Busting Open Assessment

Themed Session T4A
By Fred Feldon
Professor of Mathematics
Coastline College
October 28, 2021
Hello bro... u are good at math, right?

Hi yes, I’m

good... If i cut a cake into 3 pieces, each piece will be 0.333 of the main piece, right?

Correct

Ok if we multiply 3 by 0.333 we get 0.999

so what happened to 0.001?!!
Hello bro... u are good at math, right?

Hi yes, I’m good... If i cut a cake into 3 pieces, each piece will be 0.333 of the main piece, right?

Correct

Ok if we multiply 3 by 0.333 we get 0.999

so what happened to 0.001?!!

u will find it on the knife

ohhh. thanx

welcome
The Biggest Fears About Teaching Online

• I can’t see their faces
• I can’t call on students
• I can’t do group work
• There’s no whiteboard
• I can’t communicate using discipline notation
• Students can’t communicate using discipline notation
• I have to water down the material
• I have to do Zoom meetings
• No one’s gonna attend my Zoom meetings
• No one’s gonna participate in my Zoom meetings
• I can’t chat with students one-on-one
• I can’t cover all the material
• They’re gonna drop/fail
• My success rates will go down
• They’re gonna cheat with online exams
The Biggest Fears About Teaching Online

Do you notice what’s **NOT** mentioned?

• How do I deliver an authentic assessment
The Biggest Fears About Teaching Online

Do you notice what’s **NOT** mentioned?

- How do I deliver an authentic assessment
  - Academic Dishonesty
  - Surveillance Software
  - Demonstrate Knowledge and Understanding *vs* Memorizaton & Symbol Manipulation
The Biggest Fears About Teaching Online

Did you notice what’s NOT mentioned?

- How do I deliver an authentic assessment
- Academic Dishonesty
- Surveillance Software
- Demonstrate Knowledge and Understanding vs Memorization & Symbol Manipulation

These are what your college is worried about

This should also be a concern!
Academic Honesty
Talk About It

Howie Hua @howie_hua · Aug 24
On the first day, I asked students in groups to discuss:

What would you want math class to feel like? How can we, as a classroom community, achieve this?

Breakout Room 1

<table>
<thead>
<tr>
<th>What would you want math class to feel like?</th>
<th>How can we, as a classroom community, achieve this?</th>
</tr>
</thead>
<tbody>
<tr>
<td>We want math class to feel welcoming, and to promote student-involvement. We also want our math teacher to be approachable and for us to feel comfortable enough to ask for help.</td>
<td>We can create a sense of community by supporting each other and creating a comfortable environment. We can give each other the opportunity for our thinking processes to be heard. It is important to be open-minded and welcoming of new perspectives.</td>
</tr>
</tbody>
</table>
Talk About It

• One of the most important things you can do is to talk about academic integrity—A LOT!
• Discuss what constitutes an academic integrity infringement at the beginning of the semester
• Talk about it again before an assessment
• Remind students how it can affect their academic lives, future careers and your opinion of them and their ethical standards
• Shorter open book exams give students less time to consult sources
• Ask questions that focus on ideas and concepts that are less “Googleable”

https://tips.uark.edu/academic-integrity-tips-for-encouraging-academic-honesty/ Lesley Speller, University of Arkansas
“When a person listens to or relates to another person the listener’s brain changes to mirror the other person’s brain. It’s called neural coupling. When you show empathy students feel trusted and valued. They engage at a higher level... They’ll work their asses off to not disappoint you!”

“Teachers should be moral exemplars, set standards and keep ethical expectations high no matter what educational models are being used.”

David DeCosse, Director of Campus Ethics, Santa Clara University Markkyla Center for Applied Ethics
Surveillance Software
“Injustice is antithetical to academic integrity,”
Dr. Sarah Elaine Eaton,
University of Calgary, 2020,
https://wp.me/pNAh3-2uu

ACADEMIC INTEGRITY
Combating systemic racism

Recognizing Racism
Statements and beliefs such the ones noted below may foster racism:
- "International students cheat more."
- "Students from (insert country here) cheat more than other students."
- "Students who don’t speak English fluently plagiarize/cheat more."
- "Students from collectivist cultures cheat more."
- "Send the cheaters home!"

Promoting Academic Integrity
Statements that promote integrity and stand against discrimination include:
- "It is important to identify and address students’ learning needs."
- "All students deserve equitable learning opportunities."
- "All students deserve to be treated with respect and dignity regardless of where they come from or what languages they speak."
- "Upholding and promoting academic integrity requires a multi-stakeholder response. It is up to us to support students."
Nix alternative admissions test, UC faculty say

After the SAT was dropped, the group was asked to explore a replacement exam.

By Teresa Watanabe

In another blow to the future of standardized testing for University of California admissions, a faculty group has recommended nixing the use of an alternative assessment to replace the SAT in a new report to UC leaders.

The UC Board of Regents, in a move that reverberated nationally, unanimously voted last year to drop the use of the SAT and ACT for admissions decisions through 2024 because the tests exacerbated disparities based on race and income.

Faculty were asked to recommend a replacement. UC President Michael V. Drake asked the Academic Senate in April to explore whether the statewide assessment used for California public school students, known as Smarter Balanced, would be an appropriate replacement. Some educators were more open to using the state test over the SAT because it assesses how well 11th-graders learned California’s core curriculum.

But the Senate committee’s conclusion: No go.

“The assessment is not appropriate as an admissions test, required or optional, for the UC,” the group’s report concluded, saying it was concerned about racial and socioeconomic disparities common to all standardized exams.

Academic Senate Chair Robert Horwitz and Mary Gauvin, the faculty committee’s chair, declined to comment.
What Proctorio doesn't see won't hurt me

I'm not showing students how to cheat (they don't need me for that).
I am showing teachers how Proctorio sucks at proctoring. #onejob

urldefense.proofpoint.com

https://youtu.be/nR56D-OtYNg

Hao Vu, Professor of Mathematics,
Coastline College
You have absolutely no idea what people are capable of until you put them in a situation where they can flourish.

SHAWNA RODABAUGH
ON TEACHING IN HIGHER ED
Brandon LeBeau @blebeau11 · 2/23/21
Replying to @MathProfPeter
thanks for sharing, this software is really problematic. The money spent on this software should be spent on instructor training for creating assessments that don't need this software.
In my in-person sessions with students today (for my hybrid courses), they were telling me about their experience using proctoring software and lockdown browsers for OTHER courses (I could never...). Here are some of the things that they just said casually:

Show this thread
Peter Keep @MathProfPeter · Oct 5
VERY disappointed in this statement from @MathAMATYC on remote proctoring. Hiring out invasive and racist surveillance software is so far from the best (or only) way to keep "integrity" in our online classes.

Dr Spencer Bagley 🎃🔥🌈 @sbagley · Oct 5
Y'all, have you seen the new draft AMATYC statement on remote proctoring? It's, uh, pretty wild.
drive.google.com/file/d/1yQYBaj...
Show this thread

Peter Keep @MathProfPeter · Oct 5
Again for the people in the back:

Peter Keep @MathProfPeter · Feb 22
TL;DR: Cop shit has not place in the classroom. Send tweet.
Show this thread
we're returning to the classroom because face to face is so important.
the classroom:

Returning to onsite classes is NOT the answer!
The Biggest Fears About Teaching Online

How do I create and deliver an authentic assessment?

...That will inspire students to demonstrate mathematical virtues and share their true understanding of the material?
Assessment Options

Giving up in-person exams proctored by a human was difficult. But necessary in the pandemic. Options might include:
Assessment Options

Giving up in-person exams proctored by a human was difficult. But necessary in the pandemic. Options might include:

- Proctor (or not). Use publisher software (e.g. PearsonMyLab) to create a test with infinite variation, pooling, scramble question order and show work feature enabled. Every student has a unique test. Review every test for partial credit.
Assessment Options

Giving up in-person exams proctored by a human was difficult. But necessary in the pandemic. Options might include:

• Proctor (or not). Use publisher software (e.g. PearsonMyLab) to create a test with infinite variation, pooling, scramble question order and show work feature enabled. Every student has a unique test. Review every test for partial credit.
• Proctor (or not). Use third-party software (e.g. TestGen, MS Word, Cengage, Webassign, Desmos) to create your test and distribute it in Canvas or your course website.
Assessment Options

Giving up in-person exams proctored by a human was difficult. But necessary in the pandemic. Options might include:

- Proctor (or not). Use publisher software (e.g. PearsonMyLab) to create a test with infinite variation, pooling, scramble question order and show work feature enabled. Every student has a unique test. Review every test for partial credit.
- Proctor (or not). Use third-party software (e.g. TestGen, MS Word, Cengage, Webassign, Desmos) to create your test and distribute it in Canvas or your course website.
- Hold Zoom meeting during scheduled exam. Students work while you watch in Gallery View and listen to audio feeds, as if you were all in the same room. They show work on paper and use a mobile scanning app to send it to you for grading. Have multiple forms of the test ready for alternate meetings. OR give students a time period to return hand-written exams to you for grading without using Zoom!
Students write their work by hand and send you a multi-page PDF file using a free mobile scanning app. See video [https://youtu.be/UkYlGa3y4tk](https://youtu.be/UkYlGa3y4tk)

*CamScanner, Microsoft OfficeLens, AdobeScan, Evernote, Abbyy FineScanner*
Assessment Options

Giving up in-person exams proctored by a human was difficult. But necessary in the pandemic. Options might include:

- **Proctor (or not).** Use publisher software (e.g. PearsonMyLab) to create a test with infinite variation, pooling, scramble question order and show work feature enabled. Every student has a unique test. Review every test for partial credit.
- **Proctor (or not).** Use third-party software (e.g. TestGen, MS Word, Cengage, Webassign, Desmos) to create your test and distribute it in Canvas or your course website.
- Hold Zoom meeting during scheduled exam. Students work while you watch in Gallery View and listen to audio feeds, as if you were all in the same room. They show work on paper and use a mobile scanning app to send it to you for grading. Have multiple forms of the test ready for alternate meetings. **OR** give students a time period to return hand-written exams to you for grading without using Zoom!
- Hold individual Zoom meetings where students talk to you about their answers, show their work and explain their thinking.
I'll just cheat on this test it's not like they can see me

The exam is oral and it will be on Zoom

My professor

Me during online classes
Students use thick Sharpie pens to write with, hold their paper up to the web cam.

“Graph this parabola and show me the vertex.”

\[ f(x) = 2x^2 - 4x - 3 \]

Vertex is \((1, -5)\)
Students show work using markers and an individual mini-whiteboard. Hold it up to their webcam.
Assessment Options

Giving up in-person exams proctored by a human was difficult. But necessary in the pandemic. Options might include:

• Proctor (or not). Use publisher software (e.g. PearsonMyLab) to create a test with infinite variation, pooling, scramble question order and show work feature enabled. Every student has a unique test. Review every test for partial credit.

• Proctor (or not). Use third-party software (e.g. TestGen, MS Word, Cengage, Webassign, Desmos) to create your test and distribute it in Canvas or your course website.

• Hold Zoom meeting during scheduled exam. Students work while you watch in Gallery View and listen to audio feeds, as if you were all in the same room. They show work on paper and use a mobile scanning app to send it to you for grading. Have multiple forms of the test ready for alternate meetings. OR give students a time period to return hand-written exams to you for grading without using Zoom!

• Hold individual Zoom meetings where students talk to you about their answers, show their work and explain their thinking.

• Alternative methods of assessment such as projects, papers, student-created videos, peer review assessments, etc.
"Summative" doesn't imply a single, high-stakes test.

Summative is a point in time at which we consider ALL evidence, formal and informal.

“The MOMENT any info is used in deciding a final grade, it IS, by definition, summative. Let’s use only the most valid of indicators this way.”
Assessment Options

Giving up in-person exams proctored by a human was difficult. But necessary in the pandemic. Options might include:

• Proctor (or not). Use publisher software (e.g. PearsonMyLab) to create a test with infinite variation, pooling, scramble question order and show work feature enabled. Every student has a unique test. Review every test for partial credit.
• Proctor (or not). Use third-party software (e.g. TestGen, MS Word, Cengage, Webassign, Desmos) to create your test and distribute it in Canvas or your course website.
• Hold Zoom meeting during scheduled exam. Students work while you watch in Gallery View and listen to audio feeds, as if you were all in the same room. They show work on paper and use a mobile scanning app to send it to you for grading. Have multiple forms of the test ready for alternate meetings. OR give students a time period to return hand-written exams to you for grading without using Zoom!
• Hold individual Zoom meetings where students talk to you about their answers, show their work and explain their thinking.
• Alternative methods of assessment such as projects, papers, student-created videos, peer review assessments, etc.
• Be creative. There’s no one, right method for remote assessment. Adjust grading scale if appropriate. Have more frequent, low-stakes assessments. Share options with your department. Adopt best practices.
Assessment Options

Giving up in-person exams proctored by a human was difficult. But necessary in the pandemic. Options might include:

- Proctor (or not). Use publisher software (e.g. PearsonMyLab) to create a test with infinite variation, pooling, scramble question order and show work feature enabled. Every student has a unique test. Review every test for partial credit.
- Proctor (or not). Use third-party software (e.g. TestGen, MS Word, Cengage, Webassign, Desmos) to create your test and distribute it in Canvas or your course website.
- Hold Zoom meeting during scheduled exam. Students work while you watch in Gallery View and listen to audio feeds, as if you were all in the same room. They show work on paper and use a mobile scanning app to send it to you for grading. Have multiple forms of the test ready for alternate meetings. OR give students a time period to return hand-written exams to you for grading without using Zoom!
- Hold individual Zoom meetings where students talk to you about their answers, show their work and explain their thinking.
- Alternative methods of assessment such as projects, papers, student-created videos, peer review assessments, etc.
- Be creative. There’s no one, right method for remote assessment. Adjust grading scale if appropriate. Have more frequent, low-stakes assessments. Share options with your department. Adopt best practices.
- Trust students. Discuss your policy with them. Some students are honest, some will cheat. And it’s easy to cheat. But there’s no evidence that surveillance reduces cheating or improves outcomes. Focus on instructional continuity, student retention and course completion.
<table>
<thead>
<tr>
<th>Institutional Practices</th>
<th>Students %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-recorded Lectures</td>
<td>59</td>
</tr>
<tr>
<td>Live Lectures</td>
<td>64</td>
</tr>
<tr>
<td>Videos from External Sources</td>
<td>54</td>
</tr>
<tr>
<td>*Live Discussion</td>
<td>72</td>
</tr>
<tr>
<td>*Real-World Examples</td>
<td>56</td>
</tr>
<tr>
<td>*Frequent Assessments</td>
<td>57</td>
</tr>
<tr>
<td>*Personal Messages from the Instructor</td>
<td>66</td>
</tr>
<tr>
<td>*Assignments Having You Express What You Learned</td>
<td>54</td>
</tr>
<tr>
<td>*Breaking Course Into Shorter Pieces</td>
<td>40</td>
</tr>
<tr>
<td>*Group Projects</td>
<td>25</td>
</tr>
<tr>
<td>*Breakout Groups During a Live Class</td>
<td>24</td>
</tr>
</tbody>
</table>

*Best Practices and satisfaction data from Digital Promise: Accelerating Innovation in Education


Student Satisfaction:
0-2 Best Practices = 43%
3-5 Best Practices = 61%
6-8 Best Practices = 74%
Or _Really_ “Bust Out”
Of Traditional Assessment!

- **7 Exam Questions for a Pandemic (or any other time)** — by Francis Su
- **COVID-19 Exposes Mathematics Education Inadequacies: A modicum of (secret) relief for Educators** — by James Tanton
**Francis Su:** Ask questions that assess persistence, curiosity, imagination, beauty of math, creativity, strategization, thinking for oneself.
- Pick one homework problem you worked on this semester that you struggled to understand and solve; explain how the struggle itself was valuable
- Write 10 T/F questions that illustrate a variety of ideas from this course that you might put on this exam if you were teaching this class. Give a key, explain the answers, then explain why you chose these particular questions and what you hope they will assess.

**James Tanton:** You think students are cheating and are suddenly “geniuses?” Our kids are citizens of the 21st century and they know it. Of course, they’re going to use all the resources available to complete any given task.
- You only get about 30% of your students to actually do anything? It’s the mathematics curriculum that’s out of whack, not our wonderful kids.
The Big Takeaways!

• Maintain rigor
• Redefine your role: offer an abundance of mentoring, flexibility and compassion; 80/20 Rule
• Pay deliberate attention to the affective domain
• De-emphasize concern about cheating; think about new ways of assessing that reward “mathematical virtues”
• Add synchronous activities with active learning, student participation and breakout groups
• Have fun. You got this!
Thank You!

ffeldon@coastline.edu