

The Tipping Point: e-Proctoring



Let's explore a case where we may be at a tipping point right now...

What factors will decide whether the old technology is replaced by the new?

Who will make the decision?

Whose interests will be served?

Who will be impacted and how?

We have reached....

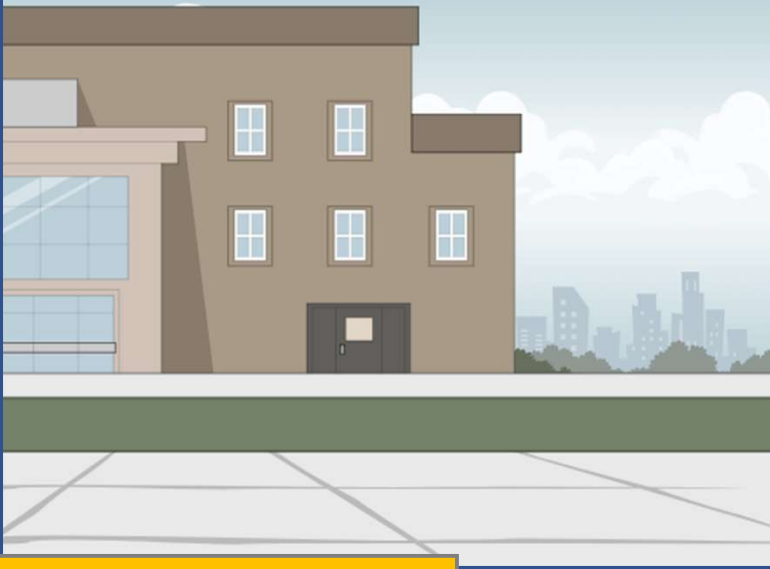
**The
Tipping
Point!**

Vancouver Central College:
Math Department...

In the past the math department has used human proctoring of in-person examinations. All students have taken a written exam at the same time, in the same physical space.

Now a pedagogical shift towards online teaching and assessment is challenging this approach.

Department leadership and faculty have increasingly been looking to technology to support this pedagogical shift, including e-proctoring tools.



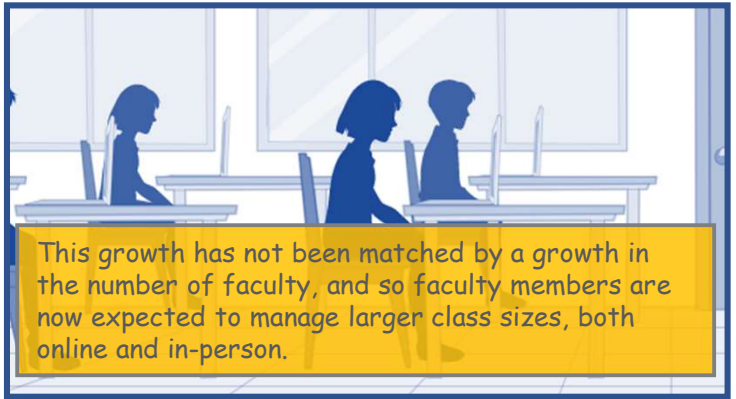
What are the main drivers pushing the department towards this tipping point?



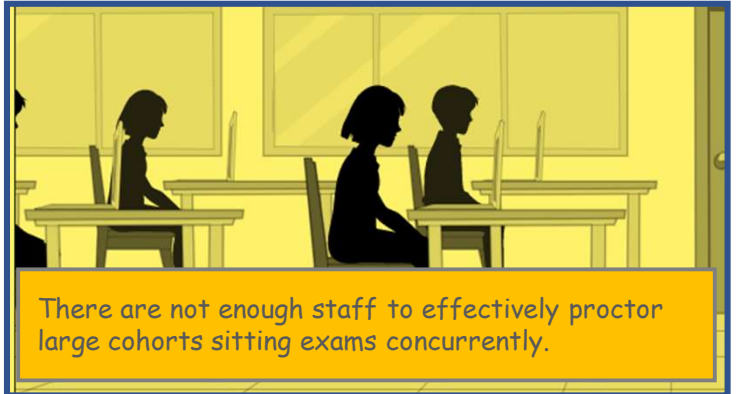
Growth in student numbers



This growth has not been matched by a growth in the number of faculty, and so faculty members are now expected to manage larger class sizes, both online and in-person.



There are not enough staff to effectively proctor large cohorts sitting exams concurrently.

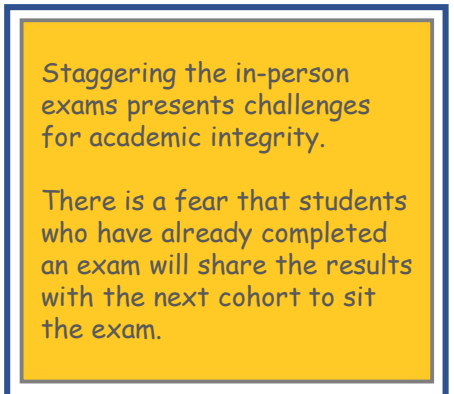


The college lacks the space to provide large examination halls.



Staggering the in-person exams presents challenges for academic integrity.

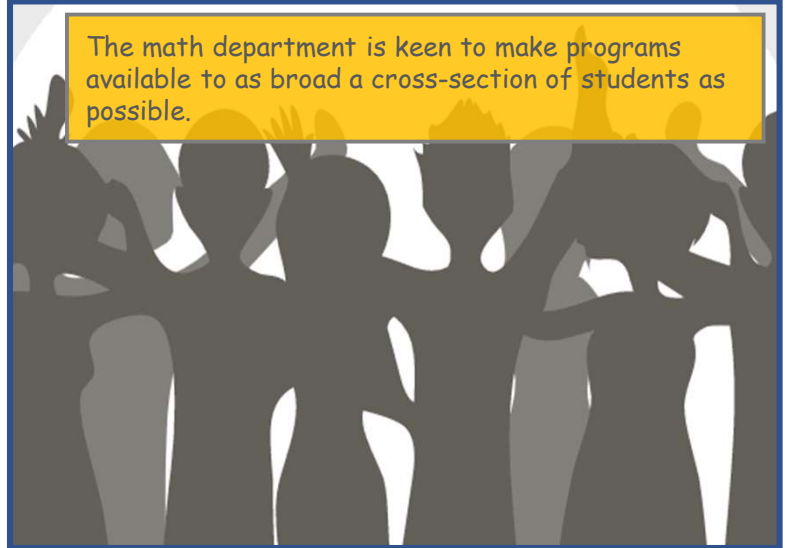
There is a fear that students who have already completed an exam will share the results with the next cohort to sit the exam.



Accessibility and flexibility



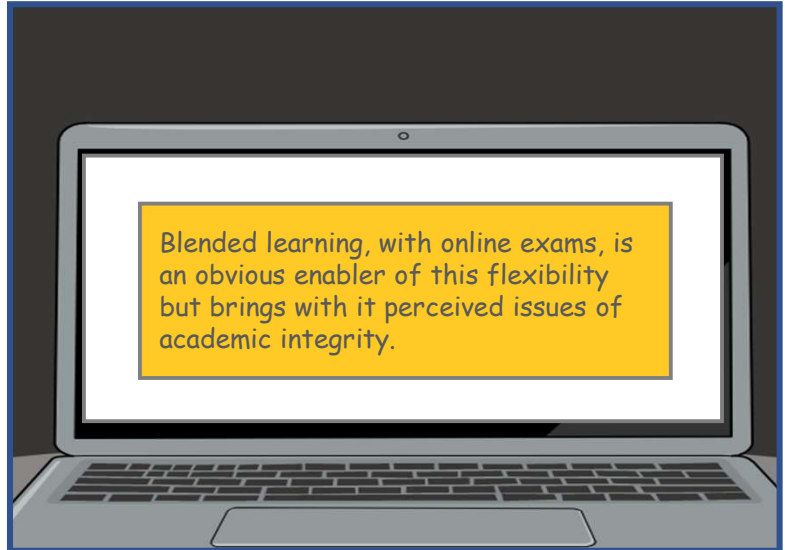
The math department is keen to make programs available to as broad a cross-section of students as possible.



Many students manage their studies alongside full-time or part-time work, as well as other commitments.



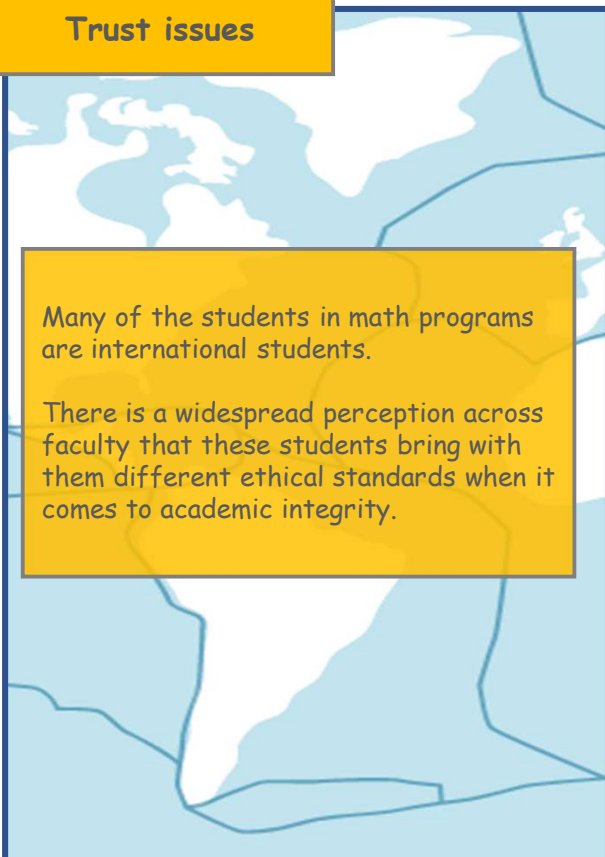
Blended learning, with online exams, is an obvious enabler of this flexibility but brings with it perceived issues of academic integrity.



Trust issues

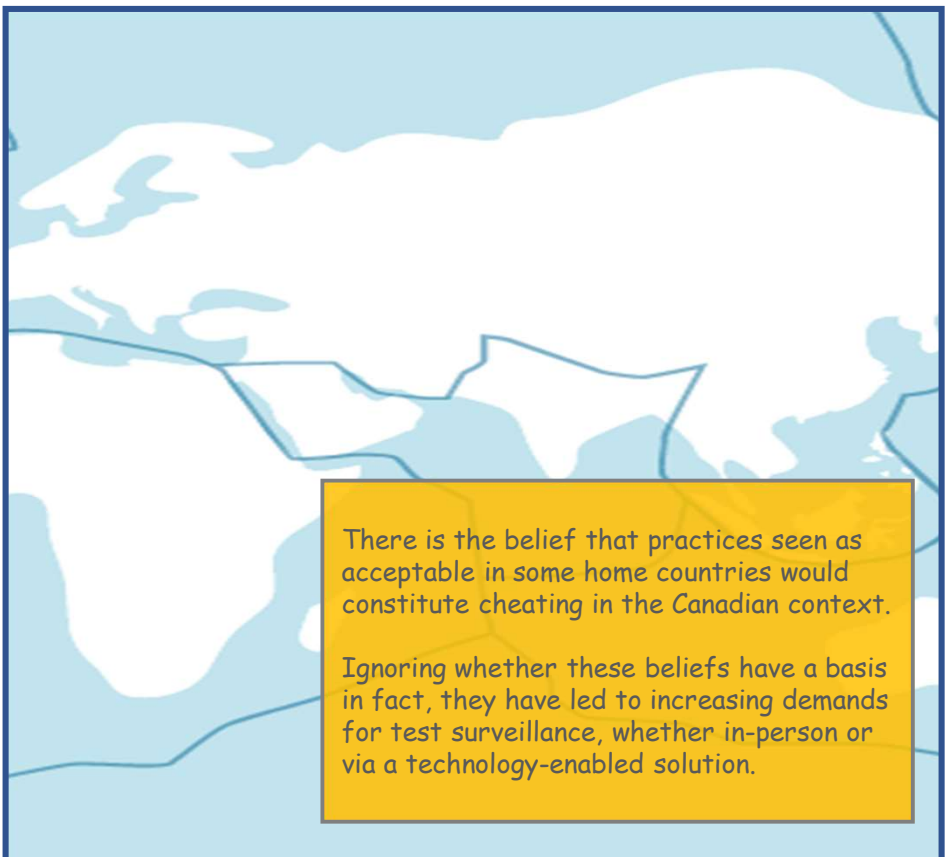
Many of the students in math programs are international students.

There is a widespread perception across faculty that these students bring with them different ethical standards when it comes to academic integrity.



There is the belief that practices seen as acceptable in some home countries would constitute cheating in the Canadian context.

Ignoring whether these beliefs have a basis in fact, they have led to increasing demands for test surveillance, whether in-person or via a technology-enabled solution.



Costs



Shifting to an e-proctored solution is seen as a cost-effective way to balance the need to grow student numbers, offer flexible programs, but avoid expensive staffing costs (paying for in-person proctors).

Decision time...

These factors have led to the current tipping point, where the department leadership must decide whether a shift to technology-enabled proctoring is the appropriate way forward.



Several new foundations of educational technology are relevant to this tipping point:

Algorithms: the available e-proctoring solutions all implement algorithms to perform tasks such as monitoring of student's environments, eye movements, keystrokes and so on to detect patterns that may indicate cheating.

Artificial Intelligence: the tools' designers claim that they can learn and improve over time, using student-created data as training materials for the next iteration of the tool.

Sustainability: for the department to continue to grow its student numbers, solutions that do not involve physical space or human labour need to be found.

E-proctoring is seen as a technology that meets this need for sustainable growth.

Algorithms

Let's look in more detail at **algorithms**.

E-proctoring uses algorithms to detect potential instances of cheating during online exams.

So what is the typical flow of an e-proctored test?

Verification



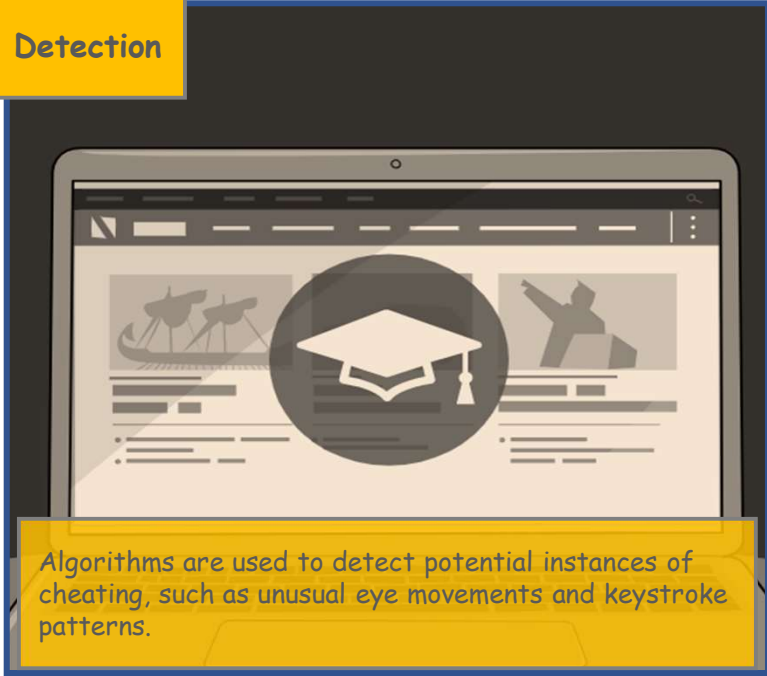
Firstly, student identity is verified using some form of I.D., usually a photograph.

Monitoring



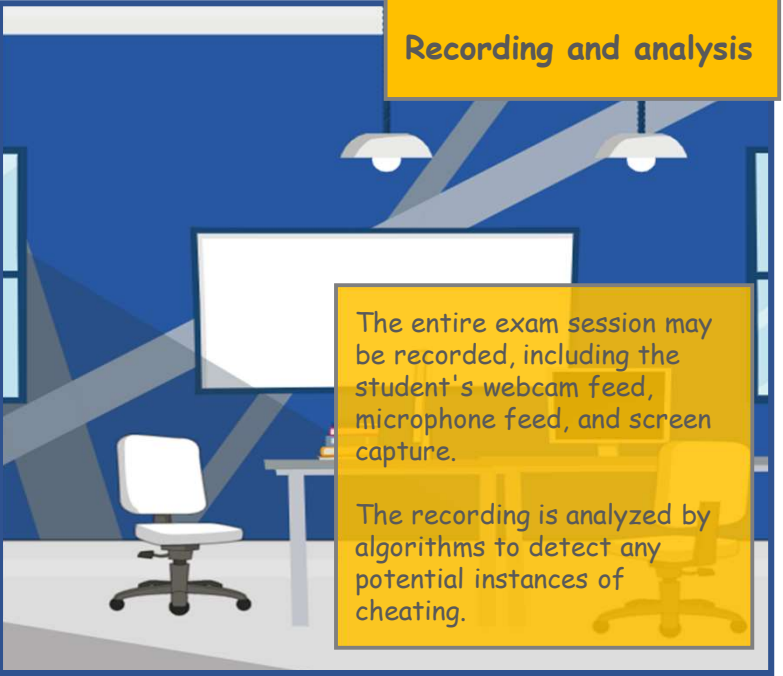
Then a webcam and microphone (the student's own if they are studying from home) are used to monitor the student's behavior and surroundings.

Detection



Algorithms are used to detect potential instances of cheating, such as unusual eye movements and keystroke patterns.

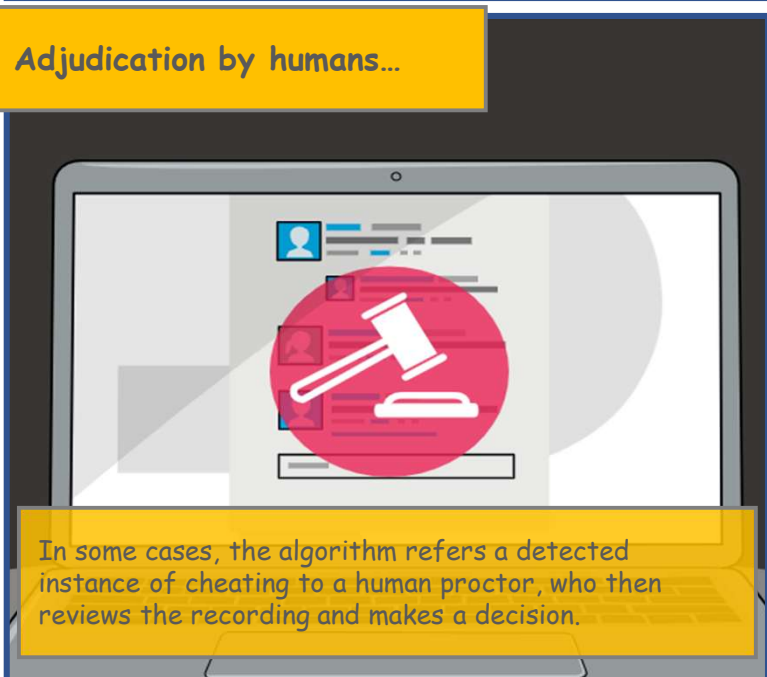
Recording and analysis



The entire exam session may be recorded, including the student's webcam feed, microphone feed, and screen capture.

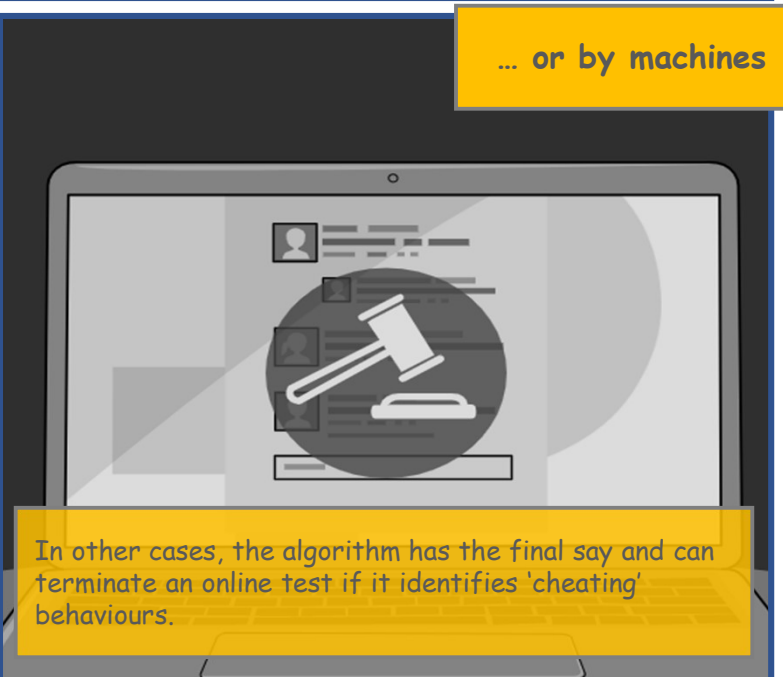
The recording is analyzed by algorithms to detect any potential instances of cheating.

Adjudication by humans...




In some cases, the algorithm refers a detected instance of cheating to a human proctor, who then reviews the recording and makes a decision.

... or by machines



In other cases, the algorithm has the final say and can terminate an online test if it identifies 'cheating' behaviours.


The Impact on Students



E-proctoring makes a number of assumptions of students and a number of demands.

For students taking online exams at home, they are required to have access to a computer with a webcam and microphone, capable of running the proctoring software.

Given the demographic profile of Math students, this is not always a reasonable requirement.



Proctoring tools also require that the student has access to a quiet space with no extraneous interruptions (e.g. other family members or room mates).


Again, for many students (e.g. newly arrived international students) this is not always the reality.



The way that certain behaviours are defined by the algorithm as 'cheating' also presents problems for a minority of students.

Examples include students for whom a disability may present to the algorithm as behaviour that should be flagged or identified as cheating.

The Impact on Faculty



So far the department leadership has resisted the calls to shift to e-proctoring.

The ethical issues surrounding e-proctoring means that the types of students served by the math department will be adversely impacted by e-proctoring.



However, the failure 'to tip' to e-proctoring has its own impact, this time on the faculty.

College policy to date has been to advise faculty to **revise and rewrite their assessments** in order to make it more difficult for online students to cheat.



This involves abandoning a long-held attachment to multiple choice assessments in favour of more authentic strategies, and that takes time and effort.

Providing the necessary support for faculty to revise their assessments is a challenge.

The Future?

As with all educational technologies, the decision to use e-proctoring is determined by a range of factors, including but not limited to the educational advantages of the tool.

In an environment of growing enrolment and static or shrinking budgets, it seems likely that some form of e-proctoring will eventually be implemented under pressure from faculty who see it as a practical solution to problems of academic integrity in online courses.

Management and the college administration will also likely continue to press for a tech quick-fix to an ongoing area of concern.

For those who would prefer that the college did not buy into the proctoring technology arms race, the task will be to promote and support other ways to making online assessments less open to breaches of integrity, and to advocate for spending time and resources on authentic assessment instead.

I suspect that we will remain at this tipping point for some time yet.



The Making Of...



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Images: Pixton.com

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Point Assignment

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