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Tips from the Experts

Listen Up, Everyone! Conquering Students' Inattentiveness When You're the Guest Lecturer

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I look out into the auditorium and I see a sea of students talking, texting, sleeping, and typing away on their laptops as they wait for the lecture to start. Today is a guest lecture, which may be commonplace in some courses. The professor has invited someone else (in this case, me) to teach on this day. Most of the hundred or more students in the audience do not know me and I do not know them. With no previous relationship, I have less than five minutes to impress my audience with the content of my presentation or I will lose them to Facebook, e-mail, homework, and/or sleep for the rest of the class. Why should I care if a student is inattentive when there is no semester-long commitment between us? I am only the guest lecturer after all. I care because, in my opinion, teaching is a personal act of sharing knowledge. My teaching is the public display of my passion for the subject area and of the hours of preparation I invested into preparing the course content. It is a product of my work that deserves a chance to be heard before being judged. Therefore, how does an instructor capture students' attention in a guest lecture or one-shot class? The following are some strategies to attract and maintain students' interest in a 60-90 minute session, which explore methods for understanding students' needs, obtaining buy-in, showing enthusiasm, and incorporating in-class activities.

Understanding students' needs: When you are invited to teach a guest lecture on a specific topic, ask the course professor about the students' educational backgrounds, the material already covered in the course, and the format of previous classes. For example, when I was invited to teach a 90-minute lecture on standards, codes, and regulations for senior undergraduate engineering students, I had a discussion with the course professor about content and format. We both agreed that my lecture should contain hands-on searching exercises since the focus of my presentation was going to be on how to find engineering standards, codes, and regulations, and students were accustomed to doing in-class activities for this

course. The professor mentioned that students always had their laptops, tablets, or iPhones with them so they would have the technology to do the exercises.

In some other courses, I have also asked students to complete an online survey before my guest lecture/workshop in order to determine what the students already know and what they find difficult to understand on the topic I am going to teach. This helps me identify the components that require more time and explanation. The survey is short, requiring less than five minutes to finish, and contains questions about students' comfort levels in specific areas, as well as problems to test whether their confidence levels match their actual abilities in the subject area. I ask the professor to e-mail the students a message on my behalf that contains the link to the survey, includes the purpose of the survey, and describes what students will be able to take away from my upcoming session. If your message is sincere, you will receive responses from a minimum of a third of the students.

I have given guest lectures and workshops in courses where attendance is mandatory and recorded by the professor. I prefer courses where attendance is not mandatory since the atmosphere is usually more positive. When attendance is not mandatory, students who really do not want to be there usually will not come to my class and, with their inattentive behavior, distract me and those students who want to listen and participate. In your discussions with the course professor, ask whether your class can be made optional to increase your chances of having a more receptive audience.

Obtaining buy-in: Introduce the topic you are going to discuss by making it clear to your audience why they should care about it. Stating the learning outcomes at the beginning of a class is not always enough. I learned this lesson the hard way after teaching my standards, codes, and regulations lecture for the first time to one class section. The students were quiet, very reluctant to respond to questions I asked during the lecture, and gave brutally honest feedback on the evaluation forms. The gist of their feedback was that they did not understand the point of the lecture. I had mentioned at the beginning that the students were going to learn what standards, codes, and regulations were, who produced them, and how to find them. The lecture included time for them to solve scenarios relevant to their discipline. In hindsight, it was not surprising that the students did not connect the dots. It was my job to make it clear.

For teaching the second class section two days later, I revised 15 minutes of my 90 minute lecture to include why students should care about the content. The students in this course are undergraduate engineering students in the last year of their programs, many of whom are thinking about graduation and employment. I linked the course material to their professional code of ethics and employment after graduation. For instance, one of the reasons I said that students should care about standards was that using standards in their professional practice and advertising their use of standards to potential clients might give them an edge over their competition, since our province's *Code of ethics of engineers* states that an engineer cannot compare his services to those of other engineers in advertising materials. Consequently, one possible way of differentiating themselves from their competition would be by mentioning the standards they use in their work. This type

of reasoning was a hit with the students. I saw students' ears perk up and they participated throughout the rest of the lecture. During the lecture, I made sure to explain why students should care at the beginning of each new section in order to refocus their attention to the front of the class. They quickly responded to questions I asked and had a few of their own questions and comments. The lively atmosphere and positive feedback in the Friday class section was completely different from the previous class section on the Wednesday.

Showing enthusiasm: Demonstrate your passion for the subject you are teaching to help keep students engaged. This can be accomplished by describing what you find interesting or useful about the topic being taught, telling a personal anecdote, or recounting a story from history. When talking about standards, I tell the story of a nineteenth century dispute about the proper way of making steel used in railways, which inspired the creation of ASTM International, a large producer of standards. Later on in the same lecture, I start my discussion of occupational health and safety (OHS) regulations by asking students to answer a multiple-choice question based on some thought-provoking statistics from the International Labour Organization about how many people die each year from work-related accidents and diseases. This leads to a discussion of how these accidents and diseases can be prevented and why the International Labour Organization created practical guidelines on prevention. I could just have stated the year that ASTM International was created and explained how OHS regulations were useful, but conveying this information through storytelling makes learning about these topics more real and appealing.

Incorporating in-class activities: Try to intersperse an activity after every 15 minutes of lecture time. The activity can be done as a group or individually. I have asked students to answer multiple-choice questions and collected their responses using a show of hands, as well as addressed open-ended questions to the entire class and then picked those students who raised their hands to answer. I have also given students a few minutes to solve a problem on their own and then discussed the solution with them. Activities can be done with small or large groups, whether there are tens or hundreds of students.

Recently, I have started distributing handouts at the beginning of my lectures that contain short answer questions about content that I will be teaching (see the appendix below for an example). I give students time to answer these questions throughout the lecture and share the answers with them. The handout, which the students have completed by the end of the lecture, becomes their class notes that they can then use to review the material. I have observed that completing the handout gives students an active role in the lecture and more opportunities to interact with the content, as opposed to just passively listening.

The strategies described above for understanding students' needs, obtaining buy-in, showing enthusiasm, and incorporating in-class activities are all methods that I have employed in my guest lectures and workshops to keep students engaged. Without the benefit of an ongoing relationship with the students through the course of a semester, these techniques help me to make an impact quickly in a one-shot class and ensure that my voice is heard. The first impression is important since guest lecturers may not get a second chance with their audiences.

Appendix

90-Minute Lecture Handout

<u>Previous</u> <u>Contents</u> <u>Next</u>



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Appendix (90 min. lecture handout example)

Lecture Notes on Searching the Peer-Reviewed Scientific Literature

- 1- Select the best research topic from the ones below. *Hint*: Your research topic should not be too broad or narrow.
 - a) Are rhamnolipids (a type of biosurfactant) effective in the clean up of oil spills in Alberta?
 - b) Are biosurfactants effective in the clean up of oil spills?
 - c) What are some uses of biosurfactants?
 - d) None of the above
- 2- Name one source you can use for finding peer-reviewed articles on a topic.
- 3- Why do you need to break down your topic into its main concepts?
- 4- Suppose you need to search for the following words: **sustainable**, **sustainability**, **sustainably**. Write out your search strategy for obtaining articles that contain any of these 3 words in the title or abstract.
- 5- Which of the following search strategies will give you the most results?
 - a) (biosurfactant* OR rhamnolipid*) AND ((oil AND spill*) OR (petroleum AND spill*)) AND ("clean up" OR cleanup OR recovery OR bioremediat*)
 - b) (biosurfactant* OR rhamnolipid*) AND ("oil spill*" OR "petroleum spill*") AND ("clean up" OR cleanup OR recovery OR bioremediat*)
 - c) biosurfactant* AND "oil spill*" AND "clean up"
 - d) biosurfactant* AND oil AND spill* AND "clean up"
- 6- Which of the following search strategies will give you the least results?
 - a) (biosurfactant* OR rhamnolipid*) AND ((oil AND spill*) OR (petroleum AND spill*)) AND ("clean up" OR cleanup OR recovery OR bioremediat*)
 - b) (biosurfactant* OR rhamnolipid*) AND ("oil spill*" OR "petroleum spill*") AND ("clean up" OR cleanup OR recovery OR bioremediat*)
 - c) biosurfactant* AND "oil spill*" AND "clean up"
 - d) biosurfactant* AND oil AND spill* AND "clean up"

7- How can you increase the number of your search results?
8- How can you decrease the number of your search results?
9- How would you obtain books or journal articles that are not available at McGill?
Additional notes:

Contact **Giovanna** for questions about researching your topic, locating the complete text of references, or citing your sources.
In person: Schulich Library of Science & Engineering, room 207

By phone: 514-398-7340

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