

Running a MOOC on Open edX: Practices after Managing over 100 Course Runs

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Why do we create MOOCs?

Mission Statement

The mission of MIT is to advance knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world in the 21st century.

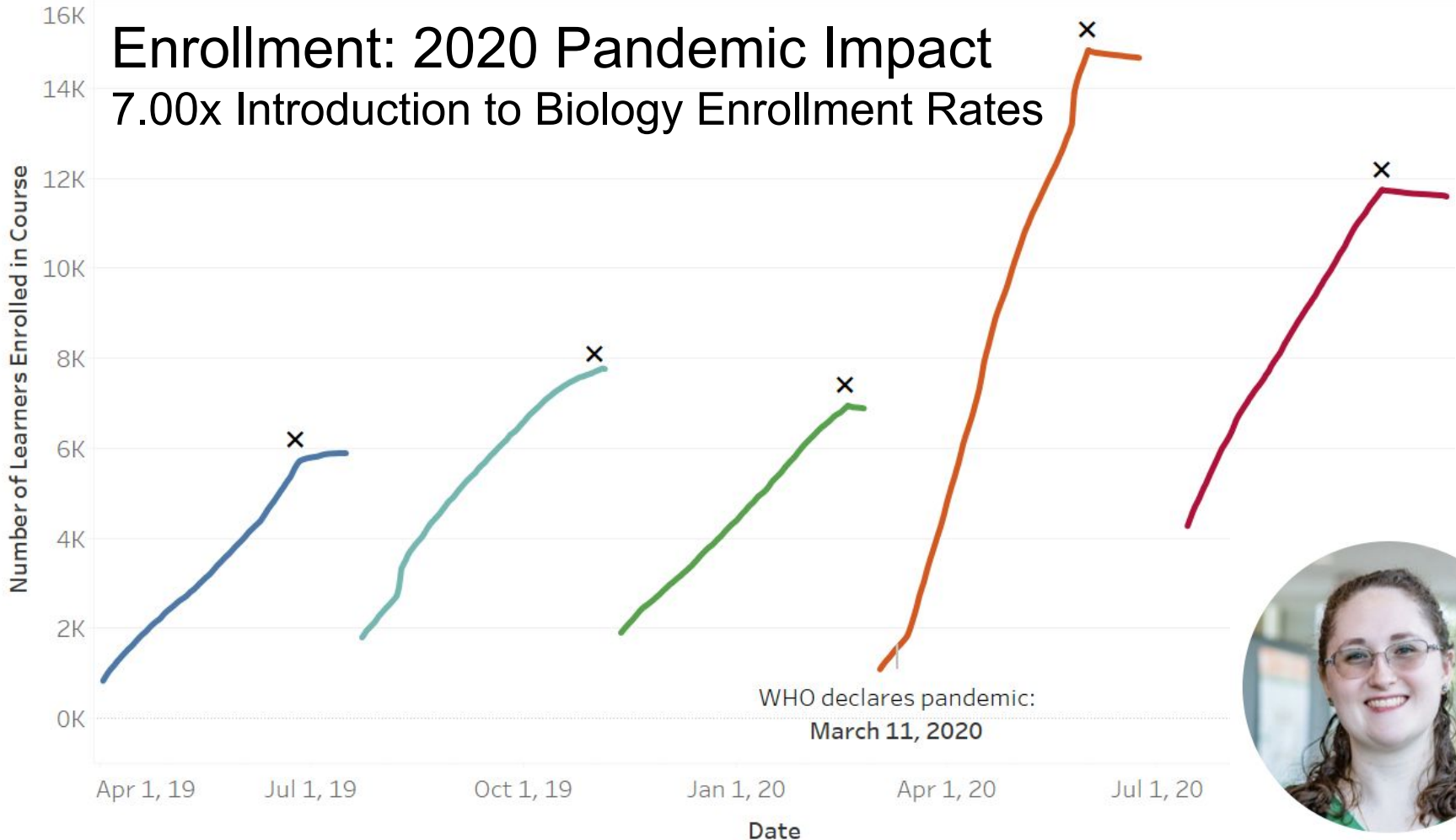
Six Areas for Impacting Reach and Engagement

- **Enrollment:** What action impacts the registration numbers the most? Is it better to allow continuous enrollment or should there be a cutoff date at some point while the course is open?
- **Course emails:** Is it worth sending emails? What content should go in an email? What does the research support?
- **Settings:** Should the course run as instructor- or self-paced? What is the ideal due date for verified track registration?
- **Discussion forums:** Is the forum tied to a learning outcome? Do the instructor's or peers' responses make a difference?
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- **Monitoring learners:** How engaged are learners and with what content? How is a learner who finishes the course quickly or the overall progress of all learners informational?

Enrollment: What action impacts the registration numbers the most?

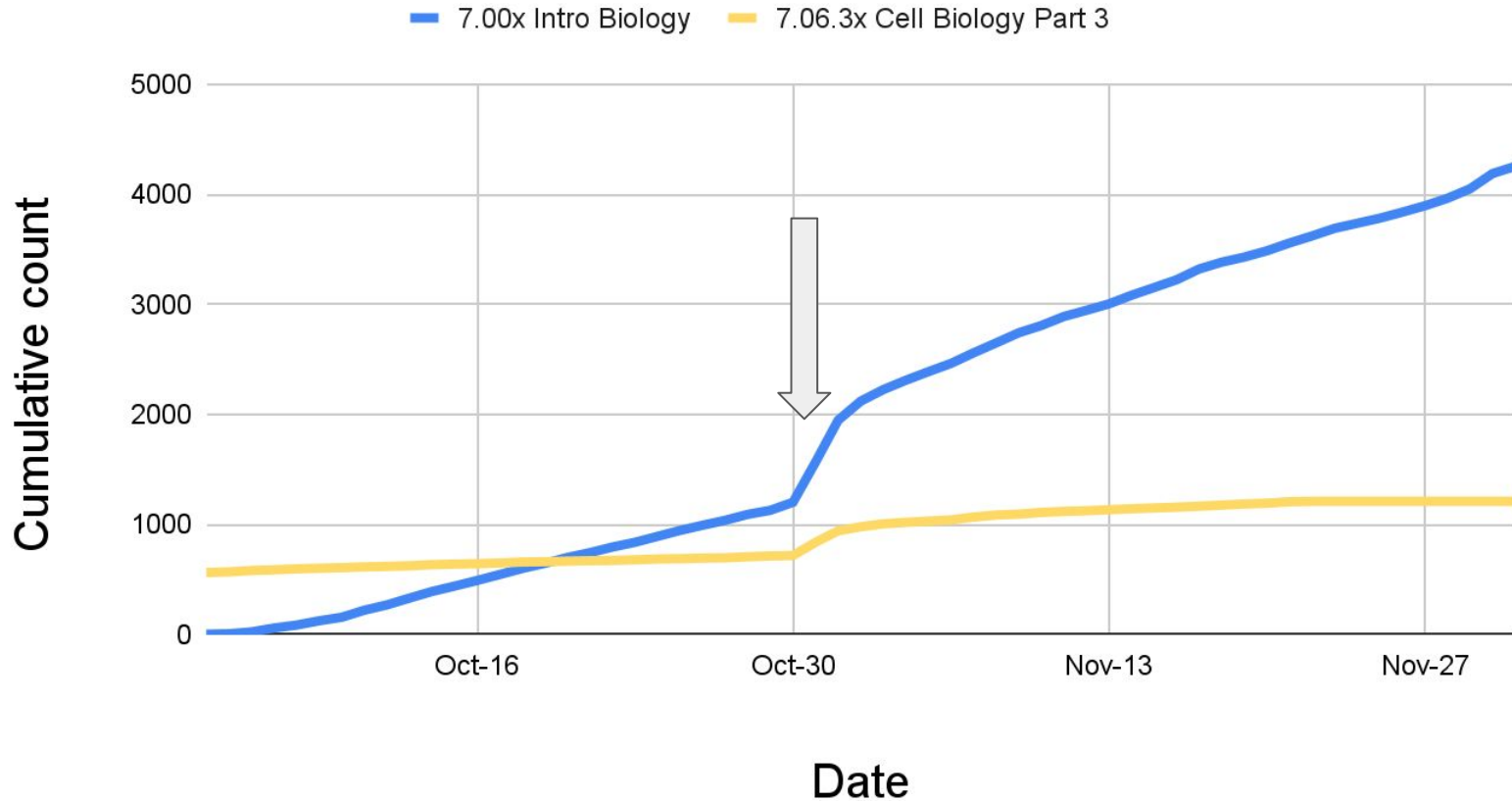
Enrollment: 2020 Pandemic Impact

7.00x Introduction to Biology Enrollment Rates



Virginia (Katie) Blackwell

Enrollment Rates for Biology MOOCs



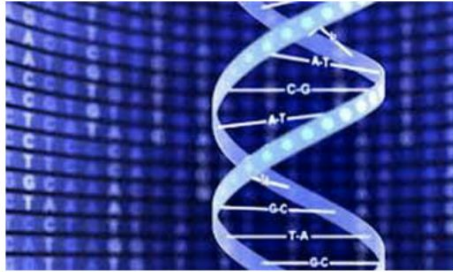
What happened on October 31, 2022?

Enrollment: MIT Email on Monday, Oct 31, 2022

Check out these courses starting in November



Courses Starting this November

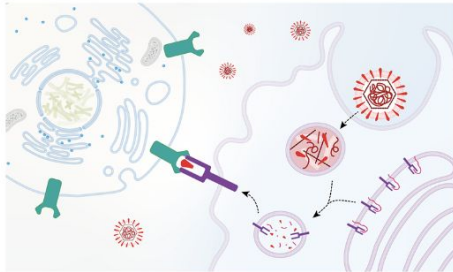


[Introduction to Biology - The Secret of Life](#)

BIOLOGY & LIFE SCIENCES

Explore the secret of life through the basics of biochemistry, genetics, molecular biology, recombinant DNA, genomics and rational medicine.

Starts Nov 1 on edX



[Cell Biology: Cell-Cell Interactions](#)

BIOLOGY & LIFE SCIENCES

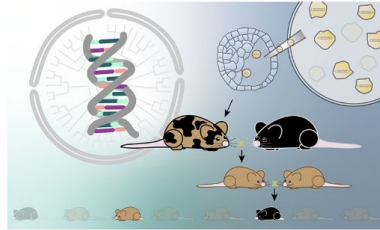
How do we know what we know about cells? Enhance your scientific thinking and data analysis skills with this in-depth adventure through cell biology.

Starts Nov 1 on edX

Enrollment: MIT Email on Friday, Jan 6, 2023

Start 2023 with something new (and educational 🎓)!

List of MITx Courses Starting Soon

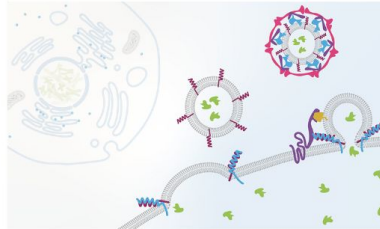


Genetics: Analysis and Applications

Biology & Life Sciences

How do we know what we know about heredity? Enhance your scientific thinking and experimental design skills with this in-depth adventure through genetics.

Starts January 10

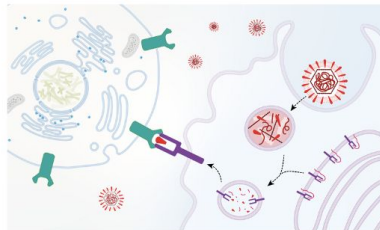


Cell Biology: Transport and Signaling

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How do we know what we know about cells? Enhance your scientific thinking and data analysis skills with this in-depth adventure through cell biology.

Starts January 10



Cell Biology: Cell-Cell Interactions

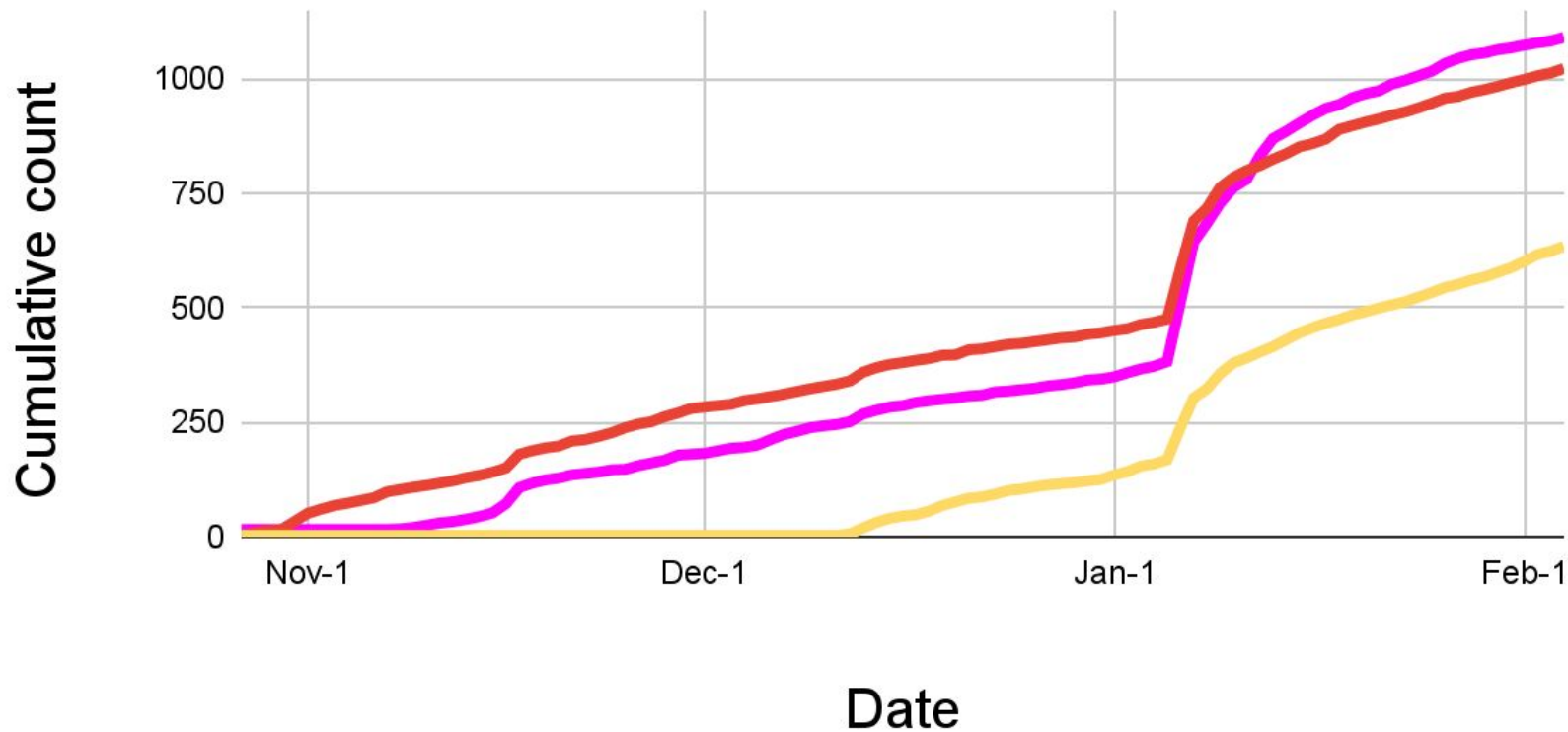
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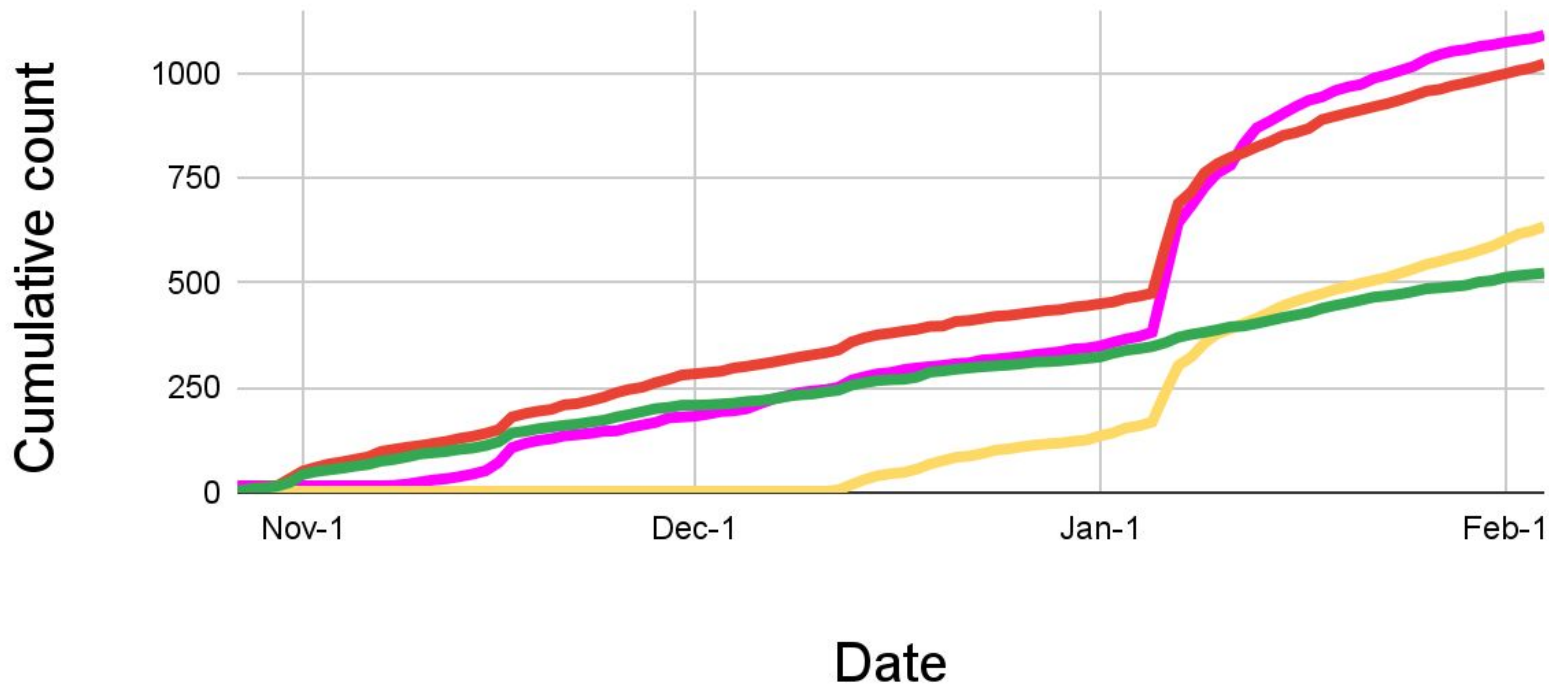
Enrollment Rates for Featured Courses (Jan 6, 2023 email)

7.03.2x Genetics 2 7.06.1x Cell Biology 1 7.06.3x Cell Biology 3



Enrollment Rates for Featured Courses and Control

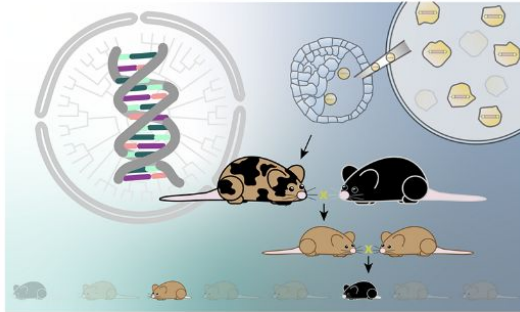
7.03.2x Genetics 2 7.06.1x Cell Biology 1 7.06.3x Cell Biology 3
7.06.2x Cell Biology 2



Enrollment: MIT Email on Thursday, Jan 12, 2023

MITx presents Genetics: Analysis and Applications

GENETICS: ANALYSIS AND APPLICATIONS



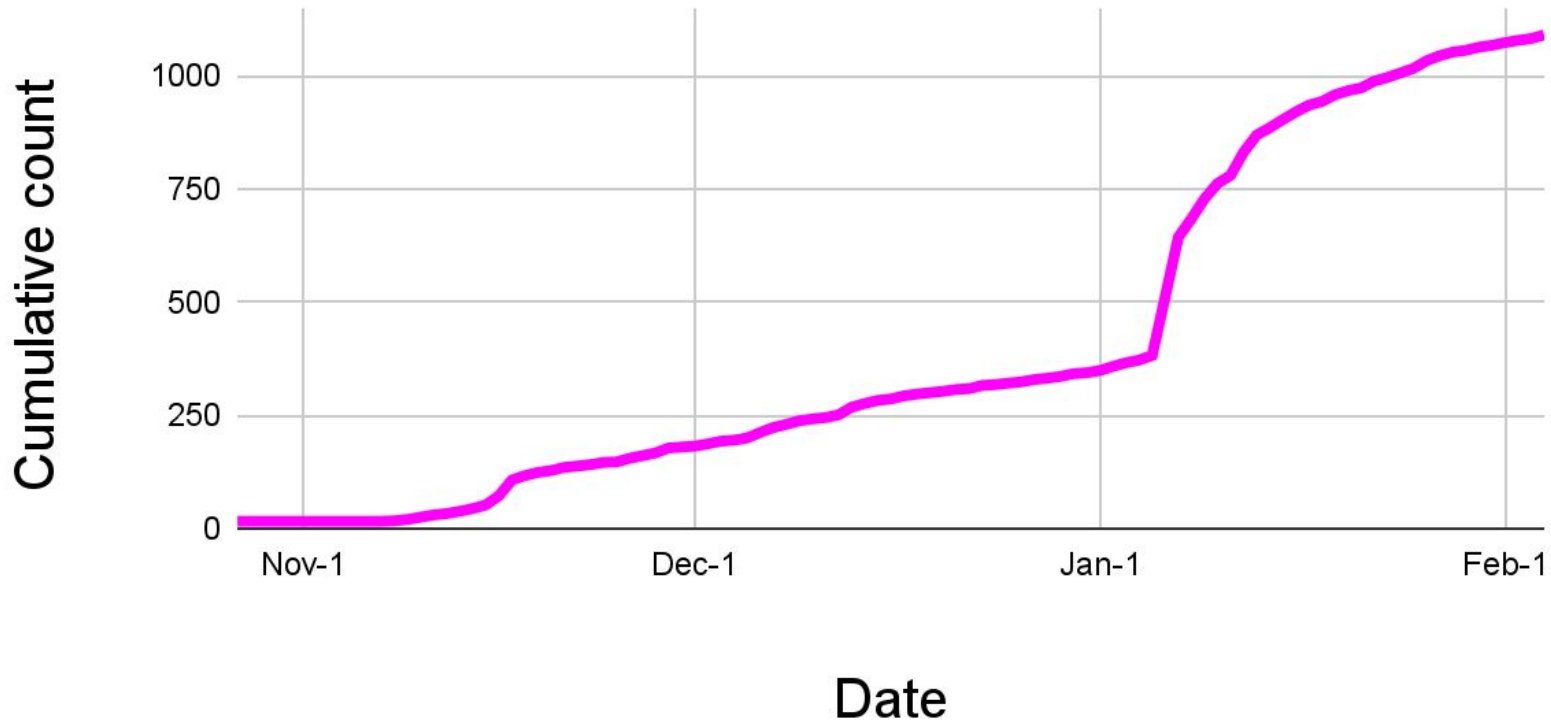
BIOLOGY | Open Now, Self-Paced

How do we know what we know about heredity? Enhance your scientific thinking and experimental design skills with this in-depth adventure through genetics.

[Enroll Now](#)

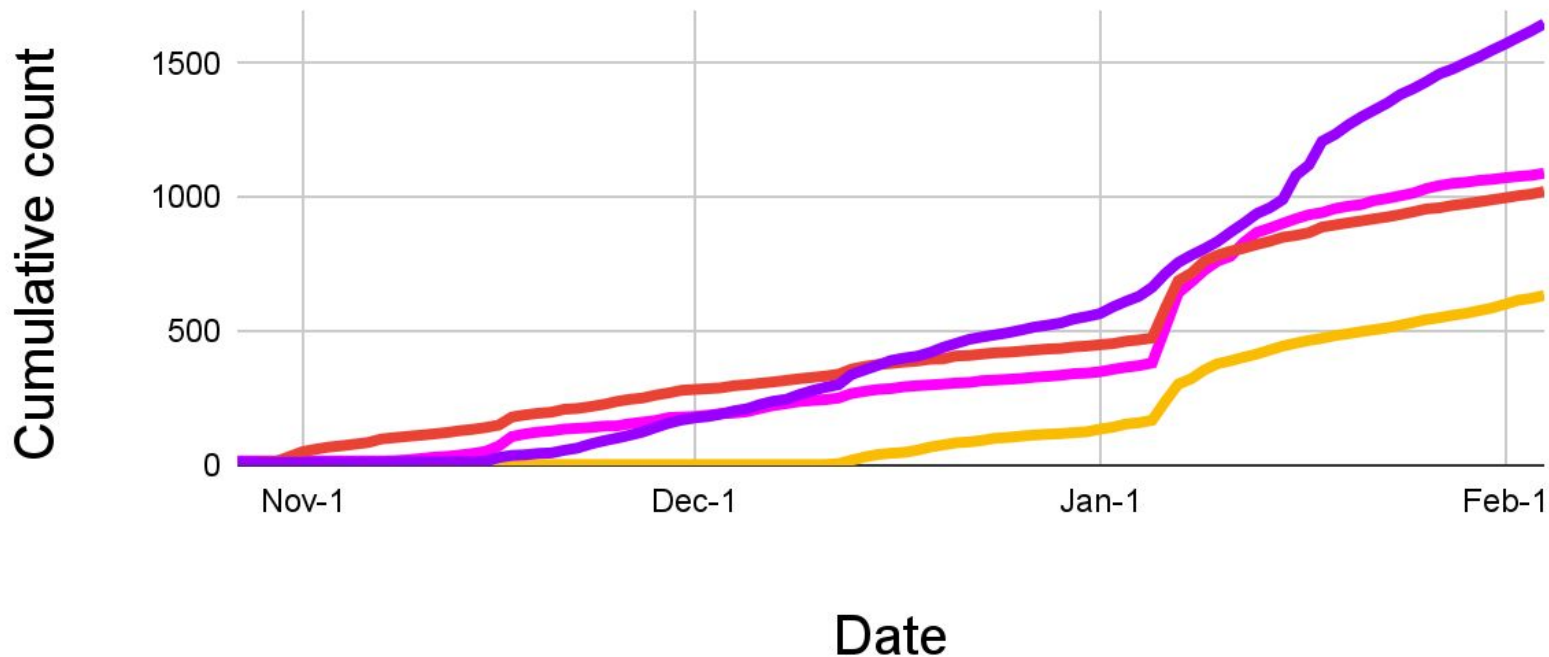
Enrollment Rates for Featured Course (Jan 12, 2023 email)

7.03.2x Genetics 2

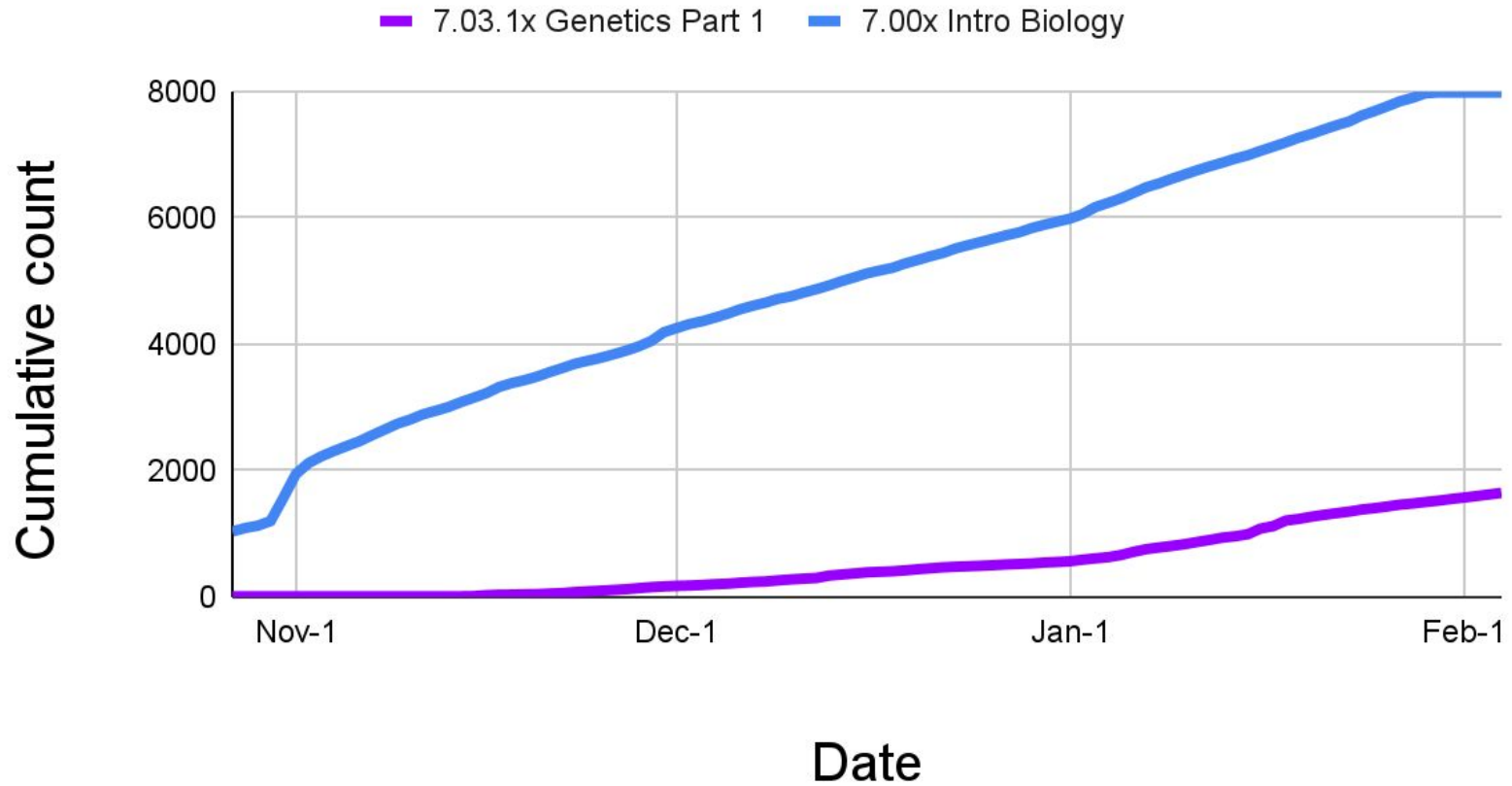


Enrollment Rates for Featured Courses and Control (Jan 6, 2023 email)

7.03.2x Genetics 2 7.06.1x Cell Biology 1 7.06.3x Cell Biology 3 7.03.1x Genetics 1



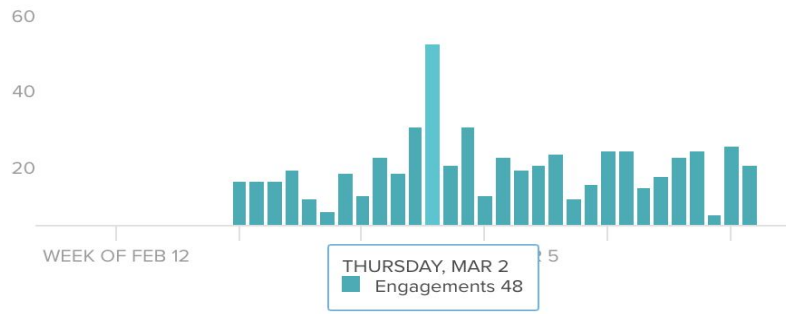
Course-Specific Enrollment Rates Differ



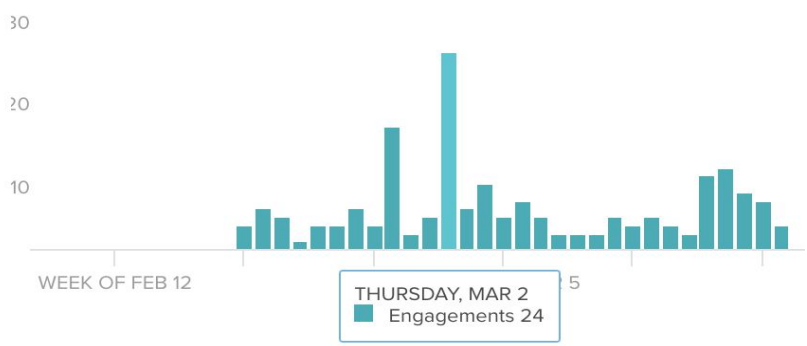
Course emails: Is it worth sending emails from staff? What content should go in an email? What does the research support?

Course emails: Staff emails positively influence clicks to registration page.

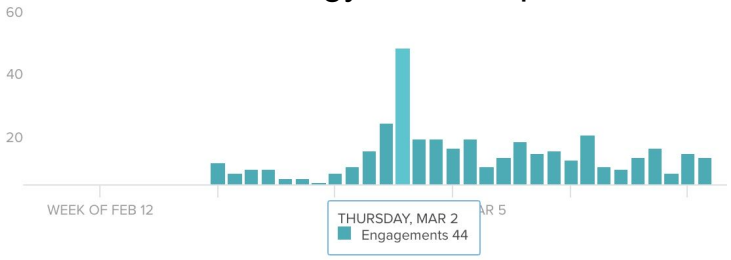
4,168 TOTAL ENGAGEMENTS
7.03.1x Genetics 1



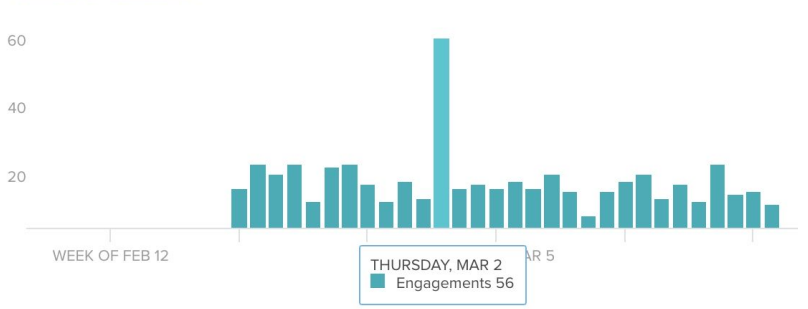
571 TOTAL ENGAGEMENTS
7.03.2x Genetics 2



6,201 TOTAL ENGAGEMENTS
7.QBWx Quantitative Biology Workshop



14,630 TOTAL ENGAGEMENTS
7.05x Biochemistry



Course emails: 7.00x Intro Biology email on March 2 increased clicks.

Em: Dear %%USER_FULLNAME%%,

View

Shc

To

St

Su

Stc

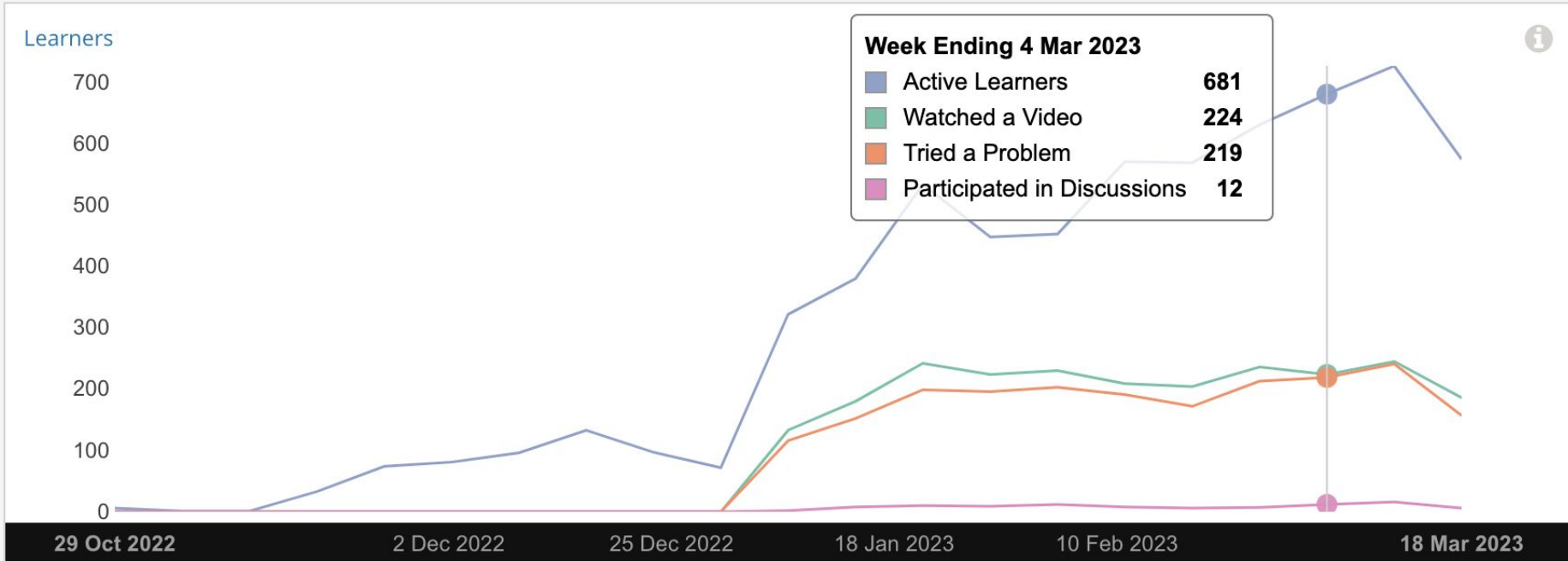
col

- This run of 7.00x is archived.
- The new run of [7.00x](#) is open.
- Try our [7.03x: Genetics](#) courses.
- [7.05x: Biochemistry](#) starts on April 11.
- [7.QBWx: Quantitative Biology Workshop](#) is open.

Course emails: Engagement fluctuates.

Weekly Learner Engagement

How many learners are interacting with my course?



Course emails: Research supports instructor emails.

Impact of an Instructor's Personalized Email Intervention on Completion Rates in a Massive Open Online Course (MOOC)

Kurtz, Gila; Kopolovich, Orna; Segev, Elad; Sahar-Inbar, Limor; Gal, Lilach; Hammer, Ronen

Electronic Journal of e-Learning, v20 n3 p325-335 2022

“the weekly intervention (instructor email) had an immediate impact as well as a cumulative impact on the final exam completion rate.”

Settings: Run the MOOC as instructor-paced (IP) or self-paced (SP)?

Course Name ↕	Start Date ▲	End Date ↕	Total Enrollment ↕	Verified Enrollment ↕	Passing Learners ↕
Quantitative Biology Workshop MITx/7.QBWx/2T2014	06/10/2014	08/01/2014	8,021	149	0
Quantitative Biology Workshop MITx/7.QBW_1x/1T2015	01/13/2015	03/10/2015	6,689	74	0
Quantitative Biology Workshop course- v1:MITx+7.QBWx_3+1T2016	03/29/2016	05/24/2016	5,796	113	171
Quantitative Biology Workshop course- v1:MITx+7.QBWx_4+3T2016	10/04/2016	10/03/2017	7,896	103	81
Quantitative Biology Workshop course- v1:MITx+7.QBWx+3T2017	12/12/2017	12/11/2018	7,932	196	106
Quantitative Biology Workshop course- v1:MITx+7.QBWx+2T2019	07/23/2019	09/17/2019	1,226	19	15
Quantitative Biology Workshop course- v1:MITx+7.QBWx+3T2019	10/15/2019	12/17/2019	1,349	33	22

Settings: Evaluated course mode



Self-paced (SP) runs

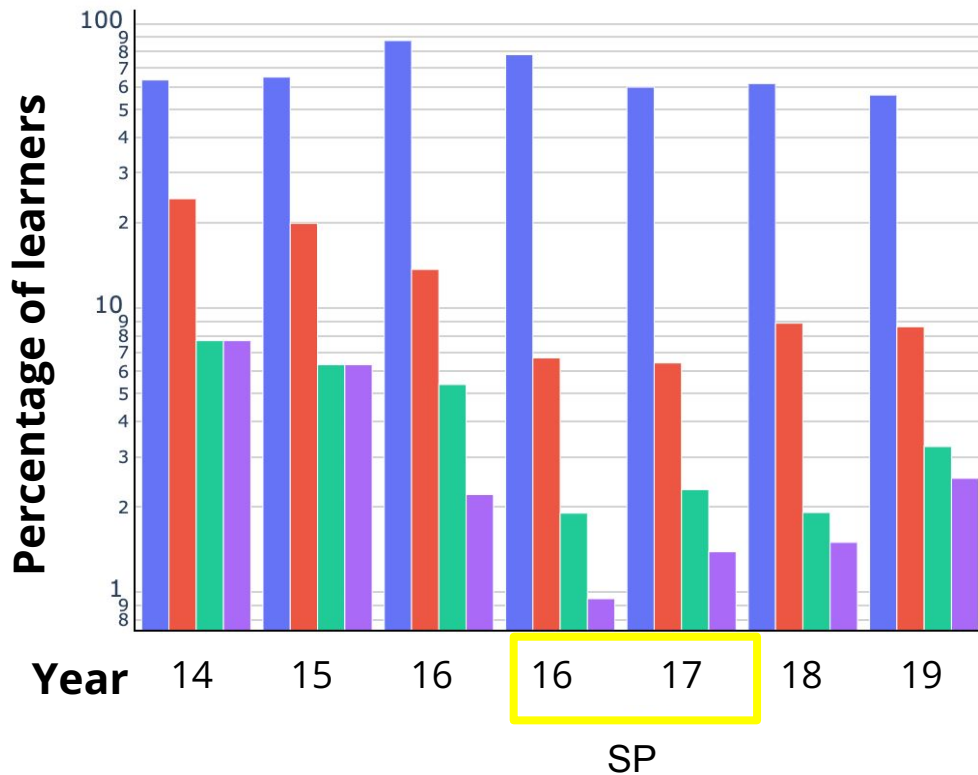
Dr. Monika Avello



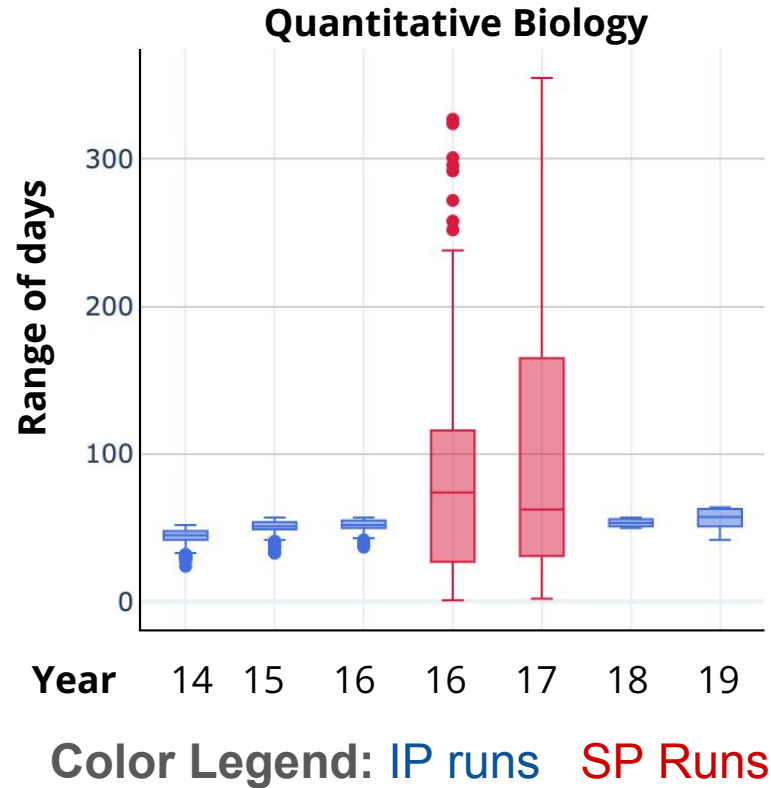
Avello et al. <https://bit.ly/MOOCDeliveryMode>

Settings: SP negatively impacts % of learners who explored, completed, and verified but not participated.

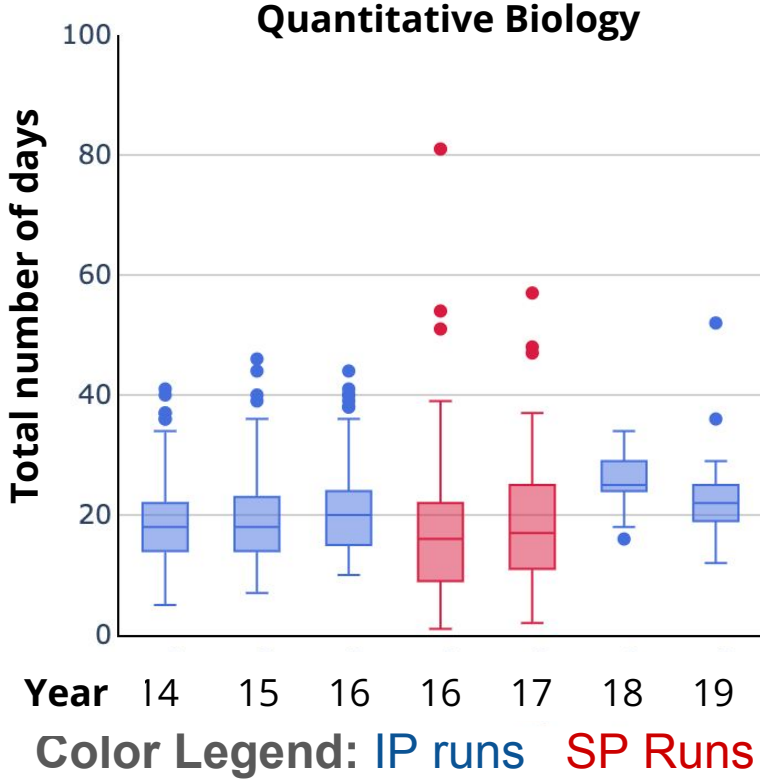
Color Legend: Participated (Blue) Explored (Red) Completed (Green) Verified (Purple)



SP completers submit problems in a greater range of days than IP.



SP completers submit problems in a fewer total number of days than IP.



Settings: MOOC in SP versus IP mode...

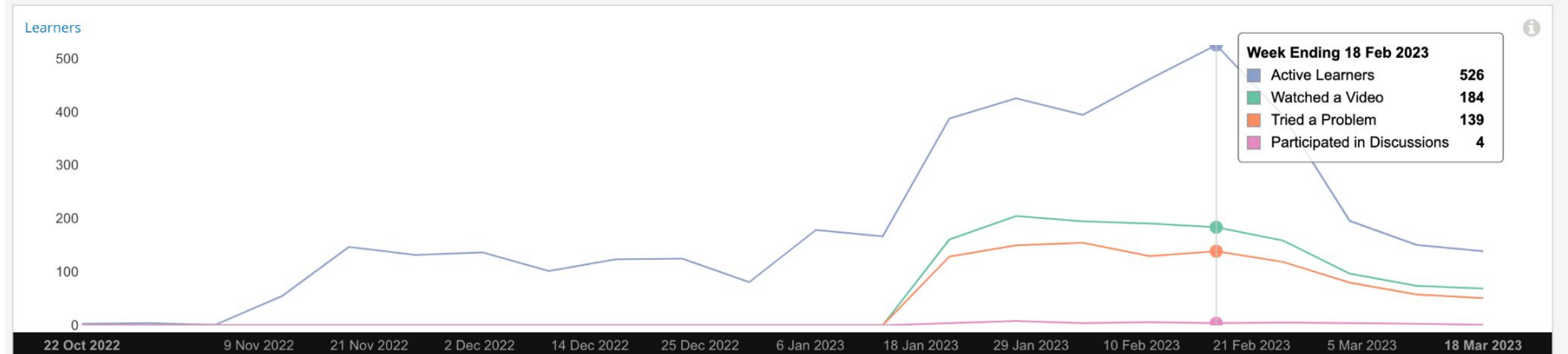
- ... **did not increase** engagement metrics for all learners
 - Participating, exploring, completing, verifying
 - Posting to the forum, attempting a problem, watching a video
- ... **did not increase** activity of completers
 - Submitted problems in a greater range of days
 - Submitted problems in fewer total number of days
 - Attempted fewer problems per day

Settings: Does the verification deadline impact engagement?

Settings: IP and verification deadline impact engagement.

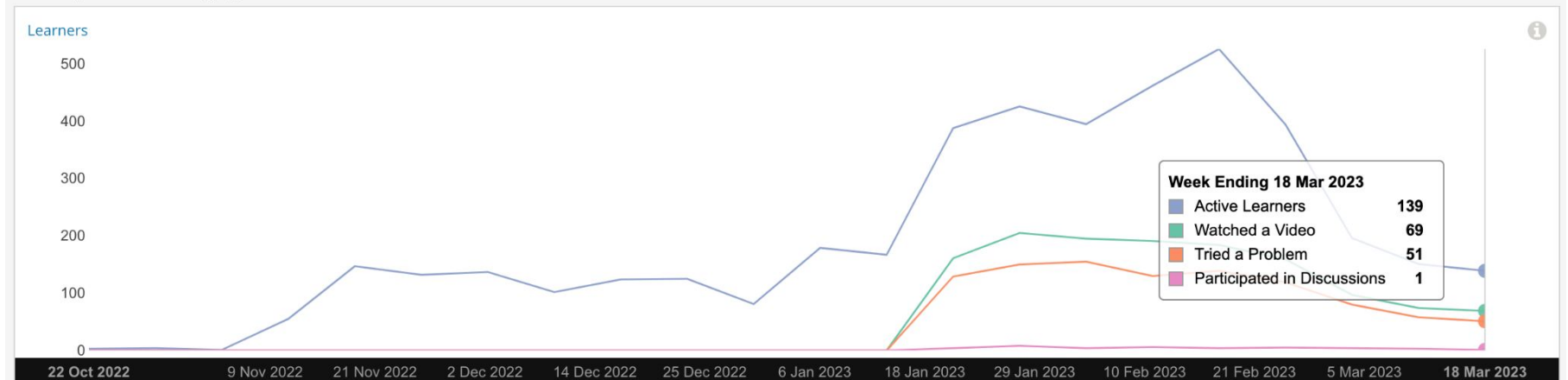
Weekly Learner Engagement

How many learners are interacting with my course?



Weekly Learner Engagement

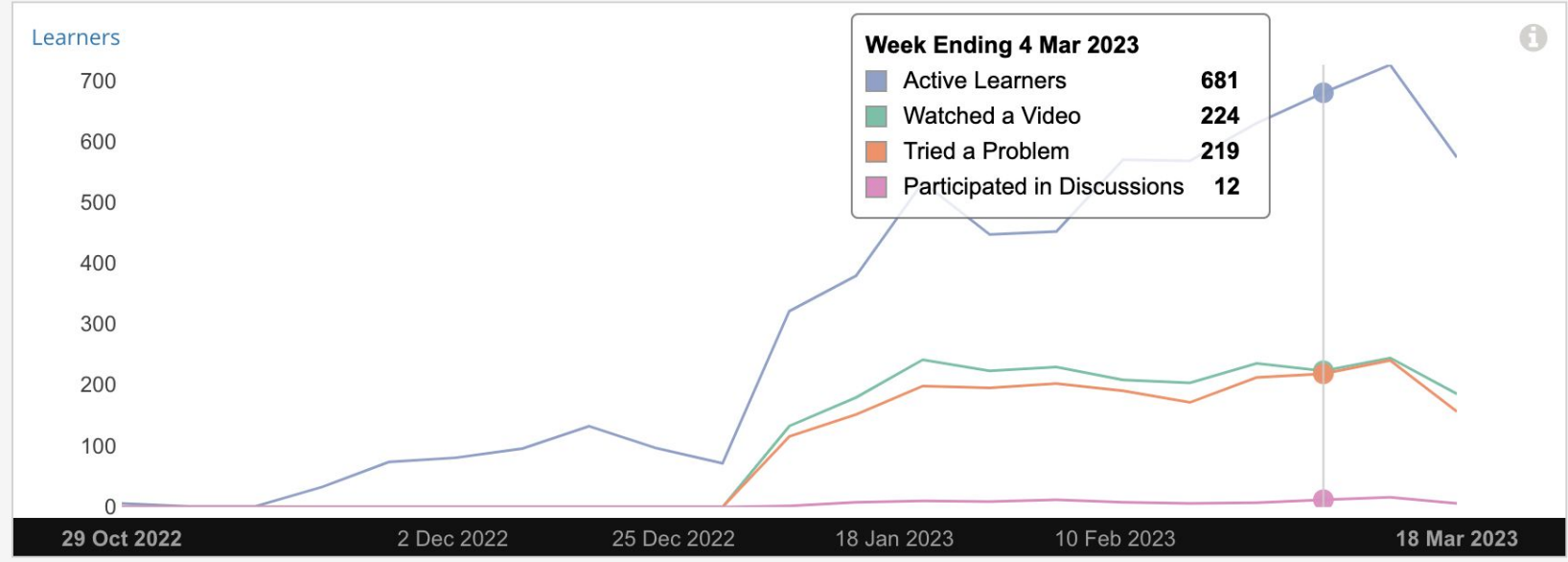
How many learners are interacting with my course?



Settings: Versus SP and verification still open.

Weekly Learner Engagement

How many learners are interacting with my course?



Discussion forums: Do the instructor's or peers' responses make a difference?

Discussion forums: Do the instructor's or peers' responses make a difference?

Proceedings of the 55th Hawaii International Conference on System Sciences | 2022

**Posting versus Replying:
The Effects of Instructor Participation in MOOC Discussion Forums**

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Beijing Sport University
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Fang Wang
Lazaridis School of Business
& Economics,
Wilfrid Laurier University
fwang@wlu.ca

Shan Wang
Department of Finance and
Management Science,
University of Saskatchewan
wang@edwards.usask.ca

Real-time revision: How does learner feedback impact the course as it runs? Can you change the content or a graded question after the course is live? What's fair?

Real-time revision: Use the discussion forum.



tRNA Structure (Staff)



Isn't 5'-UGC-3' the right anticodon for Alanine? I think there is a typo on the tRNA(Ala) picture provided (5' and 3' should be swapped).

Related to [Suppression / Extragenic: Informational Suppressors](#)

Showing 1 endorsed response

Newest first ▾



Answer

Staff 1w



Digital_Learning_Bio Staff 1w

Hi there- yes! Thanks for pointing out the typo, the image is corrected.

Real-time revision: Use the discussion forum.



[Staff] no answer explanation



Dear [Staff], there is no answer explanation to the last question in the quiz. Is it supposed to be like that?

Related to Quiz: Regulation and Epigenetics of *C. elegans* Gametogenesis / Epigenetic Inheritance of Histone Modifications

Showing 1 endorsed response

Newest first ▾

✓ Answer

Staff 1w



courseinstructor Staff 2w

Thanks for flagging this. We should put an example answer here.



courseinstructor Staff 2w

The example answer is present now.



Real-time revision: Use the discussion forum.



Would it be possible add the notes feature for the course like there is in 7.06.1x?

Hello:

I realize that note-taking is very helpful for this course. Is it at all possible for a staff member to add a notes feature for this course similar to the one there is for 7.06.1x (as in the below)? I don't see one available for this (7.03.1x) course.



MITx 7.06.1x

Cell Biology: Transport and Signaling



Course

Progress

Dates

Discussion

Notes

Twitter

Cell Biology: Transport and Signaling

It looks like you missed some important deadlines based on our suggested schedule.

To keep yourself on track, you can update this schedule and shift the past due assignments into the future. Don't worry—you won't lose any of the progress you've made when you shift your due dates.

Shift due da

Pick up where you left off

Resume cour



Feedback

ede9f8e7

Monitoring learners: How engaged are learners and with what content? How is a learner who finishes the course quickly or the overall progress of all learners informational?

Key Takeaways

- MOOCs are not all the same!
- Make decisions considering the nuances.
- Use email strategically.
- Be present.
- Your decisions and actions do impact reach and engagement!

Thank you!

Contact me to discuss more: mew27@mit.edu
<https://www.linkedin.com/in/mary-ellen-wiltrout>
<https://lwmoocs-conference.org/>



Dr. Darcy Gordon



Dr. Caitlin Friend (Blank)



Biology



web.mit.edu/mitxbio

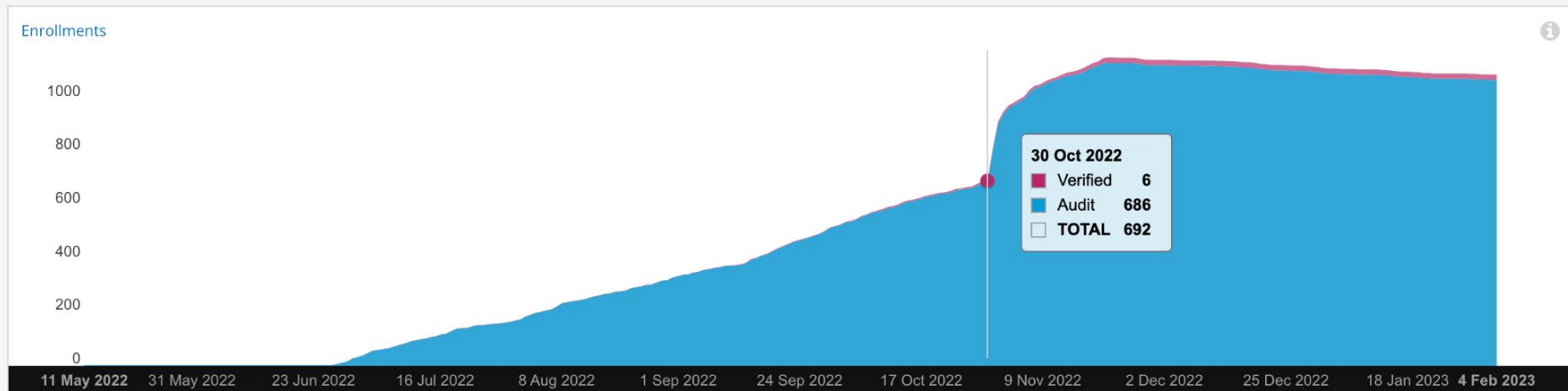


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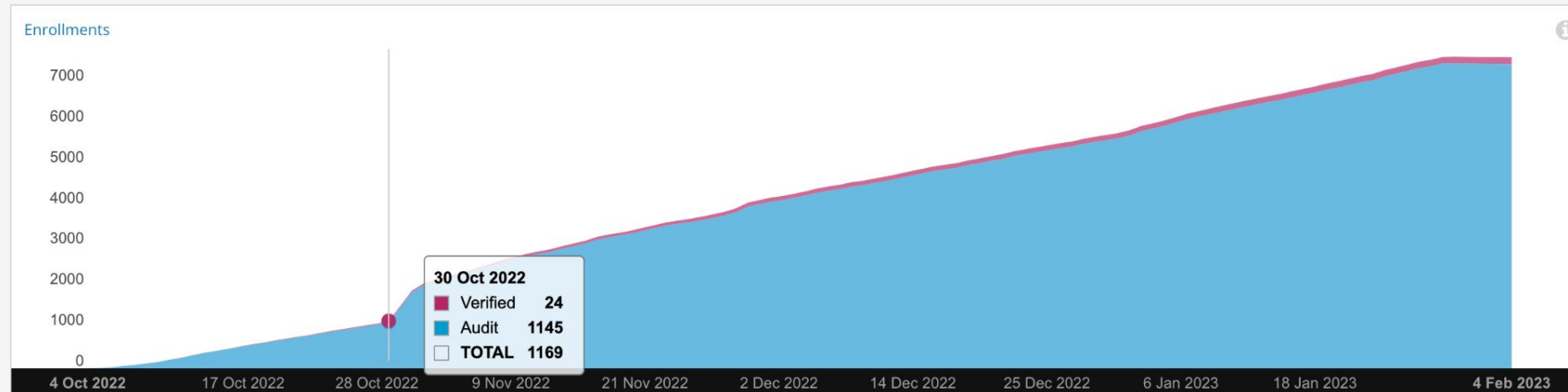
Daily Learner Enrollment

How many learners are in my course?



Daily Learner Enrollment

How many learners are in my cour



Enrollment: Is it better to allow continuous enrollment or should there be a cutoff date at some point while the course is open?

Enrollment Settings: What would be your ideal preference?

Open enrollment until course end date

Open enrollment until a specific date during the course run

Open enrollment even after the course closes

Other

To



0

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