

1. System purpose

The proctoring system is designed to control the self-passing of online exams or tests in distance learning systems (DLS). It verifies the identity of a participant and provides monitoring in real time to identify possible violations.

2. Technical requirements

Table 1 provides the technical requirements of the proctoring system.

Table 1 — Technical requirements

Parameter	Minimum requirements
Web browser	Chrome 72, Opera 59, Firefox 66, Edge 79, Yandex.Browser 19.3
Operating system	Windows 7, macOS 10.12 "Sierra", Linux
Mobile version	Android 4.4+ Chrome, iOS 12+ Safari
Webcam	640x480, 15 frames per second
Microphone	any
Speakers (loud speakers)	optional (for communication with the proctor)
Network (Internet)	not less than 256 Kbps

Before the start of the activity it is required to check the computer compatibility with the proctoring system on the following webpage: <https://proctoredu.ru/check>.

It is also required to check the webcam, the microphone and the network here:

- [Webcam test](#)
- [Microphone online checking, microphone test](#)
- [WebRTC Troubleshooter](#)

3. Examination rules

To start a proctored exam it is required to familiarize yourself with the rules and give a consent to the rules for conducting the exam (Figure 1).

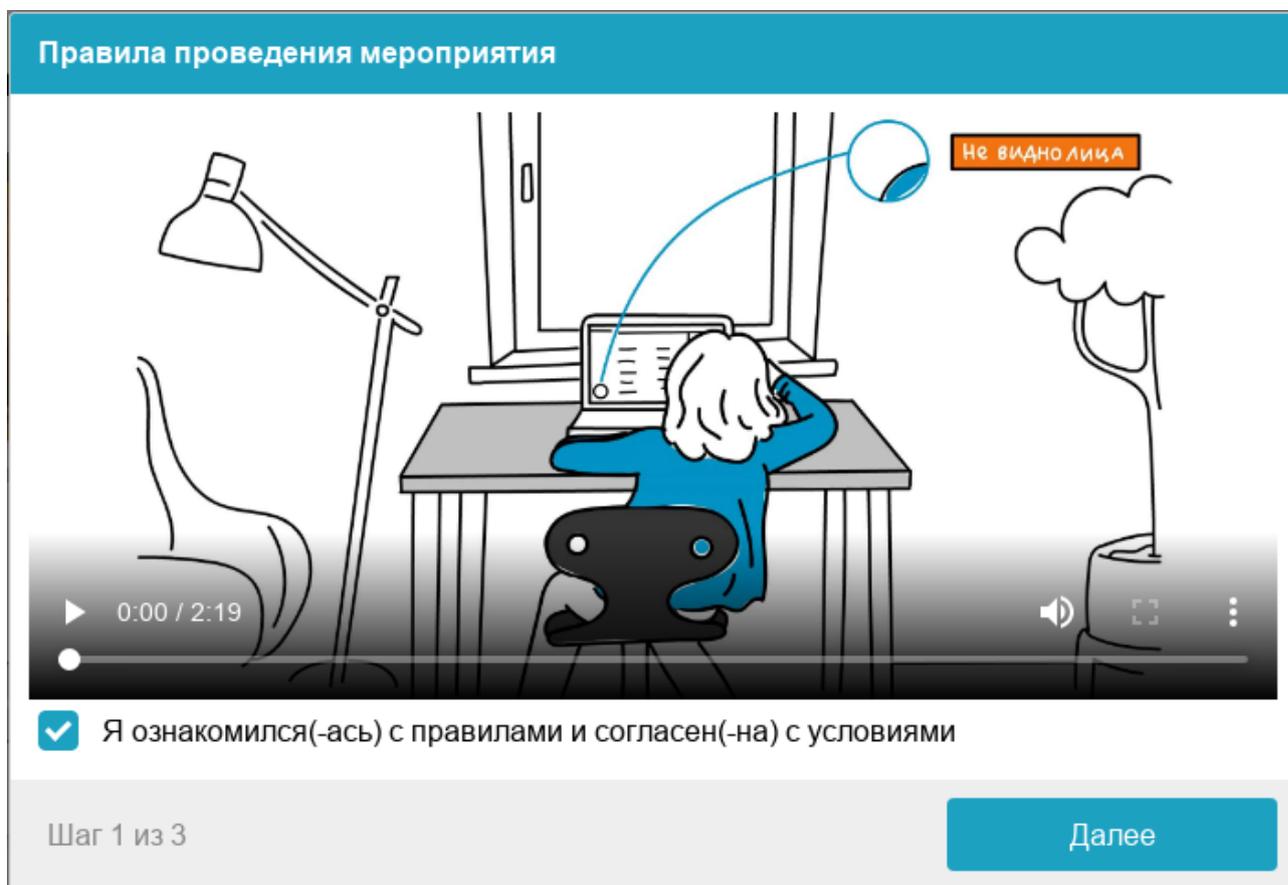


Figure 1 — Examination rules

The system automatically evaluates the level of the exam results reliability, which depends on the factors described below. Compliance with the following rules throughout the session will help you get the highest exam results reliability estimate:

- you give your consent to the audio and video recording and subsequent storage of the entire exam;
- the webcam must be installed strictly in front of your face, it is not allowed to install the webcam on one side;
- the head must completely fit into the frame; moving out partially or completely from the camera's field of view is not allowed;
- the face must be in the center of the webcam's viewing area and occupy at least 10% of the space captured by the camera throughout the session;
- the face must be evenly lit, the source of light must not be directed into the camera or illuminate only one half of the face;

- hair, clothing, hands or anything else must not cover any face area;
- wearing of sunglasses is not permitted; only glasses with transparent lenses may be used;
- no other individuals are permitted to be in the room;
- it is forbidden to leave your workplace during the exam;
- there should be no voices or noise in the background, ideally, the exam is held in silence;
- it is required to pass the exam in a browser, the browser window must be expanded to full screen, it is forbidden to switch to other applications (including other browsers) or restore down the browser window, it is also forbidden to open other tabs (pages);
- all programs that use the webcam must be disabled on the computer, except for the browser;
- it is forbidden to record in any way the materials and contents of the exam as well as to transfer them to third parties;
- it is forbidden to use audio-, video- or any other hints;
- in case an attempt to deceive the system or the proctor is detected, the exam results are canceled.

During the session applicants and proctors participate.

4. Equipment testing

After logging, before the start of the examination, system will automatically check your computer and network to identify possible technical problems (see Figure 2). The checking will be done automatically, if any problems would be detected, user would need to fix them.

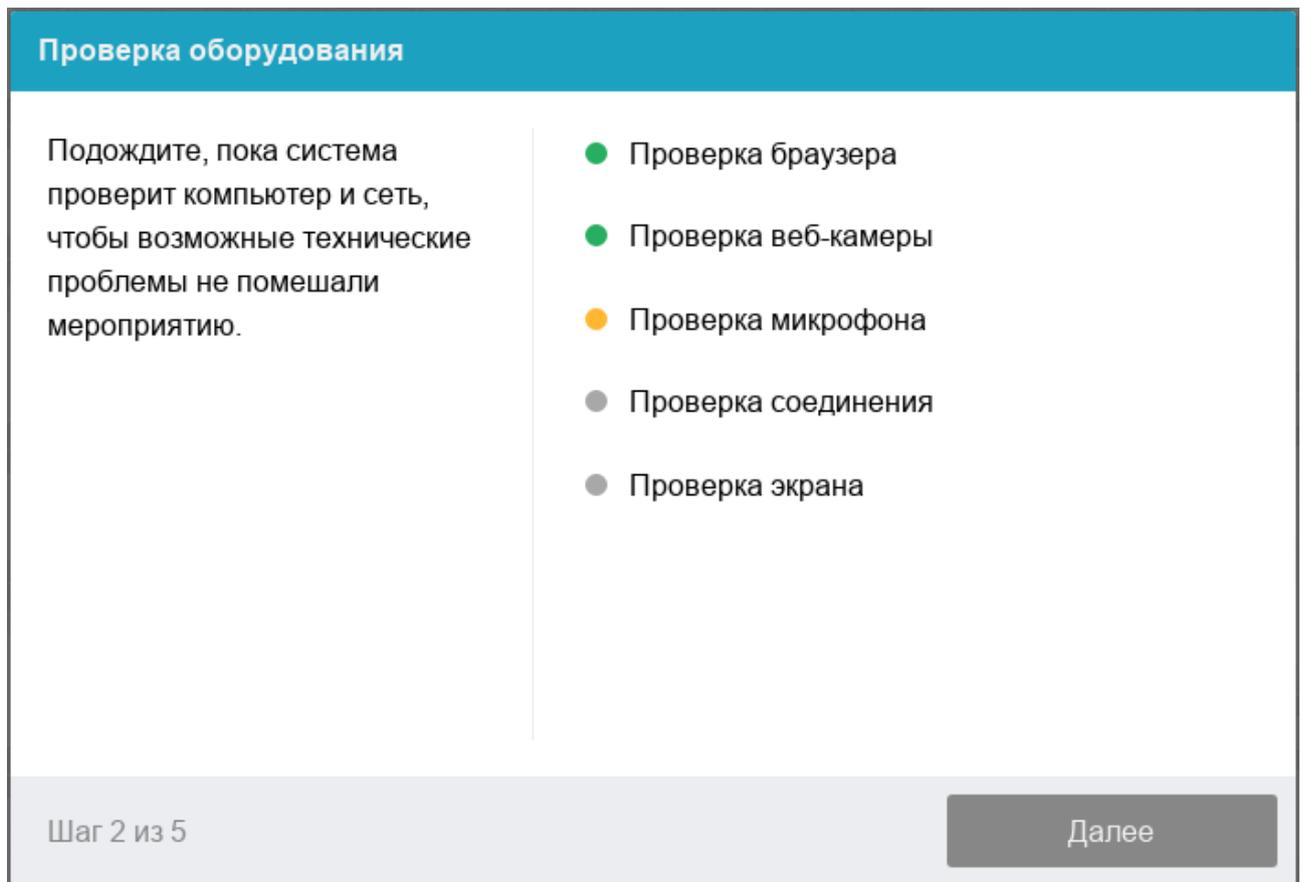


Figure 2 — Testing the equipment

Stages of testing the equipment:

- 1) Web browser would be checked to comply with the minimum requirements of the proctoring system. The window of your browser should be open to the full screen.
- 2) You could be asked to give a permission to check your web-camera. If camera works correctly, checking will be successfully completed.
- 3) You could be asked to give a permission to check your microphone. If the level of loudness of microphone is enough, checking will be successfully completed.
- 4) You should provide access to the full screen for checking. If you do not provide access to the full screen, or if computer is connected to additional screen, the system will indicate a mistake.
- 5) The system will check the possibility of videostreaming using WebRTC technology. Checking will be successfully completed if your network does not block videostreaming.

Possible problems and solutions you may find in Table 2.

Table 2 — Problems and solutions

Problem	Solution
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1) Browser doesn't pass checking	Your web-browser doesn't comply with minimum requirements of proctoring system. Please, upload the latest version of browser Google Chrome and try again.
2) Web-camera doesn't pass checking	Web-camera doesn't work or is blocked by other application on your computer. You may may test your camera using this link ; close other applications, which may use your camera; deactivate anti-virus application; choose right camera in your browser's settings if computer has several web-cameras. If camera works, but there's still indication of mistake, reload your computer.
3) Microphone doesn't pass checking	Microphone doesn't work or deactivated in settings of your computer (operating system). You have to make microphone louder or switch on another microphone by choosing it in the settings of your browser. Test your microphone using this link .
4) Screen doesn't pass checking	There's no access to your screen, your browser doesn't support the verification of the full screen, you didn't provide access to your screen, or gave access only to the part of your screen. You should provide access to your screen or upgrade your web-browser.
5) Video Streaming doesn't pass checking	Your computer or Internet provider blocks video streaming using technology WebRTC. The speed of Internet should be not less than 256 Kbps, your network shouldn't block TCP/UDP 3478 ports. Other settings of your browser could cause this problem, like advertisements blocking Adblock. Switch of all additional settings in your browser or try another Internet network.

For more information on troubleshooting technical issues, see ProctorEdu's Answers to Common Questions at

https://docs.google.com/document/d/14_bP7zyWA7Ed5nWkRiEeFD2a7CofKdmOCUfPTswUSj0/ preview.

5. Your Photo

You should provide the proctoring system with photo of your face, photo should be done using your webcam. Your photo is a part of identification procedure. (Figure 3).

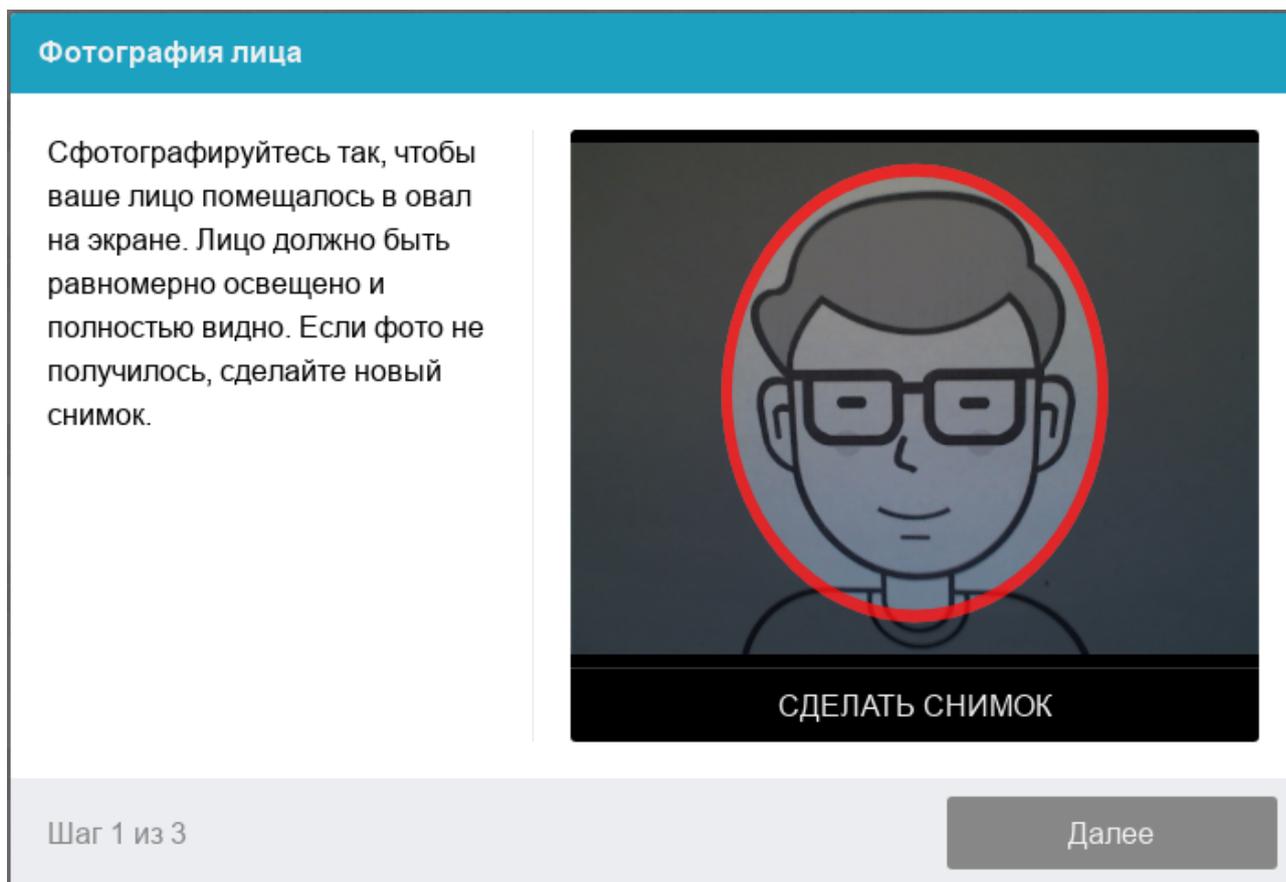


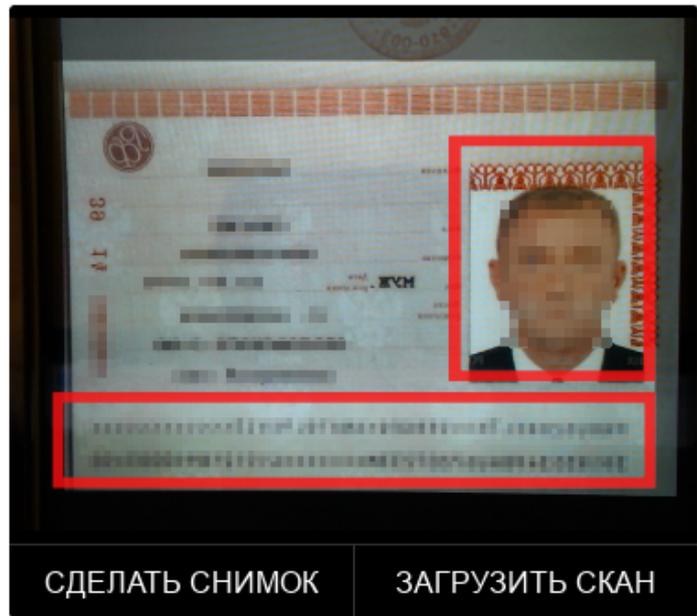
Figure 3 — Face photo

6. Photo of your ID

Proctoring system will require a photo of your passport or a substituting document in accordance with the legislation of the Russian Federation, you should make a photo of your passport using web-camera or upload a scan of your passport in JPEG format, maximum size - 5 MB. System requires only photo of the passport page with photo, horizontally oriented. The passport is automatically checked by the proctoring system for correctness and readability, and the photo in the passport is verified with your face. Photo of the document is a part of your identification procedure (Figure 4).

Фотография паспорта

Сфотографируйте удостоверяющий личность документ так, чтобы он помещался в рамку на экране. На снимке должен быть различим текст и хорошо видно фото на документе. Если фото не получилось, сделайте новый снимок.



Шаг 2 из 3

Далее

Figure 4 — Photo of a document

7. Passing exam

After the successful completion of the previous steps the page of the exam itself will open. The exam page opens in the central part of the window, and a small circle is displayed in the lower left corner where the picture from your camera is placed. During the session it is possible to communicate with a proctor, if he is online, the chat with a proctor opens on the right side of the screen. Sometimes a proctor can set up a video- and audio-connection, in this case a video from the proctor's camera appears above the chat.

During the exam make sure that your face completely fits in the circle and is well lit. Notifications may appear next to the circle if some examination rules are not respected.

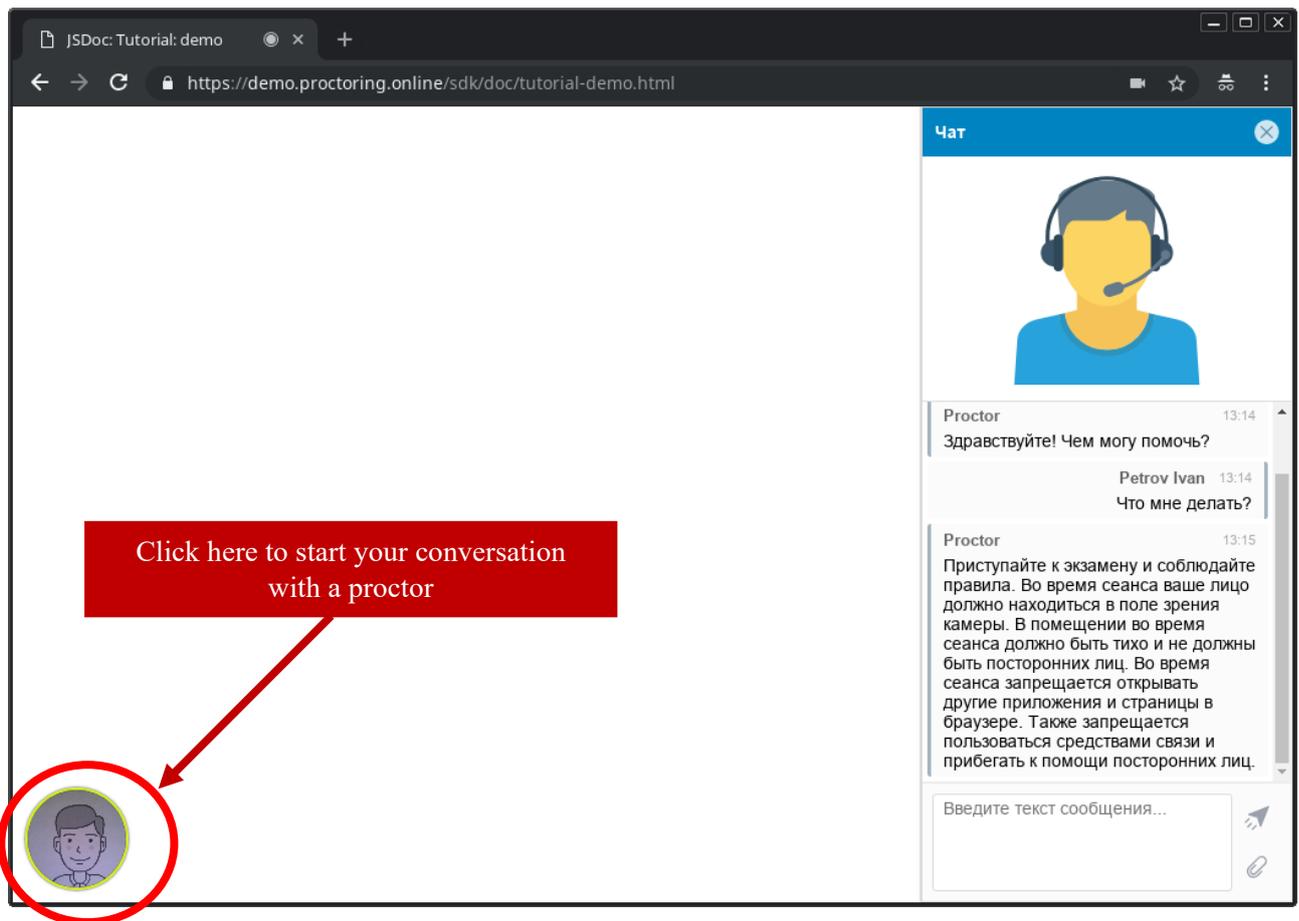


Figure 5 — Proctoring interface during the exam

If the exam implies uploading of handwritten answers to the exam questions into the system, examinees must notify the proctor through the chat:

- about the start of scanning / photographing answer sheets,
- about the completion of their upload into the system.

The uploaded files should be in *.pdf or *.jpg format with a size of no more than 5 Mb.

8. End of exam

When the time allotted for the exam is over, the answers to the questions will be automatically saved and sent for verification.

You can complete the exam before the time allotted for the exam is over. To do this, the applicant must click on the button “complete the attempt”, inform the proctor in a chat about the intention to complete the exam. After receiving the proctor’s confirmation, the applicant can end the proctoring session, which means the completion of the exam. After the exam is completed, it will no longer be possible to start it again (Fig. 6-10).

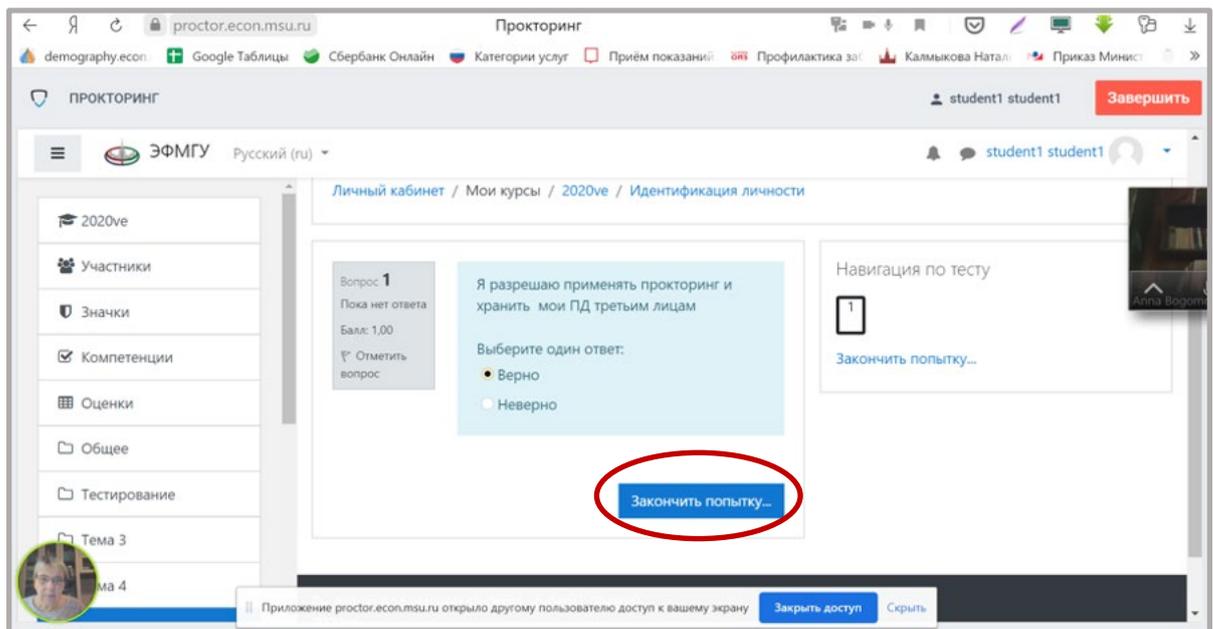


Figure 6 – Session completion (1): click on the “complete the attempt” button

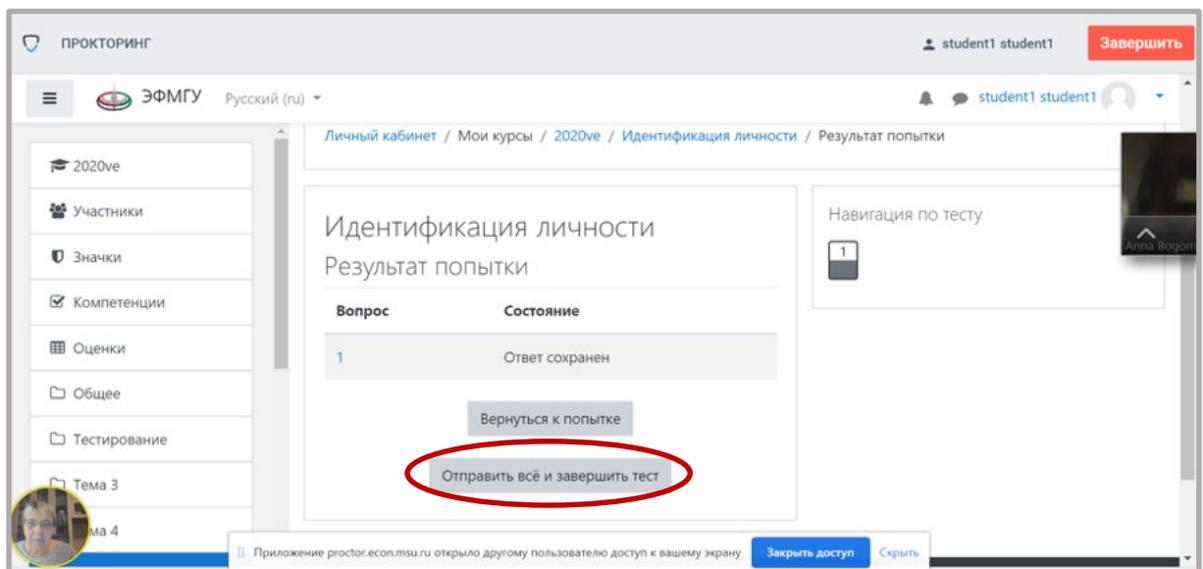


Figure 7 - Session completion (2): click on the button “Send everything and complete the test”

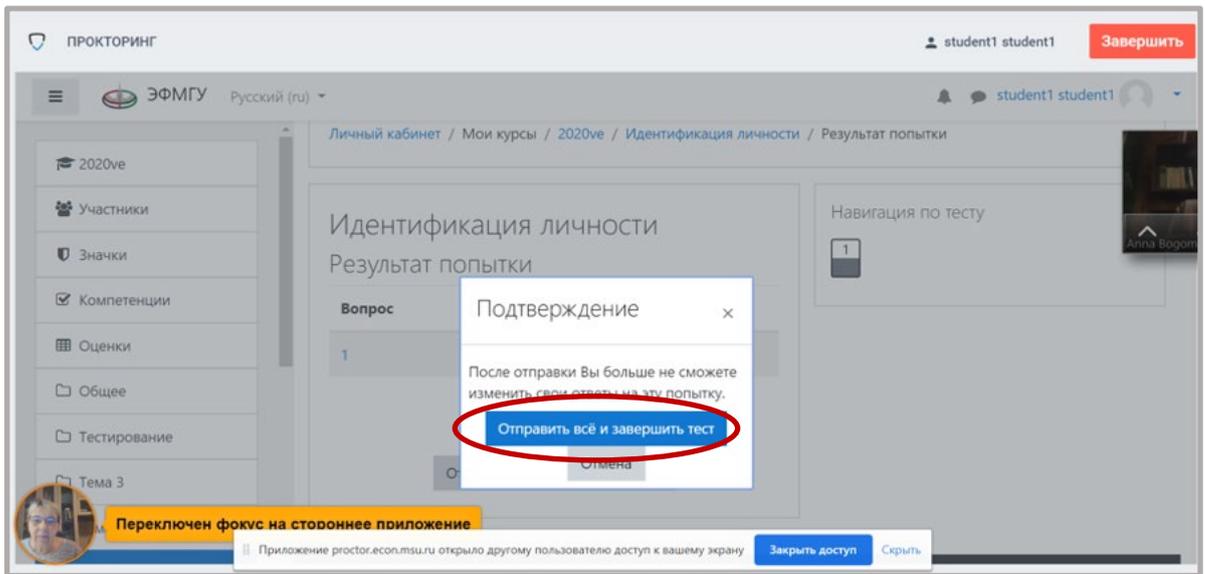


Figure 8 - Session completion (3): confirmation of completion and the test sending"

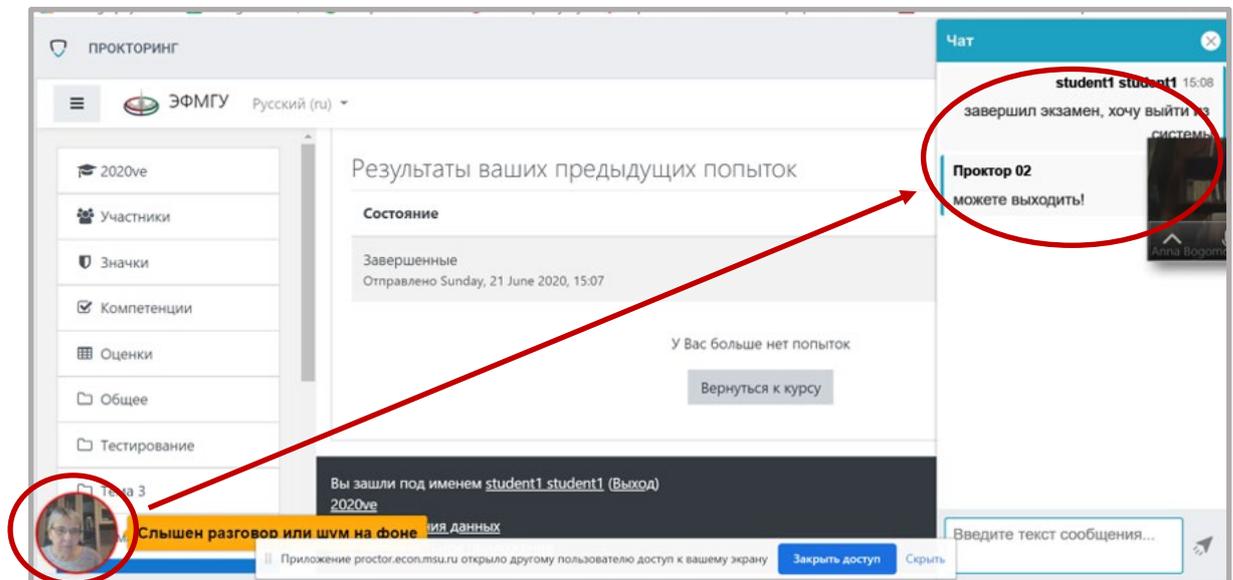


Figure 9 - Session completion (4): request to the proctor in the chat for the end of the exam and obtaining the consent of the proctor

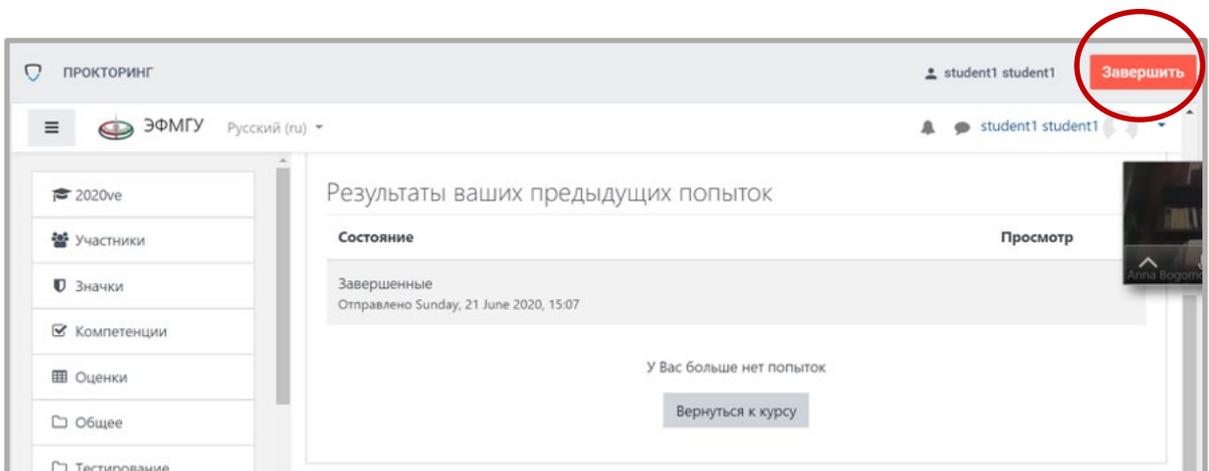


Figure 10 - Session completion (5): ending a proctoring session

In case of violation of the examination rules, a proctor has the right to interrupt the session, the exam is stopped and its results are canceled. Completion of the exam also occurs automatically after the time allotted for the exam is over.

All audio, video and text messages as well as recorded violations are stored in the system and are attached to the proctoring protocol.