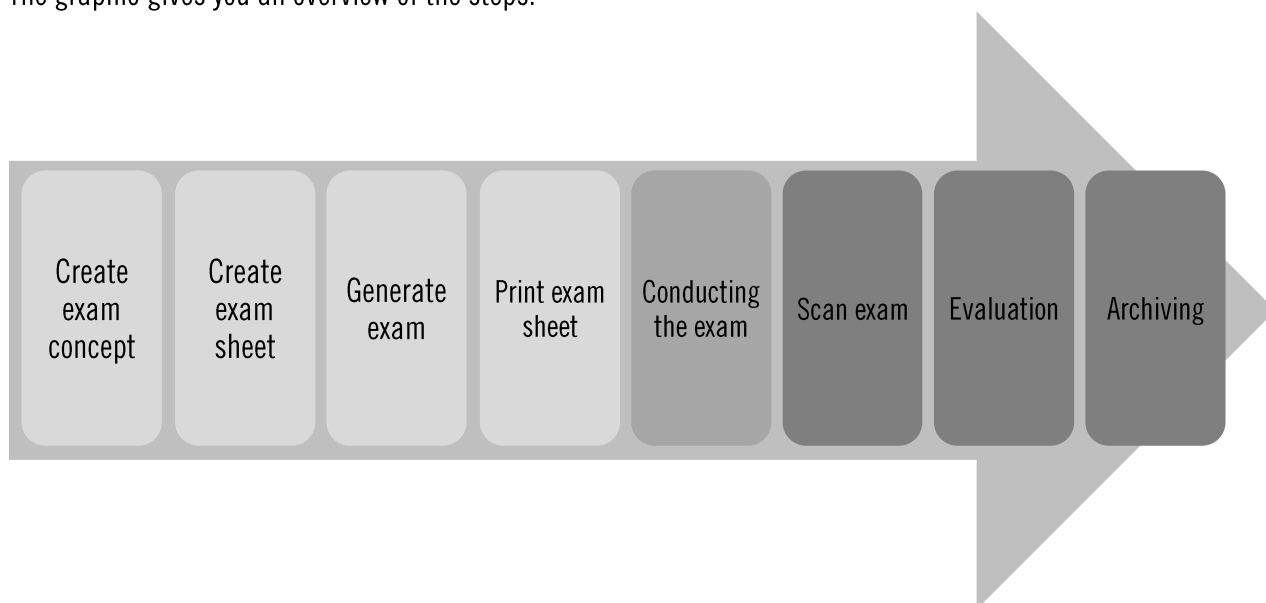


Handout for scan exams with EvaExam

This handout will guide you through the various steps from creating to carrying out scan exams with EvaExam. The graphic gives you an overview of the steps.



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1 Access to EvaExam, set up your examiner account

The Teaching Service will be pleased to provide you and your staff with an examiner account. Please send us an e-mail via lehrservice@leuphana.de stating your institute or school. With this information, we can set up a personalized examiner account for you. It is also possible to set up a functional account that can be used by several people in a team (but not at the same time).

After receiving your access data (username, password), log in to the EvaExam system at <https://evaexam.leuphana.de/evaexam/public/ui/>.

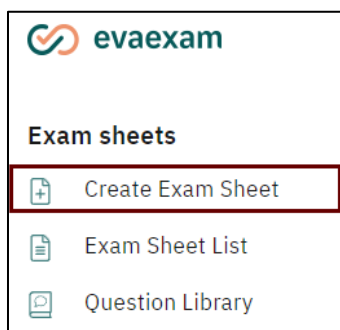
2 Before the exam

2.1 Creating an exam concept

In EvaExam you have the option of taking three different types of scan exams. You can choose between a questionnaire on which the answers are also given (option 1), a questionnaire with a separate answer sheet (option 2) or the creation of an answer sheet only (option 3).

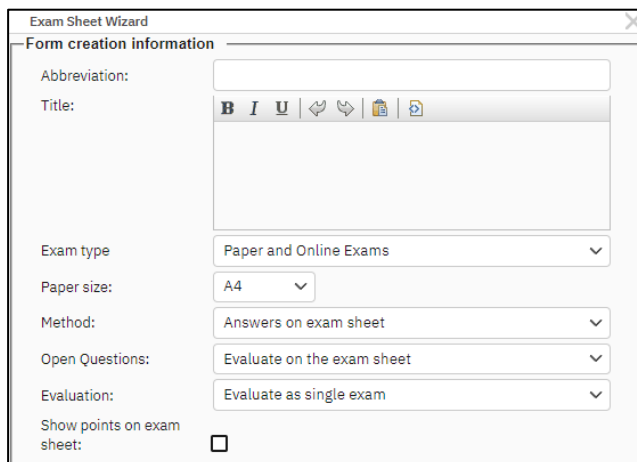
- **Option 1** offers you the integration of all question types but has the disadvantage that the scanning process takes longer as more sheets have to be scanned.
- **Option 2** allows you to include all question types **except** open questions, segmented open questions and Kprim questions. However, this option is more timesaving, as you only scan the answer sheets.
- If you select **option 3**, you only create one answer sheet for single-choice questions that have the same number of answer options. This option is less time-consuming to scan than options 1 and 2.

2.2 Create Exam Sheet



To take an exam with *EvaExam*, you first create an exam sheet, which you then fill in progressively with questions. You create a new exam sheet by selecting *Create exam sheet* in the left side menu (see Fig. 1).

Fig. 1: Create Exam Sheet

A screenshot of the 'Exam Sheet Wizard' window. The window has a title bar and a close button. The main content area is titled 'Form creation information'. It contains several input fields and dropdown menus: 'Abbreviation:' (text field), 'Title:' (text field with a rich text editor toolbar below it), 'Exam type:' (dropdown menu showing 'Paper and Online Exams'), 'Paper size:' (dropdown menu showing 'A4'), 'Method:' (dropdown menu showing 'Answers on exam sheet'), 'Open Questions:' (dropdown menu showing 'Evaluate on the exam sheet'), and 'Evaluation:' (dropdown menu showing 'Evaluate as single exam'). At the bottom, there is a checkbox labeled 'Show points on exam sheet:' which is currently unchecked.

Now enter a short name and a heading for your test sheet. At this point, you can also select whether the answers are to be given on the test sheet (option 1) or on a separate sheet (option 2) (see Fig. 2).

Fig. 2: Entering a short name and a heading for the exam sheet & selecting the answer method

Edit sheet head: Double-click on the sheet header to edit it. There you can enter individual details about the test and test execution by selecting "Individual ID area". If you select "No ID area", the sheet header is hidden.

Question types: The EvaExam software allows you use seven different question types, more information can be found in the Examiner Manual.

- [Single Choice](#)-Question
- [True/False](#)-Question
- [Multiple Choice](#)-Question
- [Open](#) question
- [Hot Spot](#) Question
- [Segmented Open](#) Question
- [Kprim](#) Question
- [Matching](#) Question

2.3 Question library

You subsequently create one or more question groups in the questionnaire editor (Vivid). This is necessary in order to be able to formulate individual questions at all - you can't have a question without a question group. You can organize question groups thematically and name them accordingly (e.g. "Basic knowledge" instead of "Group 1"), so you always have an overview - especially if you save them in the question library (see below).

You then create the corresponding exam questions within the question groups. Seven different question types and corresponding answer options are available for the exam questions and solutions. You can save template solutions for automated evaluation.

We recommend that you save recurring questions and formulas in the question or formula library. This is not done automatically.

The question library is equivalent to a question pool, which can be useful when creating further (online) exams at a later date. Formulas can be entered in the formula editor and saved as an image in the formula library.

If you add open questions to your exam sheet, you also have the choice of whether you want to score them on the exam sheet or score them later online. If you choose to **score** the open-ended questions **on the exam sheet**, a scoring matrix will appear on the exam sheet where you **must enter the score before scanning**. If you choose to score the answers online later, no matrix will appear and you can score the answers later after scanning via an online form.

Once you have compiled all the questions, *click Save and exit* in the top left-hand corner. The exam sheet you have created will now appear in the exam sheet list. You can view and revise all the exam papers you have created at any time in the left-hand menu under *Exam Sheet List*.

2.4 Configuring the test

To generate the scan exam, EvaExam provides an online wizard that guides you through the selection menus.

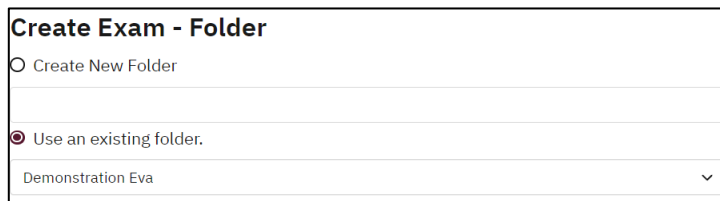


Fig 3: Create Exam → Create Folder

In the left menu choose the Option “Create Exam” in the Exam section. Afterwards create a new folder in which the scan exam should be stored (see fig 3).

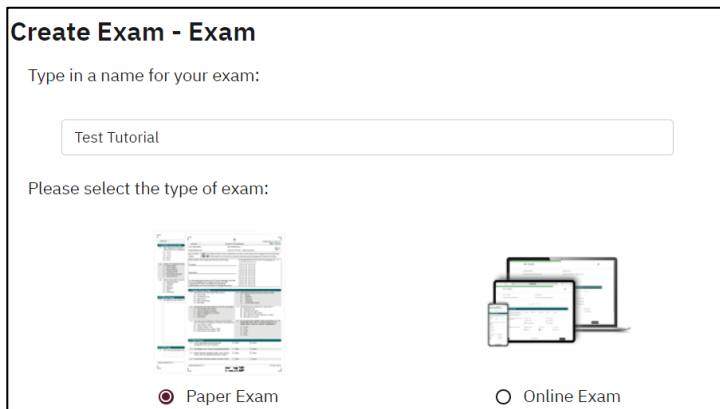


Fig 4: Create Exam → Naming and choosing Paper Exam

At a later point you can store further exams in this folder or create new folder. In the next step name the Exam in the {LV-Titel} format and choose Paper Exam (see fig 4).

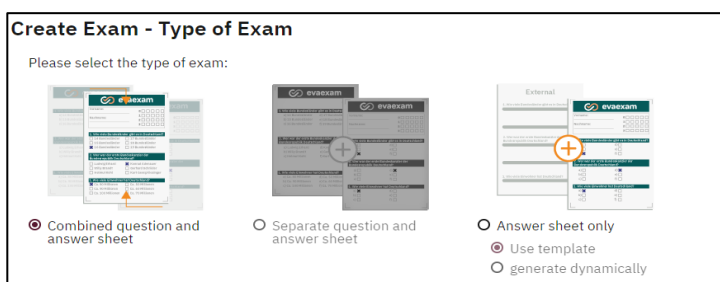


Fig 5: Type of Exam and Answer Sheet

You can choose between an exam sheet with the answer options below (option 1), a separate question and answer sheet (Option 2, not available for paper exams) or an answer only sheet (Option 3) (see fig 5).

The *Wizard* now asks you to choose between two options to **import participants**. The two options are the Entry of student ID by participants or the **participant import**.

When participants enter their examination participant ID, the form is not personalized; participants themselves enter their first name, surname and examination participant ID (Student ID number).

If you select the **participant entry via participant import**, the sheet is pre-filled with the data of the respective exam participants. To do this, the participant data must be imported after the exam has been confirmed. This can either be added manually or uploaded via **CSV import** from the *myStudy exam lists*. To test the import function in advance, you can use the *sample participant data*, which you can find in *EvaExam* under *Extras*. Here you can also see how the address file must be formatted (e.g. order of columns, CSV file format).

Now select an exam sheet from the exam sheet list that you have created in advance. In the next step, you can create up to **10 different versions of an exam sheet**, in which the selected questions and question groups are arranged differently. Creating several versions can be helpful, for example, to make it more difficult for students to exchange answers, especially in multiple-choice exams.

Finally, enter the number of exam participants. *EvaExam* recommends that you print out about 10% more exam sheets than the number of participants expected, so that you have spare sheets available if necessary. After confirming the details, the test will be made available for download as a PDF document. Now all you have to do is print out the test.

Note: Once the exam has been created, the sheet is locked for processing. Regardless of whether sheets have already been scanned or not.

2.5 Exam Details

The folder list in the left-hand side menu takes you to the exam overview of existing exams.

If you click on the name of the exam or the icon under *Details*, you will be taken to the *Exam details*. There you can create additional exam sheets, assign or adjust a grade key, open the sample solutions and rename, move or delete the exam.

If an exam has already been scanned in, the original scans and *PDF reports* can be downloaded here and the completeness of the exam sheets can be checked.

2.6 Print the Exam

Each sheet has an individual numbering, a so-called "consecutive serial number". This number is included on the first page in the header area and in the barcode. In the case of multi-page examinations, the sheets with the same number must be distributed to the same students so that the data sets can be correctly allocated and evaluated later. Therefore, the examination sheets should always be printed and not copied.

For error-free recognition of the answers, the exam sheet should always be printed on white paper. Keep the actual size of the document and do not adjust the page size when printing.

If you are carrying out a multi-page test, the sheets may be stapled at the corners, but the stapled corners should be cut off again before scanning.

Mock Exam

To familiarize yourself with the handling of a scan exam, you should print out a set of exam sheets before the exam, fill them in and scan them.

3 Conducting the Exam

Practical tips for writing the exam forms

Remind the students before how to conduct the exam correctly.

- Crosses should always be marked inside the boxes. The system cannot recognize answers if the cross is beside the box.
- The exam sheet is unrecognizable if the student writes over the barcode or the corner marker or if those have been made unidentifiable.
- To fill out the exam either a black or blue ball point pen or fineliner has to be used. Ticks with a pencil lose their recognizability during the scan process, also a thick marker results in a too high blackness which can be mistaken for a correction.
- The students have to correctly tick all digits of their participation ID within the matrix and also write it down with their name in the designated fields. Automatic reading only operates via the matrix.

4 After the Exam

After registering you can book an appointment for scanning via the Moodle course <https://moodle.leuphana.de/course/view.php?id=37>.

4.1 Scanning the Exams

On the campus of Leuphana University, an area with a scanning device has been set up in **C.7.117** where you can scan your exams. The *EvaExam* software sends the data from the scanned exam sheets directly into the system, where they are evaluated semi-automatically. Before you start scanning, you should check the settings on the scanning device and the stack of exam papers.

The following settings should be active:

- Black and white
- Paper format A4
- Resolution: 200 DPI
- Brightness: threshold slightly darker than the average value
- Corrections deactivated
- Simplex/duplex (one/two-sided sheet).

The exam sheets should all come from one exam and be free of stapled corners and scribbles. If you have activated scoring on the exam sheet for open questions, you must score them in the matrix before scanning. No more than 50 pages should be scanned in one batch; the more sheets that have to be scanned, the longer the processing time.

Select "*Stapel freigeben*" when you have scanned one batch, you can scan further batches while they get processed. You are welcome to bring a laptop to the scanning appointment so that you can check directly in *EvaExam* that everything has been uploaded correctly.

Error messages: If you notice errors during the scanning process, discard the batch and start scanning again. You should also do this if you receive the error message "Unvollständige Prüfungsbögen" and pages of a sheet are missing. The batch should be discarded and rescanned with the missing page.

4.2 Grading

After scanning, you can view the status of your verification in the verification list of your user account. Click on *Verification* in the *Status* column to manually check the crosses that have been recognized as unsafe. In the following list, you will see the exams that require verification. You can start the verification process by clicking on the yellow pencil.

If you have selected to assess open questions online, the status of the exam will now change to *Scoring*. Click on *Scoring* in the *Status* column to answer the open questions. Here it is also possible to access previously stored solution texts and add comments to the assessment, which are later visible in the participant report. To remove an individual question of an exam from the overall ranking, you can assign the maximum number of points to the question. However, this change cannot be reversed.

When assigning points online for open questions, it is possible to add markings or text to the original scan using stamps. This means that, for example, deductions of partial points or points awarded can be noted directly on the original sheet of a participant and are therefore immediately visible during the discussion.

4.3 Archiving

EvaExam provides two types of exam reports as PDF:

The detailed student results report showing all results per student. The answers of the individual participants to each question as well as the points awarded and the comments of the examiners are displayed here. The participant ID, and in the case of participant import also the name, the number of points achieved, the maximum points to be achieved and the percentage of correct answers are noted on the sheets (see Fig. 6).

The EvaExam system also offers the Exam Results Report. This report is divided into the evaluation of the individual questions, the examination report and the overall report with question analysis. In the evaluation of the individual questions, the points achieved by the participants are shown question by question and in relation to each other as a percentage. If you have created a grading key, the examination report generates a score sheet for all participants, which can be read question by question and examination by examination. The Exam Results Report contains a graphical representation of the points distribution and a question analysis in which the questions are rated according to their selectivity and degree of difficulty (see Fig. 7).

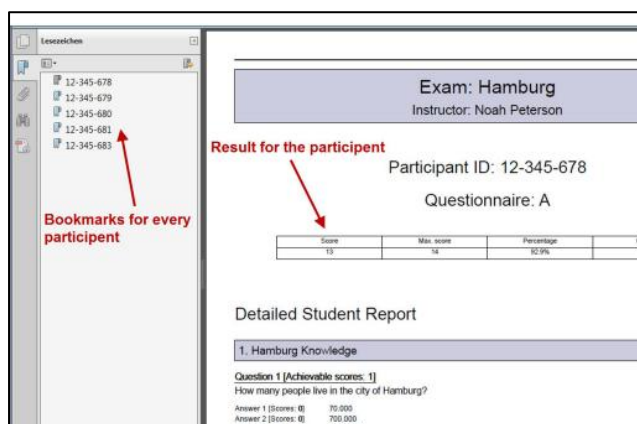


Fig 6: Example for a Student Result Report

(Source: [EvaExam](#))

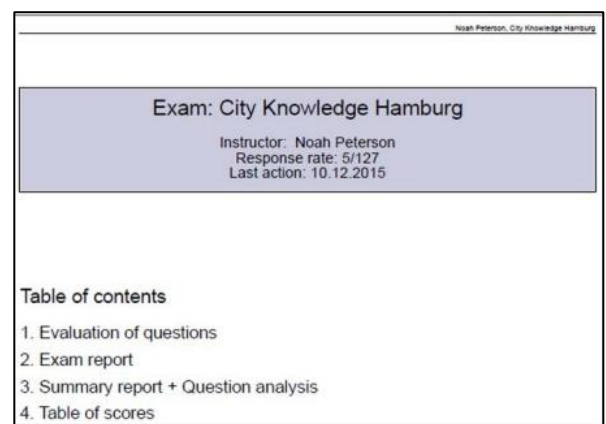


Fig 7: Example for an Exam Results Report

(Source: [EvaExam](#))

Grade registration is done with the provided excel sheet in myStudy just like with other exams. Examiners enter the grades and upload the list to MyStudy.