

Which is mightier, the pencil or the cellphone?

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Forget film festival paparazzi – students' cellphone cameras are the latest photo faux pas. Undergraduates use them to take snapshots of projected overhead notes, Power Point presentations, or scribbling on a blackboard, rather than write them on paper, and at least one award-winning professor has banned the scholarly shutterbugs.

"Please don't take flash pictures," said engineering professor Susan McCahan this week as a cellphone flashed from among 1,000 first-year students in her opening lecture in Canada's largest university classroom, University of Toronto's Convocation Hall. The camera didn't flash again.

In a bid to stop today's tech-crazed teens from relying on gadgets instead of just paying attention, McCahan tells students to turn cellphones off in class and recommends it to other profs in an eight-week course she runs on teaching. "Many students think if they can download the information off a website or onto their cellphone cameras, or onto a DVD or podcast, they somehow own it," said McCahan.

But that's a myth of the new tech generation, she said. "There is no shortcut to learning. Photos aren't a substitute for taking notes," she said. Photos don't force you to digest the material the way you do when you have to summarize it on the spot.

First-year students actually need to take better notes, she said, not avoid them by taking pictures. "Studies show first-year students take down only about 11 per cent of the information they should – yet we also know good note-taking can improve marks by up to 40 per cent," she said.

What helps good note-taking? "Sitting in the front row," she said. "That's one of the easiest things a student can do."

McCahan won one of Canada's 10 prestigious 3M Teaching Fellowships this year; the only professor at Canada's largest university to win one this year and the first U of T engineering prof to do so. At her first class in engineering strategies and practice – itself a prize-winning practical course that has teams of first-year students draft real designs for real clients – a microphone-wearing McCahan frequently strides across the stage in the vaulting domed hall.

Students may not bring in food or drink, unless it's water. Cellphones are to be turned off. McCahan uses a laptop gizmo to write notes that instantly appear on the overhead screen – spelling mistakes, scribbles and all. And in spite of the hundreds of students in the hall, McCahan stopped the lecture to ask students to discuss a design problem for two or three minutes – and then asked them to report on their discussion, then and there. "I liked that break for discussion," said engineering student Brian Pham, 18. "And I actually like being in the huge room. You don't get that whole pressure of being in a regular classroom."

Classmate Dan Jiang, 18, said he liked the fact McCahan writes overhead notes "live" during class and doesn't just use Power Point slides; he called it more interactive. That's the key to good teaching, said McCahan. "We know people in general have an attention span of about 15 minutes. In order to re-engage them, to re-set that attention clock, you have to break up the lecture," McCahan said.

Top tips for teachers

Ban cellphones in class and ask students to show the good manners not to talk or barge in late. McCahan says students often thank her for keeping a level of decorum during class. Several times this week she told students, "Quiet, please, we still have a bit more to go over."

Use visuals and hands-on exercises to appeal to a range of learning styles.

Don't make cultural assumptions that exclude students from different backgrounds.

Pointers from award-winning professor Susan McCahan:

Break up your lecture by being interactive at least every 15 minutes; research shows students learn more that way because they stay engaged. Let them discuss a question with each other, then report answers back to the class. Even students who just gossip will re-set their attention clock.

If you don't want to stop for discussion, at least change the subject every 15 minutes. It keeps students engaged.

Try using the popular handheld "i-clickers" many professors use that let students respond with the press of a button to multiple-choice quizzes on anything from homework readings to the topic you just explained.

Insist on decorum. Promise students you'll give them your best effort if they promise to give you their attention. Students thank McCahan each year for keeping order in their classes.

Offer a five-minute summary of key points at the end of each class; it keeps students from leaving early.
U of T prof favours old-fashioned note-taking, bans camera phone shots of overheads, blackboards