

Online assessment: Cheating and collusion in mathematics and beyond

Leanne Rylands

Centre for Research in Mathematics and Data Science,
and
Mathematics Education Support Hub

Western Sydney University

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“In the growing body of literature about undergraduate academic integrity, both instructional and analytical, there is a gaping hole. Mathematics is ‘missing in action’.”

Don't Cheat Yourself: Scenarios to clarify collusion confusion
by Katherine A. Seaton. 2018

Assessment

- Learning outcomes: Have students met them?
- Assessments should give us an idea of (and a number measuring) students' skills, knowledge and understanding.
- Should be fair and equitable. \implies Should not penalise the honest.
- ...

Without meaningful assessment our degrees have little value.

Many staff in my school are unhappy because

- 1 Loss of academic integrity.
 - Silly requirements and restrictions.
 - Workload.

Assignments

Many of us avoid assignments.

- Some had problems with assignments before much use was made of the Internet and avoided them. That was in the good old days.
- <https://www.chegg.com/study/qa>

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- Last year's students went step by step through assignment (Discord).
- <https://www.tvassignmenthelp.com/>
- Much contract cheating, WSU assignments on websites.
- Some find that assignments are not a good measure of knowledge, skills and understanding.
- Different students get different assignments: doesn't solve all problems; difficult to distribute via Blackboard.
- Maths: no Turnitin, no MOSS.

Online exams

Many have some assessment tasks that are open to cheating: quizzes, assignments, workshop exercises. A final exam threshold (40%) is seen as a way of ensuring some integrity, but with online exams that's gone.

Proctored (e.g., using ProctorU) and not proctored.

In exams without proctoring (but some with all students visible in Zoom)

- students together, same location, doing an online test;
- communicating with each other via Facebook, ...;
- external tutors report that a student wanted the tutor to sit with them while doing the online exam;
- working through scan and upload time;
- a student logging in with another's details—could do an exam for that other student?

Students have run sessions on how to avoid being caught.

Misconduct

Many, many misconduct cases.

- Unfortunately we only can submit clear and obvious cases for formal misconduct hearings.
- Without strong evidence, it is hard to get admissions.
- Lying to misconduct committees.
- “In service mathematics subjects, students often see their maths subject as a roadblock to getting their degree, and are willing to cheat to get past the obstacle. Often due to poor preparation in high school, they don’t have the maths skills they need, and it is difficult to get to the level required.”
- Harder, anti-cheating style questions that test understanding and interpretation really do not work for some subjects. Many students lack basic skills coming in - and it is precisely these skills that we need to assess, It is near impossible to set online assessments that test only these basic skills and are nonetheless cheat-proof.

Grade distribution changes

- Online exams without the proctoring resulted in higher grades.
- Exams which were take home exams or alternate assessments had a considerably larger number of misconduct cases.
- Example. A change from an invigilated to a non-invigilated test:
Fails 18% → 4%, HD 18% → 43%
- Example. 19% of students failed the ProctorU invigilated exam AND received a D or HD in the non-invigilated mid-semester test.
- Example. Grades skewed towards HDs and Ds, compared to proctored exam last year.

Damage done

- “Thou shalt not tempt”.
- Uni facilitates cheating: not allowed to check IDs on Zoom, large exam windows,
- Does the uni take discovering misconduct seriously? “No.”
- “I don’t feel trusted or supported by the uni”
- “Uni does not take preventing cheating seriously enough.”
- While staff are not explicitly told to forget about academic integrity and just pass all paying students, this is basically the net effect of the decisions made.
- Management on Autumn last year: “the results are much the same”.
- An industry partner expressed strong concerns about being involved with the subject, worried about his image.

Oral exams

Comments from staff are more positive for oral exams than online exams.

When talking to a student, how long does it take to get an idea of what they know?

Example

- A subject with 500+ students,
- oral exam run over 2 days with 8 staff,
- 5 min per student,
- worth 10% of final mark, but a pass was needed for a pass in the subject,
- cost saving (takes > 5 min to mark one exam),
- students were asked about their assignment “if we changed ... what would you do”?

Other disciplines

- Staff from other disciplines are also unhappy.
- A survey of all staff was ready to go, but permission to run it was not given.
- We are not alone.

The future

- Proctoring (expensive).
- Oral exams.
- The Z solution: online exams run in uni computer labs. They were essentially traditional exams, but the questions were supplied on screen and school and casual staff did the supervision. Tech staff removed access to Internet.
- Lots of short quizzes, under time pressure.
- Pen and paper.

- VC: There will be a particular focus on online education.
- We are getting anti-exam vibes from above.

Those outside our discipline don't know anything about assessment in our discipline.