

Small Changes, Big Differences: The Opening and Closing of Class

Instructors can use the opening and closing moments of a course (or class session) to increase student motivation, clarify intended learning trajectories, and develop conceptual awareness.

Primacy and Recency Effects. One of the oldest findings in educational psychology is that when people are given a list of words to learn and then tested immediately afterward, they tend to learn the first few (primacy effect) and the last few (recency effect) better than those in the middle of the list (Murdock, 1962). The most common explanation for the primacy effect is that we pay more attention and devote more mental effort to items presented first. Recency effects, in contrast, are based on the fact that little or no other information intervenes between the final items and the test (Atkinson & Shiffrin, 1968; Slavin, 2018).

This observation of effects implies that material taught at the beginning or the end of the class is more likely to be retained than other information. Therefore, you might organize your class session in a way that places the most important and/or essential concepts at the beginning of the session and summarize them again at the end (or better yet, provide an activity that requires students to summarize essential understandings).

Activities for the First Minutes of Class

Ambrose et al. (2010) suggest that even briefly connecting ideas across class sessions can develop students' conceptual knowledge.

- **Ask Questions** – Instructor asks provocative questions at the beginning of class, which can catch student attention and privilege their contributions to learning. Returning to questions throughout class and at the end can provide a sense of direction while helping students chart the growth of their knowledge during class.
- **Review Prior Sessions** – Instructor asks students to brainstorm and reconstruct (Lang says “retrieve”) previous content and conversations. This practice cultivates purpose across meetings and helps students access prior knowledge.
- **Activate Prior Knowledge** – Instructor asks questions, provides brief demonstrations, or asks for elaborations in order to activate student thinking about previous topics. This method helps students build new knowledge upon earlier learning.
- **Writing Exercises** – Instructor guides an initial or end-of-class free write, 1- minute paper, or response-to-prompt to help students focus on past and future topics. Following up with think-pair-share activities enhances comprehensive review of materials and promotes class discussion.

Activities for the Last 5 Minutes of Class

Taken From : Small Changes in Teaching: The Last 5 Minutes of Class (Article in the Chronicle of Higher Education, Lang, 2016)

Lang (2016) reminds us not to waste the closing minutes of class trying to cram in eight more points or call out as many reminders as possible.

In my experience — having observed many dozens of college courses over the past two decades — most faculty members eye the final minutes of class as an opportunity to cram in eight more points before students exit, or to say three more things that just occurred to us about the day's material, or to call out as many reminders as possible about upcoming deadlines, next week's exam, or tomorrow's homework.

At the same time, we complain when students start to pack their bags before class ends. But why should we be surprised by that reaction when our class slides messily to a conclusion? We're still trying to teach while students' minds — and sometimes their bodies — are headed out the door. We make little or no effort to put a clear stamp on the final minutes of class, which leads to students eyeing the clock and leaving according to the dictates of the minute hand rather than the logic of the class period.

When it comes to the deliberate construction of our course periods, we can do better. The way we approach the closing minutes of class can make a big difference... A substantial body of research on learning in higher education offers us strategies for improving our teaching in ways that don't require a major overhaul, and yet that have the power to boost the learning, motivation, and mind-set of our students in substantive ways...

Here are four small changes we can make better use of the final five minutes of class.

The Minute Paper. The Minute Paper comes in many variations, but the simplest one involves wrapping up the formal class period a few minutes early and posing two questions to your students:

- What was the most important thing you learned today? and
- What question still remains in your mind?

Taken together, those two questions accomplish multiple objectives. The first one not only requires students to remember something from class and articulate it in their own words, but it also requires them to do some quick thinking. They have to reflect on the material and make a judgment about the main point of that day's class. The second question encourages them to probe their own minds and consider what they haven't truly understood. Most of us are infected by what learning theorists sometimes call "illusions of fluency," which means that we believe we have obtained mastery over something when we truly have not. To answer the second question, students have to decide where confusion or weaknesses remain in their own comprehension of the day's material...

If students in your classes are on various electronic devices, you might create a discussion thread in your course-management system and ask them to post their responses to these questions at the end of every class period. In this model students can read each other's responses, and you can throw the thread onto the screen at the beginning of the next class period to highlight answers that either nicely captured the main point of the previous class or raised questions that need answering.

Closing Connections. If we want students to obtain mastery and expertise in our subjects, they need to be capable of making their own connections between what they are learning and the world around them — current events, campus debates, personal experiences. The last five minutes of class represent an ideal opportunity for students to use the course material from that day and brainstorm some new connections.

Finish the last class of the week five minutes early and tell students that they can leave when they have identified five ways in which the day's material appears in contexts outside of the classroom. You'll be amazed at how quickly they can come up with examples when this activity stands between them and the dining hall... [For example] In a marketing class on the role of packaging you might ask students to give you five examples of distinctive product packaging that spring to mind. You can write them on the board or have students post the examples to a course website.

The Metacognitive Five. We have increasing evidence from the learning sciences that students engage in poor study strategies. Likewise, research shows that most people are plagued by the illusions of fluency. The solution on both fronts is better metacognition — that is, a clearer understanding of our own learning. What if all of us worked together deliberately to achieve that?

For example, we have strong evidence that students remember material better when they test themselves and try to retrieve information from their own minds. And yet most students still study by reviewing their notes over and over again — probably the least-effective study strategy they can employ. The final five minutes of class can provide a quick opportunity to let students know how best to prepare for their next assessment, based on the science of learning and on your experience as an expert learner.

Before the midterm, I asked students to take two minutes and write down for me how they studied for the test. When I compared what they said with the exam scores, the evidence couldn't have been clearer: Low-performing students used phrases like "reviewed my notes" and "reread the poems"; the students who aced the exam said things like "wrote an outline," "rewrote my notes," "organized a timeline," "tested myself," and "created flashcards." I made a slide with a side-by-side comparison of the two columns and spent five minutes of class showing students the differences. They'll see that slide again in the last five minutes of class just before the next exam.

Imagine what a difference we could make if we all took five minutes — even just a few times during the semester — to offer students the opportunity to reflect on their learning habits. We could inform their choices with some simple research and inspire them to make a change. One five-minute session in one course might not mean much, but dozens of such sessions across a student's college education would add up.

Close the Loop. Finally, go back to any of the strategies I introduced in my recent column on the first five minutes of class and see if the suggestions can help you formulate a strategy for those final five minutes. If you began class with a few questions, put them back up on screen and have students use what they have learned that day to formulate their own answers. If you opened by asking students to tell you what they learned in the previous class, close by having *them* tell you what they learned in this class. Or if you started by soliciting their prior knowledge on the subject, close by having them explain how today's class confirmed, enhanced, or contradicted what they knew before.

We have such a limited amount of time with students — sometimes just a few hours a week for 12 or 15 weeks. Within that narrow window, five minutes well-spent at the end of class can make a difference.

References

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