a constellation of competencies that allow students to acquire, record, organize, synthesize, remember, and use information (Hoover & Patton, 1995). Who wouldn't want students to be able to do those things? They are important in learning content, and they are transferable, allowing students to apply what they have learned in new situations.

Hattie (2009) suggested that study skills could be organized into three categories: cognitive, metacognitive, and affective. Cognitive study skills usually involve a task, such as note-taking or summarizing. Metacognitive study skills describe self-management, such as planning and monitoring, as well as recognizing when to use various cognitive strategies. Affective study skills involve motivation, agency, and self-concept. As Hattie noted, teaching study skills in isolation can improve students' surface learning. However, teaching study skills in concert with content areas can improve deep learning. Elementary classrooms are ideal places to build study skills as students generally have the same teacher for all subjects. Thus, teachers can integrate study skills into their science, social studies, and art lessons. As students move to middle school and high school, teachers should be aware of study skills and integrate them into their content area lessons.

## Teaching Cognitive Study Skills

As Devine (1987) noted, there are a number of study skills that elementary students can learn. There are far too many tools to cover here, so we'll focus on five: mnemonics, note-taking, graphic organizers, flashcards, and summarizing.

## Mnemonics

While learning the cardinal points of the compass, students in Michael Saunders's (all names are pseudonyms) first-grade class were introduced to the mnemonic "Never Eat Shredded Wheat" to help them remember the directions in the correct order, clockwise, starting at the top. But as Mr. Saunders said to his class, "I really like shredded wheat, so I don't like to try to remember the directions with this saying. How about each table group come up with a different mnemonic that they can use to remember this information?" One of the groups came up with "No Evidence Sorry Writers," and another group suggested "Never Eat Shaved Walrus."

## Note-Taking

Note-taking is a powerful study skill when used correctly. For example, fifth-grade teacher Michelle Hampton uses Cornell notes, in which pages are divided into three sections. The major column is on the right, a minor column is on the left, and there is space at the bottom across the two columns. Students take notes in the major column but do not use the other two until they are ready to study. When they study their notes, they list key ideas in the minor column on the left and then summarize their notes at the bottom of the page (see Figure 1). When Ms. Hampton's class was studying the water cycle, they watched a short video that was included in the instructional materials the district had purchased. Ms. Hampton asked her students to take notes during the video to encourage active involvement. Because they have used Cornell notes before, the students immediately took out their science notebooks, added an entry in the table of contents, and turned to a blank page, ready to collect information.

## Graphic Organizers

Visually organized information can help students see connections between the ideas and information they are learning. The key to using graphic organizers as a study skill is to ensure that students are not simply copying from their teacher. Instead, students need to be given information and then encouraged to select a graphic organizer that will allow them to represent the information. For example, the students in Marco Jimenez's fourth-grade class were studying the similarities and differences between the state government and the federal government. The

students had read from their textbook, watched a video, engaged in a class discussion, and heard their teacher talk about this. They had a lot of information, but Mr. Jimenez knew that they wouldn't remember it, much less be able to use the information, if they didn't study it. He asked his students to think about all of the graphic organizers that they had used and to identify one that they believed would work to capture similarities and differences. Carlos chose a Venn diagram (see Figure 2), whereas Natalie selected a tool that allowed her to name each factor and then note how it was used in the state and federal government. In all, there were six different tools selected by the students in Mr. Jimenez's class.

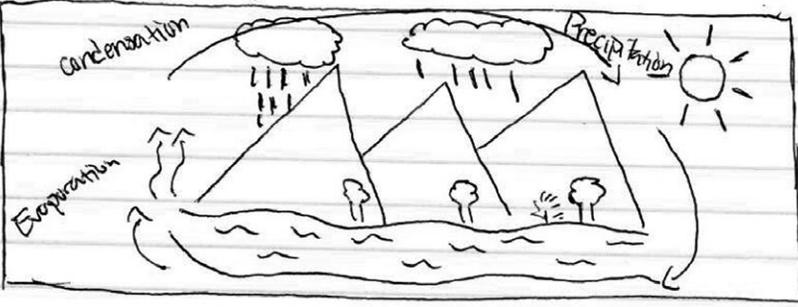
## Flashcards

This sounds very old-school, but flashcards (and their digital equivalents, such as Quizlet.com and the Chegg app) can help students remember information. Of course, students need to do more than remember information, but remembering is important. The third-grade students in Hiroko Mayekawa's class used a free app called StudyBlue, which allows users to create flashcards with text, pictures, and audio. During their investigation of biomes, students were focused on diverse life forms from different environments. Ms. Mayekawa asked her students to create a series of flashcards so that they could remember the various biomes, the environmental conditions of those biomes, and the types of animals that lived in the environment. In doing so, she provided her students with a lot of options about what to include, and the app provided them options for how to include their information. In creating the flashcards, students were studying the biomes. And in practicing with their flashcards, they were continuing to think about the content they were expected to learn.

## Summarizing

Writing summaries of content area information is another way to study. Importantly, it's not the only way that students should study, but when they write summaries about their learning, they start to chunk information in ways that they can remember. Ideally, students summarize across multiple sources of information. This provides them with an opportunity to integrate ideas. Unfortunately, students often write summaries that are longer than the original sources they read, and they often use the exact same words as the author used. They need to be taught to

Figure 1  
Cornell Notes

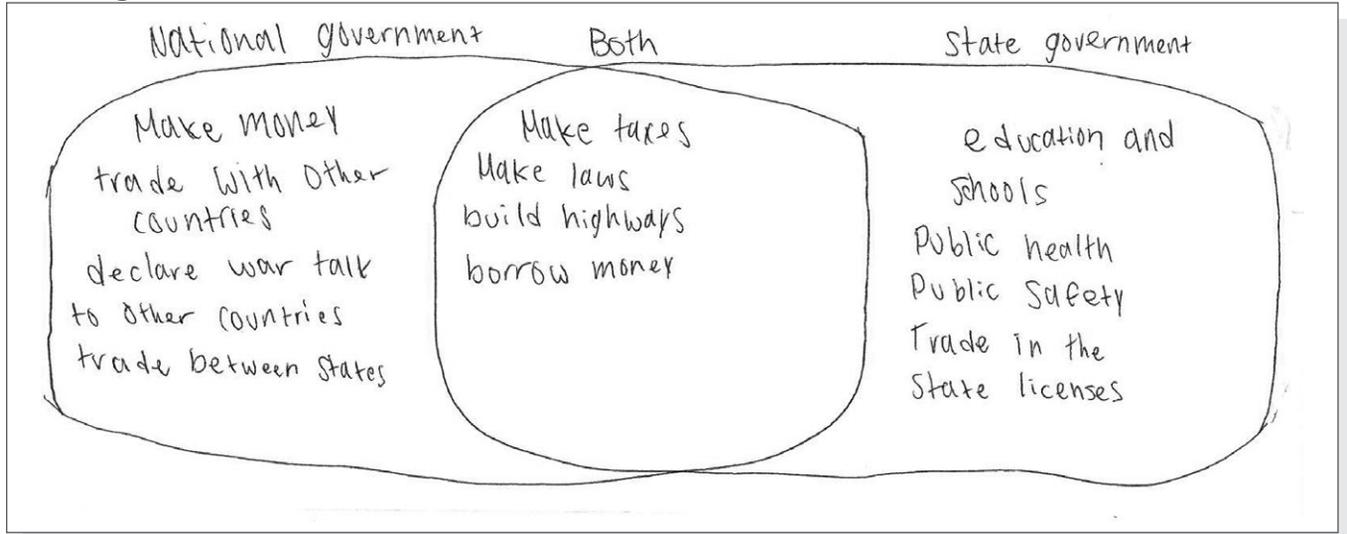
Cues	Notes
Water	The water today is all the water there has ever been on earth
Flows and Stores	water is stored in clouds, Oceans, Snow, lakes
Precipitation: (Flow)	Rain, snow, hail falls in streams and mountains
Evaporation (Flow)	Water turns into vapor by the sun
Condensation (Store)	<p>Water vapor goes into clouds</p> 
Summary	<p>All the water in the world is in the water cycle. The three stages are precipitation, evaporation, and Condensation,</p>

summarize by identifying keywords in the sources and then generating sentences on their own around the key terms.

Andrea Stein teaches her sixth graders to summarize as they read. Ms. Stein models summary

writing for her students before asking them to take on this task. In addition, she meets with students during their conferring time to talk about the summaries that they have written. For example, while meeting with Jacob to talk about his summary of

**Figure 2**  
**Venn Diagram**



women in ancient civilizations, Ms. Stein says, “How are you feeling about your summaries this week?” And Jacob responds that he thinks that they are improving and that he is keeping focused on the main ideas. Ms. Stein agrees, adding, “In this summary, you have three main points, the same as the author. It seems to me that was a good choice. How did you decide to do that?” Jacob responded,

So, I was thinking that I couldn't really leave any one of them out. I mean, some women in Greece dressed like men to go see sports. That's a detail, but I think that it

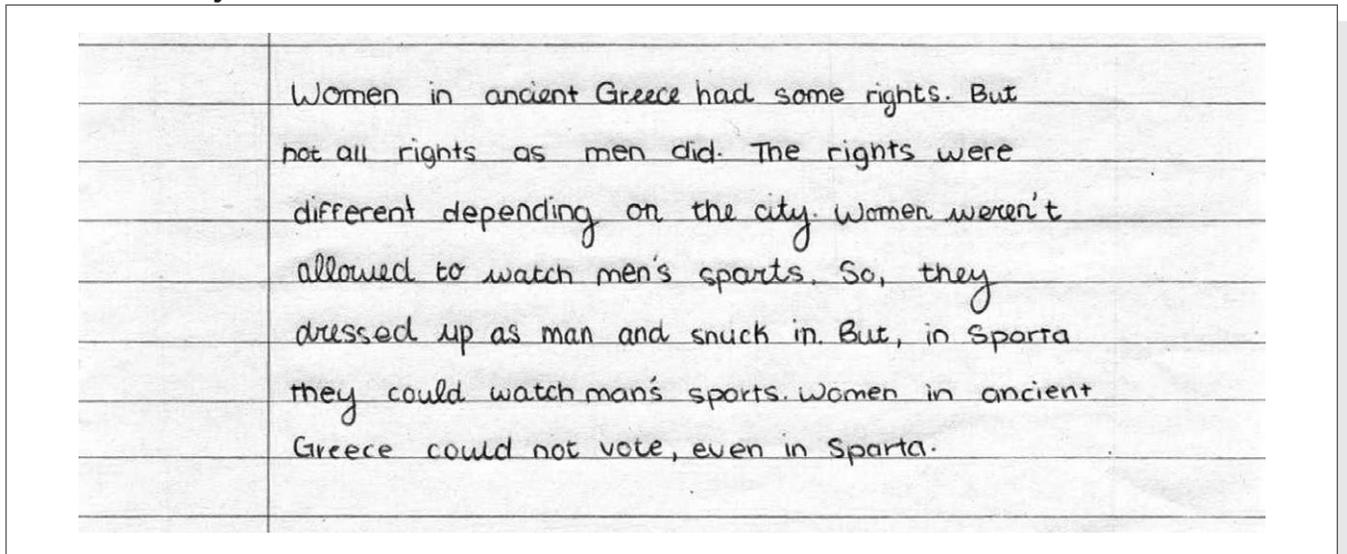
is important because that is different from women in Sparta.

Their conversation continued, and it was obvious to Ms. Stein that Jacob's summaries helped him learn—and remember—the content of her social studies class (see Figure 3).

### Teaching Metacognitive Study Skills

The cognitive strategies that we have presented here, along with a lot more, are valuable ways to ensure

**Figure 3**  
**Student Summary**



that students develop the habits they need to succeed in school and beyond. Having said that, it's also important to note that students need to know when to use the cognitive strategies and need to monitor their success. We also recognize that it's harder to teach metacognitive study skills than it is cognitive ones. Lavery (as cited in Hattie, 2009) identified a number of metacognitive study skills, including organizing, self-consequences, self-instruction, self-evaluation, help-seeking, rehearsing, goal-setting, self-monitoring, imagery, and time management. We will highlight several of these and provide examples from elementary and middle school classrooms.

### **Planning**

The students in Sharon Stevens's fifth-grade class are expected to write several research reports. They are provided with broad topics and then encouraged to "find their passion and interest" within the topic and investigate it. They produce a formal essay as well as what Ms. Stevens calls "the creative component," which could be a presentation, a piece of art, or something that demonstrates their understanding in a different venue than writing. One of the key study skills students need to develop relates to organizing their work. They need plans that will ensure that they are productive as they engaged in various tasks. Of course, many students change course while they are working on the project, but a plan gets them started and focuses their efforts. Ms. Stevens expects students to write out their plan, just as she expects them to write an outline before working on their papers. She provides her students with feedback and support as they learn how to plan their learning.

### **Self-Evaluation**

Understanding their current level of performance and being able to identify their learning needs is another study skill that students need to develop. It's different from taking notes but is equally important. For students to successfully self-evaluate, teachers have to be very clear about what success looks like for a given task. Importantly, teachers can start small and provide feedback on students' early attempts to self-evaluate.

Second-grade teacher Mac Williams asks his students to check their own work before handing it to a peer for review. During a science lesson on relative positions of objects, Mr. Williams provided students with several visuals, and they had to decide which

words were appropriate for describing the relative position of the item in question. He asked students to use specific terminology to describe the position of a targeted item, saying, "We know that we will be successful when we use these terms [pointing to the word wall] and correctly describe the position of certain objects."

He took pictures of each example and then asked students to check themselves by looking at the picture he displayed on his smartboard. Once students were finished, Mr. Williams asked them to trade papers with a partner and compare answers. He rotated through the images again so that students could talk about their answers. He then invited a member from each partnership to choose several objects from the collection he had so that they could place them on their desks and discuss the relative position of each. They took photos using a tablet and wrote on the image using the targeted vocabulary. Learning to check builds an eventual skill of self-evaluation.

### **Help-Seeking**

In college, study groups were essential to our success, but we had to be willing to seek out help and form those groups. In elementary and middle school classrooms, teachers can build students' help-seeking skills by teaching students how to ask for help and how to provide help. Students need to learn that giving another person the answer is not helpful, but guiding his or her thinking is. Students also need to know how to ask for help and from whom. In Megan Holt's seventh-grade class, students are assigned study partners. They are provided time during class on a weekly basis to meet with their partner. Ms. Holt provides students with an agenda at the start of the year and encourages them to take responsibility for their time together over the course of each nine-week term. She changes study partners every quarter so that students learn to work with several other students.

### **Teaching Affective Study Skills**

We have focused a great deal of attention on cognitive and metacognitive study skills. Given the space limitations, we won't delve too deeply into affective study skills, but we will say that engagement, motivation, and self-concept are important. Others have more fully explored engagement (e.g., Guthrie, Klauda, & Ho, 2013) and self-concept (e.g., Johnston,

2004), but a comment about motivation seems important here.

To our thinking, motivation requires success. When we experience success, we are more motivated to keep at something. When we think about study skills, we are reminded that, all too often, students are not successful. They fail the test they studied for, or they do not produce a report of information that has sufficient evidence. It's not very motivating for them to try again.

Wise teachers are careful to ensure that students experience success when study skills are introduced. Janet Coppell, a fourth-grade teacher, did just that. Her students were preparing for an exam that included a variety of question types. Each night, she provided her students with a specific type of question (e.g., short answer, multiple choice) and content that could be assessed using that question type. She provided students with examples and asked them to study. She gave them a practice assessment the next day and allowed them to score their responses and identify errors. They were encouraged to talk with peers about their thinking. The students experienced significant success and were motivated to keep trying. Their scores on the "real" test were impressive, but even more impressive were their motivation to study and their ability to learn information and then apply that information in the projects they completed the following week. As Ms. Coppell noted, "It's really important to me that students experience early success because they start to think of themselves as scholars. Then, I can increase my expectations, and they always rise to them."

## Lessons to Be Learned

There are three lessons that we have learned from re-engaging in study skills lessons with students. First, they work. Study skills need to be integrated in thoughtful ways in content area classrooms if students are going to learn and remember the valuable information that they encounter. Second, students need something to study for if they are ever going to use study skills. That does not mean that all assessments become multiple choice, but rather that students know that there are tasks they must com-

plete and lessons they must learn. They come to understand that effort and sustained attention may be required if they are going to comprehend. Finally, we were reminded that spaced practice is more effective than mass practice. In other words, cramming doesn't work, and writing a paper the night before it's due may meet the requirements of the task but probably does not ensure deep learning. Hattie (2009) noted that the effect size of spaced practice was 0.71. Study skills, when used wisely, provide students with opportunities to practice more than once, developing skills that will last them a lifetime.

We hope that we have made a compelling case for integrating study skills into content area learning. After all, practice does not make perfect; it makes permanent.

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### The department editors welcome reader comments.



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