PUBLIC SPEAKING

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INTRODUCTIONS

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PUBLIC SPEAKING: A CRITICAL SKILL

Being an effective speaker is not only useful for teaching, but also for your research and further professional goals.

Public speaking is a skill you can learn, refine, and develop over time.

PRACTICE

The best communicators rehearse before giving talks

"There are always three speeches, for every one you actually gave.
The one you practiced,
the one you gave,
and the one you wish you gave."

~Dale Carnegie

NERVOUS?

- Know your material
- Ignore the crowd and focus on one individual: you're just having a conversation
- Another trick is to adjust your eye contact to be right above your audience's heads

OUTLINE

Designing your talk

Effective presence

Audience engagement

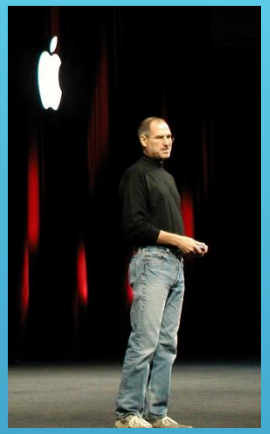
Resources

EARN AUDIENCE ATTENTION BY OFFERING VALUE

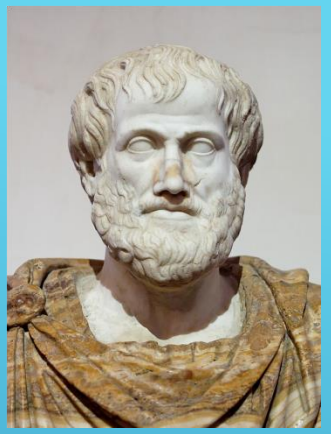
What will students learn from your lesson?

Be clear & upfront about what you expect them to understand or walk away with.

Present them an outline at the beginning of tutorial



ARISTOTLE'S OUTLINE FOR PERSUASIVE ARGUMENTS



1. Deliver a story that creates audience interest
2. Pose a problem/question to be solved/answered
3. Offer a solution
4. Describe benefits of your solution
5. Call to action

TELL YOUR AUDIENCE WHAT YOU'LL TELL THEM.

Then tell them.

At the end, remind them what you told them.

POWERPOINT VS. THE BLACKBOARD

- Depending on the crowd, the course and the room which you are using, you might have the choice to use one and/or the other.
- You should nonetheless be able to use effectively both media.

POWERPOINT VS. THE BLACKBOARD

PowerPoint

Advantages

- Ability to use a variety of media (animations, videos, pictures)
- Posting content online is easy
- Can reuse content from one year to the other

Disadvantages

- Easy for students to get passive
- Can put the speaker in "cruise control" mode
- Hard to perform interactive problems or solving mathematical problems

POWERPOINT VS. THE BLACKBOARD

Blackboard

Advantages

- Can adjust content on the fly
- Easy to solve mathematical problems using student input
- Forces the presenter to be actively discussing the content

Disadvantages

- Takes a while to write everything out (breaks the flow)
- Effectiveness highly dependent on presenter's hand-writing

DESIGN YOUR TALK/LESSON ON PAPER

You *think differently*

when working in

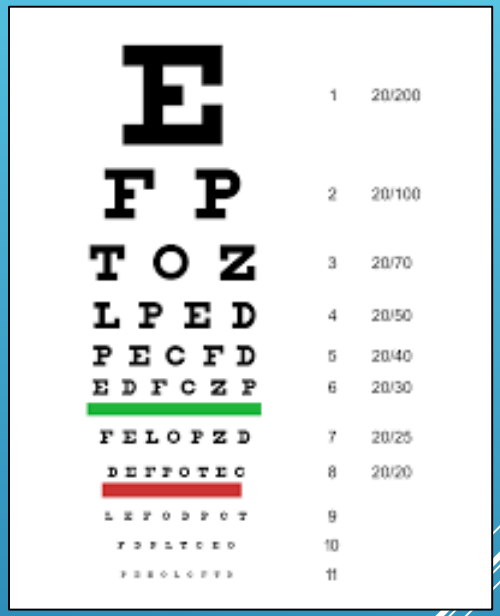
pen & paper

DESIGNING SLIDES

- PowerPoint enables you to support your lesson with a images, videos, and simulations.
- Try highlighting key words or phrases
- Too much text on slides is a common mistake
- Avoid splitting attention between you and the slides
- Trick: add extra text as "notes"

FONTS

- Know the room you'll be in and how far away your audience will be
- Ensure fonts are large enough (or written words on the blackboard)
- *Also true for any plots!*
  - Can the axis titles be read?



PLAN FOR TECHNOLOGY TO FAIL

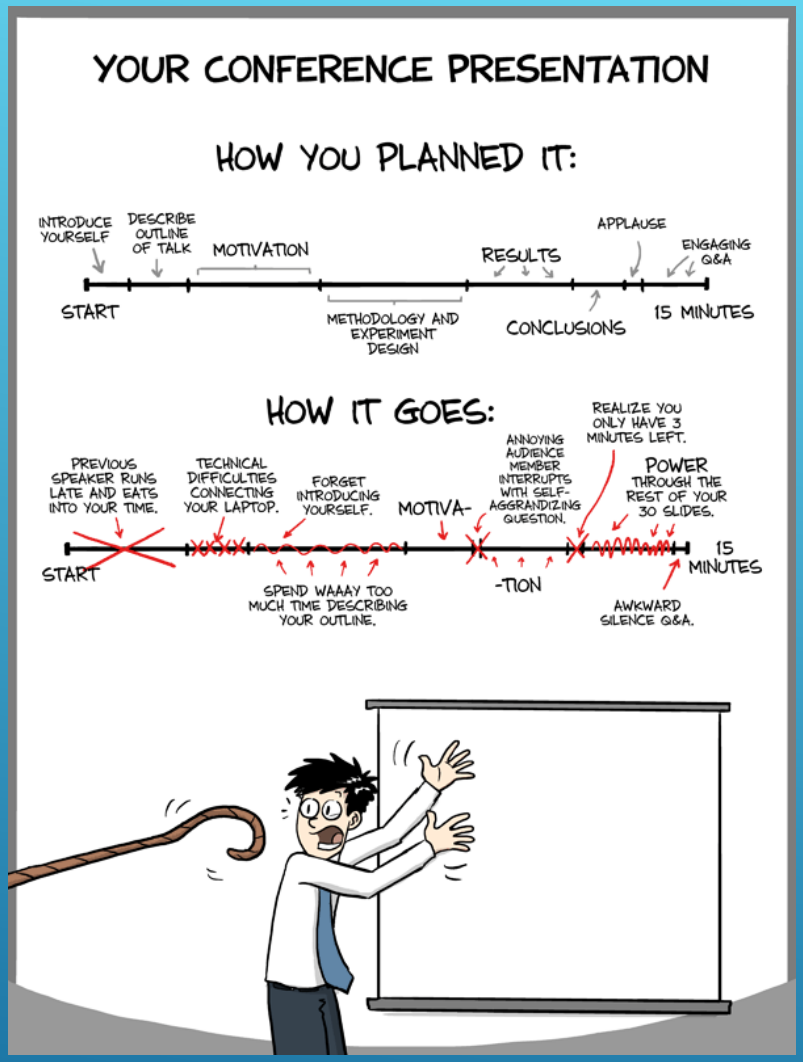
If you have a backup plan, you will have peace of mind.

It's a good idea to test equipment and visit lab rooms early.

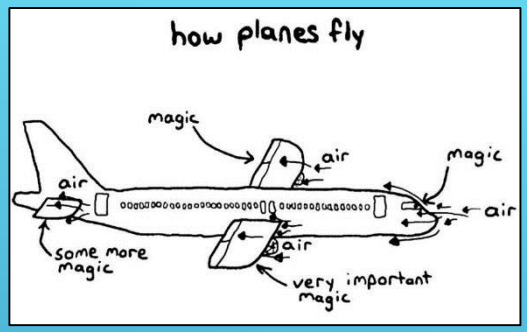
BUILD MODULAR LESSONS

If you have a lesson with 10-15 minute segments, you can remove/add them to adapt to changing time availability

Giving a talk in public never takes the time you allocated for it!

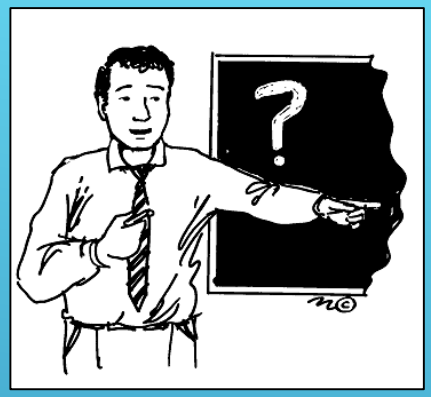


DESIGNING QUESTIONS



- Be mindful of implying there is a singular "right" answer
- Probe for intuition, partial understanding & logic
- Aim to ask questions that prompt students to show their understanding

LEAVE SPACE FOR ANSWERS



- Ensure you leave time for students to think about the question you asked
- Try not to answer your own questions
- Be comfortable standing in front of a class in a few seconds of silence

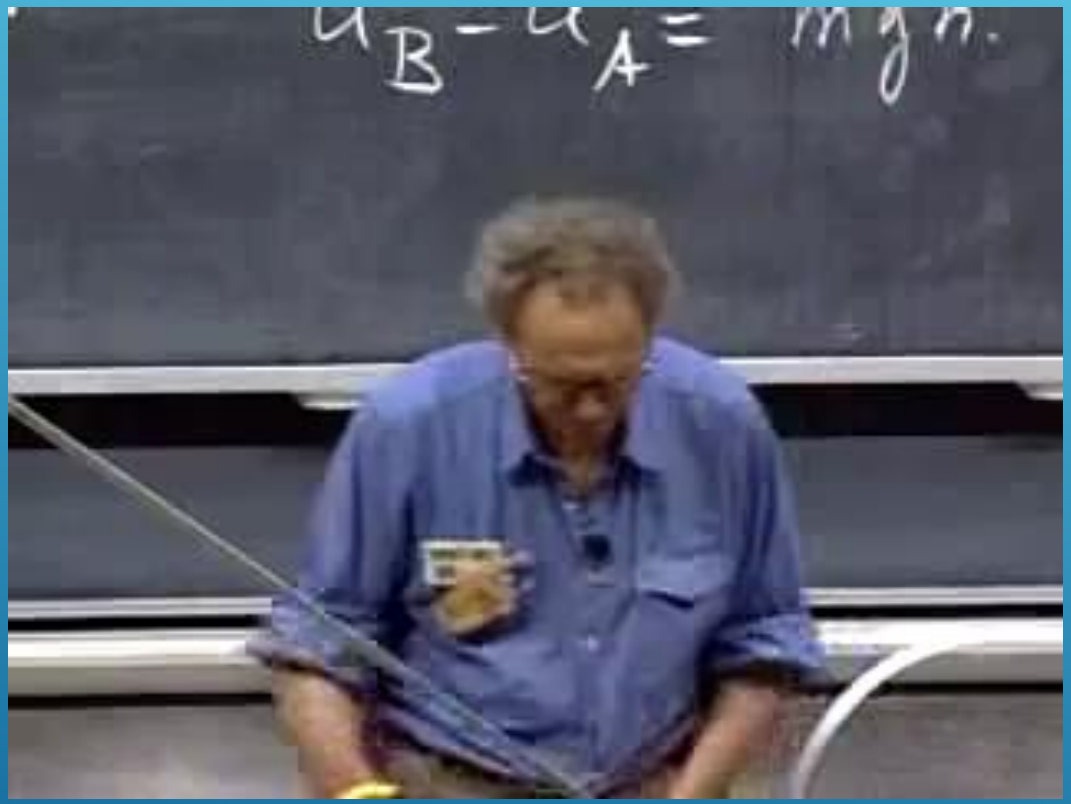
TIP: REPEAT AUDIENCE QUESTIONS

- Ensures everyone hears and understands it
- Allows you an opportunity to re-phrase the question to ensure clarity

AUDIENCE INTERACTION

- Be open, receptive, and inviting to questions (body language, wording used, time left to answer)
- Students will not ask questions if you look like you don't want to be asked
- Side note: the same philosophy applies to out-of-class approachability ("Office Hours: 2 – 3 AM, Thursdays")

VIDEO: MECHANICAL POTENTIAL ENERGY CONSERVATION



VIDEO: MECHANICAL POTENTIAL ENERGY CONSERVATION

- What was effective about the talk's content?
- How did the presenter's style encourage you to pay attention?

PUBLIC SPEAKING:
DEVELOPING YOUR OWN STYLE

- Every speaker discovers the style they are comfortable with
  - Use of humour/comic relief
  - Use of visual aids and media
  - Optimal level of preparation/rehearsing required

PUBLIC SPEAKING: EVERYTHING MATTERS

Become aware of the details

- Voice
- Eye contact
- Choice of words
- Body language
- Enunciation
- Confidence

WHAT SHOULD YOU WEAR?

Be comfortable & confident

PHYSICAL PRESENCE

- Body language
- Movement: don't sit behind the desk! Be dynamic.
- Awareness:
  - Watch and listen carefully to gauge your audience response
  - Recognize your bad habits (or "ticks") and correct them

PERSONALITY, ENTHUSIASM, HUMOUR

- Set a positive tone
- Stay professional & appropriate
- Laughter is one of the best ways to re-focus a crowd that might have drifted off
- Using humour is not mandatory – your are doing a comedy routine after all

USING YOUR HANDS

- Hand movements can have opposite effects – either provide emphasis or distract your audience
- The key is to use coordinated, conscious movements

VOICE

- Make sure you can be heard
- Trick: gauge the audience's response during your first tutorial, or at the beginning of your talk
- Vary the intonation of your voice – a monotonous tone leads to a monotonous talk
- Enunciate properly all the words you are using

EYE CONTACT

Creates opportunity to monitor students' engagement and understanding

Blackboards can create a temptation to stay disconnected from your audience

PACE

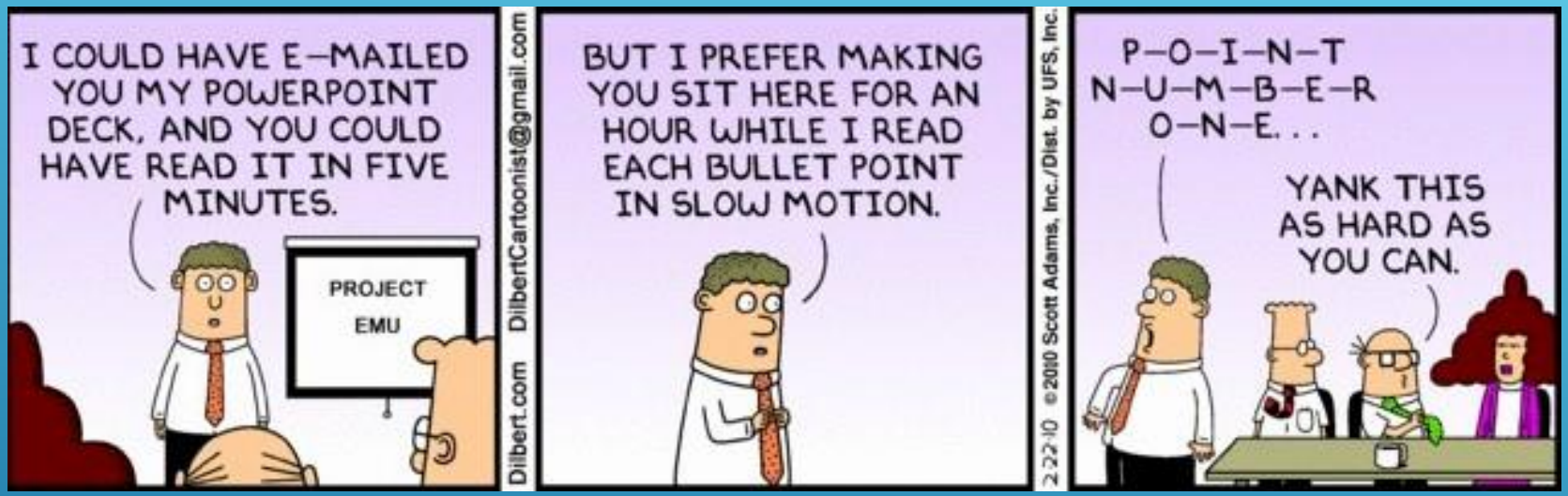
- What may seem to be too slow to the speaker is likely right for the audience
- Varying your pace is a tool to create emphasis
- Insert pauses so that the audience can reflect (or catch up with notes!)

HOW TO END YOUR TALK/LESSON

- After a quick summary, invite students to continue thinking about the material and to use support resources, e.g. TA & Prof. office hours, walk-in centre
- A good way to generate thinking is to end with a broader example or application

"What we call the beginning is often the end. And to make an end is to make a beginning. The end is where we start from."
- T.S. Eliot

DO NOT SIMPLY READ YOUR SLIDES



EXAMPLE: NEWTON'S THIRD LAW

- You could describe pairs of forces, e.g. against a wall or object, or draw them on the blackboard
- Even better: find simple demonstrations that involve the audience

In small groups, come up with a demo that illustrates either one of Newton's laws or a related concept (e.g. work)

TIP: CHANGE GEARS

(Every 10-15 minutes, ideally)

- Attention spans are limited
- Try to build in changes regularly to maintain engagement
  - Quick demos
  - Small group problem solving or discussion
  - Videos: the average viewed clip on YouTube is ~2.5 minutes long
  - Switch between concrete calculation and broader conceptual discussion
  - Other creative ideas…

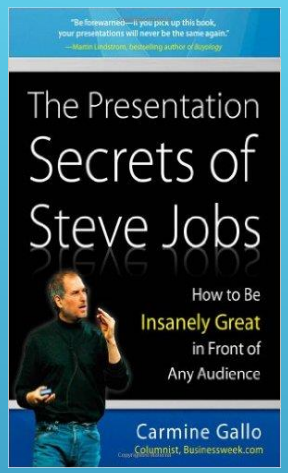
1ST YEAR VS. UPPER YEAR COURSES

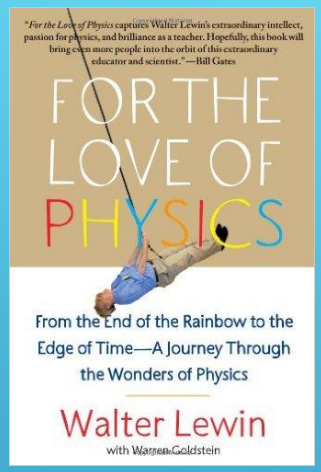
- The way you will interact with first-year students might be different than for upper-year students
- The key is to find the right balance between discipline and being "laid-back"
- From experience, upper-year courses will rarely suffer from discipline issues

USE A STORY TO DRIVE YOUR TALK

- People will listen to a strong narrative
- Helps frame and organize your content
- Slides don't tell stories – you do

RESOURCES





- Books:
- Nature Education Unit: http://www.nature.com/scitable/ebooks/english-communication-for-scientists-14053993/giving-oral-presentations-14239332
- Simulations: https://phet.colorado.edu/en/simulations/category/physics
- MIT: http://web.mit.edu/urop/resources/speaking.html

SUMMARY

- Planning your talk involves time & effort
- Create opportunities for audience engagement
- Be mindful of your physical and emotional presence
- Adapt to your circumstances: room character, student needs, course content/expectations

QUESTIONS?

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