Implementing an Adaptive + Active Approach for BIO 100 The Living World

June 7th

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Why is active learning important?

Active learning is a form of learning in which teaching strives to involve students in the learning process more directly than in other methods. The term active learning "was introduced by the English scholar R W Revans (1907–2003)."

Why active learning important?

The Skills/Qualities Employers Want in New College Graduate Hires (2017)

1. Ability to work in a team (78%)
2. Problem-solving skills (77.3%)
3. Written communications skills (75.0%)
4. Strong work ethic (72.0%)
5. Verbal communication skills (70.5%)
6. Leadership (68.9%)
7. Initiative (65.9%)
8. Analytical/quantitative skills (64.4%)

Source: National Association of Colleges and Employers (2017)

What about an adaptive + active approach?

VI. Course Grading

Grades will be based on your total points out of 1000 total possible points NOTE: We do not use the +/- grading system in BIO 100 except for A+ only (970 points and above). The final letter grades for the course are based on the TOTAL NUMBER OF POINTS that you accumulate from the following assessments:

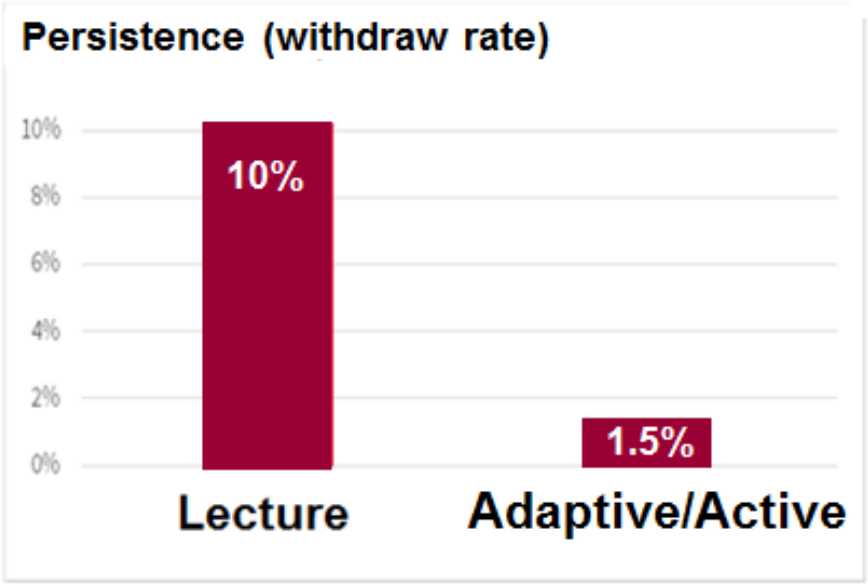
CLASS	
CogBooks Quiz questions (50 points for each unit exam)	200 points
10 ACE assignments (5 points each)	50 points
In-class participation (Worksheets, clicker questions, etc.)	50 points
4 Exams (90 points + 10 points for BIO 100 journal)	400 points
Subtotal	**700 points**
LABORATORY	
10 Labs, 30 points each	300 points
TOTAL COURSE POINTS	**1000 points**

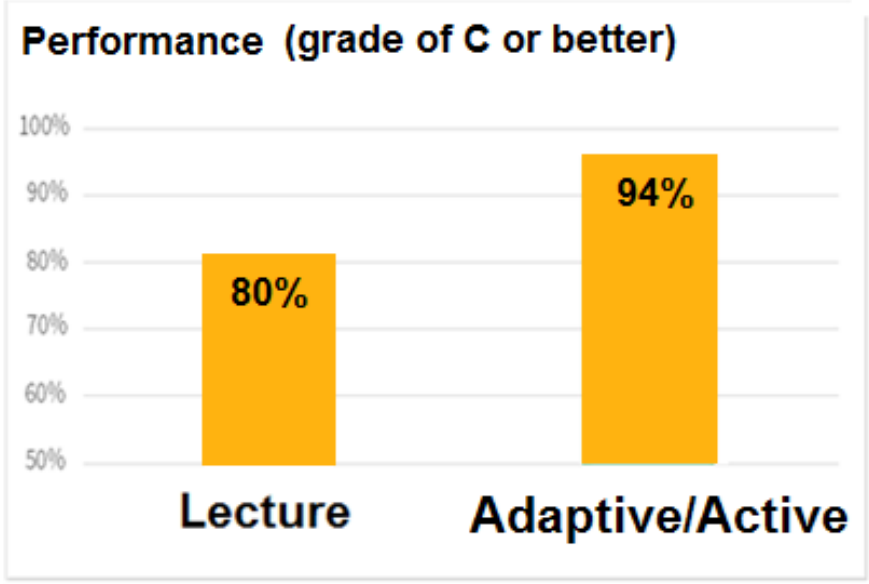
Bonus points. 60 bonus points will be offered during the semester (15 points for each of the four units). These points are earned for individual in-class participation and group in-class projects. **There are not make-ups for bonus points.** Student must be present in class in order to earn bonus points.

What results have we gotten?

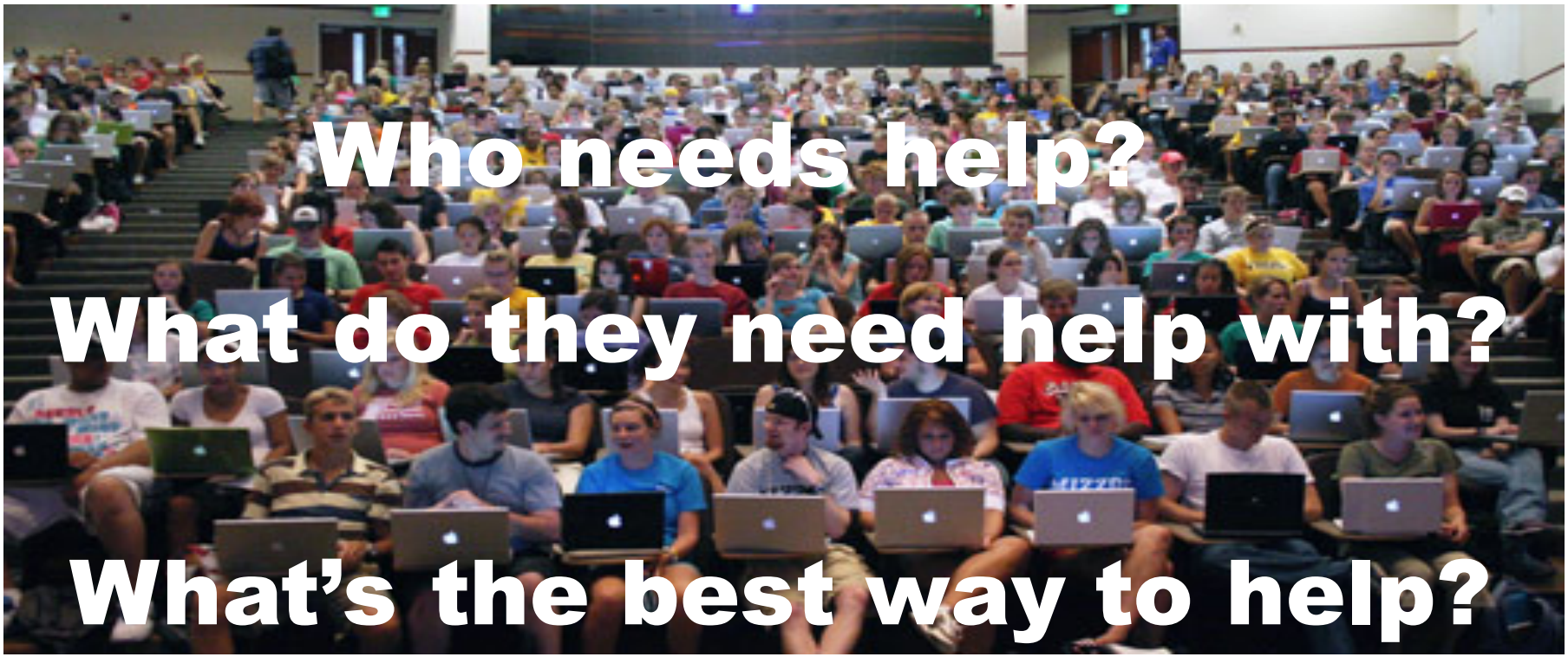
Biology 100 – The Living World (300 non-majors)

Same professor, curriculum and assessment





How are we changing the student experience?



How are we changing the student experience?

Students ON-Track	Last Login	Average Scores: Homework	Quiz	Quiz Me	Test	Activity	Mastery ▲
Wonder Woman Wonder.Woman@asu.edu	2 days ago	0	58	87	68	Low	93%
Superman Superman2017@asu.edu	7 days ago	0	70	90	70	Low	92%
Black Panther Black.Panther@asu.edu	2 days ago	100	86	89	84	Low	78%
Jean Grey Jean.Grey@asu.edu	2 days ago	0	82	84	74	Low	77%
Bruce Wayne Bruce.Wayne@asu.edu	2 days ago	0	84	85	85	Medium	73%
Wanda Maximoff Wanda.Maximoff@asu.edu	2 days ago	89	68	90	55	Medium	72%

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Students OFF-TRACK	Last Login	Average Scores: Homework	Quiz	Quiz Me	Test	Activity	Mastery ▲
Tony Stark Tony.Stark@asu.edu	3 days ago	0	91	92	82	Low	68%
Bruce Banner Bruce.Banner@asu.edu	3 days ago	100	74	86	72	Medium	68%
Poison Ivy Poison.Ivy@asu.edu	3 days ago	0	74	85	75	Low	67%
Doctor Strange Doctor.Strange@asu.edu	4 days ago	0	100	91	42	Low	67%
Dead Pool Dead.Pool@asu.edu	3 days ago	13	66	80	60	Low	67%
Scott Summers Scott.Summers@asu.edu	3 days ago	0	84	83	81	Low	63%

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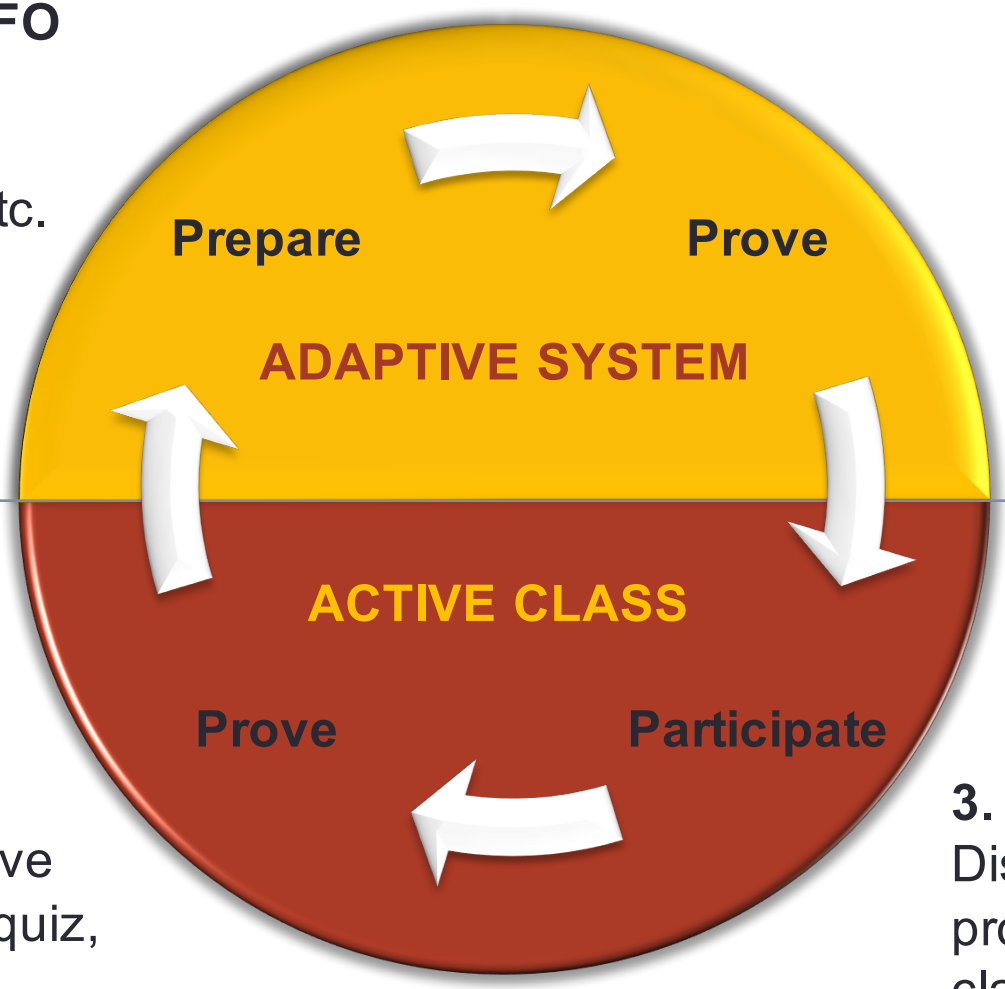
How does this work in practice?

1. ACQUIRE INFO
Read textbook, watch video, do simulation, etc.

2. ANALYZE
Do practice problems, take quiz before class

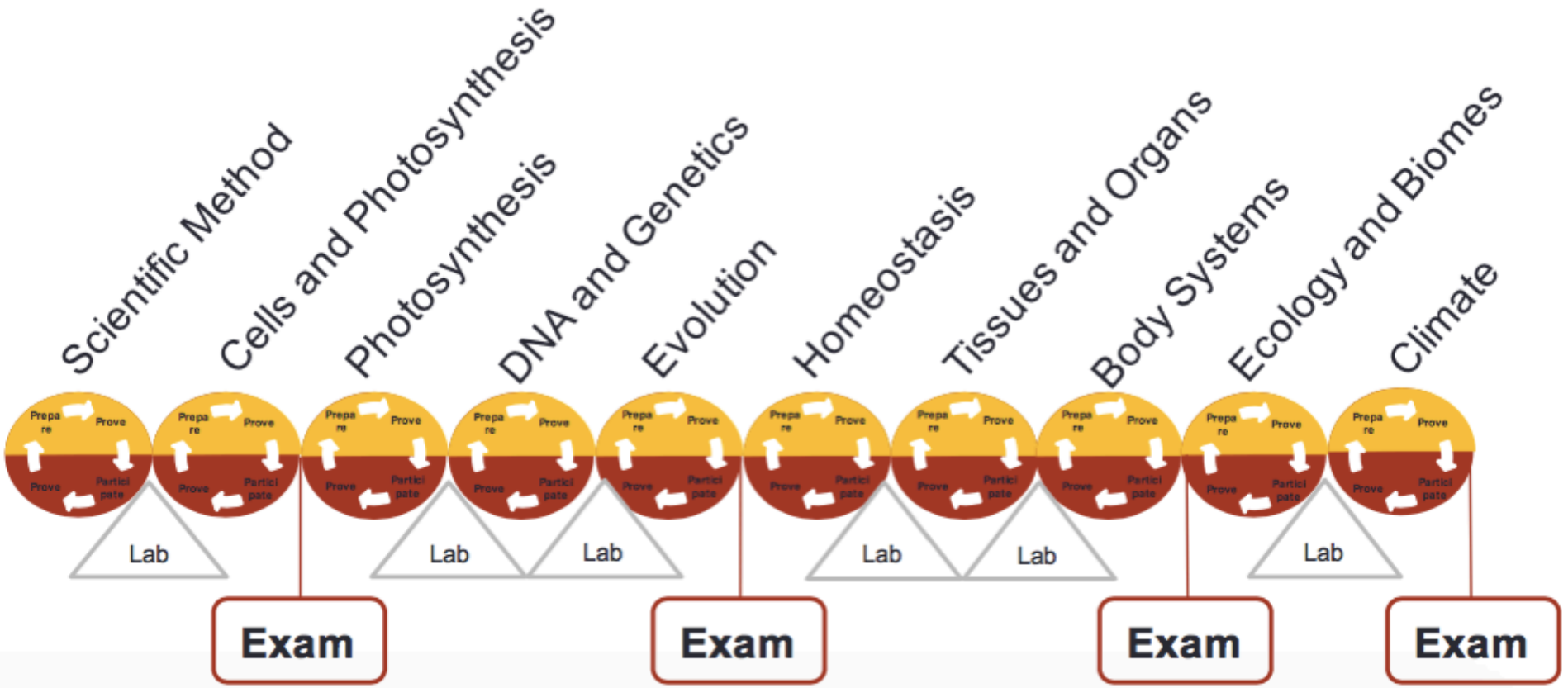


4. ASSIMILATE
Write essay, solve problems, take quiz, etc.

3. APPLY
Discuss an applied problem with classmates.

What does a course structure look like?

- **Adaptive and Active learning are symbiotic in the educational ecosystem.**

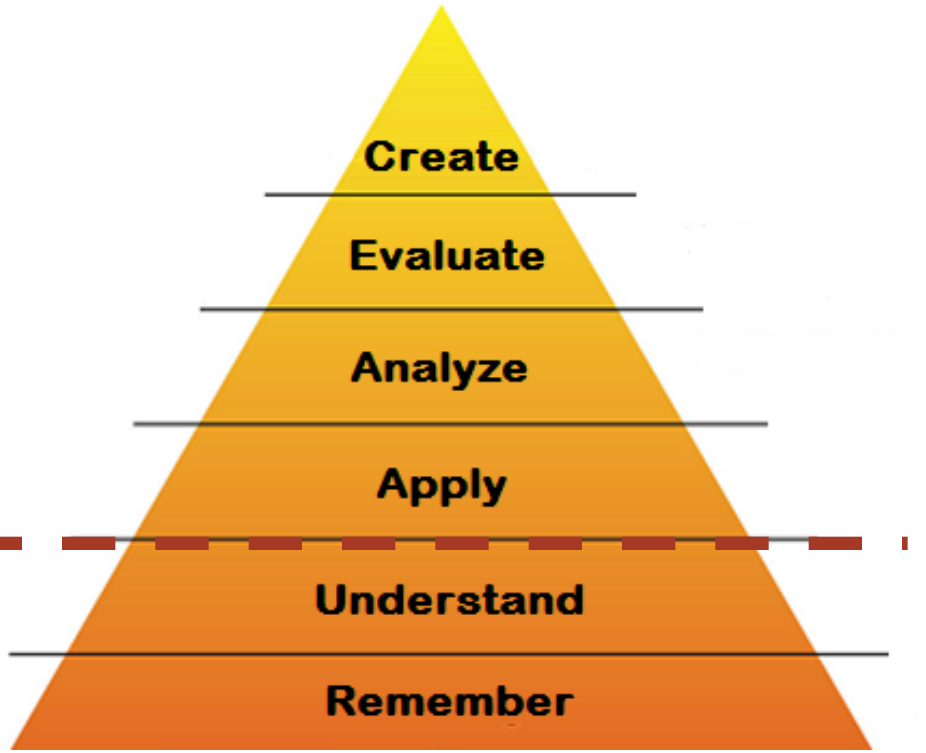


What is the benefit of this "flipped" model?

Optimize high-tech (adaptive) and high-touch (active) learning

Active Learning in class

Adaptive Learning before class



Bloom's Taxonomy

How an adaptive platform helps with this?

Your class digest for BIO 100: The Living World (2018 Spring)

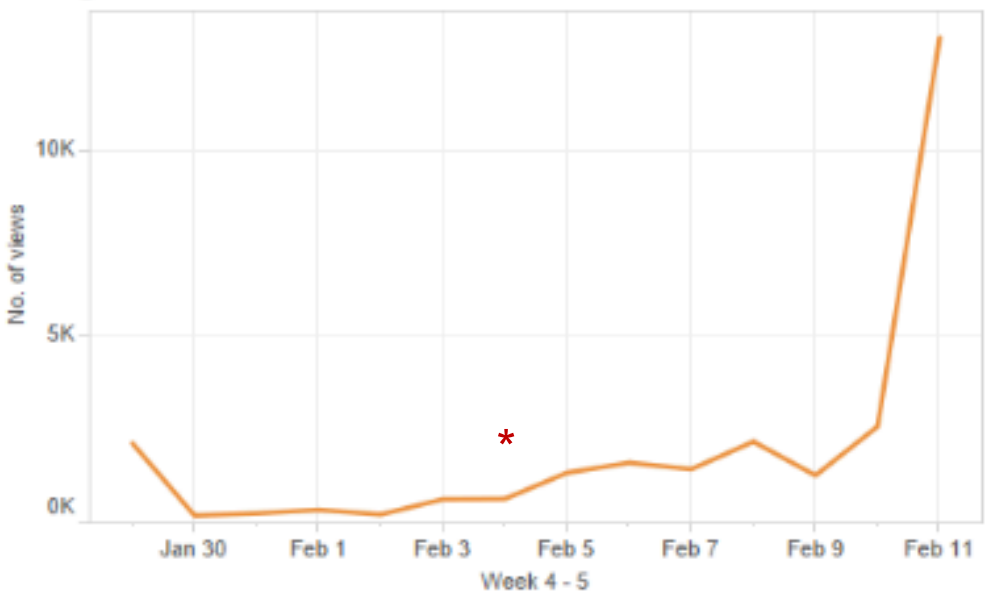
Course: BIO 100: The Living World (2018 Spring)
Week 4 - 5: Jan 29 to Feb 11, 2018

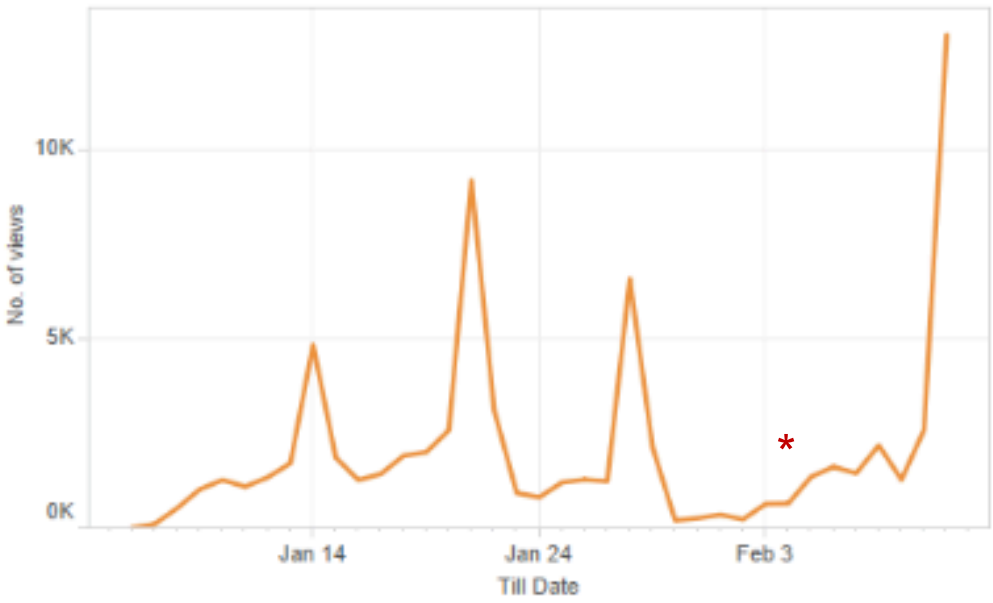
Summary

Total students enrolled	Total students who have started the course	Average time spent on the course per user (hours)	Percentage of the course completed by the class
450	445	4	31

Usage Trend Summary

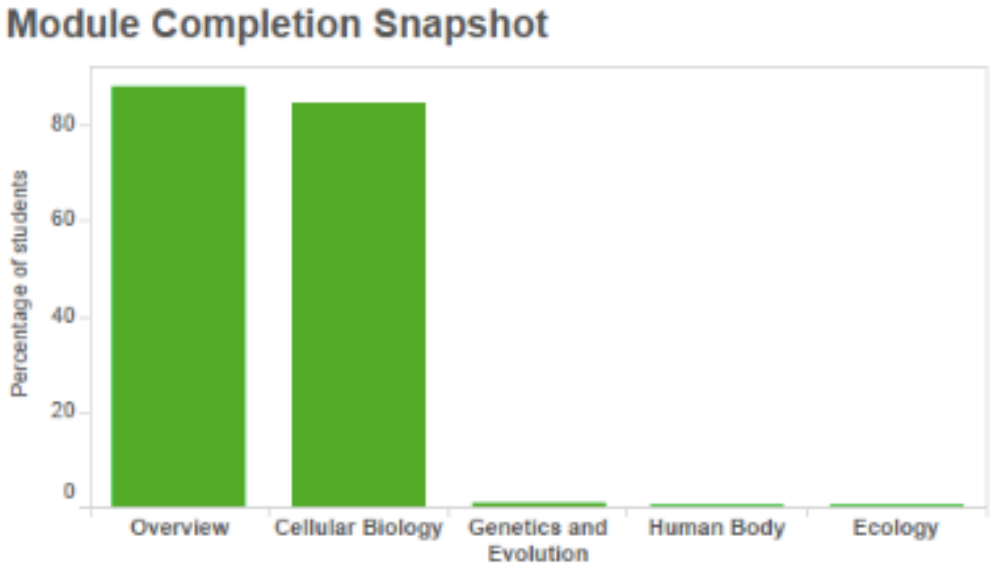
Usage information *by no. of views*

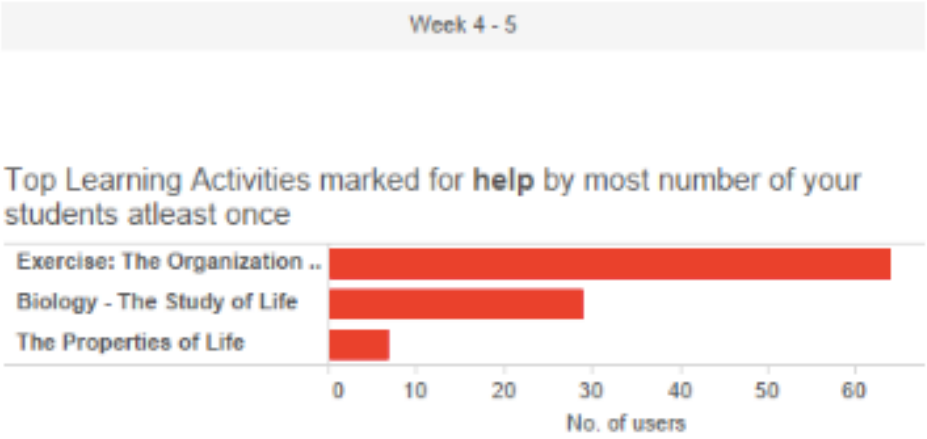


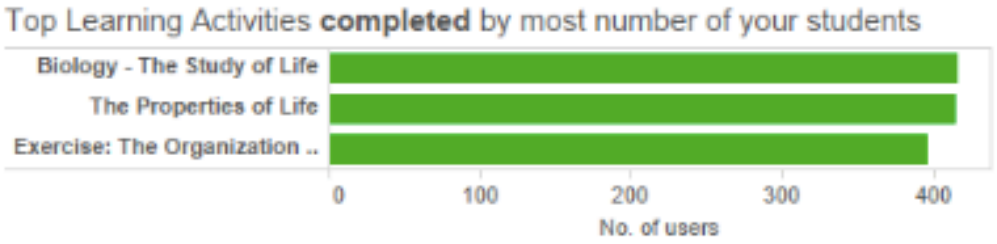


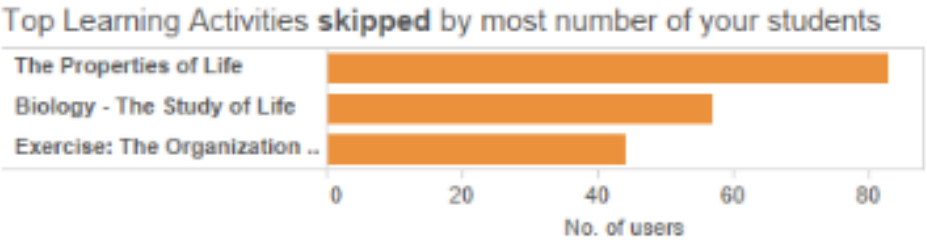
* No quizzes due on 2/4

How an adaptive platform helps with this?









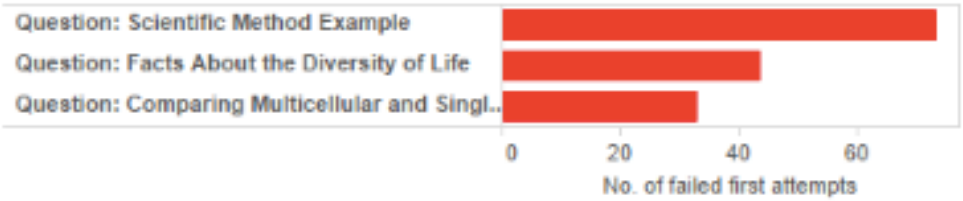
How an adaptive platform helps with this?

Assessment Snapshot

Week 4 - 5

Top assessments where your class was unsuccessful by total no. of failed attempts

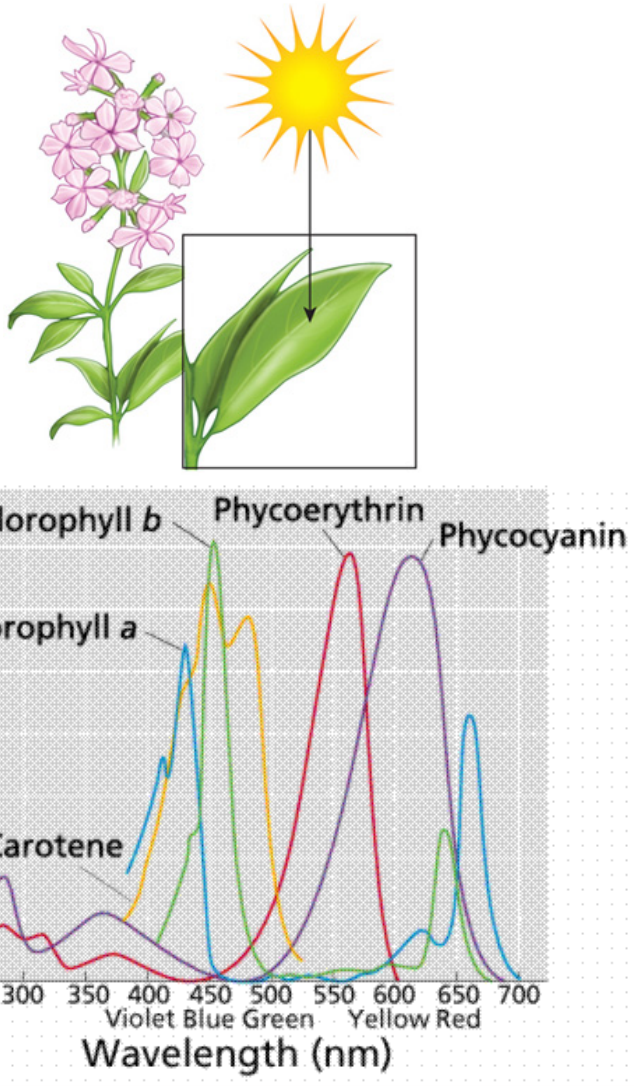
Top assessments where your class was unsuccessful in their **FIRST** attempt

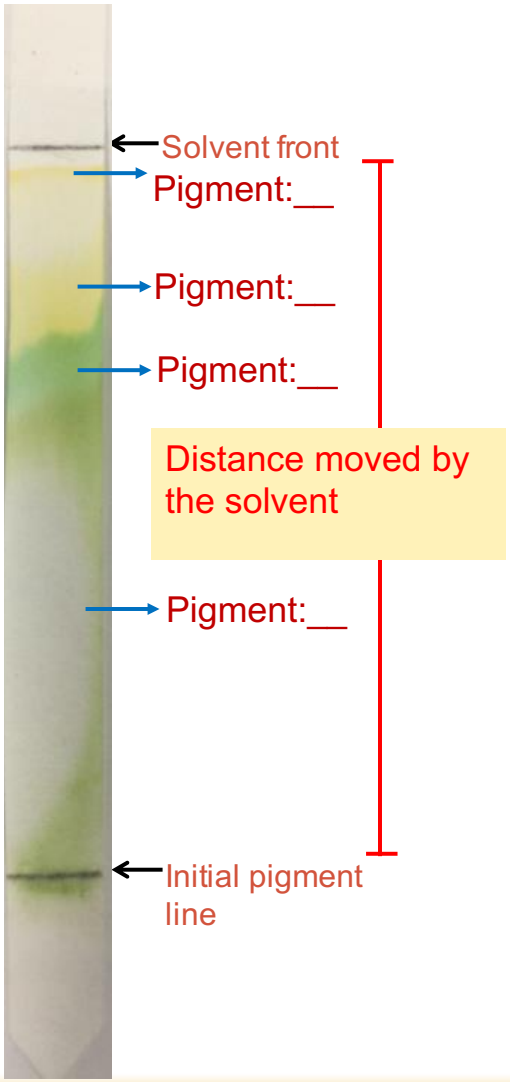


Please note this report was generated on 02-12-2018 2:30 AM ET. Any updates to your class post this date are not captured in this mail.

Some examples of in-class active approaches

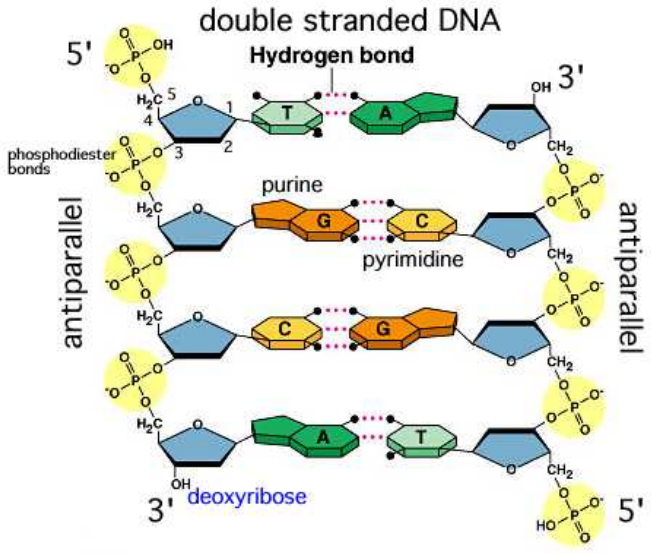
Plant pigments and photosynthesis





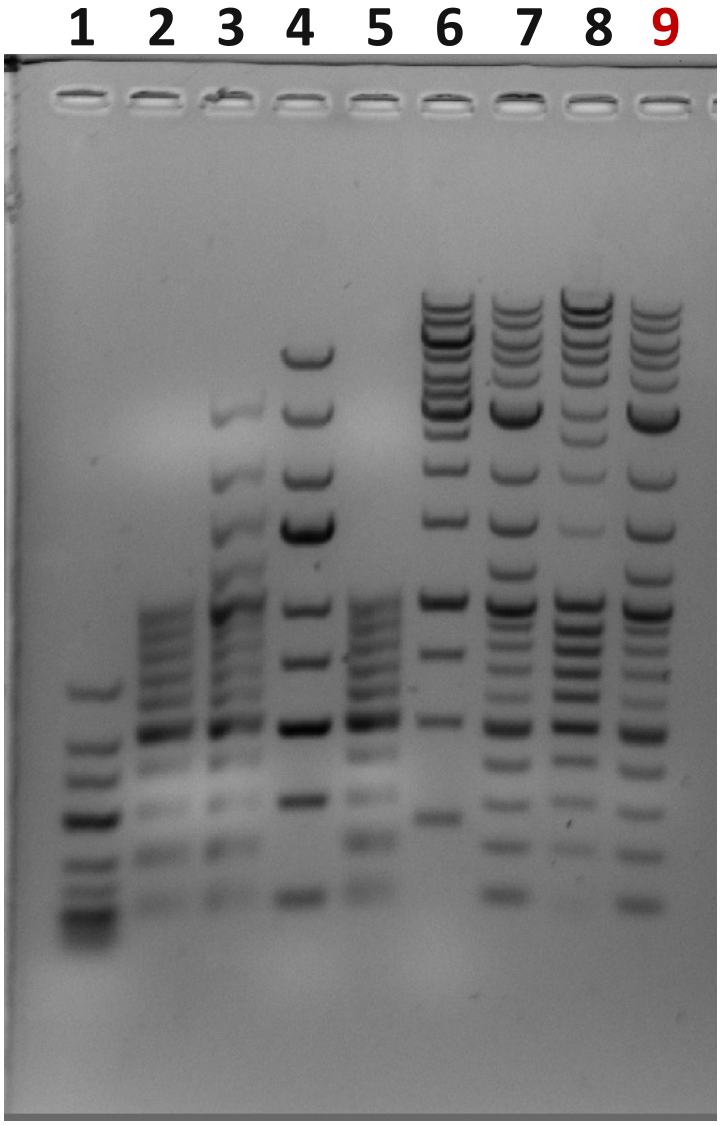
Some examples of in-class active approaches

DNA extraction principles



Some examples of in-class active approaches

Who kidnapped Sparky?



Some examples of in-class active approaches

Got Milk?

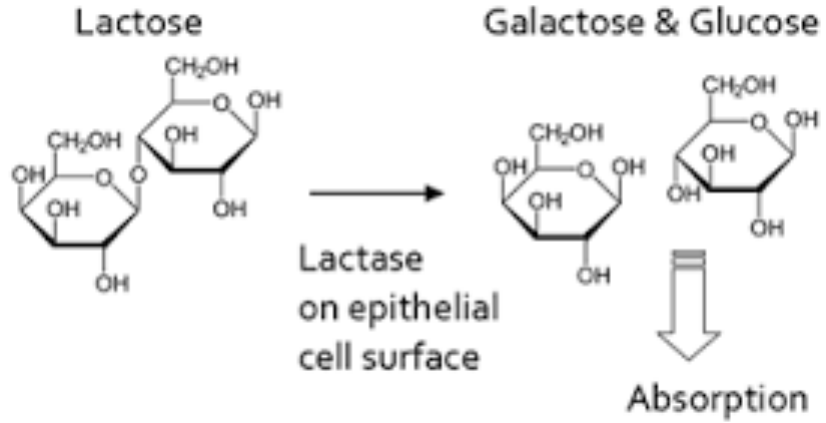


Photo by Deanna Dent

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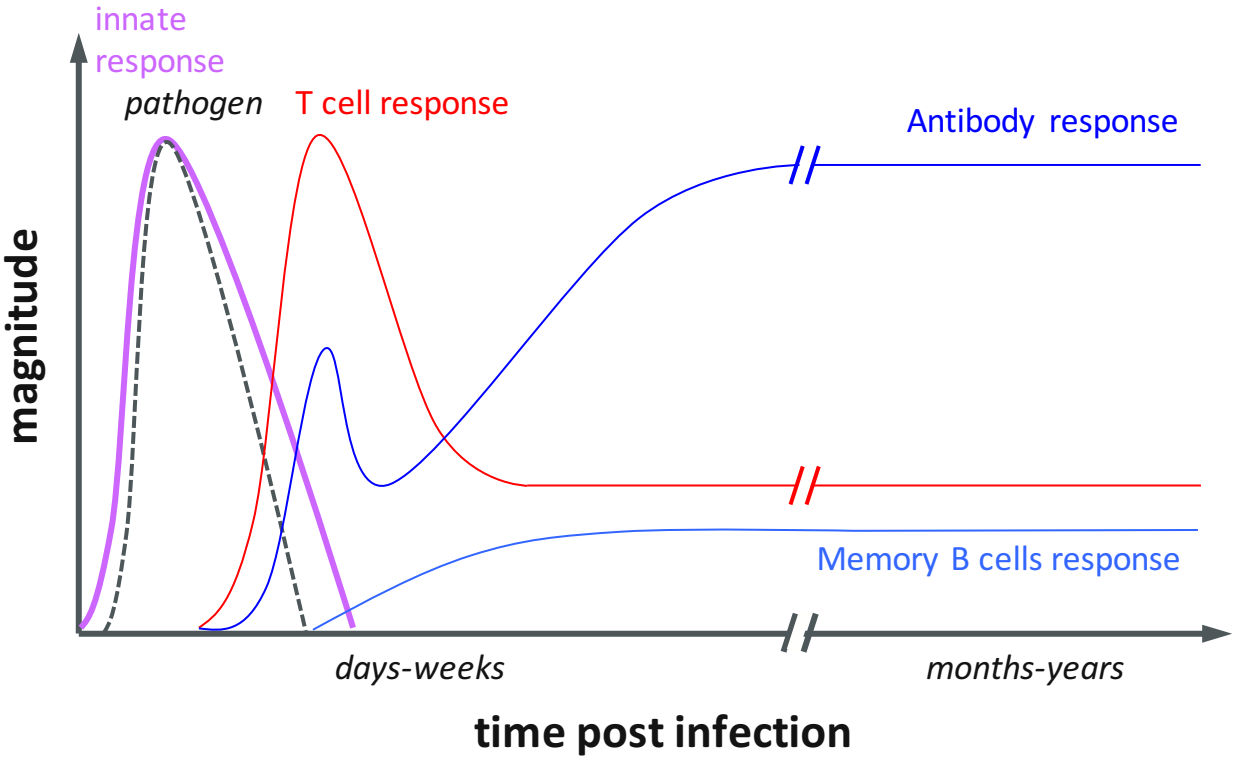
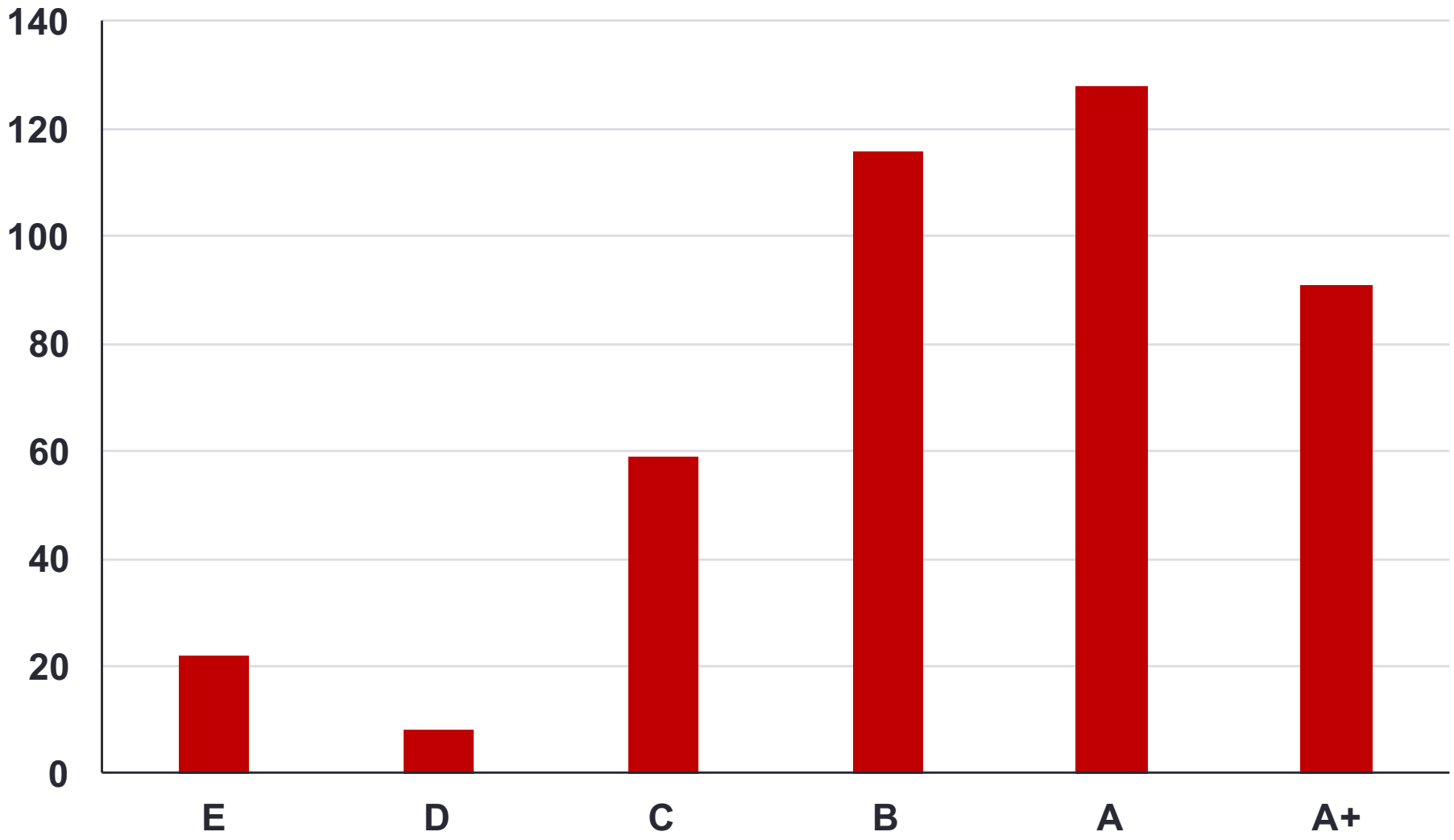
Some examples of in-class active approaches

The basics of immunology through a real case study



BIO 100 Final letter grade (Spring 2018)



BIO 100 team end of the semester celebration

Thank you!