

# QHELP e-Learning Platform Manual

24.02.2023



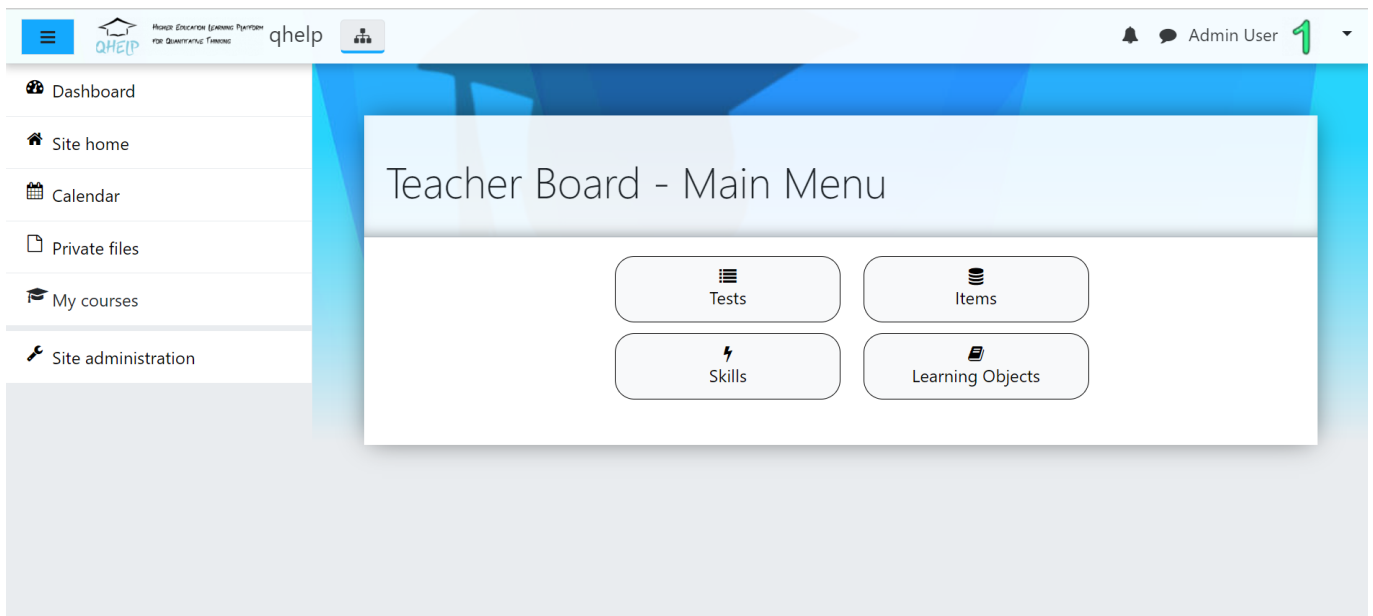


# 1. Introduction

The QHELP e-learning platform (<https://qhelp-learning.cs.ucy.ac.cy/moodle/>) has been developed using MOODLE<sup>1</sup> Learning Management System (LMS) as the basis for development and adheres to accessibility rules.

The QHELP e-learning platform is hosted at the premises of the University of Cyprus (UCY) – the lead partner in developing and testing the platform. UCY has set up a Moodle platform and developed the QHELP plugin that sits on top of Moodle and implements the QHELP functionality according to the requirements set.

While the QHELP e-learning platform is designed to be used by all types of modern devices (PCs, laptops, smartphones and tablets) and modern browsers, it was fully tested and optimized to run on Google Chrome browsers. Therefore, please ensure that you are using the latest version of Google Chrome for accessing the platform.

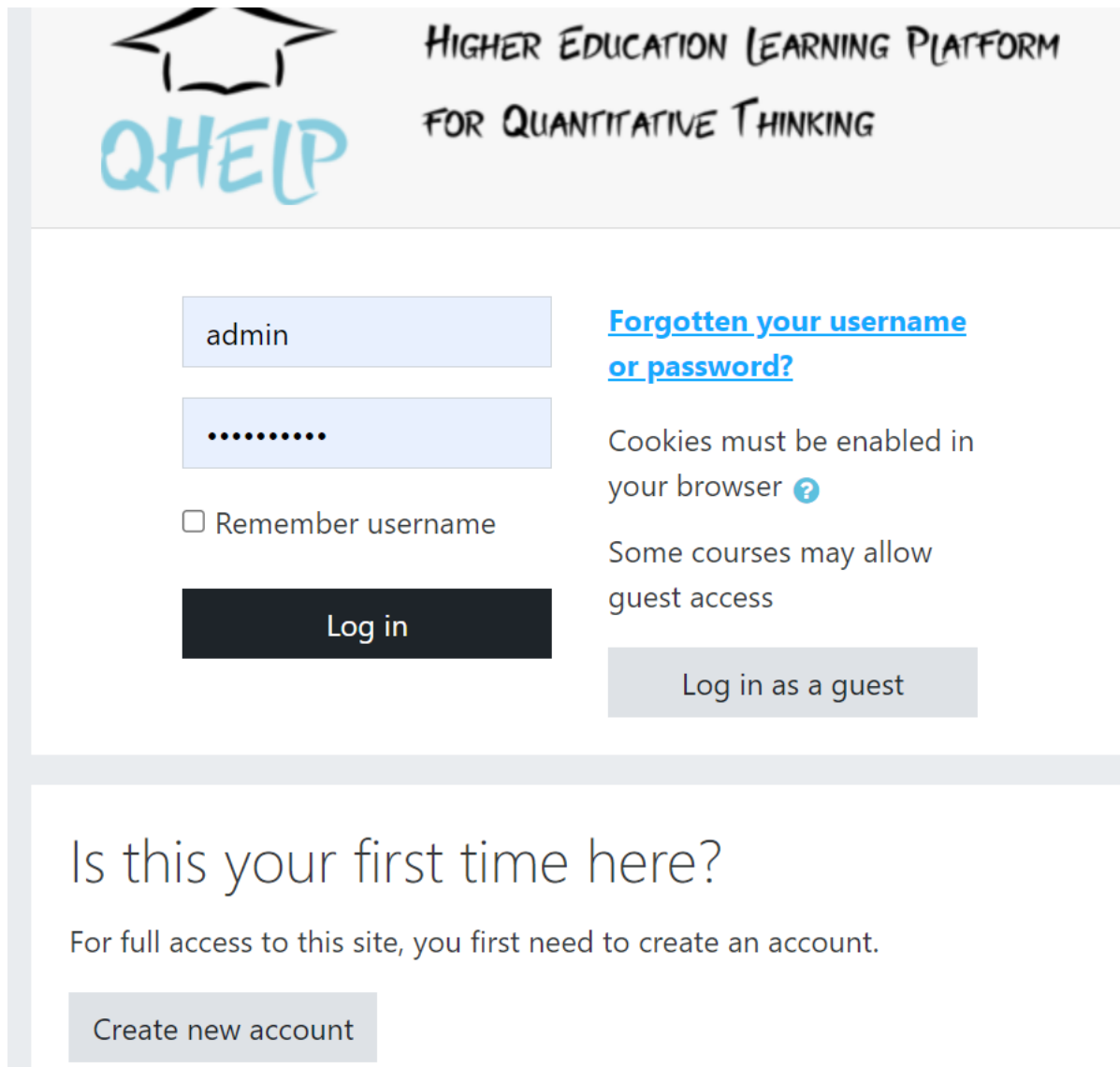



<sup>1</sup> Moodle is a free, open-source learning management system (LMS): <https://moodle.org/>



## 2. Teacher Registration and log in to the platform

To access the tools of the platform, users (Teachers) need to register and be logged in the platform. This option is provided through the login page, as shown below. If users do not have credentials, they can register via the Create new account button.



 HIGHER EDUCATION LEARNING PLATFORM  
FOR QUANTITATIVE THINKING


admin

.....

Remember username

Log in

[Forgotten your username or password?](#)

Cookies must be enabled in your browser 

Some courses may allow guest access

Log in as a guest

Is this your first time here?

For full access to this site, you first need to create an account.

Create new account

## Teacher registering for an Organization

In the registration form, the teacher needs to input his/her information that are required from the Moodle platform and several other fields which the user is not obligated to fill, see figure on the right (required fields are marked with **!**).

The user can later change his/her information by navigating to the top right corner where the name of the user is displayed and click on the arrow button and then click on Profile.

After registration, users should log in to the platform by using the username and password they have used for registration and pressing Login. There is also the possibility to tick Remember username so that users do not have to enter their credentials every time they would like to sign in.

▼ Choose your username and password

Username **!**  **x**  
- Missing username

The password must have at least 8 characters, at least 1 digit(s), at least 1 lower case letter(s), at least 1 upper case letter(s), at least 1 non-alphanumeric character(s) such as as \*, -, or #

Password **!**  **x**  
- Missing password

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▼ More details

Email address **!**

Email (again) **!**

First name **!**

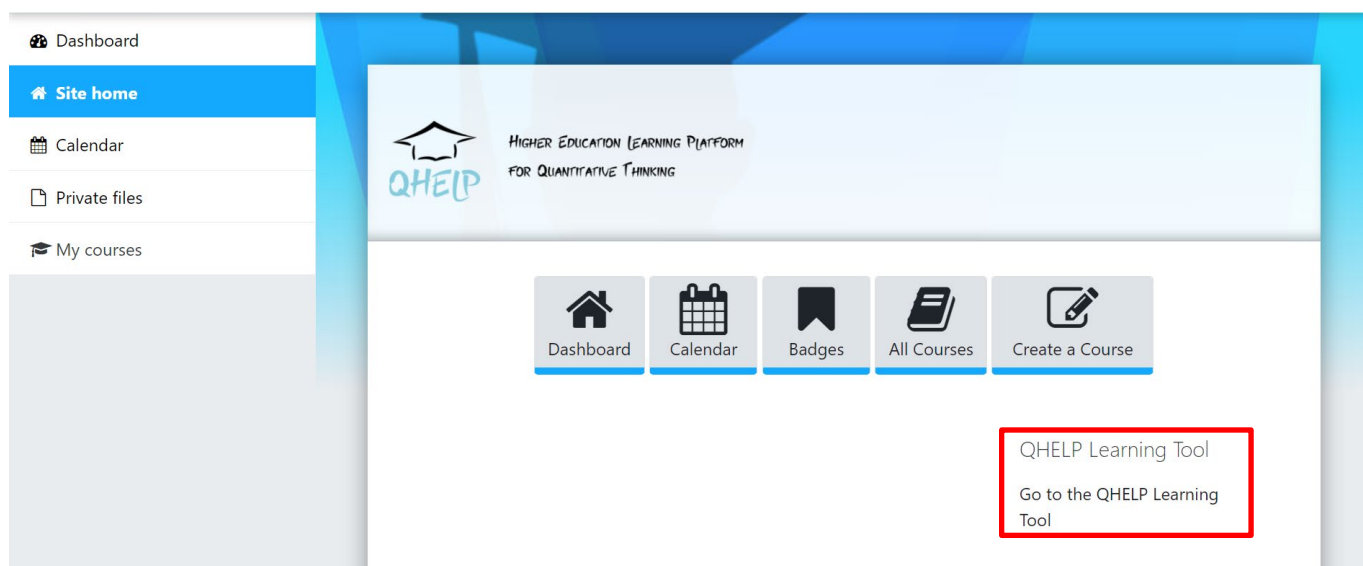
Surname **!**

City/town

Country

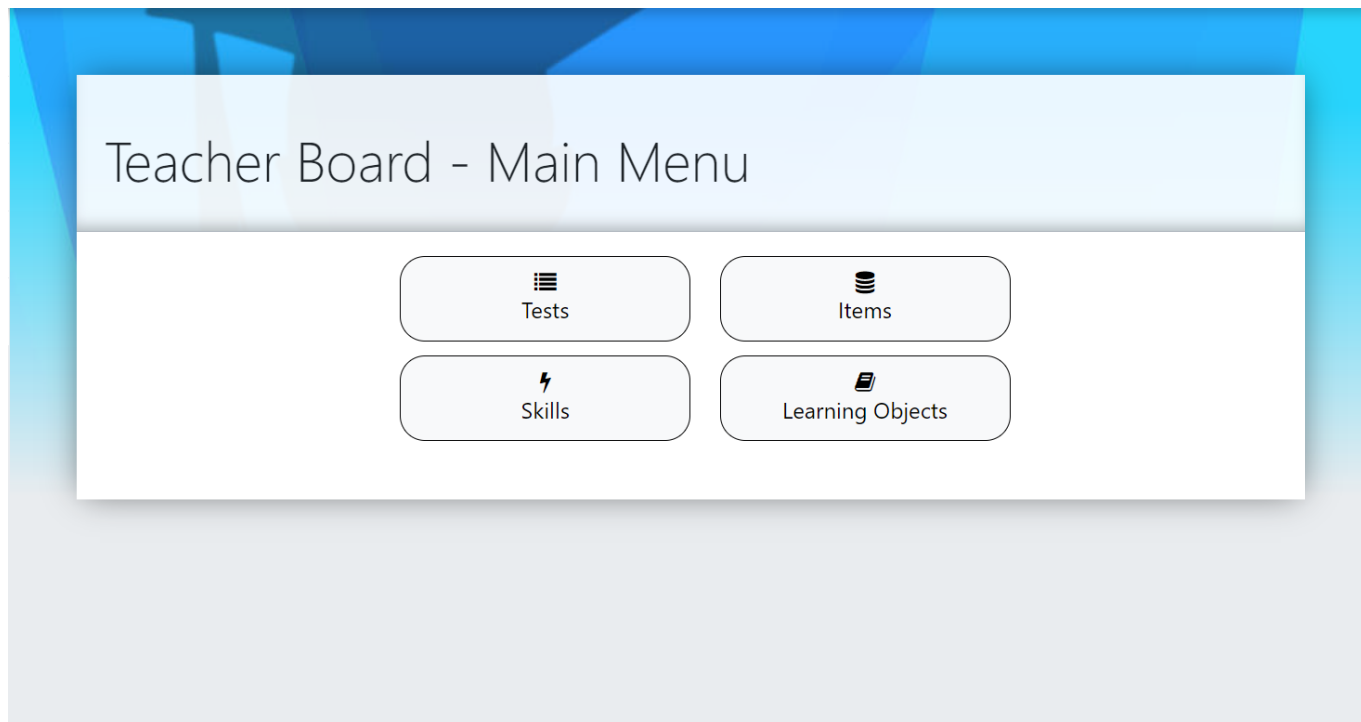
## 3. Dashboard

After the user successfully logs in, he/she will be redirected to the dashboard page. There, the user will have access to all the functionalities of the platform. The same functionalities are also added on the Site Home menu under the Dashboard tab including the QHELP Learning tool which you can click to view the Teachers board of the QHELP e-learning platform.



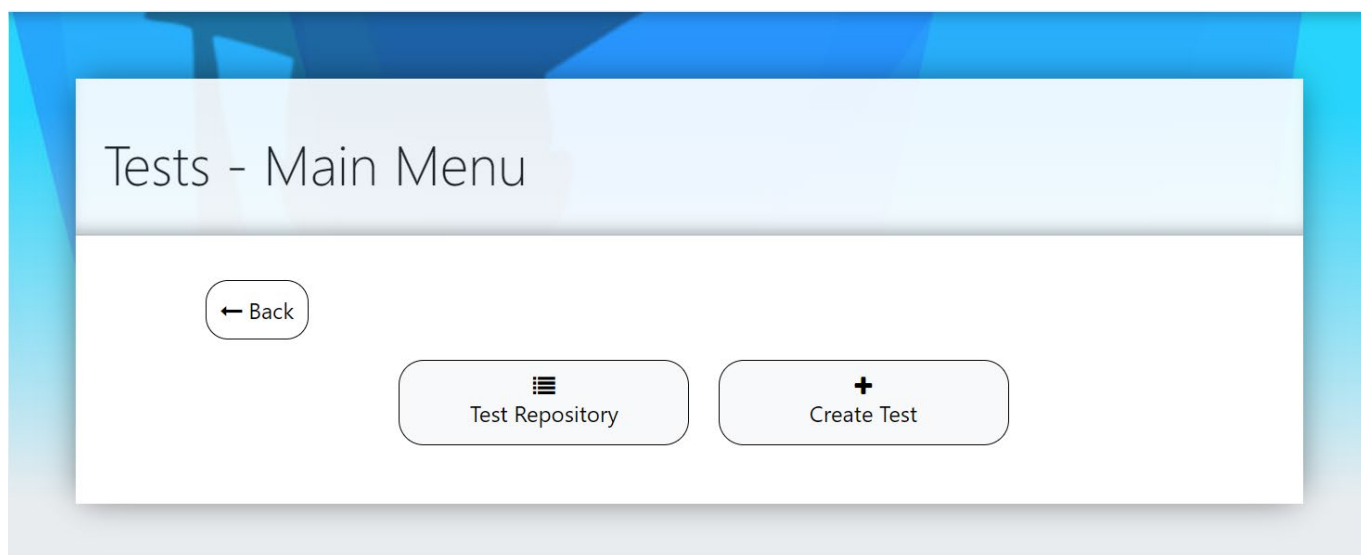
## 4. Teacher's Board

In this menu you can see all the available functionalities divided into 4 main categories: Tests, Items, Skills, Learning Objects.

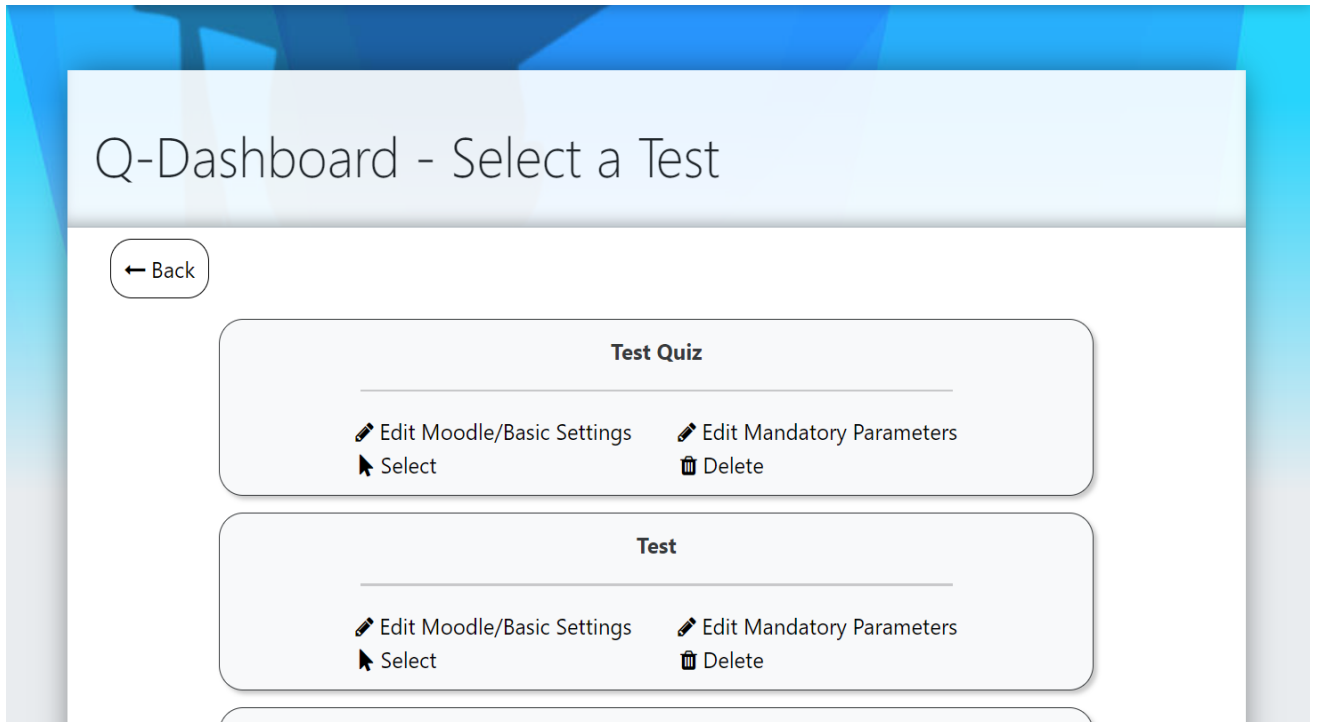


## 5. Tests

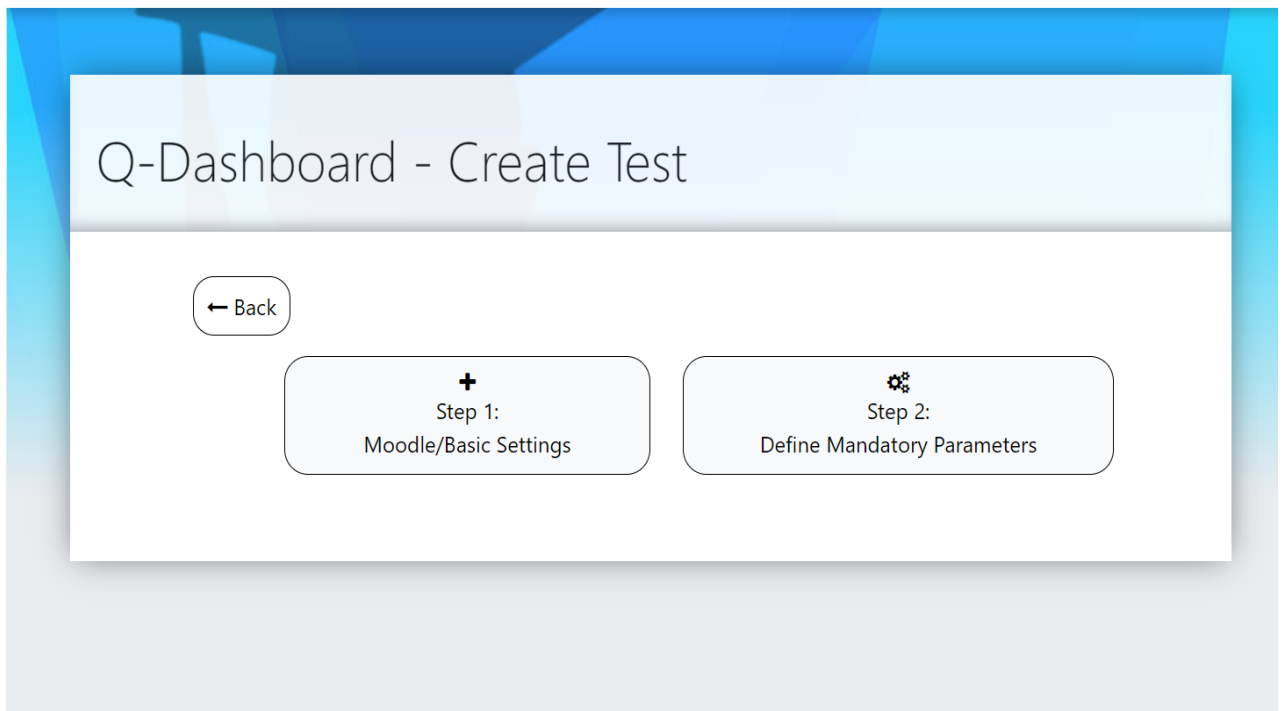
If the user clicks on the button Tests, he/she will see two options as seen in the figure below.



- Test Repository: The user can view all the tests that are already created and has the ability to edit the Moodle basic settings, as well as edit the settings that are needed for the purposes of Qhelp (there is a distinct webpage for these under Edit Mandatory Parameters). The user can also view and delete a test.

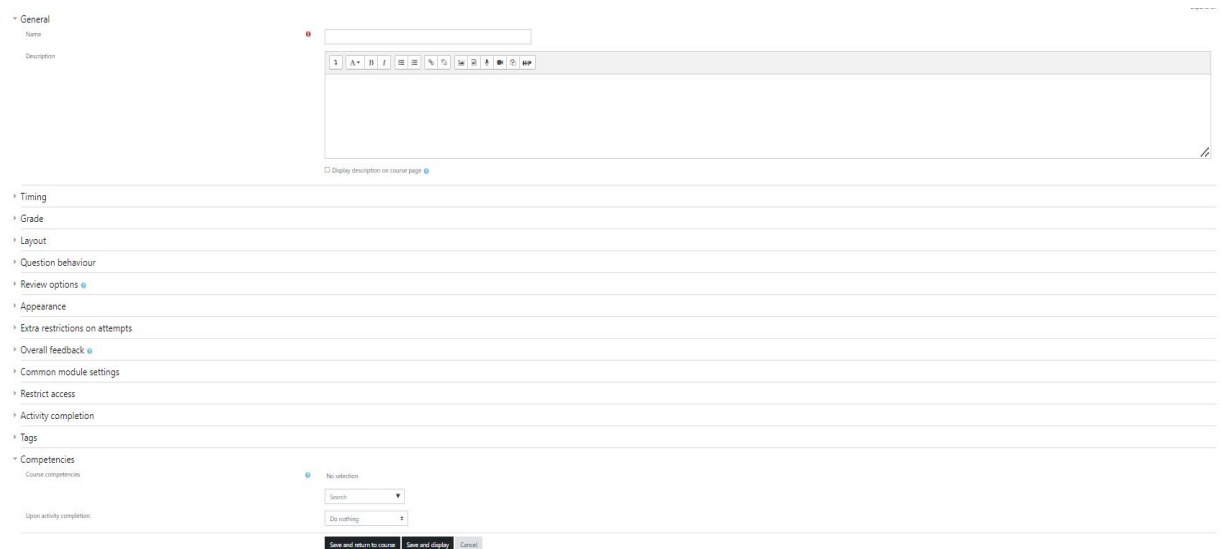


- Create Test: The user can create a new test firstly by filling-in the Moodle basic settings and then define the mandatory parameters that are needed for the Qhelp platform (see figure below).



## 1) Step 1: Moodle/Basic Settings

The figure below depicts the Basic Settings that are provided by Moodle which is opened in a new window.

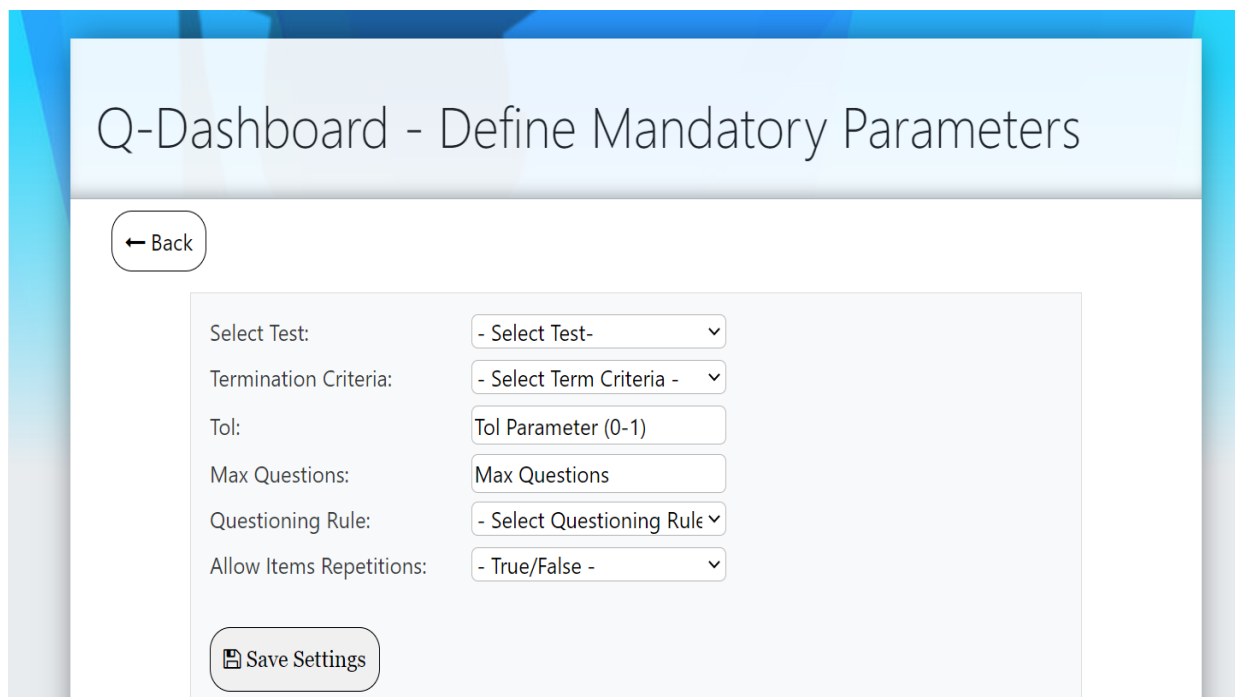


The screenshot shows the Moodle 'Basic Settings' page. The 'General' section is expanded, showing a 'Name' field and a 'Description' field with a rich text editor. Below this, there are several collapsed sections: 'Timing', 'Grade', 'Layout', 'Question behaviour', 'Review options', 'Appearance', 'Extra restrictions on attempts', 'Overall feedback', 'Common module settings', 'Restrict access', 'Activity completion', 'Tags', and 'Competencies'. The 'Competencies' section is partially visible, showing a 'No selection' message and a search dropdown. At the bottom, there are buttons for 'Save and return to course', 'Save and display', and 'Cancel'.

Moodle by default provides a variety of settings for creating a test. The important settings for the purposes of Qhelp are the name of the new test and adding skills to the test from the last dropdown list named Competencies and then press Save and display and close the window.

## 2) Step 2: Define Mandatory Parameters

The figure below depicts the settings that are needed for the qstep tool<sup>2</sup> to run.



The screenshot shows the 'Q-Dashboard - Define Mandatory Parameters' interface. It features a 'Back' button at the top left. The main area contains several settings:

- Select Test: - Select Test- (dropdown)
- Termination Criteria: - Select Term Criteria - (dropdown)
- Tol: Tol Parameter (0-1) (text input)
- Max Questions: Max Questions (text input)
- Questioning Rule: - Select Questioning Rule (dropdown)
- Allow Items Repetitions: - True/False - (dropdown)

At the bottom, there is a 'Save Settings' button.

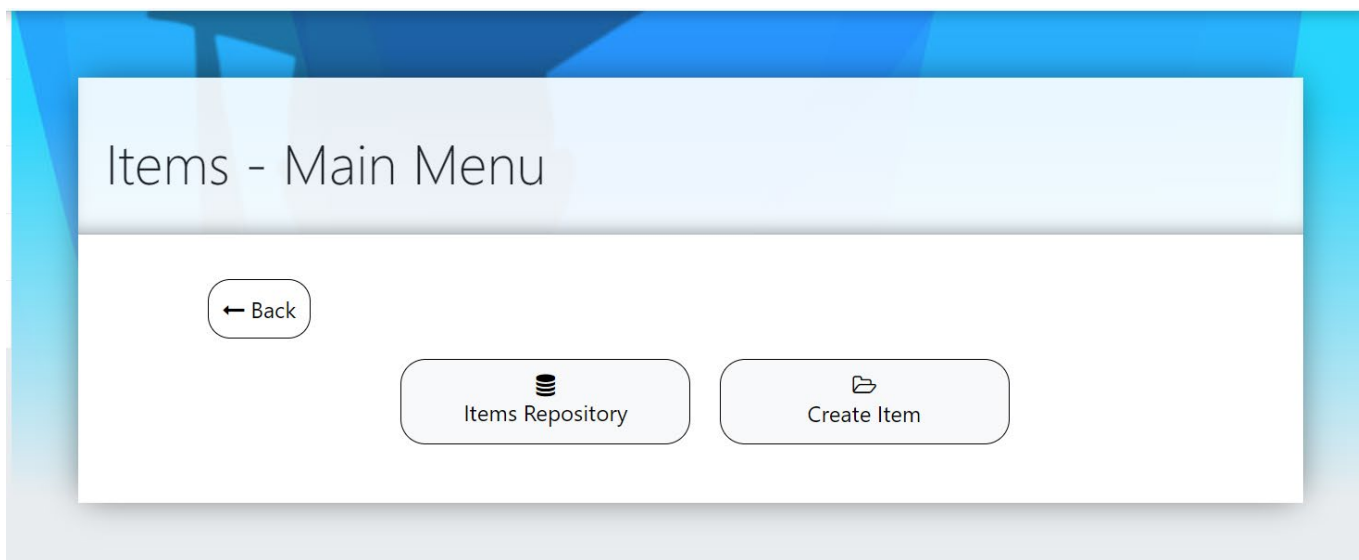
<sup>2</sup> qstep is an engine developed in Matlab that is integrated with the Qhelp e-learning platform.

When a test is selected from the drop-down list, the list of all the skills that were added to the test from Step1 Moodle/Basic Settings are displayed. By selecting one or more skills, all the items associated with those skills are displayed. The user must also fill the following settings:

- Termination criteria. The suggested option is minimum likelihood.
- Questioning rule. The suggested option is HalfSplit.
- Allow item repetitions (true/false). The suggested option is false.
- Tol. This is the value assigned to the termination criterion. The suggested value is > .50.
- Max Question. By default, the value is the number of the item of the test.

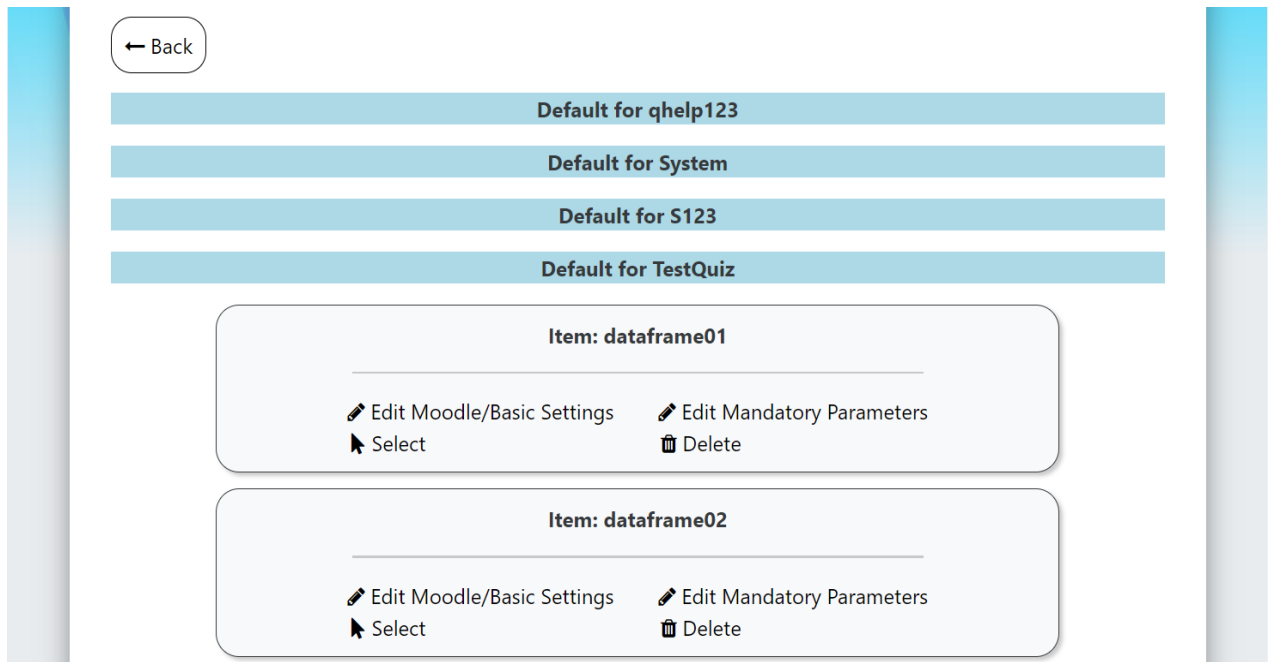
## 6. Items

If the user clicks on the button Items, he/she will see two options as seen in the figure below.



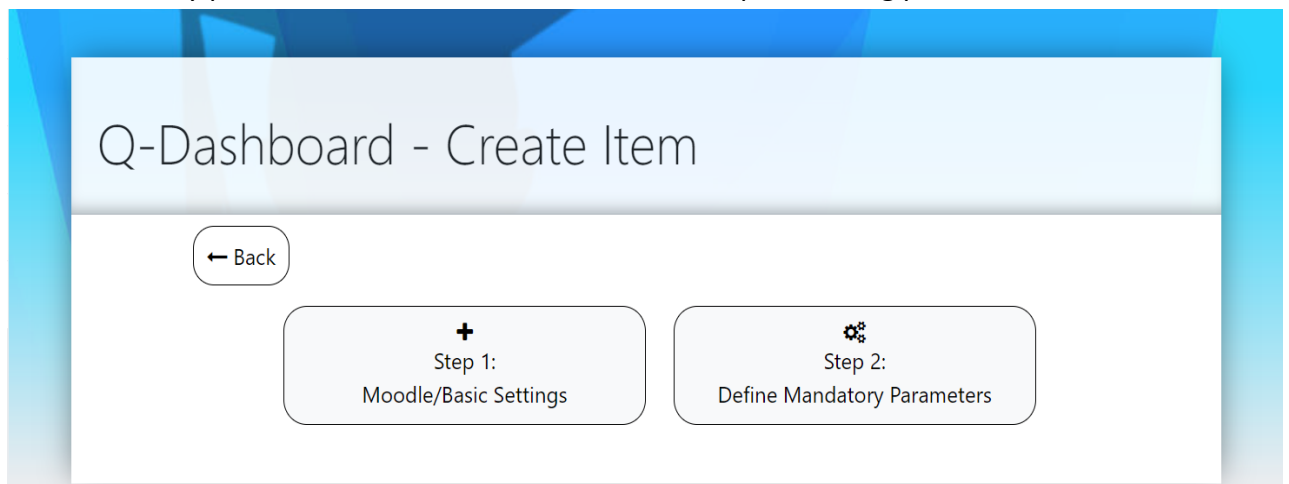
- Items Repository: The user can view all the items that are already created divided into categories and has the ability to edit the Moodle basic settings, edit settings that are needed for the purposes of Qhelp, view and delete the item.





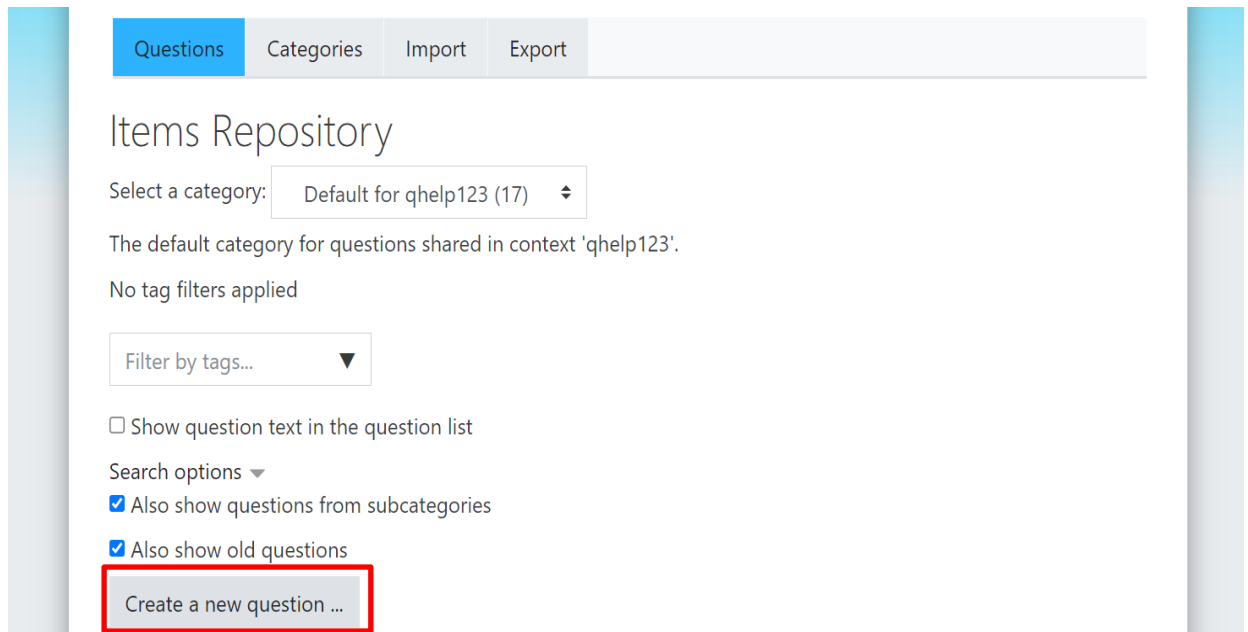
- Create Item

Here the user can create a new item firstly by filling the Moodle basic settings and then define the mandatory parameters that are needed for the Qhelp e-learning platform.



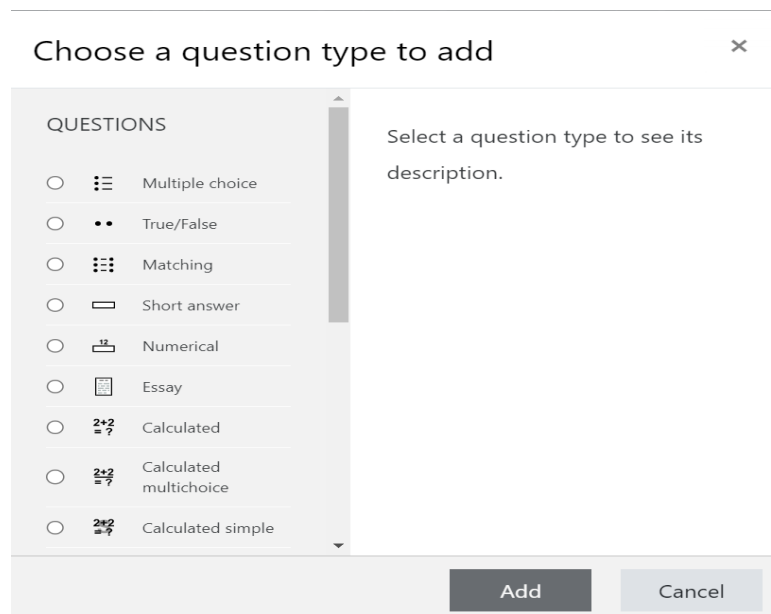
1) Step 1: Moodle/Basic Settings

To create a new item the user has to press the button Create a new question.



By clicking the button, a pop-up window is displayed showing the types of items that are provided (i.e., Multiple Choice, True/False etc.).

The user then selects his/her desired type of item and presses the button Add.



The figure below depicts the Basic Settings that are provided by Moodle which defer depending on the type of item chosen in the figure above. In this case the user has chosen Multiple Choice Item.

Adding a Multiple choice question

General

Category

Question name

Question text

Default mark

General feedback

ID number

One or multiple answers?

Number the choices?

Answers

Choice 1

Grade

Feedback

Choice 2

Grade

Feedback

Choice 3

Grade

Feedback

Choice 4

Grade

Feedback

Choice 5

Grade

Feedback

Enable for 5 more choices

Combined feedback

Multiple tests

Tags

Save changes and continue editing

Save changes

Cancel

Moodle by default provides a variety of settings for creating an item, the important settings for the purposes of Qhelp is the Question name of the new item, Question text, Default mark adding the desired choices for the purpose of the question and declaring grading for each choice and then press Save changes and close the window.

## 2) Step 2: Define Mandatory Parameters

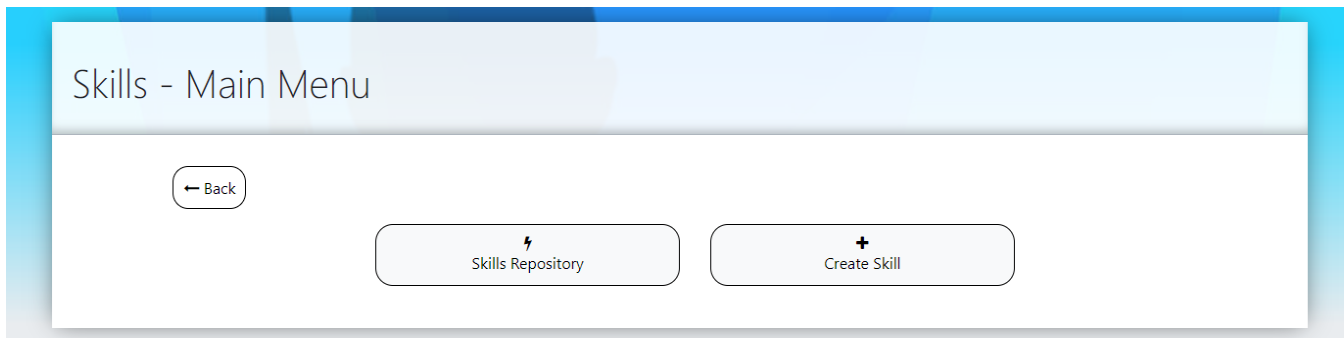
The figure below depicts the settings that are needed for the qstep engine to run.

First the user selects the category of items from the drop-down list and depending on the category selected, all items associated with this category are displayed in the Select Item drop-down list. Then the user can select the item he/she wants to add these settings to. Then the user must select the Competency Framework to view the list of all the skills that are associated with that framework in the field Ability and select the skills that she wants to add to the item. The user must also fill the following settings:

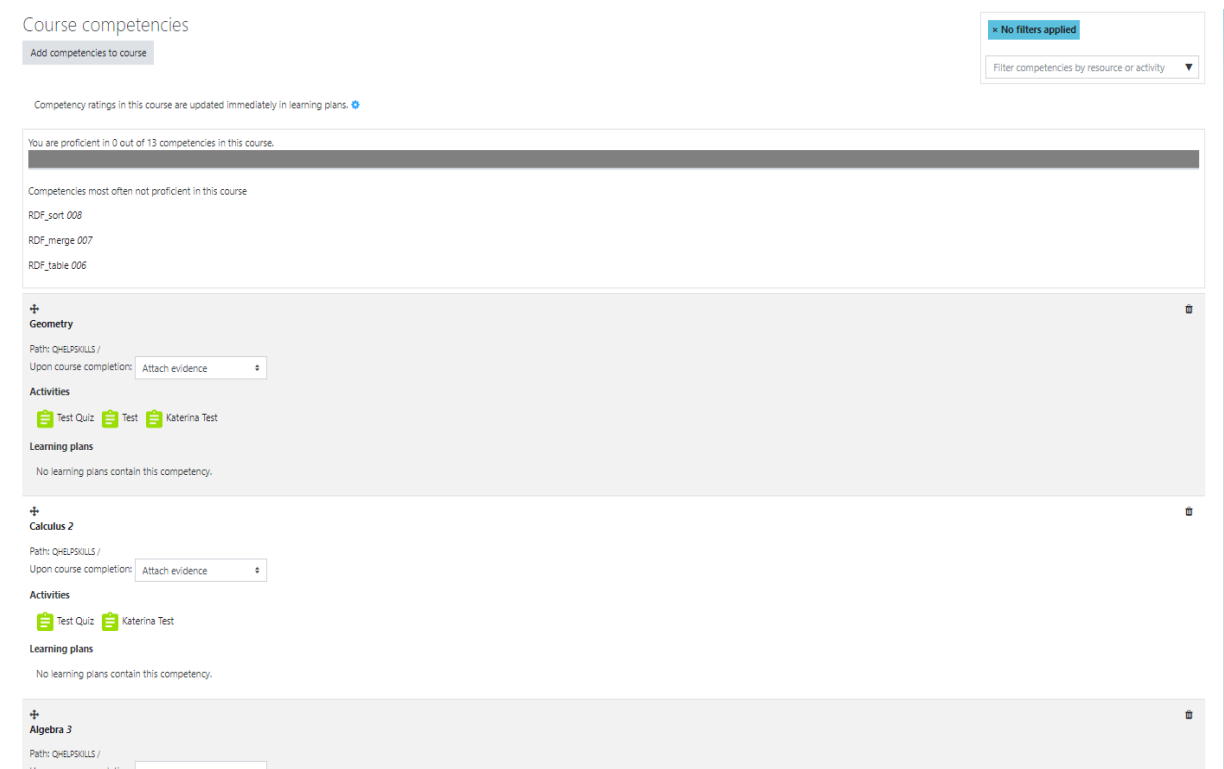
- Verify Parameter: this parameter allows the automatic correction of the answer provided by a user to the item.
- Variable Parameters: These parameters allow the specification of a certain number of variables that are attached to an item. The “qstep” assessment algorithm is based on these parameters. So far, when the “qstep” assessment engine is used, the variables that must be specified are two, that is the careless error (called Beta in the system) and the lucky guess (called Eta in the system) parameters. They are the item error parameters of the basic local independence model.

## 7. Skills

If the user clicks on the button skills, he/she will see two options as seen in the figure below.

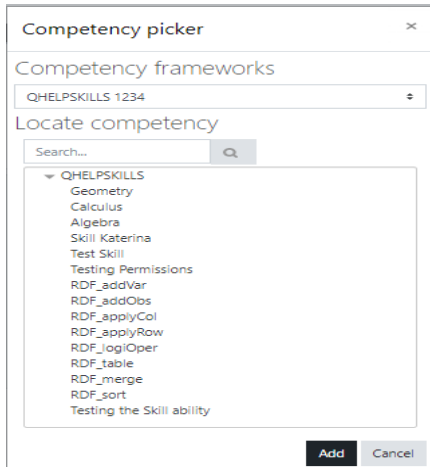


- Skills Repository: The user can view all the skills that are already created and has the ability to Edit the Moodle basic setting, view and delete the skill.



In addition, the user can add a new skill from the competency framework by clicking the button Add competencies to course. When the button is clicked, a pop-up window will appear where the user can select a new skill to add from the list as shown in the figure on the right.

The user then selects their desired skill and presses the button Add.



- Create Skill: The figure below depicts the Basic Settings that are provided by Moodle which is opened in a new window.



- 1) Firstly, the user must select a skill in order to view the learning object that are associated with that skill and press Select.

Step 1 : Choose skill

Choose a skill or a number of skills

- Geometry
- Calculus
- Algebra
- Skill Katerina
- Test Skill
- Testing Permissions
- RDF\_addVar
- RDF\_addObs
- RDF\_applyCol
- RDF\_applyRow
- RDF\_logiOper
- RDF\_table
- RDF\_merge
- RDF\_sort
- Testing the Skill ability

Select

- 2) Then the use can view or delete all the learning object associated with the selected skill.

View Learning Objects

← Back

Step 2 : View learning objects of selected skill

File Name	Type	Delete
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- Upload Learning Objects: The user can upload a new learning object as seen in the figure below:

Upload Learning Objects

← Back

Choose Skill:

Choose type of learning object:

No file chosen

To add a new learning object the user has to firstly select the skill that she wants to associate it with and select between three types of learning objects that she wants to upload which are: Link, Video or Pdf file and press the button Upload.

