Classroom teaching: Approaches for keeping your students engaged

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OBJECTIVES

1. Identify the primary drivers of student engagement in the classroom

2. Describe classroom strategies that promote student engagement

3. Identify potential pitfalls that can result in "death by PowerPoint"

CLASSROOM LECTURES: PROS

- Introduces and organizes content
- Provides context and appropriate level of detail
- Confers unique insights for understanding and application
- Motivates critical thinking and stimulate questions
- Makes connections on a personal or emotional level

CLASSROOM LECTURES: CONS

- Creates passive learning environment
- Deters attendance due to redundancies with recordings and syllabi
- Employs an “old-fashioned” teaching method unsuited to the skills of current generation to acquire and process information
- Foregoes evidence-based or team-based methods of learning

“What we know about learning in general is different than it was decades ago,” Howley said. “Our medical students are of a generation that has grown up differently when it comes to technology and the impact that has on their ability to receive and retain information.”

Lisa Howley, Senior Director Of Educational Affairs, AAMC

https://www.youtube.com/watch?v=uhiCFdWeQfA

DRIVERS OF STUDENT ENGAGEMENT

1. Demeanor or attitude of lecturer

2. Ability to follow along and absorb content

3. Utilization of interactive approaches and tools

4. Conducive environment for questions & comments

PROMOTING STUDENT ENGAGEMENT

1. Show some enthusiasm (it's contagious)

- Ask yourself what excites you the most about the material and share it with the students.
- Point out content that you find interesting or intriguing and explain why.
- Put material in an interesting context accessible to students' knowledge and background.
- Relay a story or anecdote that makes a personal or emotional connection.
- Make a fun or interesting analogy/metaphor.

PROMOTING STUDENT ENGAGEMENT

2. Make a connection (it's personal)

- Be a story teller rather than a presenter
- Speak-up and make frequent eye contact
- Change your pace and cadence (avoid monotone)
- Avoid reading the slides
- Incorporate respites, *e.g.* humor, asides, class exercise

PROMOTING STUDENT ENGAGEMENT

3. Don’t fly solo (stimulate interaction and discussion)

- Insert questions into your PowerPoint (low tech and simple)
- Employ higher tech polling using audience response software (Poll Everywhere)
- Ask for a show of hands (it’s fun to “take sides”)
- Point out controversies or uncertainties to solicit opinions

PROMOTING STUDENT ENGAGEMENT

4. Mix it up (use alternative tools and approaches)

- Insert videos or animated schematics
- Demonstrate with a prop or model
- Use written or visual cues, *e.g.* highlighting, underlining, animations
- "Flip" the classroom by providing interactive materials to work on during class such as unlabeled diagrams and problem-solving.

PROMOTING STUDENT ENGAGEMENT

5. Create a framework that's easy to follow (less is usually more)

- Don't overload with content, rather provide a framework
- Provide clear, organized notes with an outline and objectives
- Emphasize the important information and key concepts in class
- Make sure the content on the slides are in the notes and presented in the proper sequence
- Use images, figures and tables in place of text

PROMOTING STUDENT ENGAGEMENT

6. Use PowerPoint wisely (it's just a tool)

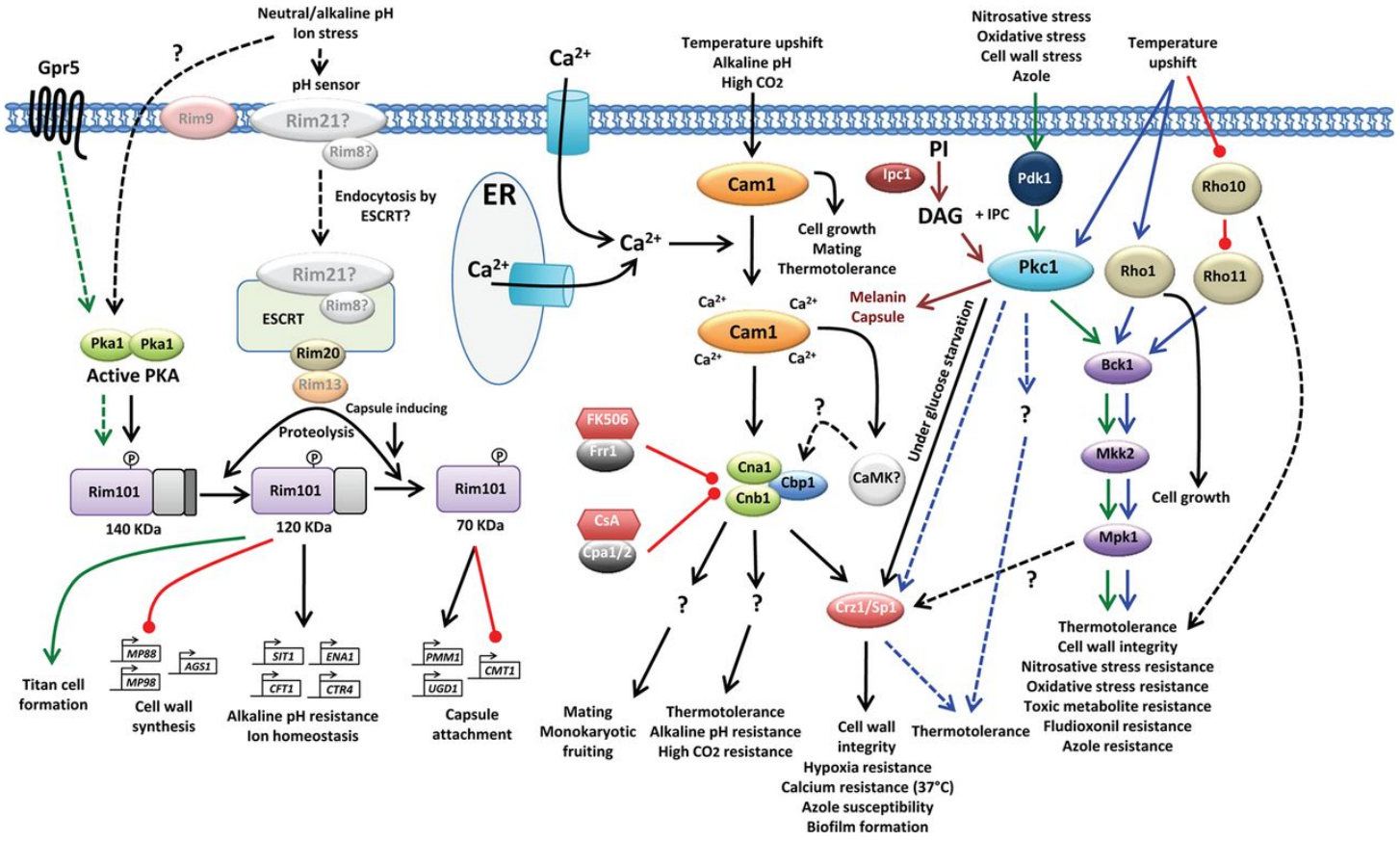
- Professional appearance
- Easy to follow along
- Judicious use of words
- Quality images and figures that are relevant
- Transition slides between topics

PROMOTING STUDENT ENGAGEMENT

7. Beware of “death by PowerPoint”

- Lack of organization (no cohesive framework to follow)
- Too many slides (run on and on)
- Too much text (wordy)
- Overly complex or “busy slides”
- Poor quality or low resolution images and figures
- Small font or image size
- Poor contrast

Overly Complicated Figures



Too much text

Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated to the proposition that all men are created equal.

Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this.

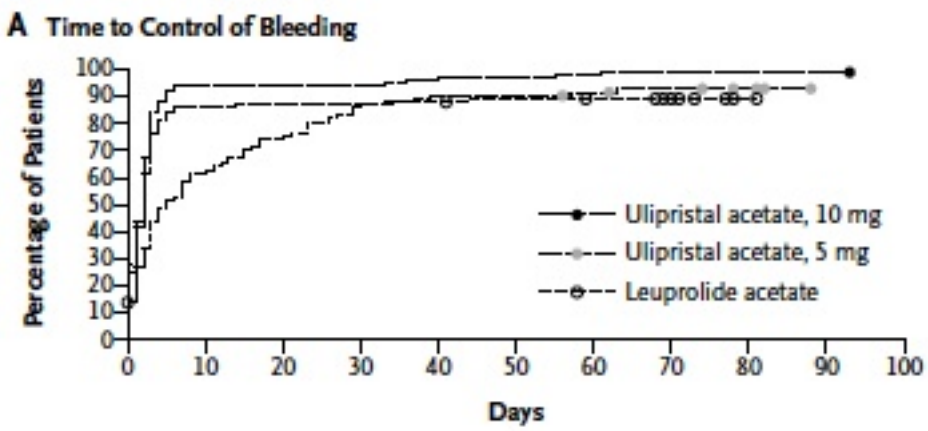
But, in a larger sense, we can not dedicate—we can not consecrate—we can not hallow—this ground. The brave men, living and dead, who struggled here, have consecrated it, far above our poor power to add or detract. The world will little note, nor long remember what we say here, but it can never forget what they did here. It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced.

It is rather for us to be here dedicated to the great task remaining before us—that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion—that we here highly resolve that these dead shall not have died in vain—that this nation, under God, shall have a new birth of freedom—and that government of the people, by the people, for the people, shall not perish from the earth.

The contrast is not very good.

The text is too small.

This figure is fuzzy and hard to read.



This is not my finest work

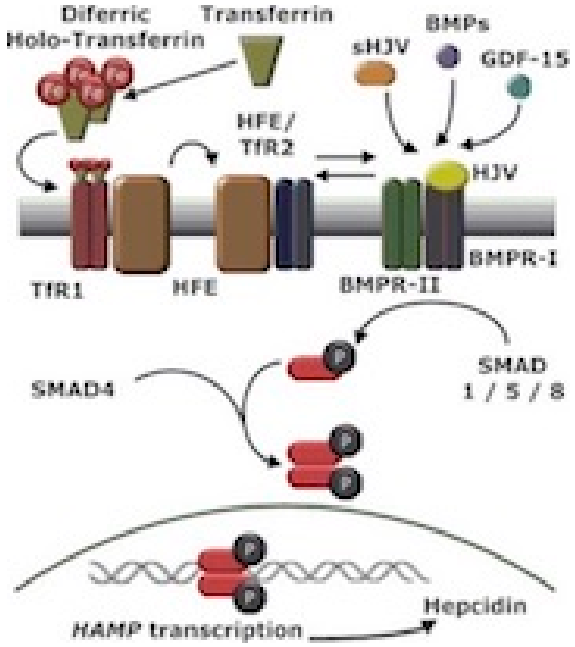
G. HEREDITARY HEMOCHROMATOSIS

3. Regulation of Hepcidin in Hepatocytes

Hepcidin is a peptide hormone synthesized by hepatocytes, product of *HAMP* gene.

a) Function of Hepcidin: Negatively regulates iron export from enterocytes, macrophages and hepatocytes by binding to FPN. This causes down regulation of FPN by receptor-mediated endocytosis and degradation in lysosomes.

b) Synthesis of Hepcidin: Transcription of *HAMP* gene is regulated by an iron sensitive feedback loop involving TFRs, HFE and HJV (hemojuvelin).



- Functional HFE expression is associated with increased transcription of the HAMP gene and synthesis of hepcidin, which appears to be the key regulator limiting absorption of iron.
- HFE and diferric holotransferrin compete for binding sites in the same region on TfR1. The higher binding affinity of diferric holotransferrin ‘‘frees up’’ HFE to interact with TfR2 and then exert a positive influence on downstream hepcidin production. Whether HFE actually binds to TfR2 remains unproven.
- It is proposed that HFE–TfR2 functions as a complex and may interact with another complex of BMPR-I, BMPRII, and HJV, which, when stimulated by BMPs (2, 4, & 9), activates SMAD-dependent intracellular pathways.
- The final common step of his cascade is activation of the HAMP gene. Defects in any of the key players, including HFE, TfR2, and HJV, have been shown to lead to iron-loading states associated with low hepcidin levels.

ENGAGING STUDENTS: TAKE HOME POINTS

- Show some enthusiasm and creativity
- Make a personal connection
- Stimulate interaction and discussion
- Mix it up by using alternative tools and approaches
- Create a framework that's easy to follow
- Use PowerPoint wisely
- Avoid pitfalls that lead to "death by PowerPoint"

MOST IMPORTANTLY

FUN IS GOOD!