Flipping the Classroom

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Introductions!

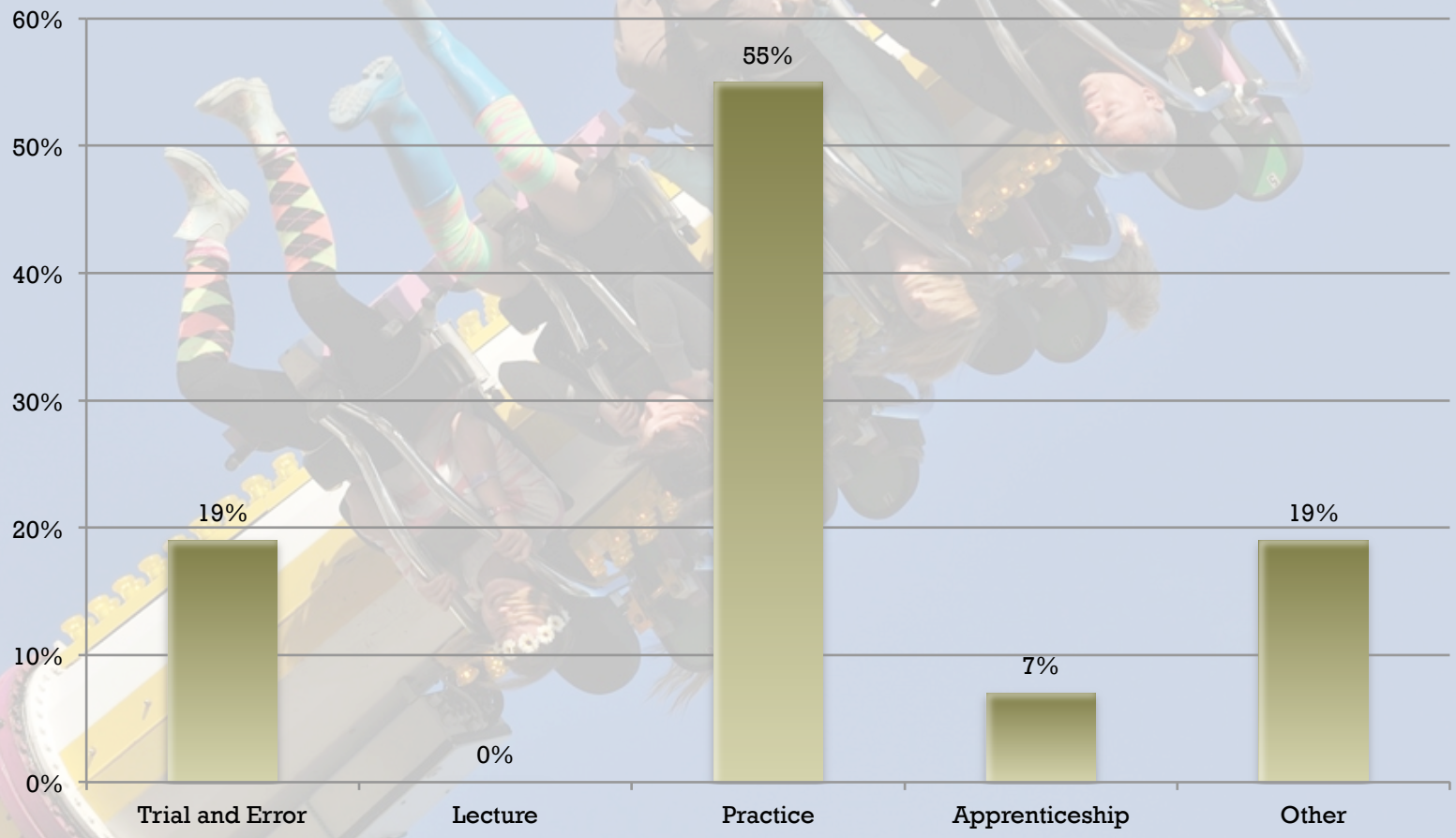
- Name, rank, serial number ☺
- What are you hoping to get out of today?

Why are we flipping out?

Think about something you are really good at. How did you learn that skill?

- Trial and error
- Lecture
- Practice
- Apprenticeship
- Other

Mazur's Findings

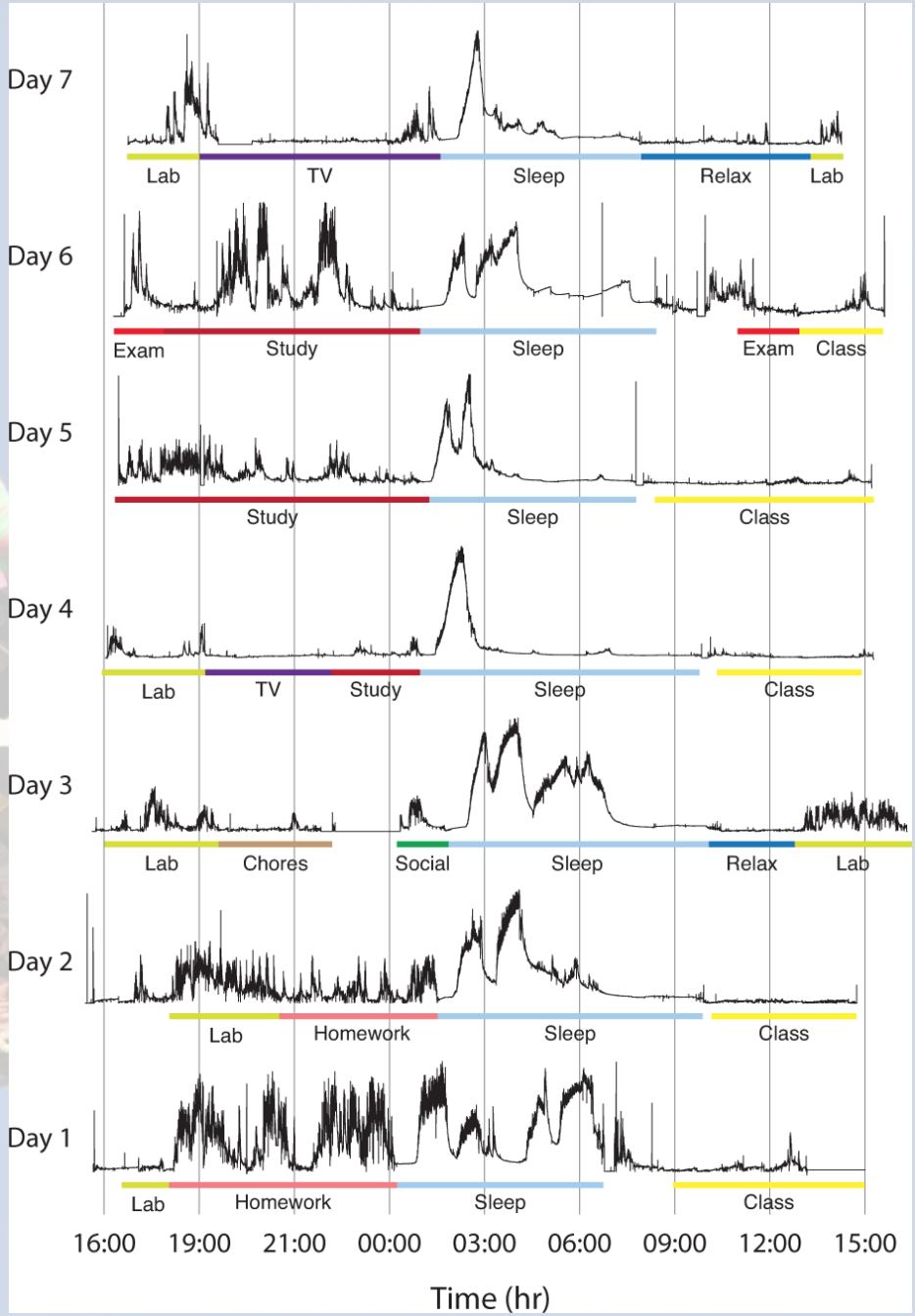


Source: Educause Live! September 27, 2012

MIT Study

Wrist-sensor readings for a single MIT student over the course of week.

Ming-Zher Poh, Swenson, N. C., & Picard, R. W. (2010)



The basic flipped model

- Out-of-class: Knowledge acquisition
- In-class: Knowledge application and synthesis

Applying knowledge is the hard part.

Why leave students to try that on their own?

A few clarifications…

- It is NOT
  - Just putting video lectures online
  - A replacement for face-to-face teaching
  - An online course
  - An unstructured learning experience
- It IS
  - A blending of online and on-ground teaching and learning
  - A means for increasing student-content, student-student, and student-instructor interaction
  - A way for students to take more responsibility for their learning

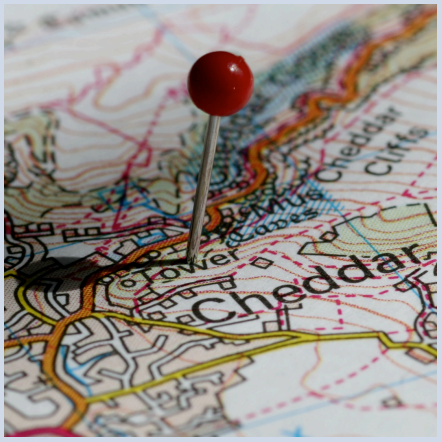
Where do we begin?

- Most faculty start by selecting a textbook.

  If my colleagues and I all use the same textbook, what am I adding to this class?

- A better way: Backward design

  Outcomes → Assessments → Learning → Resources



How will this change things?

Instructors: Sage on the Stage → Guide on the Side

- In higher education, we typically teach the way we were taught
- Our assessment techniques lend well to lecturing (rote memorization, rote procedural demonstration) …but "real life" doesn't work like that!

Students: Passive → Active learners

- Resistance and complaints: "But you are supposed to teach me!"

Let's go!

Working in small groups, discuss your current classroom situation:

- What do you like about your course? What works well?
- What would you like to improve? What are your biggest frustrations?

00:15:00 000

Use the Right Tool for the Job: Out-of-Class Resources

- Video lectures
- Narrated screen captures
- Online and print readings
- Simulations
- Student-created content

Resource Rules of Thumb

- Chunk!
- Optimize sound quality
- Watch file size
- Watch costs
- Be platform-independent
- Make sure resources are accessible

Making the most of in-class time

- Engage!
- Build on out-of-class work, don't repeat
- Ensure adequate student prep
  (e.g., quizzes, questions, submissions)
- Include large and small group activities
- If one-way, it doesn't belong!

Some possibilities…

- Small and large group discussion
- Guided homework
- Problem-based learning activities
- Case-based activities
- Role playing
- Debates
- Question → Think → Poll → Pair/Discuss → Re-poll → Explain/Summarize → Repeat

Let's go!

Working in small groups, discuss your current classroom situation:

- Share your initial thoughts for how you might flip your classrooms
  - How will this improve your course?
  - What will you need to accomplish your new plan?
  - What worries you?

00:15:00 000

Copyright and IP

Under copyright law, if you don't own the copyright to a work, you cannot do the following without permission from the copyright holder:

- Reproduce copies of the work
- Create derivative works based on the work
- Distribute copies of the work
- Perform the work publicly
- Display the work publicly

Resource - http://www.libraries.psu.edu/psul/lls/students/using_information.html

Copyright and IP: "Fair Use"

The Four Factors – Courts consider:

- The purpose and character of the use, including whether such use is of commercial nature or is for nonprofit educational purposes;
- The nature of the copyrighted work;
- The amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- The effect of the use upon the potential market for or value of the copyrighted work.

Resource - http://www.libraries.psu.edu/psul/lls/students/using_information.html

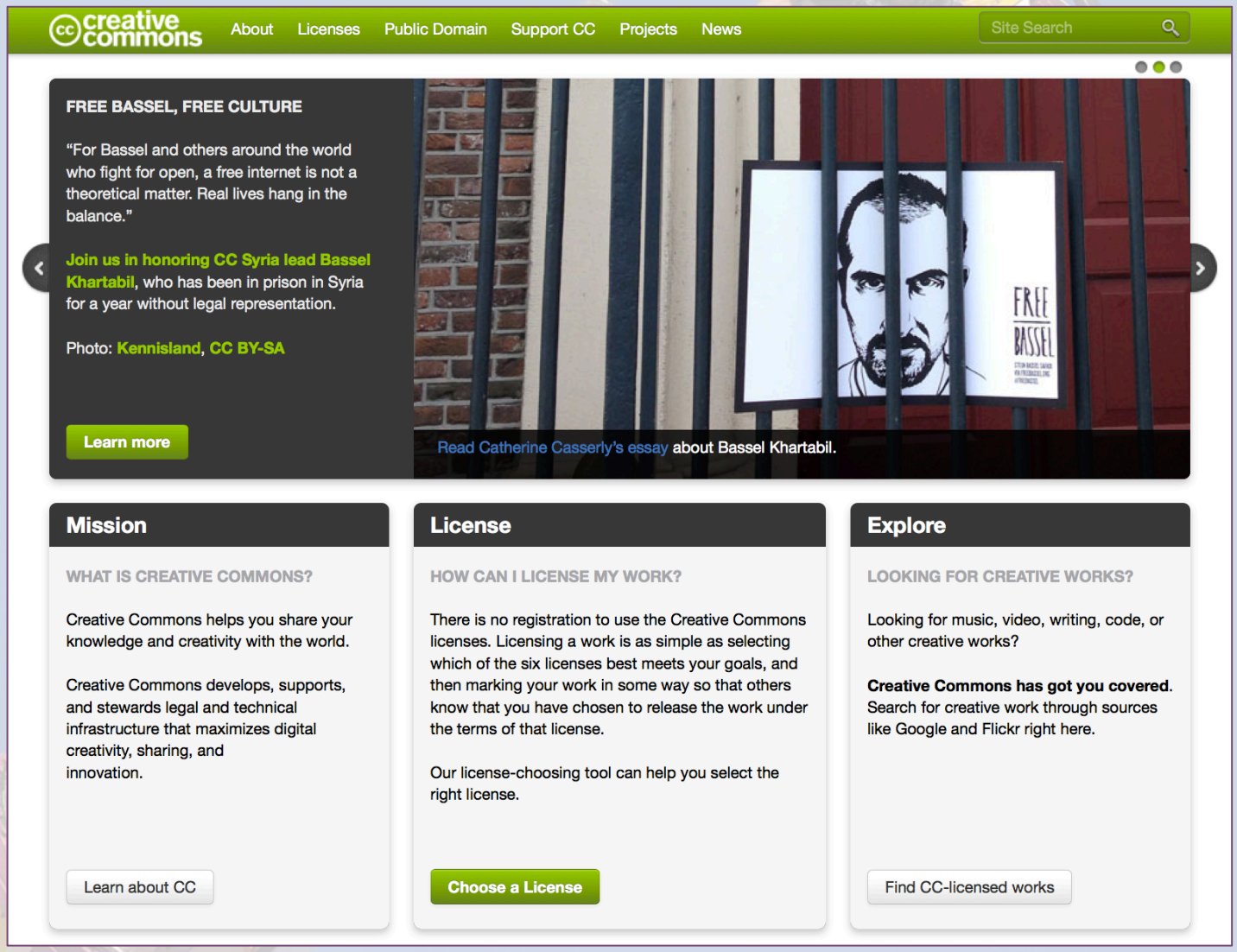
Copyright and IP

So…Your considerations:

- What is it?
- Why you are using it?
- When was it created?
- How much you are using?
- What does the copyright owner want?
- What is the potential market value?
- **Ethics!**

Resource - http://tlt.its.psu.edu/teach-act/

Your best bet: Creative Commons



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NFB Agreement

What to Fix

Top Blockers

- Image ALT Tag Tips
- Page or Document Titles
- Headings and Sub Headings
- Link Text
- Table Headers and Captions
- Form Labels
- Video Captions and Audio Transcripts
- Triage Testing/Remediation Process

Common Tools

- ANGEL
- Blogs
- Microsoft Office (Word, PowerPoint, Excel)
- PDF Files

More Common Tools...

Web Developers

- Web Page Accessibility Reference
- Testing

Resources to get you started

- Merlot
- Khan Academy
- TED Talks
- Academic Earth
- Teachers' Domain (College edition) / PBS Learning Media
- FREE
- National Science Digital Library
- Thinkfinity
- The Internet Archive
- YouTube
- News sites: NBC Learn, NY Times
- Publishers!

Let's go!

Working on your own or in small groups, locate resources that you might use in your newly-flipped class

Be ready to share!

00:30:00 000

DIY? What you'll need…

- Lecture capture system (e.g., Tegrity)
- Computer
- Screencasting software like Jing or Captivate
- Drawing tablet (e.g., Wacom Bamboo) and/or presentation software that allows you to "draw" on the screen
- Microphone (USB preferred over built-in)
- Webcam
- Server space to store/serve files
- LMS or web site where students can access content

Show time!

1. Review your course content and fix any broken hyperlinks, images, etc.
2. Provide your students with complete info about the online components of your course – location, navigation, who to contact for technical support, etc.
3. Monitor online discussion or question forums
4. Analyze quiz, survey, or minute essays before class
5. Gather student feedback along the way –
   What is or isn't working?
6. Review/revise your course ASAP – before you forget!

Potential Problems and Pitfalls

- Complaints and resistance
- Disappearing resources
- Technology failures
- Lack of student preparation
- Crickets in the classroom
- Cheating and plagiarism

Questions?

Acknowledgements

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- Ming-Zher Poh, Swenson, N. C., & Picard, R. W. (2010). A Wearable Sensor for Unobtrusive, Long-Term Assessment of Electrodermal Activity. *Biomedical Engineering, IEEE Transactions on*, *57*(5), 1243–1252. doi:10.1109/TBME.2009.2038487