

Designing Interactive Lectures that Make the Most of Students' Attention Spans

We've all been there, diligently "covering" the day's content as we watch our students' eyes glaze over. Lecture remains common because it allows course content to be shared with a large audience in a timely manner, it enables teachers to control which content is elaborated and which content is de-emphasized, and it engages students in real-time, oral delivery of information that creates a multi-modal learning experience when paired with prior reading and simultaneous notetaking and discussion (Charlton, 2006; Kelly, 2017). Although lecture should never be used exclusively, it can be used effectively when teachers understand their students' attention spans.

Bunce, Flens, and Neiles (2010) used clickers to monitor college students' attention spans during a chemistry lecture. They found that lapses in college students' attention typically last less than one minute and occur roughly 30 seconds, 5.5 minutes, 13.5 minutes, and 21.5 minutes into a lecture. After 22 minutes, students' attention lapses about every two minutes (Briggs, 2014). Knowing approximately when students are likely to "zone out," teachers can design their lectures to accommodate students' attention spans:

During the first 1 or 2 minutes: Open the lecture with a brief "warm up" activity, such as a multiple choice question, a problem, or a short story or example that reviews previous content or previews current content.

Around the 5 minute and 13 minute marks: Stop lecturing and engage students in a brief, interactive activity such as:

- **Pause-and-think:** Pose a question or assign a simple task (e.g., Think of a first-hand example of sociocultural learning theory from your childhood.) Allow 2-3 minutes for students to share their examples with a classmate – and one or two examples with the entire class – before continuing with the lecture.
- **Think-write-discuss:** In preparation for the lecture, prepare three questions: 1) a motivational question, 2) a question seeking clarification about a specific point, and 3) a reflective question such as, what is the most interesting thing you learned today? Open the lecture with the first question, pose the second question mid-lecture, and close with the third question. Direct students to respond to each question in writing
- **Collaborate-and-apply:** Before the lecture begins, assign students to small working groups. After lecturing on a specific point or concept for up to 13 minutes, assign a lecture-specific question, problem, or task to each group. Allow 5-20 minutes for students to complete their assignment and share their outcomes with the class before continuing the lecture.

Around the 21 minute mark: End the lecture while student attention remains strong and engage students in activities that emphasize some type of active learning or practice.

Resources:

- Briggs, S. (2014, June 28). The science of attention: How to capture and hold the attention of easily distracted students. Retrieved from <http://www.opencolleges.edu.au/informed/features/30-tricks-for-capturing-students-attention/>
- Bunce, D. M., Flens, E. A. & Neiles, K. Y. (2010) How long can students pay attention in class? A study of student attention decline using clickers. *Journal of Chemical Education* 87, 1438-1443. Retrieved from <http://pubs.acs.org/doi/pdf/10.1021/ed100409p>

Charlton, B. G. (2006). Lectures are an effective teaching method because they exploit human evolved 'human nature' to improve learning. Retrieved from <https://www.hedweb.com/bgcharlton/ed-lect.html>

Kelly, M. (2017, February 21). Lecture pros and cons. Retrieved from <https://www.thoughtco.com/lecture-pros-and-cons-8037>

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