

Tests in ILIAS

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Important information is marked in yellow.

Additional information is marked in blue.

Basics

ILIAS offers the object test to check the learning success. Different application scenarios are possible, which differ in various respects, such as the severity of their restrictions or the level of questions, but also or above all with regard to didactic use.

Conceivable scenarios include tests ...

- for the certification of learning success
- for the examination of prior knowledge as a means of course control
- as a competition
- as gamification
- for self-control
- to support learning
- for knowledge development (research-based learning)

From a purely technical point of view, the test system in ILIAS consists of three components. These are explained according to their role:

- Ask
- Question Pools
- Test

Questions

Questions are the basis for all tests. For a question, you can assign a question text, scores, possible answers, processing times, etc. At the moment, seventeen question types are possible:

Selection	Text	Calculations	Assignment and assignment	Mark	Individual response
Single-Choice	Fill-in-the-blanks	Numerical response	Vertical ordering question	Hotspot/Image-Map	Free text
Multiple Choice	Definitions bene nnen	Formula question	Horizontal question of arrangement	Hotspot/Image-Map	Upload file
KPrim-Choice	Long-menu texts	STACK Question	Assignment questions		

Question Pools

Question pools are containers that you can use to collect questions. The collection may reflect content, random or other criteria. You have the option of creating question material in a question pool and reusing it from there in one or more tests. The questions are copied from the pool into the test; Changes that you make to the question from the test can optionally be applied to the pool.

Tests

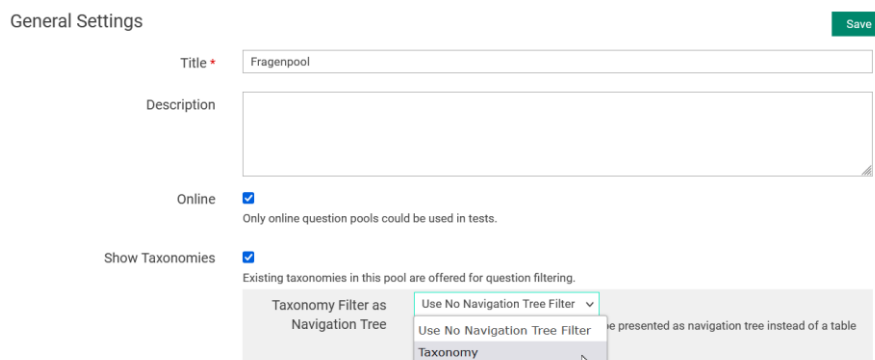
A test is the control unit. It summarizes a certain number of questions in an order that you specify. It specifies the framework conditions, such as access, time frame or evaluation conditions.

By the way, you can also use tests without a pool of questions. In the "Questions" tab of a test, you have the option of creating question material, which is then initially only available in the currently working test.

Question Pools

Test questions can be created and summarized in ILIAS in so-called question pools. Question pools offer the possibility to cluster questions, e.g. generally by topic, level of difficulty or specifically by event. The main advantage is that the questions can be reused as often as you like. In addition, question pools form the basis for enabling tests with randomized question selection.

To create a question pool, select "Add New Object - Question Pool for Tests".



General Settings Save

Title *

Description

Online
Only online question pools could be used in tests.

Show Taxonomies
Existing taxonomies in this pool are offered for question filtering.

Taxonomy Filter as Navigation Tree is presented as navigation tree instead of a table

- Use No Navigation Tree Filter
- Use No Navigation Tree Filter
- Taxonomy

Figure 1 Question Pool Settings

The settings window opens. The most important attitude is to put the question pool online. Only then can the pool be selected for use in a test. For students, question pools are basically invisible, which is why this option can be activated at an early stage. In the settings, you can also determine whether a so-called taxonomy should be used. Before they can be activated and select the corresponding taxonomy as a navigation tree, you must first create them.

Taxonomies

Taxonomies can perform different tasks. You can:

- They serve to provide clarity in the question pool, as they represent a kind of navigation tree.
- Serve the systematic classification or description of questions according to freely selectable criteria.

To create a taxonomy, first switch to the "Taxonomies" sub-tab and select the "Add taxonomy" option. You can choose any name for the taxonomy describing the taxonomy.

Save the new taxonomy via "Create taxonomy".

In order to build up the taxonomy further, you now start the editing.

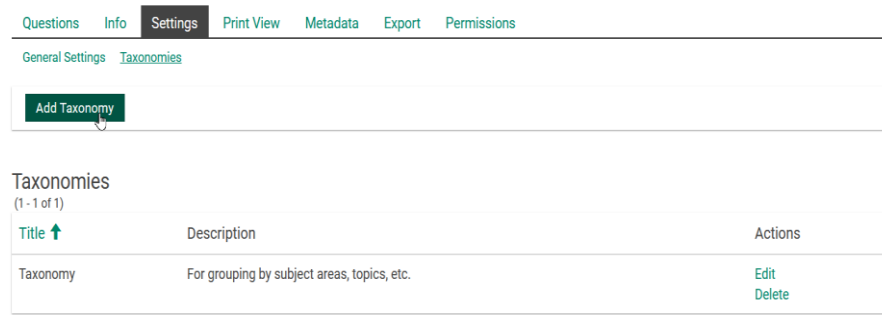


Figure 2 Add Taxonomy

A taxonomy consists of so-called nodes to which questions can be assigned. A node can represent a freely selectable criterion that describes one or more questions, e.g. the type of a question (see Figure 3).

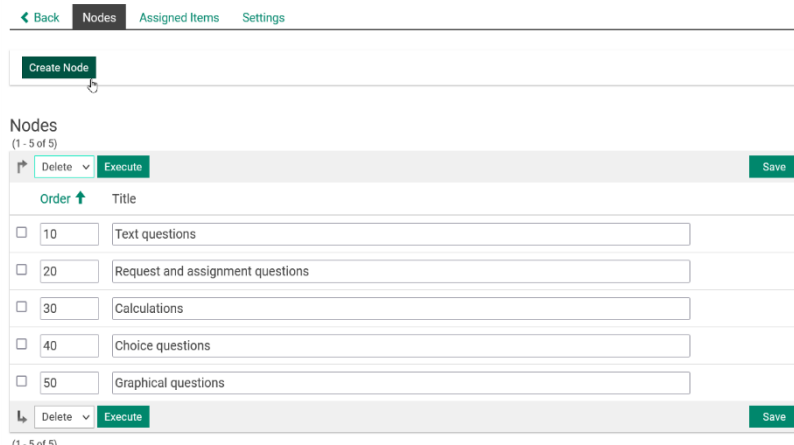


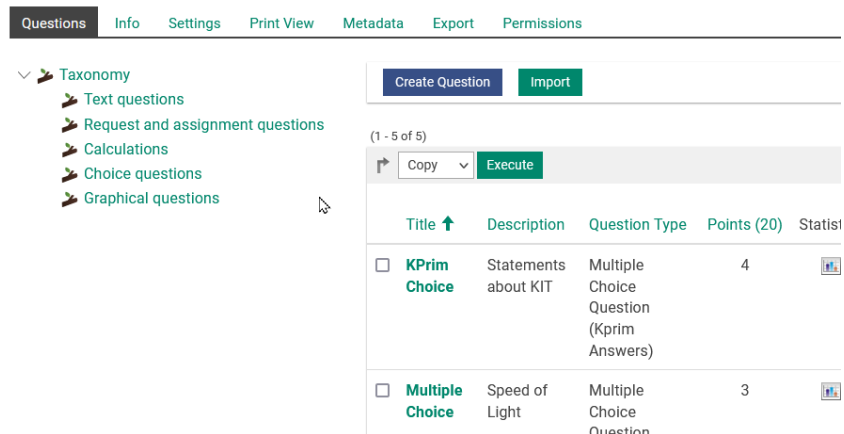
Figure 3 Creating taxonomy nodes

Of course, you can also define thematic criteria from your department. The nodes form the branches of the navigation tree (see above).

Under the "Settings" tab, you can choose between (automatic) alphabetical and manual sorting of nodes. In the example shown, you can see from the "Order" column in front of the title column that manual sorting has been

selected here. This makes it easier for you, for example, to position subsequently inserted nodes accordingly in the sequence.

With the taxonomy as a navigation tree, the following sequence of questions within the pool results.



The screenshot shows the ILIAS interface for managing questions. On the left is a taxonomy tree with the following items: Taxonomy (expanded), Text questions, Request and assignment questions, Calculations, Choice questions, and Graphical questions. On the right, there is a table of questions with the following data:



	Title ↑	Description	Question Type	Points (20)	Statist
<input type="checkbox"/>	KPrim Choice	Statements about KIT	Multiple Choice Question (Kprim Answers)	4	
<input type="checkbox"/>	Multiple Choice	Speed of Light	Multiple Choice Question	3	

Figure 4 Sorting of questions

Point values

Of course, you can award as many points as you like in questions. Between the different types of questions, it sometimes makes sense to award different numbers of points. Why should a single-choice question with only one correct answer option get as many points as a multiple-choice question with at least two correct answers, or a cloze with perhaps five or more text gaps to be filled?

The answer is "question pools" or "randomized question selection" for tests. If there is a different scoring structure within a question pool, from which a certain number of questions are to be presented randomly in a test, there may be a major problem for determining a grading scheme. Therefore, if possible, choose a uniform point grid over all questions and not as shown in Figure 4.

Create a question

To create a new question within a question pool, select "*Create question*" and then select the desired question type from the drop-down menu.

For a detailed description of the individual question types and what needs to be taken into account when creating them, please refer to the handout "ILIAS_ question types"!

Test

A test is a stand-alone object in ILIAS. It represents the acting container for test questions. This means that all settings for question composition, availability, evaluation, etc. are defined here. To do this, follow these steps:

1. You create your test by selecting **Test** under "Add new object".
2. First, give the test a title and possibly a description.
3. Finally, click on "Create test".

Settings of the test

The possibilities of test settings are manifold. Depending on the application scenario, you have to choose different options in the settings.

In this guide, against the background of the implementation of tests for learning support, the Useful for this Settings to be explained in more detail.

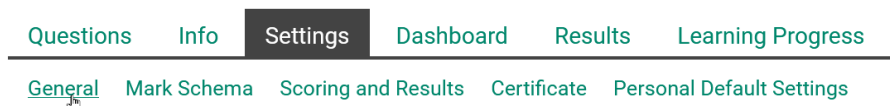


Figure 5 "General Settings" sub-tab

General settings

The settings take place block by block and should therefore be described in this order.

Using the question pool

Select "*Add questions from question pool or create them directly in the test*" Question pools offer the possibility to offer more different questions.

Selection of test questions

Here you have the option of either creating a "*Fixed ...*" or "*Random Question Selection*" from the question pool. This offers the possibility to offer different challenges for self-study tests. Alternatively, you can also select the option "*Follow-up mode – all questions of a question pool*" if you would like to offer the possibility of taking tests several times (see there). Then all questions of the pool are offered once.

Privacy

Choose whether the test results are received *anonymously* or *by name* . This depends, above all, on whether individual support is to be provided for students' questions about the tests.

Availability

Don't forget to put your test *online* . Students can only take the test if the test is online.

However, the option can only be activated or saved once questions have been assigned to the test.

How to get started

Via *Introduction*, you can preface the test with an introductory text. This can provide all important information about the course of the test, such as the order of the questions, an evaluation or feedback.

Implementation: Access

Different access regulations can be defined here. For self-tests, which are usually available at any time, you do not have to make any settings.

Implementation: Control of test run

The default setting is that students can repeat it indefinitely. This means that the option *Limit the number of test runs* is deactivated. For self-control tests, you can leave it that way. If you want to limit the number of possible repetitions, activate the option and set a value for the allowed number.

For example, in order to gently ensure that the learning materials on the topic are examined more closely after a test run that may not have gone so well, you can *force a waiting time between runs*.

For example, to simulate an exam situation, you can *limit the processing time* and also activate the *exam view*. Then a test is automatically closed after the specified time. The test questions answered up to that point will be evaluated. In the exam view, only the screen elements that belong to the exam are displayed.

Implementation: Behavior of the question

In this area, especially for self-tests, there are important setting options.

Under *Display of question titles*, you can choose whether or not to display the titles and reachable points of questions. Above all, the titles, depending on how they were chosen, could possibly offer clues to the solution, which is why they can be hidden.

By default, tests are saved every 30 seconds. For tests that are used for self-control, this is completely sufficient. This is because you do not have to shorten the storage interval under *Automatic save*.

A good setting to increase the practice value is the *shuffle questions* option. In this way, you offer the possibility that the order of the questions per participant and per test run is not always the same.

The *Direct Feedback* and *Participant Responses* options are related to each other in some way. If you have provided questions with feedback (see instructions "Question types"), you can make them available to the participants in different ways during the test. The *Direct Feedback* option activates the "*Request feedback*" button within a test.

Direct feedback

Contents of the feedback

This is where you decide what is displayed as feedback. These are:

- *Points Achieved*: This displays the points achieved with the answer(s) given.
- *Feedback on the correct answer*: This outputs the feedback stored under "Correct answer" or "At least one answer is not correct".

- *Different feedback for each given answer:* This is where the specific feedback on the respective answer options is output. You need to keep in mind that not every question type supports differentiated feedback.
- *Show best possible solution:* The best possible answer is displayed.

Trigger of the feedback:

- *Participants can trigger the feedback themselves:* The feedback is available, but must be triggered manually. Students therefore have their own choice.
- *The feedback is shown when answering questions:* When answering a question, the feedback is automatically output.

Participant responses

- *Do not commit responses during the test run:* This provides the ability to revise responses until the test run ends.
- *Commit responses when confirmation is displayed:* This setting only makes sense if requesting responses has been enabled. The option offers students the opportunity to check your answer directly. However, the answer given is evaluated so that the information about the state of knowledge is retained on the basis of the final result.
- *Fix answers when the follow-up question is displayed:* Here, the given answer is fixed as soon as the test continues. Here, students have to decide whether they want their answer to be final.
- *Fix answers with the display of feedback or the follow-up question:* This combines the two previous options for learning control for students.

Implementation: Functions for participants

In this area, you decide which functions are available to students in the course of the test. You can decide to what extent students can use or work with the learning assessment test. The *use of previous solutions* offers students the opportunity to focus on questions that have previously been answered incorrectly during several runs. *Unanswered questions* can, for example, be automatically pushed to the end of the test. As a result, no question is overlooked, but offers the opportunity to reflect on it again. The display of the *question list and processing status* as well as the option *Mark questions* leads to a greater clarity when working with the test.

Scoring and Results

Under the "Scoring and Results" sub-tab, you enter the regulations for evaluating the test, announcing the test result and details of the test results.

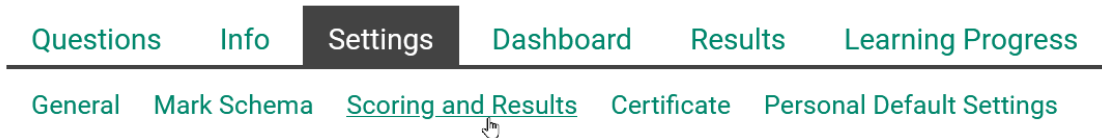


Figure 6 "Scoring and Results" sub-tab

Evaluation of the test

With the options under *Rating system*, you can control whether even partially correct points are scored or only completely correct points. At least in the case of question types with several answers to be given, this better reflects the level of knowledge within the framework of self-control.

Multiple-choice questions with blank answers are no longer saved by the system by default or are automatically counted with 0 points.

In the case of question types with multiple answer options, it can theoretically happen that negative point evaluations of incorrectly given answers can lead to an overall negative point value for questions. By default, the option "Change *negative points per question* to "0 points" is set under *Negative points*. However, if you still want negative points to be awarded as an indication for individual questions, so to speak, select the option "Change *negative overall test result* to "0 points". However, the total score of the test is still balanced to a total of 0 points.

Under *Evaluation for multiple test runs*, you can choose whether only the last run or the best run (only if multiple runs is permitted) is evaluated. This does not matter for the control of one's own learning status, since all completed runs including results can be viewed by students under "Dashboard".

Announcement of the test result

The options for announcing test results are of interest for tests as part of a performance review. Here you can regulate whether and when students can view their results and how detailed they are. In general, all results and information are always available after the course of the test.

Details Test results

For the options in this block, the same applies as for the announcement of the test results. These are primarily of interest in the context of performance reviews or challenges.

Assign questions.

Once the settings have been determined, the final step is to assign questions to your test. There are several ways to do this. These or the necessary actions depend on which option you have selected in the test settings.

- Firmly defined question selection
- Random question selection
- Follow-up mode – all questions of a question pool

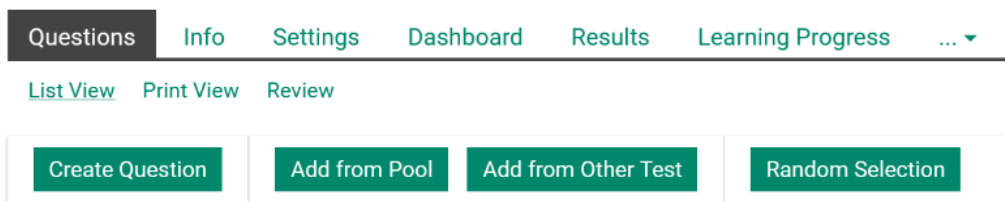


Figure 7 Fixed question selection options

In all cases, select the "Questions" tab.

With a firmly defined selection of questions

With this option, you can either create questions directly in the test, include questions from a question pool, or add them from another test. The following view opens.

Click on "**Create question**" to open the following mask. Here you have the possibility to directly select the desired question type and create it. For information on what needs to be taken into account, please refer to the "Question types" guide. You can use the pool selector to integrate your newly created question into an existing pool or a new pool to be created now.

Create Question

Question Type

Editor

Use plain text for questions and answers and ILIAS page editor. No formatting of text in question and answers. No use of LaTeX either. But rich text is embedded in ILIAS learning module.

Use Rich-Text-Editor (TinyMCE) for editing questions and answers. Allows text formatting of questions, answers, feedbacks and hints. But rich text is embedded in ILIAS learning module.

Pool Selection *

Do not use question pool

Use existing question pool

Create new question pool

Figure 8 Create a question

Click on "[Add from pool](#)" to call up a list of questions from all your available question pools. From this, select the questions to be used in the test. The displayed filter criteria can be used to narrow down the displayed selection accordingly. If you want to ask questions about "[Add from another test](#)", basically do the same.

A new feature is the option "[Random selection](#)" in this context. Here, a certain number of questions can be randomly selected from a question pool which then remains as a fixed

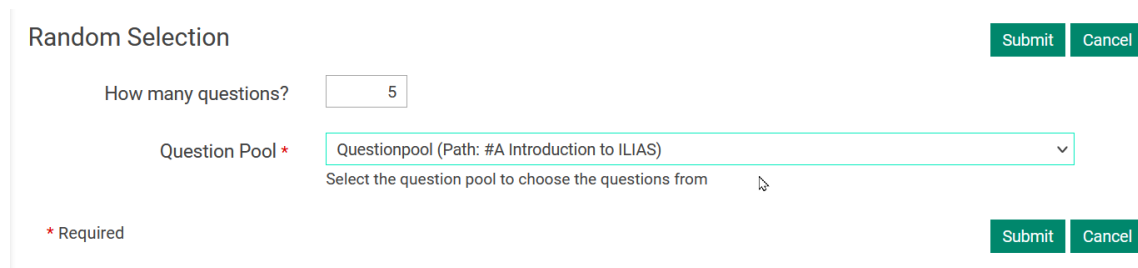


Figure 9 Assignment of random questions with actually fixed question selection

selection of questions. The selection can be carried out several times at will. Only with the option "Accept compilation" (see **Fehler! Verweisquelle konnte nicht gefunden werden.**) the selection is fixed and assigned to the test. The selection is made per question pool and can be carried out several times for other pools. The difference to the "individual" random question selection described in the following section is that the individual compilations are fixed here and identical for all examinees.

Do you accept this sample or do you want another one?
(1 - 4 of 4) Rows ▾

					Accept Sample	Get another Sample	Cancel
Question Title	Description	Question Type	Author	Question Pool	Test		
Request - vertical	US-Presidents	Ordering Question (Vertical)	Thomas May	Questionpool			
KPrim Choice	Statements about KIT	Multiple Choice Question (Kprim Answers)	Eileen Rupp	Questionpool			
Multiple Choice	Speed of Light	Multiple Choice Question (Multiple Answers)	Thomas May	Questionpool			
Single Choice Frage	Tiere benennen	Multiple Choice Question (Single Answer)	Thomas May	Questionpool			
					Accept Sample	Get another Sample	Cancel

Figure 10 Accepting Random Compilation

In case of random question selection

With the test setting "*Random question selection*", individually assigned question combinations can be generated in a test. With this setting, the following mask opens via the "Questions" tab to configure the question selection.

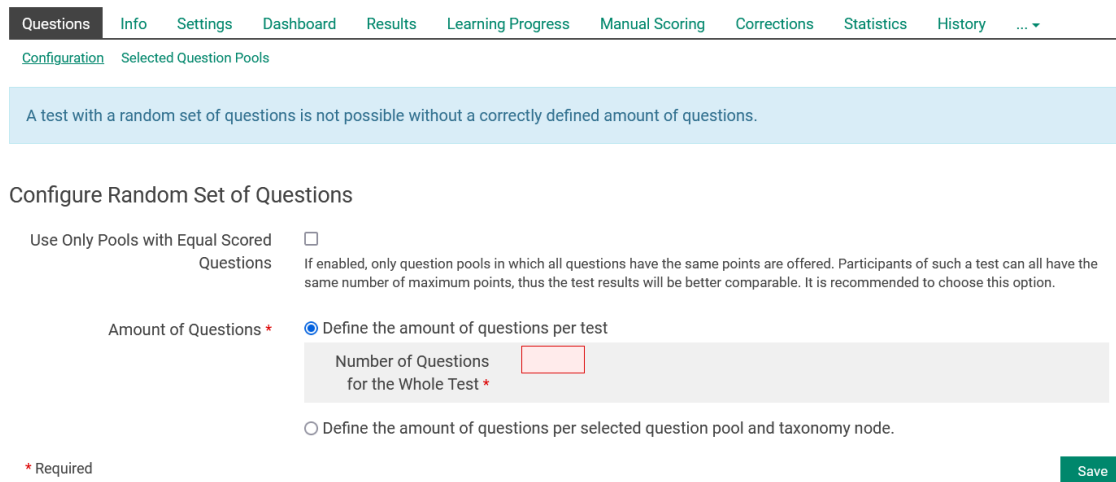


Figure 11 Question Selection Configuration

You have the option of searching for question pools with questions with the same number of points (see Point values) to filter. The number of questions required for the test is mandatory. Either you specify a total number of questions for the test, or define (see **Fehler! Verweisquelle konnte nicht gefunden werden.**) the number of questions to be used. In the next step, switch to the "Selected question pools" sub-tab. Here you define one or more rules (one per pool) for question selection.

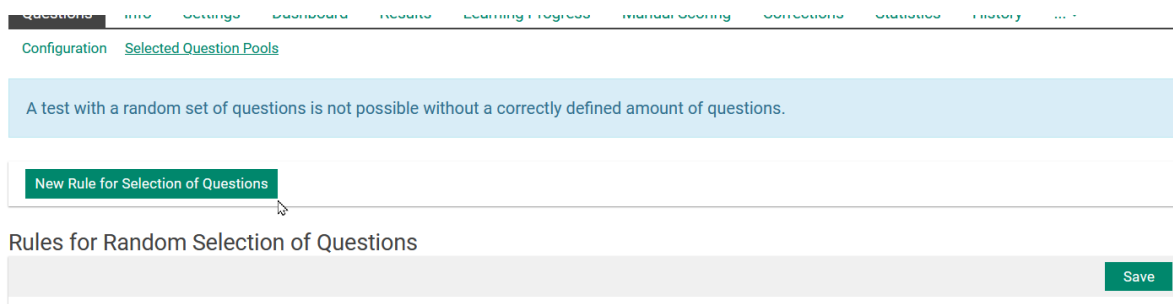


Figure 12 Rules for Selected Question Pools

Click Add rule for question selection to open the magazine view of ILIAS. There select the desired pool. By the way, a pool questions can be located (almost) anywhere in the magazine. The only thing matters is your access authorization.

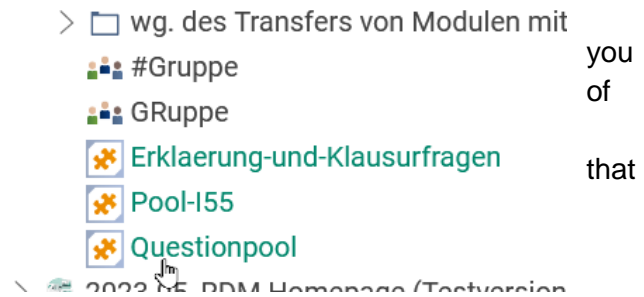


Figure 13 Pool Selection

After selecting the question pool, define the rule for selecting the questions. You have the possibility to ask questions about taxonomic classification (if Taxonomy available), according

Rule for Selection of Questions Save And Back Save and Add New Rule Cancel

Question Pool Questionpool (Path: Repository > Interfakultative Einrichtungen > Zentrum für Mediales Lernen (ZML) > ZML-Lab > #A Introduction to ILIAS) [5 Questions]

Use Taxonomy "Taxonomy" as Filter

Taxonomy * Select
Reset

Use Lifecycle as Filter

Lifecycle * Draft + -

Use Question Type as Filter

Question Type * Cloze Question + -

Save And Back Save and Add New Rule Cancel

Figure 14 Selection filters for the selection of questions

to lifecycle criteria or by question type. The number of questions that are to be integrated into the test from the question pool is mandatory.

You have the option of creating another rule for the currently selected pool via "Save and add new rule". E.g. further questions from another taxonomic grouping. If you want to add more questions from another pool or stop altogether, select "Save and back".

The rules for a random selection of questions were newly created or changed. The questions from the pools have to be synchronized in the test before it can be used. This checks also if a random test is possible with the given set of rules.

Synchronize Questions from Pool

Figure 15 Synchronization of questions from the pools

In the last step, you have to synchronize the questions from the pools. In this case, the questions are basically decoupled from the pool, so that further changes to the questions used are possible within the pool without changing the "productive" ones.

In case of resubmission

Has the option "*Follow-up mode - all questions of a question pool*", select this one question

Continues Question Selection Save

Source Question Pool *

Question Ordering

Order Questions by Date
The presentation order for the questions bases upon the question's last editing date.

Order Questions by Taxonomy
The presentation order for the questions bases upon the question's assignments in a taxonomy.

Ordering Taxonomy *
The test questions will be presented accordingly to their assignments in the selected taxonomy.

Provide Taxonomy Filter

Provide Answer Status Filter

* Required Save

Figure 16 Continuous Question Selection

pool accordingly via the drop-down list.

The order of questions can be based on two criteria. Either on the date of the last change, i.e. according to topicality, or according to taxonomic order. According to taxonomic order, this could mean that questions are selected according to subject areas, for example, so that ultimately each was questioned. To do this, you would need to have chosen the nodes of your taxonomy accordingly.

Info & Contact

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