Mitigating students' anxiety when using online exam proctoring in HEI

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OP4RE Online Proctoring for Remote Examination

Problem Description

For exam, HEIs need to consider and put in place measures to mitigate as much as possible so-called test anxiety. Students levels of anxiety for taking an exam include worrying about the test itself, but also about exact procedures, possible technical issues, what could be regarded to be considered suspicious fraudulent behavior etc. Case and Cabalca (2009) reported that in particular for students running an online remote proctored test for the first time can have high levels of anxiety, but subsequent runs cause less anxiety. Measures put in place by the exam provider, could and should mitigate any further anxiety.

For that reason, an HEI needs to make sure to be as transparent as possible by having explicit, timely and clear information communicated to students regarding:

- Procedures for signing up for exams;
- Time, place and conditions to attend and do exams;
- Detailed instructions for identification of test takers;
- Admissable and inadmissable behaviors, tools and resources during exams;
- Procedures in case of suspicion of fraud;
- Procedures when anything technically goes wrong during an exam;
- Well described responsabilities of personel for exams;
- Period of time for providing feedback regarding achievement and correctness of exams in case of suspicion of fraud.

Online Proctoring Context

- HEIs have limited control over the succesful communication to remote students;
- Remote students need to take care of their own technical environment and devices for a procedural and technical flawless run of an exam;
- Students have to cope with all the above procedures for maybe single run of an exam;

In case of proctoring **without** a live present human proctor during an exam (either via a chat window or a video connection), this process is even harder. However, for matters of cost, doing proctoring via Record and (later) Review option might be needed.

Challenges

An HEI needs to pay careful attention to reduce level of anxiety for online proctoring as much as possible.
- How can an HEI provide all the necessary info to students in a timely manner?
- How can an HEI answer to different computer skills, differences in language, difference in information processing preferences?

Instructional materials

Not much is known about optimal ways to communicate with remote students if they enter an online learning course event or exam for the first time (St. Clair, 2015). However, the OP4RE project identifies and proposes five general methods and sources of communication to use as a framework for proctoring providers and HEIs based on current material of online proctoring providers, HEIs and literature:

- *Written information* must be presented in clear ways, must be easily findable, language and style must be adapted to the intended target audience
- *Flow diagrams, infographics and pictograms* may help navigation and understanding.
- *Video's* and *animations* explaining processes in detail
- *Check-in quizzes* to make sure students understand procedures (st. Clair, 2015)
- *On screen guidance* and direct feedback

On Screen Guidance
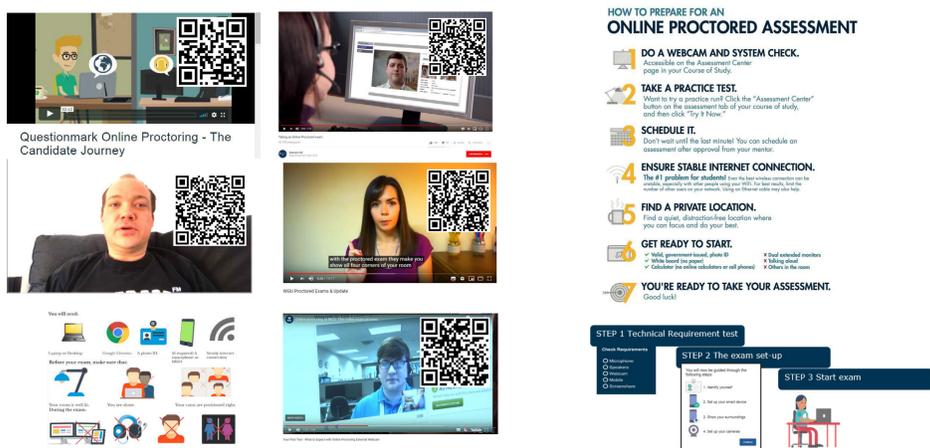### e.g. onboarding sequence ProctorExam

e.g. starting sequence of an exam
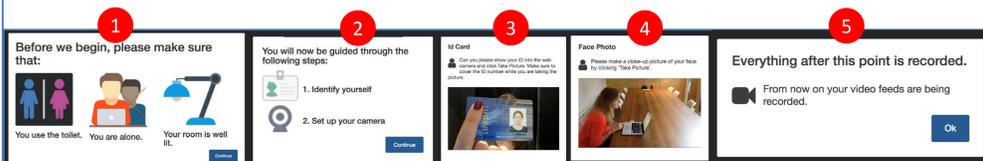
Infographics, Animations, Video's

Infographics from ProctorExam, Video's from Questionmark, PearsonVUE, Fontys Univ. of Applied Science, Video from student of WesternGovernors University and Official video of Western Governors University, Infographic of Western Governors University

Suggestions for mitigating anxiety and problems – based on phase of exam

Phase	Step	Details	Factors increasing anxiety and increasing chance of failures	Mitigation
Pre-exam	Orientation	Test taker orientates on the option to take a remote exam.	• No information on website. • Incorrect information on website. • Too little specific information on website.	• Double check all information on the website. • Make sure that the information is presented in the most accessible and comprehensible manner. • Provide possibilities for a practice test.

	Onboarding	HEI sends out information via e-mail to the student to set-up the students system (computer, internet, webcam, mobile phone, speaker, microphone).	• Students do not receive e-mails (spam filter)
			• Students do not open e-mails
			• Students do not click on appropriate links in e-mails to start onboarding process
			• Students start to perform the onboarding process too late
				• Make sure the HEI communication e-mailsystem is not regarded as a dangerous source.
				• Work with an e-mail system that can detect whether students click on the necessary links (e.g. MailChimp analytics possibilities).
				• Consider offering multiple communication channels for students:
				  • SMS
				  • WhatsApp
				• Monitor in the Proctoring system if students have started and finished the set-up procedure
				  • Resend e-mails when no timely onboarding has been performed by the student.

		Via the proctoring system e-mails are sent out to have the tests-taker set-up the system	idem	idem

Exam	Just before exam	The student starts the exam process from the start up to the actual presentation of the exam questions. This process includes:
		1. Login to the proctoring session via a URL or using credentials.
		2. Starting webcam, screensharing and possible mobile phone video.
		3. Make a picture of themselves.
		4. Make a picture of an ID document.
		5. Recording the environment to show that no cheating will take place (walls, ceiling, floor, under table etc.).
		6. Click on a link to start the exam.
		7. Login to the exam.
			• Students change their technical environment after the onboarding process (for example move to a room with less performing internet).
			• Students do something strange during the process, for example scan a QR code with the non-proctoring app.
			• Students get stuck at a certain step (for example webcam check) and do not know how to proceed. Students with head scarfs might want to skip the step in which they have to show their ears.
			• In the experiments of OP4RE, this procedure could take between 5 minutes and 25 minutes for students.
				• Clearly communicate to students not to change technical environment as compared to onboarding situation (particular internet connection).
				• Design software in such a way that steps can be skipped without the consequence not to be able to start the exam.
				  • Inform students what the consequences are of skipping a step, e.g. stricter review of suspicious behavior by a proctor or reviewer
				• Provide real-time support by the proctor if possible.
				
				• Communicate to students clearly four timing issues:
				  • The time to start the proctoring set-up process and identification/authentication process and that this can and should be performed in 20 minutes, also that after this process a waiting time might be possible for being allowed to start the actual exam.
				  • The time at which the actual exam starts.
				  • The duration of the exam or the actual finishing time of the exam.
				  • The time to get feedback on possible suspicious fraudulent behavior.

	During exam	Students start the actual exam with the e-assessment software provided by the exam provider.	• Students run in to problems with logging in into the e-assessment system.
			• Students have pop-up blockers.
			• Students do not know their login credentials.
			• Students have other problems related to the exam itself.
			  • In the OP4RE project it turned out that the responsability to take care of student problems lies for the proctoring system with the proctoring provider and for the exam at the exam provider. For students this difference is not self-evident.
			• Students call for assistance via a chat window but the proctor or support staff react not immediately.
			• Students call for assistance via a chat window but the proctor or support staff react in a different language than the mother tongue of the studens.
				• Make sure to inform students to turn-off pop-up blockers (in the text with the link).
				• Do not let clickable links open in a new window.
				• Make clear agreements between the proctoring provider and the exam provider who is responsible for what part of the communications and what part of problem solving for the student.
				  • Communicate on the website or just before the start of the exam about these differences.
				• Make sure that the proctoring provider has support in the mother tongue of the students.
				• Make sure that students are reassured about the response time as soon as they call for assistance.
				  • Do expectation management: communicate on the support website that the online assistance has limited capabilities, do emphasize the responsability of the student to do a full run of a practice test, do emphasize to the student to prepare everything and that they are responsible for a flawless exam on their side of the technology set-up.

	Finishing exam	Students submit final answers.	• Students are not sure if they have actually submitted. • Students do not finish the exam via the correct button and simply close the proctoring window.	• Provide sufficient feedback via the user-interface.
Post-exam	After exam	Students receive the assessment concerning possible suspicion of fraud.	• Students are not sure if they may have behaved suspicious • Students might wrongly think they did not behave suspicious (in particular with not live proctored situation).	• Provide confirmation e-mails • Provide an assessment of suspicion of fraudulent behavior never later than the communicated time

Different guidelines for fraude inspection

The OP4RE project found the following differences that could cause uncertainty amongst students if they encounter different exams, proctors or systems:

- Differences in details of installing and checking software
- Differences in specificity regarding required:
  - lighting conditions;
  - type of room (living room, study room);
  - extent of decluttering of the table and room;
  - elaborateness of filming the room of the student;
  - elaborateness of filming hands, ears, behind and under computer.

Contribution to practice

In this practice poster, anxiety and problems when taking an online proctored exam for the first time are described and problematised. For general acceptance and fair test practices, ample care should be given to mitigate anxiety and possible problems.

For that purpose, the OP4RE project will describe in more detail the framework for succesful communication in online proctoring
- The OP4RE project will produce guidelines and rulebooks to take into account the challenges and proposed mitigations as presented on this poster.
- The OP4RE project proposes to vendors of services and system for online proctoring to also take into account the challenges and proposed mitigations.

The OP4RE project proposes that all online proctoring providers converge to the same set of guidelines for fraude inspection

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