What should be done during study time? Of bigger concern than the emphasis on time is the lack of direction about what to do during those hours. Some schools (Binghamton University, is one) require that course syllabi state what students might do outside of class, "completing assigned readings, studying for tests and examinations, participating in lab sessions, preparing written assignments, and other course-related tasks." That's a start, but it's not enough.

Before we blame students by saying they should already know what to do, let's consider an example. I studied classical piano for a dozen years. Each week the teacher would instruct on notation, technique, and interpretation. Lessons always included detailed descriptions and a discussion of what I was to do during practice. How long I was to practice was only an estimate. The emphasis was on what needed to be done, not how long it would take. Practice time consisted of warm-up exercises, scales, and work on compositions. I didn't always practice diligently (sorry, Mrs. Farr), but I consistently knew what I should be doing during practice to improve as a pianist.

Can most students say the same? A statement on the syllabus, particularly one that emphasizes policies, probably doesn't get much attention from students during study time. Likewise, a teacher's admonition to "study X hours per week" is easily forgotten or ignored. In addition, we lose credibility with our students if we tell them to "study two hours per credit" for no other reason than that's the way it's always been done. We should be more concerned with outcomes than time.

Shift focus from time to task. I recognize that telling students to study doesn't mean it will happen. I'm also not suggesting everything students do outside of class should be graded. But instead of telling students how long to study, emphasize mastery. Provide examples of active learning strategies so they can use their time more effectively. In addition to active reading assignments and graded homework, the following activities promote engagement and go beyond students' typical study strategies, such as creating note cards or "looking over" their notes.

- *Practice Problems:* Provide extra, ungraded problems. Suggest they mix different types of problems to simulate an exam. Ask them to solve problems they've created. Provide additional problems and hold back the solutions to allow students some time to work without the answers. Consider incorporating a couple of these questions on exams to motivate practice.
- *Rewrite Notes in Your Own Words:* Rewrites are an opportunity to "replay" what was said and done in class. Be intentional about asking students if they have questions about what they've written in their notes. Occasionally set aside a couple of minutes in class for students to compare notes and seek clarification.
- *Concept Maps:* Students can use note cards to accomplish deep understanding if they try to connect single pieces of information on each card to other concepts through a concept map. These can be drawn by hand

or created with software. Emphasize substance over form. The purpose is to make connections and see the content from different perspectives (Berry & Chew, 2008).

- *Respond to Learning Reflection Prompts:* How is X related to Y? What other information would you want to find? What was the most challenging topic in the chapter? How does this material connect to what you learned before? Reflection prompts promote connections across topics, helping students see content more holistically. Incorporate reflection in graded work as appropriate. Reflection assignments can be independent and ungraded or incorporated in class or online.

- *Quiz to Learn:* Provide sample questions or ask students to create multiple-choice questions as part of their study activities. Occasionally use one or two student-created questions on exams, or reward exceptional examples with extra credit.

- *Crib Sheets:* Even if they're not allowed during an exam, the process of identifying what to put on a "cheat" sheet and organizing the information promotes thinking about the relative importance and relationships among concepts. Set aside a few minutes of class time for students to compare and contrast their sheets as part of student-led exam review.

I think it's time to retire the two-hour rule. For many students, studying is something only done before an exam and homework is completed because it's graded. If we want to develop self-directed learners, these narrow conceptions of what it means to "study" must change. Teachers broaden and reshape students' perceptions of homework and study by de-emphasizing time and focusing on substance. We can help students see class time, study time, and homework as an integrated system of activities designed to advance learning. We do that by being as specific and intentional about structuring students' out-of-class study activities, graded or otherwise, as we are about what goes on during class.