

# Computer-marked questions without the quiz

## Tim Hunt

Senior IT Developer – OU Music student – Moodle Quiz maintainer.

## Chris Nelson

Senior Product Development Manager – OU Psychology student –  
OU contact point for Moodle Quiz, Workshop, Assignment, and Questionnaire.

# Quiz at the OU

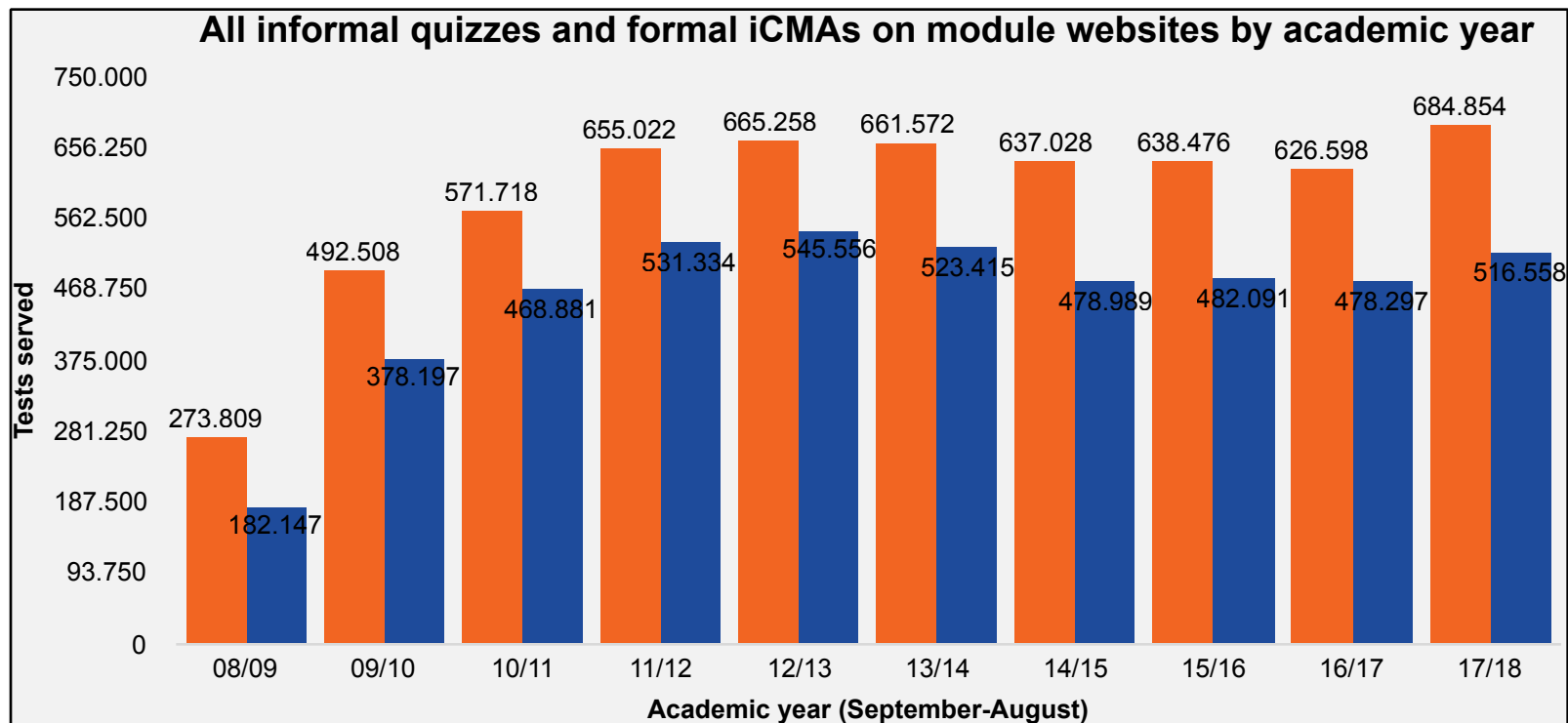
We like quizzes

### One of the largest VLEs in the world!

- **180,000** active users (students/staff) annually.
- Around **450** live module websites every year.
- Over **2,000,000** transactions per day:
  - **40,000** unique users per day
  - **170,000** forum views per day
  - **3,000** online tuition events per month
  - **650,000** quiz attempts on our module websites per year
  - **6,700,000** questions attempted over last year.

We like quizzes....

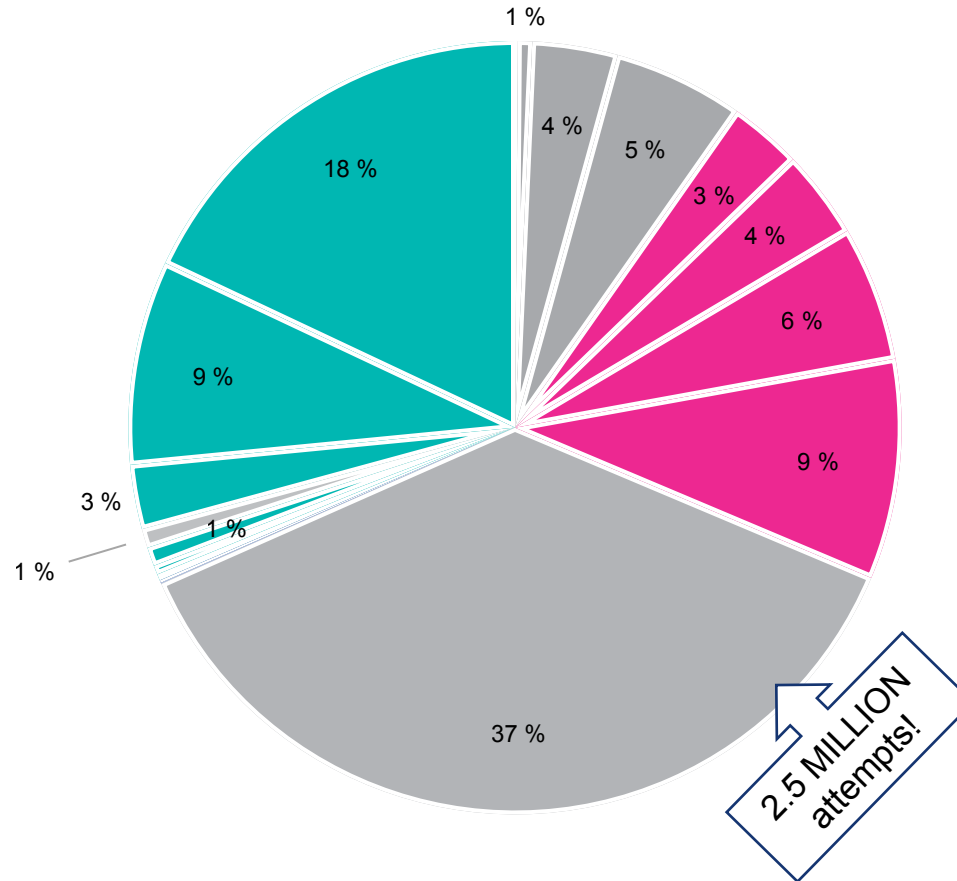
Completion rate: ~75%



Orange: attempts started

Blue: attempt submitted

# Questions attempted on modules within the last year, by question and response types



# Embedded questions

Free the questions!

## QUIZ NAVIGATION

 i  i

## QUESTION BEHAVIOURS

 i  1  2  3  4  5

 6

## NAVIGATION

 i  7  8  9  10  11

 12

## QUESTIONS

 i  13  14  15  16  i

 17  18  19  i  20  21

 i  22  i  23  i  24

 i  25  26  27

## REPORTS

 i  28  29  i  30  31

 32

## GRADEBOOK

 i  33

Finish attempt ...

Start a new preview

## Question 23

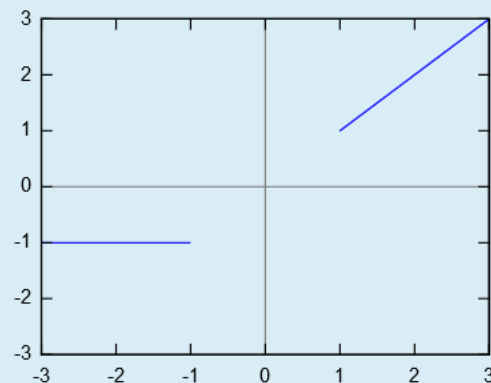
Tries remaining: 2

Marked out of 4.00

Flag question

Edit question

Can you find a function which smoothly bridges the gap between these two straight lines:



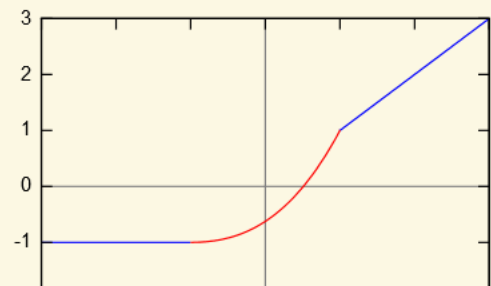
$$f(x) = \frac{(x+1)^2}{4} + \frac{(x+1)^3}{8} - 1$$

Your last answer was interpreted as follows:

$$\frac{(x+1)^2}{4} + \frac{(x+1)^3}{8} - 1$$

Your answer is partially correct!

Here is what your answer looks like:



# Embed questions

## TABLE OF CONTENTS

- 1. Introduction
- 2. Deriving spline curves
  - 2.1. A first example**
  - 2.2. Setting up splines systematically
  - 2.3. Bases
- 3. Some uses of splines

## ADMINISTRATION



## Splines are fun

### 2. Deriving spline curves

#### 2.1. A first example

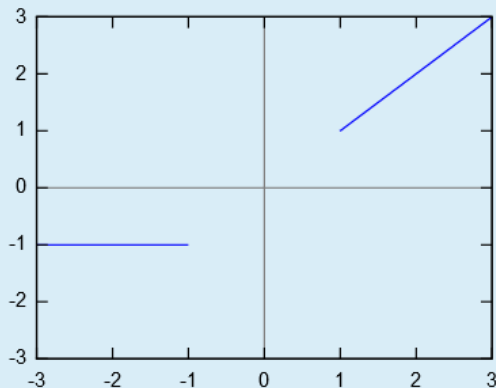
Before we look at the systematic technique for computing spline curves, Try calculating one by hand in the following example:

##### Question

Tries remaining: 2

Marked out of 4.00

Can you find a function which smoothly bridges the gap between these two straight lines:



$$f(x) = x + 1$$

Your last answer was interpreted as follows:

$$x + 1$$

Check

This is a  
Book  
resource.



## How to set up

## Splines are fun

### Editing chapter

#### Previous chapter

Deriving spline curves

#### Chapter title \*

A first example

#### Subchapter



#### Content \*



Before we look at the systematic technique for computing spline curves, Try calculating one by hand in the following example:

{Q{STACK/smooth|c3439e5c7873336996ddd7c5cacce86d9eba9b601cd0db524cb7abd220daabf8}Q}

Embed question ✕

▶ Expand all

▼ Which question

Question category \* Example STACK questions [ID:STACK] (1) ▼

Question \* Smoothly connect the lines [ID:smooth] ▼

▶ Attempt options

▶ Display options

Embed question

## Questions anywhere†

- † Anywhere you write with the HTML editor.
- † Only for people (Teachers) with permission to access the question bank.

8 April - 14 April

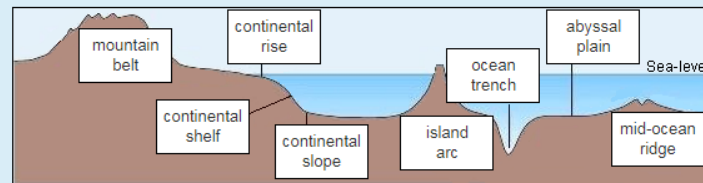
Question

Tries remaining: 2

Marked out of 1.00

Identify the features in this cross-section by dragging the labels into the boxes.

Use the mouse to drag the boxed words into the empty boxes. Alternatively, use the tab key to select an empty box, then use the space key to cycle through the options.



Your answer is partially correct.

You have correctly selected 5.

Incorrect placements will be removed.

Try again

15 April - 21 April

# How creative can you be?



## Python programming

by [Student One's name just got very long](#) - Thursday, 4 April 2019, 4:12 PM

I am still struggling to get started with programming in Python. Every time I try to define a function, I just get an error message.

[Permalink](#) [Edit](#) [Delete](#) [Reply](#)



## Re: Python programming

by [Odd Teacher](#) - Thursday, 4 April 2019, 4:17 PM

You haven't given any examples, so it is hard to say what you might be doing wrong. Thinks that might be catching you out:

Remember that in Python white-space is important, and that the `def function_name(arguments)` line must end in a colon.

Here is a question where you can try it. If you do get an error, read it carefully. It might explain what the problem is.

### Question

Incorrect

Mark 0.00 out of  
1.00

Write a Python3 function `sqr(n)` that returns the square of its numeric parameter `n`.

**For example:**

Test	Result
<code>print(sqr(-3))</code>	9
<code>print(sqr(-11))</code>	121

**Answer:** (penalty regime: 0, 10, 20, ... %)

```
1 def sqr(n)
2     return n * n
```

Check

### Syntax Error(s)

```
File "__tester__.python3", line 1
def sqr(n)
    ^
SyntaxError: invalid syntax
```

## New feature: random questions



1-7 April



Quick French test!

### Question Tries remaining: 1

Marked out of 1.00

Put the words of this popular French song in order...

Frère

Jacques, Dormez-vous?

Frère Jacques,

Dormez-vous?

Check



## Future enhancements

Lots of other ways you could add interaction to your courses (H5P)  
... but if you already have a question bank, this is a useful addition.

Future plans:

- Randomisation. ✓
- Keep student responses.
- ... and let teachers see them.
- Moodle mobile app support.
- ...



# StudentQuiz

Students as co-creators of their learning

- StudentQuiz is a Community Activity by Professor Frank Koch (University of Applied Sciences, Rapperswil, Switzerland).
- Personally, I define **StudentQuiz** as a *peer-quizzing* rather than a *collaborative quizzing* activity. This is simply because the literature defines the latter as where several students would collaborate together on a single 'group' response to a quiz.
- The activity clearly aligns with Moodle's social constructionist heart.
- Screencast of Frank Koch introducing the activity:  
<https://tube.switch.ch/videos/9f359da2>





## Example peer-quizz activity

My Progress



Create new question

Ranking (anonymised)



Filter

With selected:

Start Quiz

Un/Approve

Delete

Move to &gt;&gt;

Default for Example peer-quizz activity (4)



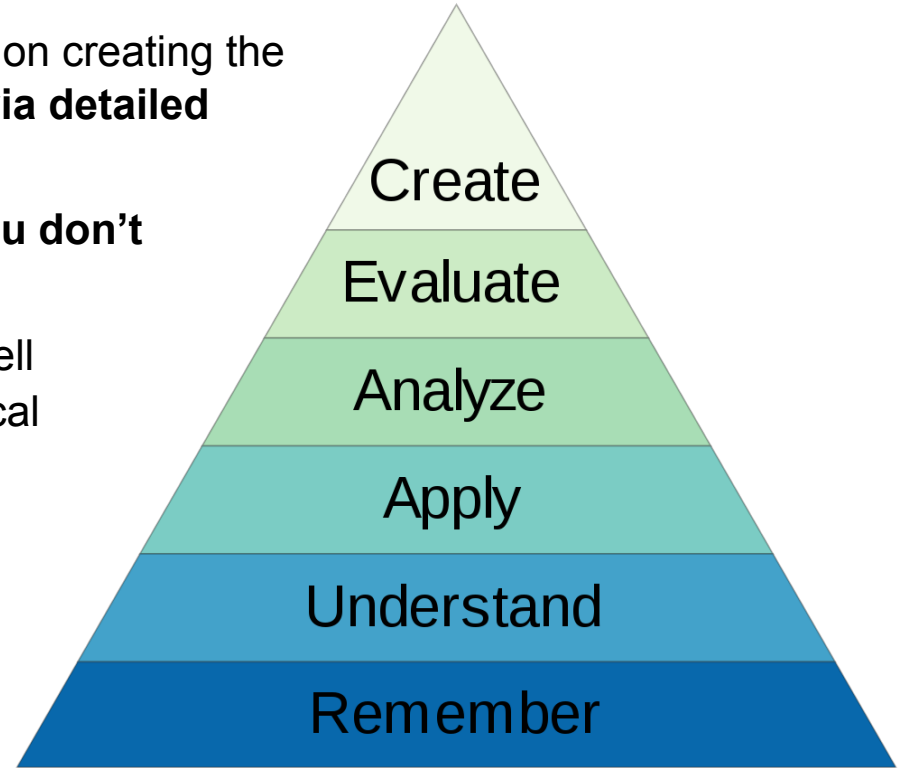
<input type="checkbox"/>	T	Approved	Question	Created by Forename / Surname / Date	Tags	My Attempts Number / Latest	Difficulty Average / Mine	Rating Average / Mine	Comments
<input checked="" type="checkbox"/>			Crime 	Chris Nelson (30 Jan 2019, 14:01)	-	-   -	n.a.	-	-
<input checked="" type="checkbox"/>			3+3 	Chris Nelson (27 Sep 2018, 16:22)	-	1			2
<input checked="" type="checkbox"/>			What animal is Paddington? 	Chris Nelson (26 Sep 2018, 12:45)	-	2			3
<input checked="" type="checkbox"/>			2+2 	Chris Nelson (26 Sep 2018, 12:44)	-	1			2

With selected:



## StudentQuiz: the theory

- Pedagogically, the focus should not only be on creating the question, but also **explaining the answer via detailed feedback**.
- Einstein: “**If you can't explain it simply, you don't understand it well enough**”.
- Getting students to understand a subject ‘well enough’ to create questions has its theoretical roots in the higher levels skills of Bloom's<sup>1</sup> taxonomy and deep learning<sup>2</sup>.



Nicoguard: [https://commons.wikimedia.org/wiki/File:Bloom\\_taxonomy.svg](https://commons.wikimedia.org/wiki/File:Bloom_taxonomy.svg)

<sup>1</sup> Bloom (1956).

<sup>2</sup> Entwistle (1988); Biggs (1999), and Ramsden (2003).

### Question 1 of 1: Correct

Mark 1.00 out of 1.00

Roses are red, violets are \_\_\_\_?

Select one:

- ☐ a. red
- ☒ b. blue
- ☐ c. green

Your answer is correct.

The correct answer is: blue

Rate  : ★★★★★

Add comment

 :

Add comment

No comments

## StudentQuiz

### Ranking (anonymised) ^

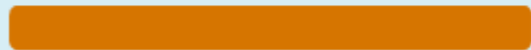
1. Anonymous Student	115
2. Anonymous Student	90
3. Anonymous Student	87
4. Anonymous Student	77
5. Anonymous Student	70
6. Anonymous Student	65
7. Anonymous Student	60
8. Chris Nelson	57
9. Anonymous Student	0
10. Anonymous Student	0

[More](#)

### My Progress ^



Latest attempt correct	1
Latest attempt wrong	0
Questions never answered	44
Questions available	45



Questions approved	0
Questions created	0

[More](#)

## Statistics

Personal Statistics	Value	Community Statistics	Value
Number of questions you have contributed	0	Number of questions in this StudentQuiz	45
Number of your approved questions	0	Number of approved questions	10
Your received rating average	0	Rating average of all questions	1.09
Total of all your answers	3	Community average of all answers	0.06
Percentage of your correct answers	100 %	Community percentage of correct answers	100 %
Personal Progress	7 %	Average Community Progress	0 %

- Currently in the piloting stage at the OU:
  - Student-led exam revision areas on modules websites.
  - Languages revision on our qualification websites.
  - Brilliant for running training sessions on Moodle Quiz question authoring.
- Some new features in the pipeline:
  - ‘Question-creation’ and ‘Quiz-taking’ phases.
  - Better moderation and administration of created questions.

# **It's not just us...**

The Moodle community is full of creative developers

## Previous attempt at Embed question



### Filters: Insert question

filter\_simplequestion

Maintained by  Richard Jones

This is a very simple implementation of a question filter. It allows questions to be inserted anywhere in Moodle editable text either embedded or in a popup. Note that this plugin has probably been superseded by: [https://github.com/moodleou/moodle-filter\\_embedquestion](https://github.com/moodleou/moodle-filter_embedquestion), developed by the OU team.

📍 112 sites 📄 55 downloads ❤️ 15 fans [Add to my favourites](#)

Release **v1.5.5**

Moodle 3.4, 3.5

Install now

Download

code prechecks 48 | 6

Description

Versions

Stats

Translations

A simple implementation of a text filter for Moodle.

In this version the user places special codes within text anywhere in Moodle which can then be replaced by a link to a question number in the database.



### Atto: question

atto\_question

Maintained by  Richard Jones

Creates a button visible to teachers that inserts a text link, question number and display mode into Moodle editable text with delimiter tags which will be picked up by moodle\_filter\_simplequestion.

📍 58 sites 📄 20 downloads ❤️ 6 fans [Add to my favourites](#)

Release **1.5.3**

Moodle 3.1, 3.2, 3.3, 3.4

Install now

Download

code prechecks 80 | 57

Description

Versions

Stats

Translations

This plugin adds an editor button to the ATTO editor toolbar. The button can be used to enter a code for the Moodle Simple Question plugin, this button is not available to students.

The button activates a dialog requiring the link text for the question, the question number and the display mode (embed or popup).

## The two halves of Student Quiz

### Activities: Question Creation Activity

mod\_qcreate

Maintained by  Jean-Michel Védrine

The Question Creation Activity is a graded activity where students must create questions in the Moodle question bank. A teacher grades the questions. The students get a grade for the questions they create.

📍 254 sites 📄 60 downloads ❤️ 39 fans [Add to my favourites](#)

Release **2.2 for Moodle 2.9 ... 3.5**  
Moodle 2.9, 3.0, 3.1, 3.2, 3.3, 3.4, 3.5

Install now

Download

code prechecks 134 | 8

[Description](#)

[Versions](#)

[Stats](#)

[Translations](#)

The Question Creation Activity is a graded activity where students must create questions in the Moodle question bank. A teacher grades the questions.

The students get a grade for the questions they create.

You can specify a percentage of the grade to be automatically assigned depending on how many of the required questions the



### Activities: Question Practice

mod\_qpractice

Maintained by  Marcus Green

A teacher sets up a bank of questions organised into categories. Then the student can then choose what categories they want to practice when.

📍 78 sites 📄 27 downloads ❤️ 19 fans [Add to my favourites](#)

[Description](#)

[Versions](#)

[Stats](#)

[Translations](#)

This activity uses the standard Moodle question types (plus several third party question types). A teacher can set up categories for students to select from and they can practice on their own. It works best with a fairly large bank of questions.

[https://github.com/marcusgreen/moodle-mod\\_qpractice](https://github.com/marcusgreen/moodle-mod_qpractice)

It is possible to experience it from a student point of view at this site

<http://www.questiontype.co.uk/mdl/>

Read more about it from here

[https://github.com/marcusgreen/moodle-mod\\_qpractice/wiki](https://github.com/marcusgreen/moodle-mod_qpractice/wiki)

## Variants of a traditional quiz

### Activities: Guided quiz

mod\_guidedquiz

Maintained by  Gerard Cuello Adell

Quiz module modification to display questions sequentially, there is a number of attempts and an attempt penalization for each question instance. Users can only pass to the next question when they finds the correct answer, skip the question (max penalization applied) or reach the maximum number of attempts per question.

📍 1 sites 📄 12 downloads [Add to my favourites](#)



### Activities: Quizventure

mod\_quizgame

Maintained by  John Okely,  Stephen Bourget

Quizventure is an activity module that loads quiz questions from the course it's added to. The possible answers come down as space ships and you have to shoot the correct one.

📍 659 sites 📄 342 downloads 📈 72 fans [Add to my favourites](#)

Score: 1000 The children had dirty clothes. I washed the ..... clothes.



### Incubating: Exam

mod\_exam

Maintained by  Jai Gupta,  Pinky Sharma

Built of people who want to conduct large scale MCQ Quizzes.

📍 60 sites 📄 49 downloads 📈 17 fans [Add to my favourites](#)



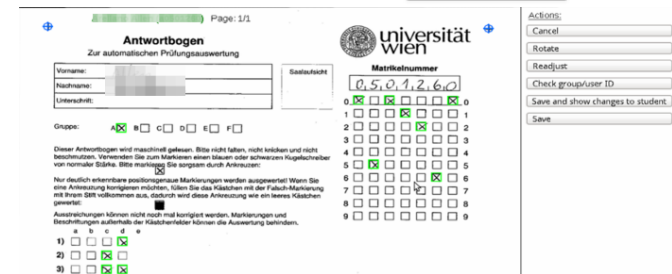
### Activities: Offline Quiz

mod\_offlinequiz

Maintained by  AMC Academic Moodle Cooperation

The MC Offline quiz module (mod/offlinequiz) adds paper-and-pencil multiple-choice quizzes to Moodle. In offline quizzes students mark answers to questions on a sheet of paper (the answer form).

📍 1288 sites 📄 1k downloads 📈 90 fans [Add to my favourites](#)



An example adaptive quiz attempt



### Activities: Adaptive Quiz

mod\_adaptivequiz

Maintained by  Adam Franco

Create tests that efficiently measure users' abilities by adapting the question difficulty to the estimate of the user's ability.

📍 215 sites 📄 84 downloads 📈 46 fans [Add to my favourites](#)



## And more ...

## Activities: Active quiz

mod\_activequiz

Maintained by  John Hoopes

Active quiz started originally as an update to the realtime quiz module, which has now grown into a separate module due to the very large functionality additions/changes. You will be able to offer in class quizzes on any device using a responsive theme, any question type from the question bank, use timed/not timed questions, grades reported back to the grade book, group quizzing (with a group attendance feature), view student responses in real time to offer in-class discussion about the results, and more!

📍 719 sites 📄 263 downloads ❤️ 72 fans [Add to my favourites](#)

## Activities: JazzQuiz

mod\_jazzquiz

Maintained by  Sebastian Gundersen,  George Schaathun

JazzQuiz lets the teacher run a preplanned quiz, but with the power of improvisation. Several improvise questions are included, which lets you quickly run a multichoice or short answer question during the quiz. You can also start a vote on the students' responses. After the session, you can review the responses for each question (even repolls). You can also download reports for attendance or responses in CSV.

📍 80 sites 📄 66 downloads ❤️ 9 fans [Add to my favourites](#)



## Activities: Simple lesson

mod\_simplelesson

Maintained by  Richard Jones

A simplified approach to a lesson module. Allows multiple pages, addition of questions by picking from the question bank, simplified reporting for teachers and students and implements GDPR requirements. Designed for Moodle 3.5.

📍 59 sites 📄 56 downloads ❤️ 9 fans [Add to my favourites](#)



## Activities: UNEDTrivial (spaced quizzes)

mod\_unedtrivial

Maintained by  Juan David Castellón Fuentes

UNEDTrivial is an activity module that allows the teacher to create tests based on learning concepts like testing effect and spaced education. In addition, UNEDTrivial uses resources related to gamification to increase student engagement.

📍 11 sites 📄 21 downloads ❤️ 4 fans [Add to my favourites](#)

# Summary

## Waiting for you in the plugins directory

<https://moodle.org/plugins>

### Filters: Embed questions

filter\_embedquestion

Maintained by  Tim Hunt,  John Beedell,  Mahmoud Kassaei

A Moodle text filter plugin that displays questions from the question bank embedded in the page.

📍 119 sites 📄 159 downloads ❤️ 17 fans [Add to my favourites](#)

### Atto: Embed question

atto\_embedquestion

Maintained by  Tim Hunt,  John Beedell,  Mahmoud Kassaei





An Atto editor plugin for use with the embed questions filter.

📍 87 sites 📄 95 downloads ❤️ 7 fans [Add to my favourites](#)



### Activities: StudentQuiz

mod\_studentquiz

Maintained by  Frank Koch,  Lukas Dürrenberger,  Simon Schaefer,  Dragon Dionysius,  Philipp Albrecht

Albrecht

StudentQuiz enables students to collaboratively create their own question pools within Moodle. Students can filter these questions into quizzes, and they can rate and comment on questions while working through the quizzes. StudentQuiz computes each students contribution and learning progress and compares this with the community. The created questions become part of the Moodle question bank and can be reused in other Moodle quizzes.

📍 418 sites 📄 885 downloads ❤️ 37 fans [Add to my favourites](#)

# THANK YOU!

✉ T.J.Hunt@open.ac.uk  
Chris.Nelson@open.ac.uk

🐦 @GoTeamOU

M <https://medium.com/@GoTeamOU/>

[https://moodle.org/plugins/filter\\_embedquestion](https://moodle.org/plugins/filter_embedquestion)  
[https://moodle.org/plugins/mod\\_studentquiz](https://moodle.org/plugins/mod_studentquiz)