

QUIZ RANDOMISATION

Learning and Teaching
Quick Guide

Using randomisation in iLearn (Moodle) quizzes can reduce opportunities for academic integrity breaches.

QUIZ RANDOMISATION

There are multiple possibilities for randomisation:

- Using variables within a question,
- Random questions drawn from a "category",
- Shuffling the display order of questions and
- Shuffling the display order of choices in a question.

These four methods can be combined in a single quiz.

QUESTIONS WITH VARIABLES

There are three 'calculated' question types that use a teacher defined formula and wildcards placed into the question to generate a different set of variables so that a different set of values will be displayed to each student (See F1 for an example). The correct answer for each set of values will be calculated via the defined formula. Ranges for each variable can be defined.

F1: Variable Calculated question display

Example - calculated question - display for student A

Question 1 Not yet saved Marked out of 1.00	What is the answer to 9.8×6.4 ? Answer: <input type="text"/>
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Example - calculated question - display for student B

Question 1 Not yet saved Marked out of 1.00	What is the answer to 5.6×15.1 ? Answer: <input type="text"/>
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RANDOMLY DRAWING FROM A CATEGORY

The 'random question' type is used to define places in a quiz where a randomly selected question will appear. A nominated number of questions will be drawn from a larger pool of questions in a 'category'. It is important to ensure each student receives an equivalent set of questions with equal topic coverage and spread of difficulty. To do so, use a category to

hold questions on a specific topic at a given difficulty level. Then each 'random question' placeholder will point to a different category. This ensures questions from each topic and difficulty level are displayed to each student. See T1 for an example fair quiz design.

The fairness of quiz outcomes can be analysed. This is particularly relevant when using randomly selected questions and variations of a question. See the "Quiz Analysis Quick Guide" linked below.

SHUFFLING QUESTIONS

The sequence that questions appear in the quiz can be shuffled each time the quiz is displayed.

A quiz 'section' can be used to limit shuffling to only occur within that section. Note it is not possible to shuffle the sections, only the questions within a section. Care must be taken to avoid shuffling if using questions in a series. This can be done by not shuffling a section containing sequenced questions. See the "How to implement..." link below.

SHUFFLING CHOICES

Shuffle the sequence that response options are displayed in a selected response questions (MCQ, TF, Matching). Tips: Avoid using "all of the above", instead use "all other options" and avoid using option text such as "both a and b", instead spell out the responses e.g. "cars and trains".

Explore this topic further ...

- Using a quiz for online exams <https://goto.mq/finalassess>
- How to implement randomisation in quizzes <https://goto.mq/randomquiz>
- iLearn guides (including quiz set up) <https://goto.mq/ilearn-activities-quick-guides>
- Quiz Analysis Quick Guide and others: <https://goto.mq/qg-lt>

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T1: Example fair quiz design

Category	Category 1 Topic A Easy	Category 2 Topic A Moderate	Category 3 Topic A Hard	Category 4 Topic B Easy	Category 5 Topic B Moderate	Category 6 Topic B Hard	Category 7 Integration	N/A: All students see this question	Total
Start	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Finish
Example Attempt	Q1_01	Q2_01	Q3_01	Q4_01	Q5_01	Q6_01	Q7_01	Q8	Submit
	Q1_02	Q2_02	Q3_02	Q4_02	Q5_02	Q6_02	Q7_02		
	Q1_03	Q2_03	Q3_03	Q4_03	Q5_03	Q6_03	Q7_03		
	Q1_04	Q2_04	Q3_04	Q4_04	Q5_04	Q6_04			
	Q1_05		Q3_05	Q4_05		Q6_05			
Category contains...	Five multiple choice	Four matching	Five mixed types	Five multiple choice	Four matching	Five numerical	Three essay questions	One essay question	
Moodle quiz build	Random question	Random question	Random question	Random question	Random question	Random question	Random question	Essay question	
Marks	1	2	3	1	2	3	4	4	20