

Public Speaking Dos and Don'ts—A Life Scientist's How-To Guide

by Rebecca Talley

It can often be difficult for even an experienced life science researcher to keep an audience focused and awake. To address this issue, we have crowdsourced and compiled strategies to avoid losing your audience during your next talk or lecture. In this article, we have listed the Dos and Don'ts along with some extraordinary “pro tips” that will change the momentum of your presentation.



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It probably isn't hard for you to think of a time when you were attending a talk, lecture or some other type of presentation where you were struggling to stay awake. Your eyes start to feel heavy as you fight to keep them open. You do everything to prevent becoming the person in the front row who has fallen victim to the head bobbing cycle where you're awake one minute and asleep the next. We've all been there.

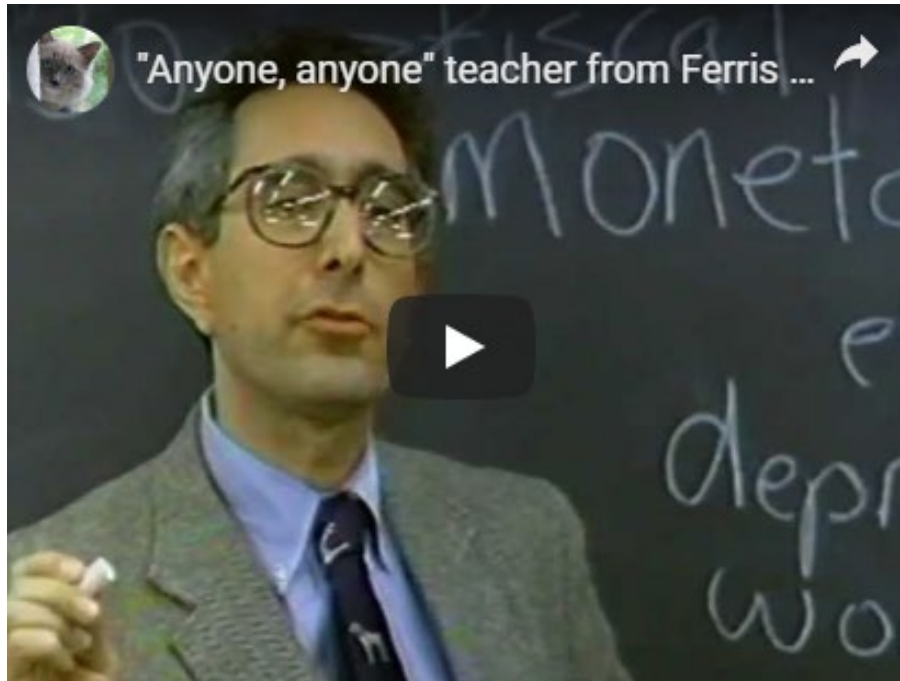
Gaining the audience's attention is one of the most difficult challenges a speaker will face. After crowdsourcing ideas from scientists all around, here is a list of the dos and don'ts all professional life scientists should follow. Consider this a best-practice in the art of keeping your audience awake and engaged. *For more basic public speaking strategies, check out our article [10 Steps to a more Effective Scientific Presentation](#).*

The DOs

Do show enthusiasm and excitement about your work.

Perhaps one of the best ways to keep your audience interested in your research is to be interested in it yourself. **Show your passion and excitement about your work.** Radiating positive energy throughout your presentation will allow the audience to feed off of your enthusiasm. Don't forget to smile and have fun! The tone at the beginning of your talk can subconsciously set an impression on your listeners about how the rest of the talk will go.

Here are two examples of talks—one where the speaker's tone, body language and enthusiasm shines and one where these traits are lacking.



While watching the classic Ben Stein in the clip from “Ferris Bueller’s Day Off,” I can’t help but wonder when it is going to be over. On the other hand, Dr. Jessica Winter (Ohio State University) manages to capture her audience’s attention early on by showing her passion for the research she is doing. She engages the audience by asking

thought-provoking questions, relating her topic to the media and using analogies. Even though I don't have any background in nanotechnology, I found myself interested in her research and wanted to continue watching even after the ten minute mark. This is a simple example of how much enthusiasm and passion can influence the way the audience perceives your talk.

Do relate to the audience.

From the very beginning of your talk, it is important to get the attention of the audience. One strategy is to know who your audience is and what they care about. You can then relate your topic specifically to them and **tell them why they should care and how it affects them**. You can also tell stories which resonate with your audience. Stories help evoke emotion and bring your listener's focus to you.

Do engage the audience.

Engaging the audience can be difficult to do, but is a good way to keep your talk interesting. Methods include telling a story and relating to what the audience cares about. Another simple way is **to ask the audience a provocative question, show them compelling images or state a shocking statistic**. Other ways include offering a handout or encouraging dialogue among the group when time allows.

Do make sure each slide has a clear message.

Have you ever been watching a presentation that was 30 slides long and thought to yourself that the topic could have been covered in about 10 slides? Unfortunately, this happens quite frequently. After preparing your presentation, it's time to consolidate. Go

through and **think to yourself what the main message of each slide is**. If you cannot come up with that main idea, then consider updating or deleting that slide. Padding a presentation with extra slides can make your audience feel like listening your talk may not be the best use of their time.

Do manage your time appropriately.

One of my pet peeves when attending a scheduled presentation is when it runs over time. Remember that your audience has a tight schedule and possibly a short attention span. Therefore, it is important to respect your listeners by trying to properly gauge how long your talk will last and how long your audience will be willing to sit through it. Practicing your presentation is a good way to do this, but don't forget to leave some extra time open for questions.

Do define words the audience might not know.

A good strategy to ensure your audience is keeping up with the science involved in your research is to **use conversational words as much as possible**. It is inevitable that you will need to use larger words when speaking about scientific topics, so be sure to define any words people may not understand. It is easy to succumb to the *curse of knowledge* and forget that those who haven't been working on your project may not be familiar with the concepts.

The *curse of knowledge* is a type of cognitive bias in which one fails to realize the knowledge he has that others do not inherently possess and can confuse and distract your listeners. If there is any doubt that your audience may not understand a term, define it just to be safe.

Pro Tip: Be mindful of the gap in knowledge when it comes to an interdisciplinary audience. A developmental biologist might not have the same background in the materials and methods as a biochemist. Something as simple as RT-PCR might not be understood by everyone.

Do use animations to guide your presentation.

While I will be the first to admit that animations can be distracting at times, when used appropriately, they can serve as good transitions between points. One strategy is to use animation effects so that bullet points appear one at a time as they are talking. This prevents the audience from becoming distracted by all of the bullet points being displayed at once and helps you pace yourself as you discuss each point.

Do use arrows to emphasize the important aspects of complicated figures.

When possible, it may be best to avoid complicated figures all together. However, when their use is necessary for understanding the methods or results of your study, arrows can be used to indicate which part of the figures the audience should be focusing on. You can also use a laser pointer during your talk to emphasize certain aspects if you have one available.

Do be yourself.

One of the best things you can do that people often forget about is being yourself. If you enjoy making people laugh, include a bit of humor. If you're quirky, like many scientists

are, show your quirky side. Letting the audience see different aspects of your personality will remind them that you are human and you are relatable. Just remember to maintain the degree of formality required for your situation.

The Don'ts

Don't explain every detail of your methods.

When polling, we found that the number one point in a talk where most people become disengaged is the methods section. Techniques and procedures are often very detailed and hard to understand in a short period of time. It is best to **include only the details necessary for understanding the project or the details that directly support the results of your research**. Omit the rest. You can always refer people to your paper if they seek a more detailed explanation of your methods.

3 Tips for a Memorable Methods Section:

- 1.Explain **what you did** and **why you did it**. Tell the audience the importance of the steps you took and why they were done in such a way.
- 2.Explain **how you did it**. Show the way you interpreted the results so that the audience can interpret your results for themselves.
- 3.Explain what it all **means**. Inform your listeners of the significance and consequences of the results you obtained. Remember that to your audience, many results will seem meaningless until you explain how they support your study.

With these tips, you will be able to create a methods section that is not only interesting, but also allows the rest of your talk to come together.

Don't stare at the screen.

It is a common mistake to look at the screen too often during a talk, usually because it is less intimidating than looking out into the crowd. However, **this is the opposite of engaging your audience** and could give the impression that you don't know your topic enough to look away from what you have on your slides. Making eye contact with your listeners and looking around the room, and even walking around the stage is a good way to avoid staring at the screen.

On that note, **it is important not to fill your slides with text** and do not have everything you're going to say written out. This can be very distracting and cause your audience to focus more on your slides than on listening to you.

Don't use phrases such as "as you know..."

I am very guilty of using the phrase "as you all know" while speaking. I often do it when I'm worried that I'm telling the audience something they already know and I don't want them to feel insulted. However, it is more often the case that not everyone in the audience fully grasps what's being said, and this can cause you to quickly lose them. Additionally, it might make you come off as conceited, so it's best to avoid any phrasing similar to this.

Pro Tip: Identify your *crutch word(s)* and obliterate it from your vocabulary! The concept of the *crutch word* is taught to student radio DJs who usually develop a go-to transitional word when on air. For example, you might start every other sentence with the word "literally" to emphasize a point. Or you might end every sentence, statement or point with a, "you know" or an "ok."

When it comes to academic lectures and talks, however, one of the most common crutch words is "So." Yes, it actually sounds educated to begin the answer to a question or thought with a "So," but when it becomes prevalent, your audience will pick up on it quickly, look for it and become slightly annoyed.

Don't ramble.

This strategy goes hand in hand with not padding your presentation with additional slides. Concision is key when it comes to keeping your audience interested, so get to the point in as few words as possible. If rambling is born out of nervousness, try treating your talk like a conversation, making it easier to stay calm and on topic.

Pro Tip: Be aware of signs that you might be rambling. Some indicators might include losing your breath from talking quickly without pauses, repeating yourself and going into detail about a topic you've been sidetracked into talking about.

There is a common theme among the dos and don'ts of giving an enticing talk—keeping your audience entertained and interested. These strategies will help you to maintain the audience's attention. In the book “Made to Stick” by Chip and Dan Heath, it is suggested to “use a simple unexpected concrete credentialed emotional story” to appeal to your listeners. Check out this book [here](#) to **learn even more ways to make your ideas ‘stick’ in the minds of your listeners**. And tell us about your tips or pet peeves when it comes to public speaking in the comments below