Digital Assessment Tools

2020 November

Digital Assessment Workflow

- Create:
  - Scheduling the assessment
  - Identifying the target audience
  - Designing the assessment and selecting a format
  - Verifying the assessment design and validity
- Deliver:
  - Delivering the assessment
  - Securing the assessment
  - Proctoring the assessment if appropriate
- Evaluate:
  - Grading
  - Recording the grade
  - Communicating the results
- And many more…

2020 May Newsletters

- https://www.cuhk.edu.hk/eLearning/c_news/newsletter/2020May/eLNL-2020May.html

- https://www.cuhk.edu.hk/eLearning/c_news/newsletter/2020May10/eLNL-2020May10.html

- New Tool (pilot) added for 2020-21 Term 1 for "delivering exam paper and collecting answer scripts from students"
  - Gradescope
  - https://help.edtech.cuhk.edu.hk/docs/gradescope-for-teachers-2020-aug

Blackboard Assignment and Test

- [Blackboard Instructor Guide](#)
  - Blackboard Assignment and Test
    - [Blackboard Assignments & Tests (Cantonese)](#)
    - [Blackboard Assignments & Tests (English)](#)
    - [Blackboard Assignments & Tests (Summary)](#)
- Blackboard Test
  - [Blackboard Test Quick Start](#)
  - [Blackboard Online Test Best Practices for Teachers and Supporting Staff](#)
    - [Blackboard Help article on how to resolve issues with tests](#)
    - [Blackboard New Content Editor (2020 November)](#)

Respondus Lockdown Browser & Monitor (to be used with Blackboard Test only)

- Please refer to the below two info pages:
  - [Using Respondus LockDown Browser (and a Webcam) for Online Exams (for CUHK Teachers)](#)
  - [Using Respondus LockDown Browser (and a Webcam) for Online Exams (for CUHK Students)](#)
- Students are advised to join the "Self-Practice" as early as possible before the online test in order to try out Respondus Lockdown Browser and Monitor: https://elearning.cuhk.edu.hk > Learning with Technology > Help on Tools > Respondus Lockdown Browser + Webcam ([Self-Practice](#)).

Recommended NYU-supported options for remote teaching in an emergency

- https://www.stern.nyu.edu/portal-partners/faculty-staff/learning-science-lab/online/remote-teaching#cheating

- Remote Testing Options

Important reminder: No method can eliminate cheating. But we can reduce the incentive and increase both the effort required and risk of being caught. Some steps are easy; others require more effort. Students who feel respected, trusted, and fairly treated are more likely to stick with an ethical frame. Please reinforce the importance of ethics and communicate that we value fairness and have taken steps to ensure the integrity of our exams.

Don't reuse past exams. Assume that answers to most exams given in the past at Stern are already posted online in CourseHero, Chegg, etc. and have been shared in other ways.

A publicly deck from Texas A&M University with additional detail on proctoring using a web conferencing tool

- *https://keepteaching.tamu.edu/LMS/media/Assets/Images/KeepTeaching/Proctoring-with-Zoom_final.pdf*

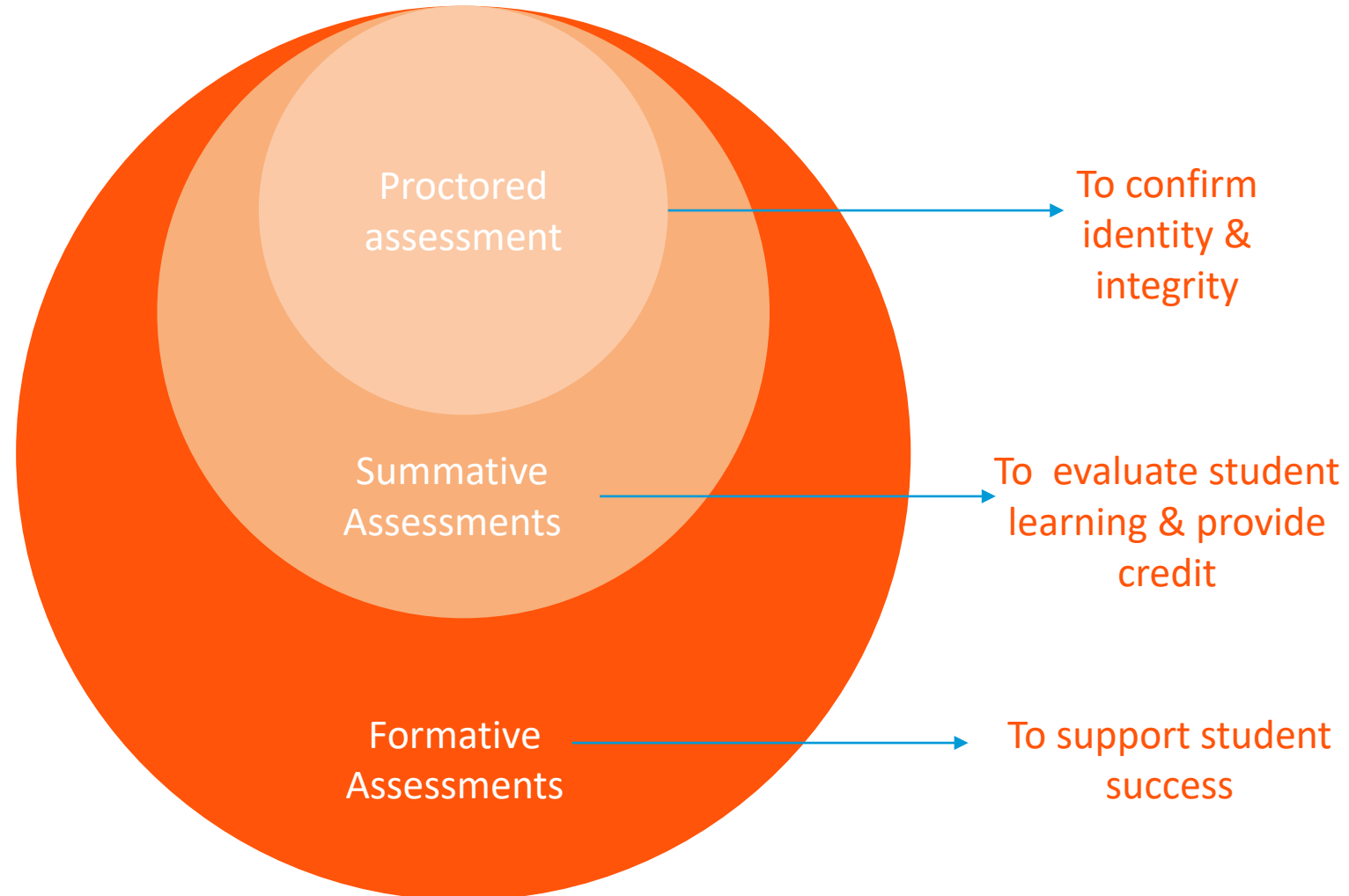- *Note: Their plans to have each proctor observe 48 students at a time may not be advisable.*

Making the Grade: Online Proctoring & Student Identity Verification

Glenda Morgan

Remote proctoring services are a key component of online and remote learning. These services provide the means for verifying the identity of students at a distance before an assessment and the methods for ensuring that students taking the assessment are not cheating or getting unauthorized support. Online proctoring systems do this using a number of biometric and video-based techniques.

Gartner.

An overview of assessment

Proctored assessment → To confirm identity & integrity

Summative Assessments → To evaluate student learning & provide credit

Formative Assessments → To support student success

Gartner.

Guiding principles of assessment

Authentic	Realistic, motivating and indicative of learning
Accessible	Usable by all
Automated	Easing workload and streamlining feedback
Continuous	Supporting success throughout the learning journey
Secure	Right student, integrity of process, content protection

Making the Grade: Online Proctoring & Student Identity Verification

Glenda Morgan

Adapted from

https://www.jisc.ac.uk/reports/the-future-of-assessment

Gartner®

Decision guide for remote proctoring

High Importance

- Open Book Exam
- Student Presentation
- Timed Online Assignment or Paper
- Exam in Lock Down Browser

- Live or Automated Proctored Exam

Low Risk ← → **High Risk**

- MCQ in LMS
- Online Assignment or Paper
- Formative Assessment
- Practice Quiz in Adaptive Learning System

- Creative student project
- Reflection Paper
- Paper Requiring Multiple Drafts
- Automated Proctoring Exam

Lower Importance

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Some sharing at CUHK T&L EXPO 2019/20

- p29-evaluation-of-the-concerns-and-barriers-of-online-assessment-students-perspectives
  - https://www.cuhk.edu.hk/eLearning/expo201920/submissions/79.pdf
- p30-online-assessment-strategies-insights-from-recent-studies
  - https://www.cuhk.edu.hk/eLearning/expo201920/submissions/83.pdf
- talk-lessons-learnt-from-conducting-online-examinations-for-a-class-of-230-students

Exam4

- What is Exam4: https://www.exam4.com/#what-is-exam4
  - A system for exams on laptops. Purpose-built for high-stakes <mark>essay</mark> exams
  - Examinees type exams, and graders receive uniform, legible papers
  - Automatic saves and backups. Hard drive and Internet access excluded for controlled high-stakes environments.
  - Administrator support and tools for setting up the software and to decrypt, view, manage and download the resulting electronic exam files.
- Officially support "English" essays only
- Student Overview video (3min): https://youtu.be/hx1OumgA6yc

ExamSoft

One ExamSoft Platform - Two Simple Solutions
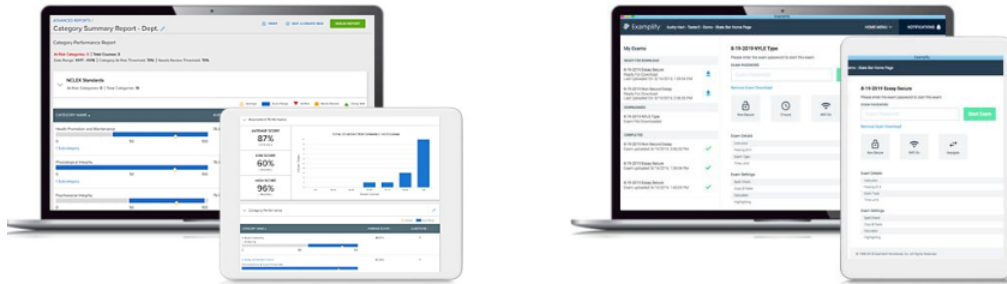
ExamSoft

ExamSoft is for faculty, staff, and administrators. With the ExamSoft Portal, you can create and grade exams faster and easier—but that's just the start.

Use ExamSoft to collect and organize all your assessment data in one place, analyze exam results, generate valuable reports on student learning that highlight individual strengths and opportunities, and provide students with detailed feedback to improve their future performance.

Examplify

Examplify is for students and exam takers. It's the application they use to download exams prior to the day of the test, and it's how they take the exam itself.

Examplify can be easily downloaded straight to any student-owned device, including mobile devices like iPads. Students can log in at any time using their unique username/password credentials—and that's all they need. No more bubble sheets, #2 pencils, or extra prep time.

ExamNow
Real-time Audience Engagement

Engagement and Polling

ExamNow is the direct audience response tool that helps keep students engaged and collects data from formative assessments, so educators can gain a better understanding of student learning in real time.

Learn more about ExamNow

ExamID
Auto-Identity Verification

ID Verification

ExamID is the proven two-step identity verification system that eliminates exam taker impersonation for both in-person, large-scale exams and remote exams.

Learn more about ExamID

ExamMonitor
Virtual Test Auditor

Proctoring | Invigilation

ExamMonitor effectively identifies academic dishonesty and deters cheating in classrooms and during remote exams—all without an in-person proctor or one-on-one invigilation.

Learn more about Exam Monitor

ExamSCORE
Student-Centered Open Rubrics Evaluation

Performance Assessment | Rubrics

ExamSCORE enables educators to develop objective criteria for subjective assessments to improve scoring and student feedback. Simplify planning, administration, and grading of OSCEs and ensure that evaluation day runs flawlessly.

https://examsoft.com/solutions

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ExamSoft

https://examsoft.com/solutions

Curriculum Mapping

MAP provides a centralized curriculum planning tool to ensure that all the required and desired topics are covered, while preventing content overlap and making it easier to provide evidence that proves accreditation standards are being met.

Learn more about Map

Education Consulting & Faculty Development

ExamSoft Assessment Services + You (EAS+Y) helps educators accelerate their mastery and understanding of assessment data and digital learning assessment platforms with consultation that teaches tips and best practices for addressing the full scope of your assessment and accreditation needs.

Learn more about EAS+Y

Exam Assessment Content Reserve

ExamSoft is partnered with other leaders in educational assessment to offer ready- made exam content, item banks, and benchmarked exams that help instructors better prepare students for certification and licensure exams.

Learn more about Exam Assessment Content Reserve

Migration Process

- From Paper and Pen
    To: Paper and Pen & Online Proctoring
    No longer by most vendor proctoring solution providers

- From Paper and Pen
    To: CBT (Computer-Based-Testing) & Online Proctoring

- From CBT
    To: CBT & Online Proctoring

Representative vendors

Table 1. Representative Vendors in Online Proctoring — Lockdown Browsers

Vendor	Product, Service or Solution Name
PSI Services (Software Secure)	Securexam Student
Questionmark	Questionmark Secure
Respondus	LockDown Browser
Safe Exam Browser	Safe Exam Browser

Source: Gartner (July 2017)

Representative vendors

Table 2. Representative Vendors in Online Proctoring — Live Proctoring

Vendor	Product, Service or Solution Name
BVirtual	BVirtual
Examity	Examity
Kryterion	Online Proctoring
Loyalist Exam Services	Loyalist
ProctorExam	ProctorExam Live Proctoring
ProctorU	ProctorU
Questionmark	Questionmark Online Proctoring
Software Secure	RPNow
TestReach	TestReach
Xproctor	Xproctor

Source: Gartner (July 2017)

Comparison of Online Proctoring Systems

Features/systems		Proctor U	Examity	ProctorFree	Kryterion	Proctorio	RecordTS	AI Proctor	Proctortrack	Pearson VUE
URL		https://www.proctoru.com/services/live-online-proctoring	https://examity.com	https://proctorfree.com	https://www.kryteriononline.com/our-services/test-delivery	https://proctorio.com	https://www.tsfactory.com/index.php	https://www.aiproctor.com/	https://www.proctortrack.com/	https://home.pearsonvue.com/aws/onvue
Client Size		1000	500	N/A						
End User		Academic institutions, professional organizations,e.g. Cameron University	Higher education institutions,companies, e.g., Indiana University	Education and corporate environments, e.g. Gracor Languages Services	Education Institutions and companies	Education institutions, corporate and government, e.g. Berkeley University of California	Education institutions, corporate, e.g. Massachusetts Institute of Technology	Education institutions	Education institutions, corporate certification and HR pre-employment, e.g., Blackboard, Sakai, edX	serve test owners and test takerrs in all industry, e.g., academic and admissions, financial services, government, health care, information technology, military, US licensing and global regulatory.
Annual procoring capacity		1.5 million proctored exams conducted in 2018	N/A	N/A	1,100 KTN centers in 127 countries	N/A	N/A	N/A	over 2.5 million sessions delivered	Over 450 credential owners globally
Per day proctoring capacity		10,000 exams	300 simultaneous test-takers during a single hour	N/A						
LMS integration		✓	✓	✓	✓	✓	✓	✓	✓, e.g., Blackboard	N/A
Ease of set up		✓	✓	✓	✓	✓	✓	✓		N/A
Equipment		WebCam	WebCam	WebCam	Webcam	WebCam	N/A	WebCam with minimum 640×480 Resolution	WebCam with minimum800 x 600 resolution	Classroom/computer lab, mobile testing, public test center
Effectiveness		✓	✓	✓	✓	✓	✓	✓	✓	N/A
Security		✓	✓	✓	✓	✓	✓	✓	✓	N/A
Summarized Features		Automatic proctoring service provider	AI powered, integrated proctoring solutions	Online proctor without the proctor	Global testing solutions	A comprehensive learning integrity platform	a Windows remote desktop session recording software that can monitor user activity premise or in the cloud	the most technologically advanced and most affordable Online Proctoring solution on the Planet, live proctor	live proctoring using AI	computer-based testing for programmes

Features/systems	Sub Features	Proctor U	Examity	ProctorFree	Kryterion	Proctorio	RecordTS	AI Proctor	Proctortrack	Pearson VUE
Sub Features	AI-Based behavior analysis	✓	✓	✓	N/A	✓	N/A	✓	✓	N/A
	Face recognition	✓	✓	✓	✓	✓	N/A	✓	✓	N/A
	Keystroke analytics	N/A	N/A	N/A	✓	N/A	N/A	N/A	N/A Knuckle Scan	N/A
	Mouse movement pattern base user authentication	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Video base violation event detection	N/A	N/A	N/A	N/A	✓	✓	✓	N/A	N/A
	Audio base violation event detection	N/A	N/A	N/A	N/A	✓	✓	✓	N/A	N/A
	Live proctoring	✓	N/A	✓	✓	✓	N/A	✓	✓	N/A
	Lockdown browser	N/A	N/A	N/A	✓	N/A	✓	Advanced ✓ Critical ✓	N/A	✓
	ID verification	N/A	✓	✓	✓	✓	✓	✓	✓	✓
	Remote desktop session recording	N/A	N/A	✓	N/A	N/A	✓	Standard ✓ Advance ✓ Critical ✓	N/A	N/A
	Human and machine validation	N/A	N/A	N/A	N/A	✓	N/A	N/A	Computer vision and machine learning	N/A
	Robust reporting	✓	N/A	N/A	N/A	✓	N/A	N/A	N/A	N/A
	Exam analytics dashboard	✓	N/A	N/A	N/A	✓	N/A	N/A	N/A	N/A
	Customized lauch process, with proctor training materials to your set of requirements	✓	✓	N/A	✓	✓	✓	✓	✓	✓
	Data analytics	✓	✓	✓	✓	✓	N/A	N/A	✓	N/A

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Features/systems		Proctor U	Examity	ProctorFree	Kryterion	Proctorio	RecordTS	AI Proctor	Proctortrack	Pearson VUE
Source:	https://www.proctoru.com/services/live-online-proctoring									
	https://examity.com									
	https://proctorfree.com									
	https://www.kryteriononline.com/our-services/test-delivery									
	https://proctorio.com									
	https://www.proctortrack.com/									
	https://home.pearsonvue.com/aws/onvue									
	https://www.tsfactory.com/index.php									
	https://www.caveon.com/wp-content/uploads/2014/03/Online-Proctoring-Systems-Compared-Mar-13-2013.pdf									
	https://blog.mettl.com/assessment-technology/top-5-proctoring-solution-providers									

References

Reference Type	Authors, Primary	Title Primary
Gartner	Published: 21 November 2019 ID: G00407413	Higher Education Ecosystem 2030: Your Own U
Gartner	Published: 17 July 2017 ID: G00334078	Market Guide for Online Proctoring Services for Higher Education
Gartner	Published: 15 May 2019 ID: G00389488	Prepare to Harness the Potential of K-12 Digital Assessment
Gartner	Published: 4 February 2019 ID: G00383474	Digital Assessment in Education: `Putting Electricity to Paper' and Beyond
CUHK VeriGuide	Stella Cai <stella@veriguide.org>	Comparison of Online Proctoring Systems (version: Mar 7, 2020)