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Lecture V:
Designing entering online exam using Moodle for climate change and adaptation programs

Veljo Kabin
Educational technologist

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What online exams offer? 1/4

- **Variety of question types** - Moodle supports multiple types of questions (multiple-choice, essay, matching, true/false, drag-and-drop, numerical, calculated questions etc).

- **Automation** - Moodle can automatically grade certain types of questions (multiple-choice, true/false, matching etc), saving time for lecturers.

- **Instant feedback** - Students can receive immediate feedback on their performance, allowing for real-time learning adjustments.

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What online exams offer? 2/4

- **Reusable question bank** - Create a question bank with categories that you can use across multiple quizzes.

- **Randomization of questions** - Ensure each student gets a different set of questions, which reduces cheating.

- **Proctoring tools** - Moodle supports integration with third-party proctoring systems, ensuring a secure exam environment.

- **Restricted access -** You can control when and how students access the exam, such as setting password protection or IP restrictions.

What online exams offer? 3/4

- **Interactive content** - You can embed images, audio, and videos directly into questions.

- **Detailed feedback** - You can provide tailored feedback for each question, guiding students toward the correct answers or offering explanations.

- **Post-exam review** - Allow students to review their answers and the correct responses after the exam, enhancing learning outcomes.

What online exams offer? 4/4

- **Multiple languages** - Moodle exams can be presented in different languages, making them adaptable for global learners.

- **Exam performance analytics** - Moodle provides detailed reports on student performance, enabling lecturers to identify knowledge gaps or trends.

- **Tracking progress** - Lecturers can track which questions were most difficult for students, helping adjust teaching strategies.

Moodle's exams tools – Quiz 1/2
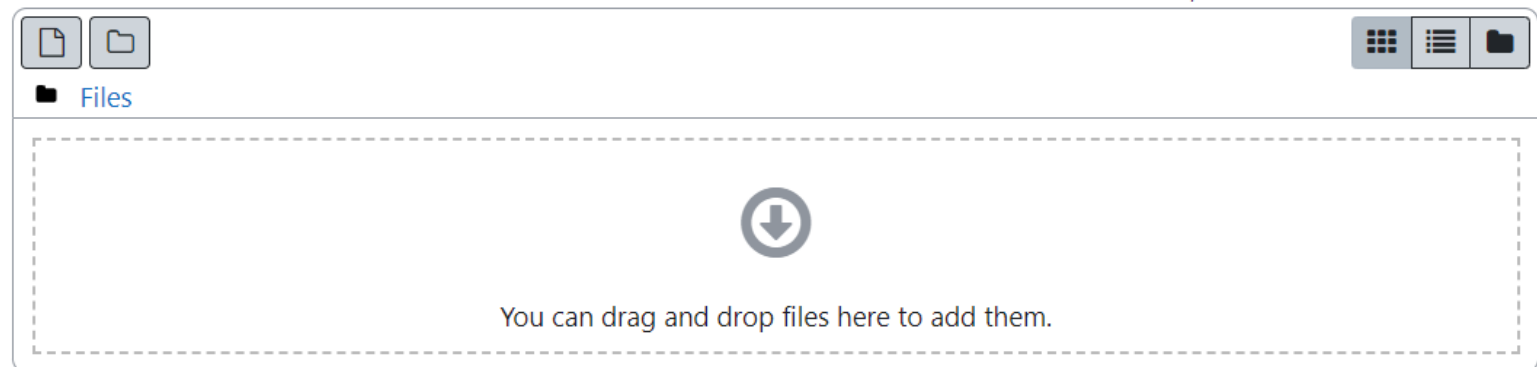
Moodle's exams tools - Quiz 2/2

- **Quiz** - allows you to create structured questionnaires with various question type. Students can complete the quiz within a set time and results can be graded automatically.

- Often used for midterm and final quizzes to check students' understanding and knowledge.

- A good option when quick feedback on learning progress is needed.

Moodle's exams tools - Assignment 1/2

∨ Add submission

File submissions

■ Files

↓

You can drag and drop files here to add them.

Accepted file types:

PDF document .pdf

Save changes | Cancel

Moodle's exams tools - Assignment 2/2

- **Assignment** - allows students to submit various types of work such as essays, projects and final thesis.

- Lecturers can assess assignments and provide feedback using different grading criteria.

- Suitable for situations where students need to submit more in-depth work that requires analysis or creative approaches.

- Can also be used in group work mode.

Quiz question types 1/5

Answers from the given choices

1. Multiple choice (with either single or multiple correct answers)

2. True/False (a question with two answer options: true/false)

3. Select missing words (missing words in the question text are filled in using drop-down menus)

4. Matching (matching images or texts with selectable options from dropdown menus)

Quiz question types 2/5

Drag and drop answers

1. Drag and drop onto an image (drag given texts or images onto a background image)

2. Drag and drop into text (drag predefined text choices into box-shaped gaps within a text)

3. Drag and drop markers (drag predefined options onto specified areas of a background image)

4. Ordering (arranging the given answers in the correct order by dragging)

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Quiz question types 3/5

Submitting an answer as text or a number

1. Short answer (the learner enters text into the answer field, which is automatically checked for correctness).

2. Numerical (the learner can enter a number as the answer, which is automatically checked for correctness based on predefined tolerance limits. It is also possible to include units).

3. Cloze (gap-fill) (within a single question, it is possible to use multiple-choice answers, short answers, and numerical answers simultaneously).

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Quiz question types 4/5

Calculation assignments

1. Calculated (a question with variable data, where the answer is verified using a formula)

2. Simple Calculated Question (a question with variable data, where the answer is verified using a formula)

3. Calculated Multiple Choice Questions (the multiple-choice answers for a question with variable data are generated based on predefined formulas)

Quiz question types 5/5

Manually graded response

1. Essay: (A long-answer question that requires manual grading by the lecturer).

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Creating a Quiz

1. Create a question category in the question bank.

2. Add questions to the category.

3. Add the quiz tool to the Moodle course.

4. Configure the quiz settings.

5. Add questions to the quiz.

6. Take the quiz.

7. Adjust questions and/or quiz settings if necessary.

Question bank 1/3

- The question bank is only accessible to users with the teacher role in the course.
- The question bank contains all the questions that have been added to the course's quizzes.
- Questions can be added one by one to the question bank or imported from a file or another course.
- It is important to place questions in the correct category to make them easier to add to a quiz. Questions can be moved between categories.

Question bank 2/3

- **By question type** - Multiple choice, short answer, true/false, essay drag and drop etc. Useful when designing quiz that require a mix of question types.
- **By topic/subject area** - For example climate change, climate change adaptation etc.
- **By difficulty level (points)** - Level of difficulty, such as easy, intermediate or advanced.

Question bank 3/3

- **By module** - If your course is divided into modules or week, you can organize questions accordingly.
- **By learning objective** - If your course has defined learning objectives or competencies, you can categorize questions based on which objective they address.
- **By quiz or exam** - If certain questions are used repeatedly in specific assessments, you can categorize them under the exam name, such as self-assessment quiz, exam etc.

Creating a multiple-choice questions 1/2

- Questions should not be related to each other. A student can get a random point without knowledge.
- Indicate next to the question whether there is 1 or multiple correct answers. It is not advisable to specify an exact number.
- The number of choices should be 3-4, but no more than 5.
- Different questions may have a different number of options.

Creating a multiple-choice questions 2/2

- All choices must believable. Exclude seemingly incorrect answers.
- Create the main misconceptions as choice.
- All choices should be of similar length.
- There should be no hint of the correct answer in the question text.

Single-answer questions 1/5

Question 1

Not yet answered

Marked out of 1,00

What is the primary greenhouse gas responsible for global warming?

- ○ a.   Oxygen
- ○ b.   Carbon Dioxide
- ○ c.   Hydrogen
- ○ d.   Nitrogen

Single-answer questions 2/5

- One of the choices must be 100%.

Grade

70% ⓘ ⬍

One of the choices should be 100%, so that it is possible to get a full grade for this question.

Single-answer questions 3/5

- Single-answer questions allow one and only one answer to be chosen by providing radio buttons next to the answers.

Single-answer questions

- Negative percentages can be assigned to incorrect answers and in that case, the student may end up with -1 point if the correct answer is worth 1 point. Generally this is not used for single-answer question.

Single-answer questions 5/5

- Feedback can also be provided for each choice, which will be displayed when the student selects that answer.

Multiple-answer questions 1/7

- Multiple-answer questions are a type of question where respondents can select more than one correct answer from a list of choices.

Question 1

Not yet answered

Marked out of 1,00

Which of the following are considered effects of climate change? (Select all that apply)

- ☐ a. Rising sea levels
- ☐ b. Increased frequency of wildfires
- ☐ c. More intense hurricanes
- ☐ d. Decreased levels of greenhouse gases

Multiple-answer questions 2/7

- All correct answers must add up to 100%

Multiple-answer questions 3/7

- Unlike a single-answer question, it is important to assign negative points to incorrect answers here, because if a student selects all the answers, they would receive the maximum points, as all correct answers are among them.

Choice 3	↴ A▼ B
	Decreased levels of gre
Grade	-33,33333% ⬍
Feedback	↴ A▼ B
	Greenhouse gases are i

Multiple-answer questions 4/7

- The difference in a single-answer question is that even if you assign negative points to incorrect answers, for example, a question…

Question 1

Not yet answered

Marked out of 1,00

Which of the following is an example of climate change adaptation? (Select all that apply)

☐ a.   Increasing the use of fossil fuels to ensure energy security

☐ b.   Ignoring climate risks and maintaining current infrastructure

☐ c.   Cutting down forests to make room for agriculture

☐ d.   Building higher sea walls to protect coastal cities

Multiple-answer questions 5/7

- …and configure it so that incorrect answers give -50%. In this case, there are 3 incorrect answers.

Question 1

Not yet answered

Marked out of 1,00

Which of the following is an example of climate change adaptation? (Select all that apply)

- a. Increasing the use of fossil fuels to ensure energy security
- b. Ignoring climate risks and maintaining current infrastructure
- c. Cutting down forests to make room for agriculture
- d. Building higher sea walls to protect coastal cities

Multiple-answer questions 6/7

Question 1

Complete

Mark 0,50 out of 1,00

Which of the following is an example of climate change adaptation? (Select all that apply)

- ☑ a. Building higher sea walls to protect coastal cities
- ☑ b. Ignoring climate risks and maintaining current infrastructure
- ☐ c. Increasing the use of fossil fuels to ensure energy security
- ☐ d. Cutting down forests to make room for agriculture

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Multiple-answer questions 7/7

Which of the following is an example of climate change adaptation? (Select all that apply)

- ☑ a. Building higher sea walls to protect coastal cities
- ☑ b. Cutting down forests to make room for agriculture
- ☑ c. Ignoring climate risks and maintaining current infrastructure
- ☑ d. Increasing the use of fossil fuels to ensure energy security

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Essay question 1/3

What are 5 issues of climate change?

Essay question 2/3

- The essay question type provides the option of entering text online or answering by uploading one or more files.
- The difference is that essay questions have to be marked manually and the student will not get a final grade until the lecturer has marked their essay.
- You can set a maximum and minimum word count for the essay question. Student will be alerted if they write too few or too many words.
- It is possible for a lecturer to create a template to the students answer in order to give them extra support. The template is then reproduced in the text editor when the student starts to answer the question.

Essay question 3/3

Question 1

Not yet answered

Marked out of 1,00

What are the 5 issues of climate change?

[Text editor toolbar: ↧ | A▾ | B | I | ✏▾ | 💡▾ | ☰ | ☷ | 🔗 | 🔗✕ | 🖼]

1.

2.

3.

4.

5.

Quiz settings based on the type of quiz

Type of quiz	Place	Quiz is open	Attempts allowed	Question types
Self-assessment quiz	Anywhere	A few hours to a few days	Unlimited	Automatically graded
Quiz	Anywhere / Auditorium	Limited time	1	Automatically / manually graded
Final exam	Auditorium	Limited time	1	Automatically / manually graded

Learning guide

The **test** will be **available** on October 1st from 3:00 PM to 5:00 PM (GMT+3, Estonia time). You will have a **time limit** of **40 minutes** to complete the test, and you will only be able to take the **test once during that time**.

The test consists of **20 random questions**, including 15 multiple-choice questions (each taking approximately 1 minute to answer) and 5 open-ended questions (each taking approximately 5 minutes to answer). **Each question is on a separate page,** and you will need to move to the next page once you have completed your answer. **Please note that it is not possible to move backward or forward between pages.** So, if you have answered a question and moved on to the next page/question, it will not be possible to go back to the previous page/question.

The **maximum score** for the quiz is **30 points**, and the passing **threshold is 16 points**.

If you do not complete the test within the 40-minute time limit, the test will automatically be submitted. While there are no fixed time limits per page, it is recommended that you plan your time use accordingly.

Recommendations for conducting quiz 1/2

- Instructions – What materials may be used and how.
- Allow a practice exam if conducting an exam.
- Use randomly selected questions.
- Include open-ended questions and phrase them in a way that assesses more than just factual knowledge.
- For multiple-choice questions, provide more than one correct answer.

Recommendations for conducting quiz 2/2

- Randomize the order of answers for each learner. Avoid using "all of the above" as an option – use "all of these" instead.
- Randomize the order of questions for each learner. You can use sections to control which questions have their order changed.
- Place multiple exam questions on a single page, for example, grouped by topics.
- Set a time limit for answering questions. Base the time limit on a traditional exam.
- Avoid using all restrictions simultaneously!

Possible restrictions

- Time limit for answering questions.
- Limiting the number of attempts for a quiz
- Give negative points for incorrect multiple-choice answers.
- One question per page.
- Navigation methods → sequential, i.e., preventing backtracking to previous pages.
- Using browser security options or Safe Exam Browser.
- Using Safe Exam Browser + BigBlueButton.
- Prohibiting the review of test attempts.