Though distracted by social media, students are still listening

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A new study finds that social media distraction in the classroom interferes with visual, but not auditory, learning in college students. The paper is published in Advances in Physiology Education.

Almost half of all college students use social media for an estimated two to five hours a day. Previous research suggests that unless social media activity in the classroom is related to academic work, "distractive multitasking" on social media sites leads to a lower grade-point average and poorer overall academic performance. This is largely because students who focus on mobile devices during class are not likely to fully acquire lecture information delivered visually. However, whether or not they are able to retain information presented verbally is less clear.

Researchers from the University of Illinois-Chicago prepared a PowerPoint lesson about the pathophysiology of cardiovascular disease for student volunteers in an undergraduate anatomy and physiology course. Material for the lesson was presented as a slideshow using a variety of formats; some were visual and the remainder were voice-over narration. All of the slides presented content related to cardiovascular physiology. In addition, several slides contained "cartoon" material unrelated to physiology—including amusing drawings or voiced statements—mixed in with factual information. At the beginning of the lecture, students were instructed to take notes and to pay close attention to any information that the PowerPoint narrator stated was important.

One group of students listened to the entire lecture and took notes

without interruption. A second group of students was instructed to view their mobile devices and browse their personal Facebook pages during the presentation of the slides that contained cartoon information. These students never saw any of the cartoons. However, they were able to hear the amusing cartoon statements delivered by the narrator.

After the lecture, all students took a multiple-choice quiz that addressed the "important" facts, including all cartoon-based material presented. In addition to answering the quiz questions—for which the students were allowed to use their notes—they reported on how confident they felt in choosing the right answer for each question as well as how they remembered gathering the information (visually or verbally). Each quiz question also asked "Is your choice based on the information in your notes?"

The control group scored higher on both the factual questions and confidence level across the board, regardless of mode of delivery. Control students reported that 91 percent of the quiz questions were answerable from their notes. Facebook students could only find 41 percent of the answers in their notes, suggesting that notetaking skills suffer from social media distractions in the classroom.

The Facebook group answered more verbally presented questions correctly and reported more certainty in choosing answers when the information was delivered via voice-over than on a visual slide. These data suggest "that visual distraction still allows students to acquire information delivered [verbally]," the researchers wrote. "When delivering a lecture, instructors should consider the use of spoken organizational cues [and] reinforcement of lecture content delivery through the simultaneous use of visual and aural modalities."

The full article, "Social media interruption affects the acquisition of visually, not aurally, acquired information during a pathophysiology

lecture," is published in *Advances in Physiology Education*.

More information: Jane R. Marone et al. Social media interruption affects the acquisition of visually, not aurally, acquired information during a pathophysiology lecture, *Advances in Physiology Education* (2018). DOI: 10.1152/advan.00097.2017

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