Chapter No. 6
"Assessing Students"
In this package, you will find:
A Biography of the author of the book
A preview chapter from the book, Chapter NO.6 "Assessing Students"
A synopsis of the book’s content
Information on where to buy this book

About the Author
Michael de Raadt is a regular family guy who lives in Toowoomba, in the state of Queensland, Australia. He enjoys camping, hiking, and playing table tennis. Michael is also a Cub Scout leader.

In his professional life, Michael wears a number of hats. He is a lecturer in Computing Science (usually teaching programming), he is a researcher of educational technology, and a developer of Moodle modules. He currently works at the University of Southern Queensland where he is an advisor on teaching and learning matters. Michael holds a PhD which he gained through research in computing education and has published numerous papers in this research area.

Michael enjoys being a member of the Moodle Community. He helps out with the management of modules contributed to Moodle. Within his local area, Michael is an advocate for development of modules for Moodle.

I would like to thank my family for supporting me during the writing of this book. I would also like to acknowledge the community of developers who have contributed the modules reviewed in this book, and acknowledge Anthony Borrow, who has generously offered his time overseeing such contributions.

For More Information:
Moodle 1.9 Top Extensions Cookbook

Moodle is growing at a seemingly unstoppable rate. One of the key reasons for Moodle's popularity is its potential to be extended with modules. This book will teach you how to find the best Moodle modules, how to install them, how to configure them, and how to get the most out of them.

There are hundreds of Moodle modules available. Find out which you can trust and how to put them to work.

This book is written to help you find modules that will be useful to you and your students, and to show examples of how these modules can be set up and used in teaching.

What This Book Covers

Chapter 1, Getting Modular with Moodle, is an introduction to adding contributed modules to a Moodle instance including how to find, install, and remove modules; related matters of site-wide settings, languages, and bugs are also discussed.

Chapter 2, Adding Content, discusses modules useful for adding various forms of content that a teacher may use with students.

Chapter 3, Connecting to the Outside World, talks about modules that allow students to access real-world resources outside of Moodle.

Chapter 4, Getting Around In Moodle, introduces handy modules that assist in navigating within and between courses in a Moodle site, also making Moodle more accessible to the visually impaired.

Chapter 5, Effective Use of Space, discusses modules that allow screen real-estate to be better used, including collapsing content.

Chapter 6, Assessing Students, discusses simple and novel modules that assist in assessing students.

Chapter 7, Organizing Students, talks about modules that assist in organizing students into groups and peer relationships, helping students with time-management, and getting feedback from students.

For More Information:
Chapter 8, Encouraging Student Interaction, introduces handy modules that allow students to interact in a common workspace and communicate more effectively.

Chapter 9, Informing Students talks about modules used to communicate information that is not related to regular material or assessment.

Chapter 10, Handy Tools for Teachers, discusses modules that aid and inform teachers in their tasks, such as creating activities and finding information and statistics about students.

Chapter 11, Just for Fun, ends the book with non-essential modules that make learning more enjoyable for students.

For More Information:
Assessing Students

In this chapter, we will cover:

- Assignment alternatives
- Involving students in assessment design
- Extending quizzes
- Simple formative feedback
- Encouraging competition

Introduction

Assessment is a key part of education. For many students, the opportunity to earn marks through assessment is a driving motivator. Electronic assessment allows teachers to conduct a wider variety of assessment, and to do so more efficiently than traditional forms of assessment.

In this chapter, we will look at assessment-related Moodle modules, large and small, and some that are capable of involving students in innovative ways.

For More Information:
Assessing Students

Assignment alternatives

An assignment is a significant form of assessment, allowing students to demonstrate the understanding they have developed over a period of learning.

Many teachers struggle to break away from traditional essays and reports. As well as the assignment types available in core Moodle, there are some well constructed, contributed assignment types that are sure to lure the most ardent traditionalist away from "red pen on paper".

- Peer Review Assignment Type
- NanoGong Assignment Type
- UploadPDF Assignment Type

Involving students in assessment design

Who said writing questions was the teacher's job? For students, the challenge of creating questions encourages them to think in a new and different way about the material they are studying. The incentive of being able to create questions that may be used in their own future assessment is also a thrill.

- Question Creation module

Extending quizzes

Like many parts of Moodle, the Quiz module is extensible. New question types can be added to the Quiz module so that teachers can produce more creative questions and challenge learners from a wider range.

- Drag-and-drop matching question type
- Drag-and-drop ordering question type
- Image target question type

Simple formative feedback

Students are motivated to earn marks, but that doesn't mean you can't sneak in a bit of formative assessment without them realizing it. Simply encouraging students to anticipate small snippets of the material can probe their knowledge, reinforcing their correct understandings and challenging their misunderstandings.

- Hidden Text filter

For More Information:

Encouraging competition

It is a disservice to delude students into believing that they standout when they are in fact falling behind. Displaying the highest standard for assignments and other assessable items on a leader-board can motivate students to compete, while recognizing those who are excelling.

- Course Results block

Using peer assessment

<table>
<thead>
<tr>
<th>Name</th>
<th>Peer Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module type</td>
<td>Assignment type</td>
</tr>
<tr>
<td>Author</td>
<td>Michael de Raadt</td>
</tr>
<tr>
<td>Released</td>
<td>2010</td>
</tr>
<tr>
<td>Maintained</td>
<td>Actively</td>
</tr>
<tr>
<td>Languages</td>
<td>English</td>
</tr>
<tr>
<td>Compliance</td>
<td>Good</td>
</tr>
<tr>
<td>Documentation</td>
<td>Online documentation, help files</td>
</tr>
<tr>
<td>Errors</td>
<td>None displayed</td>
</tr>
</tbody>
</table>

Peer assessment can benefit students by causing them to evaluate the work of their peers. Evaluation is a higher order thinking skill, and requiring students to evaluate the work of others can enhance their learning experience. Other benefits are student involvement in the assessment process and the fact that they will receive more than just instructor feedback.

When used in conjunction with communication tools, peer assessment has the potential to encourage a learning community. This is particularly useful when students are studying in the Moodle environment, but physically separated from each other.

The Workshop module—a core Moodle module, was the first contributed Moodle module. It brought peer assessment to Moodle, exemplifying the constructivist nature that has driven Moodle development over the years. However, in recent years, the Workshop module has not been maintained, and is disabled by default in Moodle. The Workshop module is currently being revived for Moodle 2.0 and shows great promise.

Various peer assessment tools (outside Moodle) can reduce the quantity of marking for teachers, by relying on the student feedback as a basis for marking. This can be somewhat controversial when student feedback is the only source of grades. The Peer Review Assignment Type uses peer-feedback moderated by teachers as the basis for marks.

For More Information:
The Peer Review Assignment Type attempts to simplify the peer assessment experience of the Workshop module for both teachers and students. Only one deadline is needed (students can even submit late and still be involved); most students will submit then immediately move on to reviewing, while the assignment is fresh in their minds. The Peer Review Assignment Type manages the relationships between students automatically, so all the teacher has to do is set up the assignment, then moderate reviews after the assignment deadline.

**Getting ready**

Being an Assignment Type, you need to unzip the peerreview directory into the /moodle/mod/assignment/type/ directory before visiting the Notifications page.

**How to do it...**

Once installed, a Peer Review assignment can be added from the Add an activity... menu. You will find it nested below Assignments.

As it is an Assignment Type, the Peer Review Assignment Type has the same General settings as other Assignment Types (including a name, description, grade value, and due date). There are four settings specific to this Assignment Type listed in the Peer Review section of the configuration page.

<table>
<thead>
<tr>
<th>Peer Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submission format</td>
</tr>
<tr>
<td>Maximum size of submitted file</td>
</tr>
<tr>
<td>File extension of submitted file</td>
</tr>
<tr>
<td>Reward value for completing each of the two reviews</td>
</tr>
</tbody>
</table>

The first setting allows the teacher to decide if submissions will be in the form of a submitted file or text entered online in a WYSIWYG editor. If Submitted document is selected, the maximum file size and file type must be specified. These two settings should be made while keeping in mind that students will be downloading and reviewing each other's documents. Keep the maximum file size as low as practically possible, otherwise file transfer problems may arise. A file type that all students can work with should be selected. So, for instance, if students have a mix of Office 2003, Office 2007, and OpenOffice, using the .doc file type would allow all students be able to open and review submitted documents.

For More Information:

Each student is expected to complete two reviews and this is seen as part of the learning experience. The final setting in this section allows a reward value to be set for each of the reviews the student completes.

With the assignment configuration complete, click on **Save and Display** and you will be taken to a page where review criteria can be written.

<table>
<thead>
<tr>
<th>Description</th>
<th>Criteria</th>
<th>Submissions (0)</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>You must now create criteria. Ensure criteria values add up to the assignment grade value.</td>
<td>Writing criteria</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Criterion 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criterion shown with description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternate criterion shown at review (optional)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of this criterion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Criterion 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criterion shown with description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternate criterion shown at review (optional)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of this criterion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Criterion 3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On this page, the criteria descriptions and values can be set. Some help is provided on writing good criteria; this is worth reading.

For each criterion, you can enter a textual description that will appear to the student with the assignment description. This can include HTML tags if formatting is needed. For each criterion, a second alternate description can be provided, which can contain information that you want hidden from students before they submit (such as answers or test data); this is only shown to students as they complete reviews. A value also needs to be set for each criterion.

For More Information:  
Assessing Students

The values of criteria and the reward students will receive for completing reviews need to add up to the total grade value for the assignment. At the bottom of the Criteria page, there is a JavaScript driven calculator that indicates if values sum correctly.

<table>
<thead>
<tr>
<th>Mark Summary ©</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total value of criteria above</td>
</tr>
<tr>
<td>Two reviews worth 10 marks each (from assignment settings)</td>
</tr>
<tr>
<td>Sum of marks above</td>
</tr>
<tr>
<td>Marks set as Grade</td>
</tr>
<tr>
<td>Difference</td>
</tr>
</tbody>
</table>

Once you have entered the criteria, save them and you will be taken to the description of the assignment showing the criteria added at the end. Students will also see a facility to submit a file, or a WYSIWYG editor if online-text is to be entered.

With the Description and the Criteria set, there is nothing to do until students have submitted and the assignment deadline has passed.

If you are running this Assignment Type on a test server and want to see how it works, you will need to set up at least five dummy student accounts and use these to submit assignments and complete reviews.

After students have submitted and completed reviews, they are shown a wealth of information about their submission, reviews they have conducted, and reviews they have received from their peers and teachers. Students have the opportunity to flag reviews they are unhappy with.

For More Information:
When students have submitted and reviewed, it is the teacher’s job to resolve conflicts. The Peer Review Assignment Type shows a submission table, like other Assignment Types, but adds information about review relationships and conflicts.
The teacher must add additional "moderation" reviews to override reviews that are conflicting. The tail end of the submissions list must also be reviewed by the teacher if there are not sufficient reviews for the system to suggest a mark.

When conducting moderation reviews, the teacher is provided with information that students do not get to see. The teacher can see which criteria students have checked, and also the comments they have written about the submission currently being moderated. Teachers can see which student conducted each review and how long they spent reviewing. The teacher has access to a textbox, in which they can add and save comments to be re-used later. Multiple markers have access to this same saved comments list.

For More Information:
Chapter 6

When all conflicts are resolved, and all status indicators are green, the system is able to suggest marks for all students. These can be released individually or all at once by clicking the button labeled **Set all unset calculatable grades** at the bottom of the submissions list.

<table>
<thead>
<tr>
<th>Full name</th>
<th>Submission</th>
<th>Reviews by student</th>
<th>Moderation Count</th>
<th>Status</th>
<th>Sea/Do reviews of submission</th>
<th>Suggested grade</th>
<th>Final grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kevin Smith</td>
<td>Sun, 27 Jun, 01:41 PM (Resubmit)</td>
<td>1.2.2</td>
<td>1</td>
<td>Overridden</td>
<td>Review</td>
<td>100 Set</td>
<td>Not set</td>
</tr>
<tr>
<td>Jill Jones</td>
<td>Sun, 27 Jun, 01:42 PM (Resubmit)</td>
<td>1.2.2</td>
<td>1</td>
<td>Consensus</td>
<td>Review</td>
<td>00 Set</td>
<td>Not set</td>
</tr>
<tr>
<td>Frank Brown</td>
<td>Sun, 27 Jun, 01:42 PM (Resubmit)</td>
<td>1.2.2</td>
<td>2</td>
<td>Overridden</td>
<td>Review</td>
<td>60 Set</td>
<td>Not set</td>
</tr>
<tr>
<td>Kate Foster</td>
<td>Sun, 27 Jun, 01:43 PM (Resubmit)</td>
<td>1.2.2</td>
<td>1</td>
<td>Consensus</td>
<td>Review</td>
<td>60 Set</td>
<td>Not set</td>
</tr>
<tr>
<td>Joseph Porter</td>
<td>Sun, 27 Jun, 01:43 PM (Resubmit)</td>
<td>1.2.2</td>
<td>1</td>
<td>Consensus</td>
<td>Review</td>
<td>40 Set</td>
<td>Not set</td>
</tr>
<tr>
<td>Jenny Xu</td>
<td>Sun, 27 Jun, 02:23 PM (Resubmit)</td>
<td>1.2.2</td>
<td>2</td>
<td>Overridden</td>
<td>Review</td>
<td>100 Set</td>
<td>Not set</td>
</tr>
<tr>
<td>Jodie Byth</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Not set</td>
<td></td>
</tr>
<tr>
<td>Bill Howitz</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>Not set</td>
<td></td>
</tr>
</tbody>
</table>

For More Information:

The Peer Review Assignment Type also includes an **Analysis** page which may be useful when refining an assignment for later re-use, or for teachers conducting research around assessment.
How it works...

The Peer Review Assignment Type achieves a simpler model of peer assessment by altering the way review relationships are allocated. With the Workshop module and other peer assessment systems, a phased approach is taken, with students submitting before one deadline, waiting for relationships to be arranged, then reviewing before another deadline. Such a phased model does not leave room for late submissions, and the delay while students wait for reviews may cause them to lose track of the context of the assignment.

With the Peer Review Assignment Type, there is an initial pooling period where early submitters must wait for more submissions to be made. When the fifth student submits, this triggers an event causing reviews to be allocated among the initial pool. When later students submit they are allocated earlier submissions to review, so these students can go directly from submission to reviewing without delay. This leaves some submissions at the tail end that require teacher moderation, however it also means late submitters can simply join the tail end.

Because of the review allocation method, only a single submission is permitted. Students are warned about this. If a student submits the wrong file, a teacher can replace their submission (and ensure the replacement is moderated).

There's more...

The Peer Review Assignment Type can be used for teaching in a number of ways:

- As an extension of a regular assignment
- For a series of streamlined, small scale, focused assignments
- As a draft stage review before a final submission (submitted as a normal, instructor marked assignment)

Outside regular teaching, the Peer Review Assignment Type could be used for the review of research papers submitted to a conference.

See also

- Workshop module (standard in Moodle)
- Upload PDF Assignment Type
Recording audio for assignments

<table>
<thead>
<tr>
<th>Name</th>
<th>NanoGong Assignment Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module type</td>
<td>Assignment type</td>
</tr>
<tr>
<td>Author</td>
<td>Dan Poltawski</td>
</tr>
<tr>
<td>Released</td>
<td>2009</td>
</tr>
<tr>
<td>Maintained</td>
<td>Only barely</td>
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<tr>
<td>Languages</td>
<td>English, Spanish</td>
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<td>Compliance</td>
<td>Good</td>
</tr>
<tr>
<td>Documentation</td>
<td>None</td>
</tr>
<tr>
<td>Errors</td>
<td>None displayed</td>
</tr>
</tbody>
</table>

Have you ever wanted to break away from mundane text assignments? Well now you can allow students to submit spoken assignments instead. There have been a few attempts to allow audio recording in Moodle, but the NanoGong is the first to be truly cross-platform, while still being admirably simple.

**Getting ready**

Unzip and copy the nanogong directory into the `/moodle/mod/assignment/type/` directory then visit the Notifications page.

**How to do it...**

One downside to NonoGong is that it requires the Java Runtime Environment to be installed on both the teacher's machine and students' machines. Without the JRE, the NanoGong applet will not work. This can be problematic as students who are not administrators of their machines may not have the potential to install the JRE. Even if they can, the JRE is a 15 MB download, which is not huge but is still significant for students on slow, unreliable connections.

If the JRE is not installed, students might not be prompted to install the JRE. Instructions should be explicitly included with assignments on what to expect and what to do if no recorder appears.

Another problem that affects voice recording in general is the need for a microphone. It seems rather obvious, but many students will not have access to a microphone in order to record their voice.

For More Information:

Assessing Students

If you are satisfied that these impediments are not significant obstacles, the NanoGong Assignment Type is worth testing. Once installed, the Assignment Type can be added from the **Add an activity...** menu, below **Assignments**.

The NanoGong Assignment Type is based on the **Upload a single file** assignment type, and is configured in the same way. It should therefore be familiar to teachers who have used that Assignment Type before.

![Updating Assignment in topic 1](image)

Once configured, students have access to the recorder applet. They must download the applet from the server. The `.jar` file for the applet is only 186 KB, so downloading should not take long. Students will then have to allow the applet to run on their machines. They have the potential to allow the applet for future occasions to skip this approval step.

For More Information:
Students will then see a small recorder at the bottom of the assignment description view page. Instructors can also test the recorder.

Students can record their voice, pausing when necessary. There is a five minute limit on recordings, which is demonstrated by the bar that grows across the bottom of the recorder as the five minutes passes. A reassuring VU meter fluctuates up and down next to the stop button as the user speaks. Students can play back their recording and re-record their message if they wish to. They can keep a copy of their recording by saving it to their machine as a .wav file. When they are ready, clicking the submit button allows students to submit.

The sound files created by the applet are remarkably small, so submitting the file and accessing it again afterwards takes little time. A full five minute recording produces a file around 1 MB in size; this is about 20% of an equivalent MP3 recording at CD quality.

For More Information:
Assessing Students

For marking, submissions are shown in an assignments table.

The recordings are shown in the **Last modified (Student)** column. Each recording is loaded when the page loads. This is convenient if you are marking assignments using the **quick grading** feature. However, this could take time to load and consume considerable bandwidth if there is a large class and each student has submitted a five minute recording. To avoid loading each submission every time the submissions list is refreshed, hide the column that contains the recorder applet; you will still be able to access the recording from the submission single view window when marking.

**How it works...**

The NanoGong Assignment Type uses the NanoGong applet created by the Hong Kong University of Science and Technology. That particular applet uses a speech codec called Speex, which targets the frequencies needed for voice. Unfortunately this means the NanoGong Assignment Type cannot be used for a broader range of frequencies, and therefore is not a good alternative for recording musical instruments, and probably not a good recorder for sung vocal performances.

For More Information:

There's more...

With the potential to record voice submissions for assignments, a number of pedagogical applications open up. Here are some ideas.

- Foreign language spoken word assignments
- Poetry reading
- Simulated political speeches
- News reading practise
- Student's favorite joke

See also

- NanoGong Activity Module (see Modules and plugins database)

Replacing paper submissions

<table>
<thead>
<tr>
<th>Name</th>
<th>Upload PDF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module type</td>
<td>Assignment Type</td>
</tr>
<tr>
<td>Author</td>
<td>David Smith</td>
</tr>
<tr>
<td>Released</td>
<td>2009</td>
</tr>
<tr>
<td>Maintained</td>
<td>Actively</td>
</tr>
<tr>
<td>Languages</td>
<td>English</td>
</tr>
<tr>
<td>Compliance</td>
<td>Good</td>
</tr>
<tr>
<td>Documentation</td>
<td>readme.txt file, help files</td>
</tr>
<tr>
<td>Errors</td>
<td>None displayed</td>
</tr>
</tbody>
</table>

Have you ever suggested that a teacher should try electronic submission, only to be rebuffed because of a perceived need to mark paper submissions? Well, with the Upload PDF Assignment Type you can achieve the same results as "red ink on paper", plus there are a few more conveniences that will make marking go by faster. This is all achieved on the server through a web browser, without downloading files to the marker's machine.
Getting ready

Unzip and copy the uploadpdf directory into the /moodle/mod/assignment/type/ directory then visit the Notifications page.

The module also makes use of GhostScript to save PDFs, so you will also need to install GhostScript and direct the module to it. A download link for GhostScript is available on the Moodle Modules and plugins DB entry page for the Upload PDF Assignment Type.

If you are using Windows, be sure to install GhostScript to a location so that its path contains no spaces, for example, C:\gs. Once installed you need to write the path to the GhostScript executable into uploadpdf_config.php located in the module directory. The first line of code appears as...

```php
$CFG->gs_path = 'gs';
```

...and needs to be changed to include the path to the GhostScript executable, for example:

```php
$CFG->gs_path = 'C:\gs\gs8.71\bin\gswin32c.exe';
```

How to do it...

Once the module is installed and GhostScript is set up, you can add an assignment by selecting the Upload PDF option from the Add an activity... menu, below Assignments.

The configuration page for an UploadPDF assignment begins with the same General settings as other Assignment Types. This includes a name, description, grade value, and due date.

In the description, you may want to include instructions about converting files to PDF format. OpenOffice offers native support for saving to PDF. An add-on can be installed for Office2007 (and later versions) to "publish" to PDF. GoogleDocs allows files to be saved as PDF. There are online services that can convert documents to PDF, some of which are free (but may involve limitations or complications). For general applications, it is possible to install a PDF printer, which masquerades as a printer, but instead of printing to a physical device, it produces a PDF file which can be saved to disk. A number of PDF printer solutions are freely available and simple to install.

The requirement for students to produce a PDF file is a limitation. Students may be working on machines where they are not the administrator and may not have the privileges to install a PDF printer or an add-on. If that is the case, you may have to provide independent assistance to students to help them convert their submissions to PDF.

For More Information:
Below the **General** settings there are some specific settings for an **Upload PDF** assignment.

<table>
<thead>
<tr>
<th>Upload PDF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coversheet</strong></td>
</tr>
<tr>
<td><strong>Template</strong></td>
</tr>
<tr>
<td><strong>Maximum size</strong></td>
</tr>
<tr>
<td><strong>All files must be PDFs</strong></td>
</tr>
<tr>
<td><strong>Allow deleting</strong></td>
</tr>
<tr>
<td><strong>Maximum number of uploaded files</strong></td>
</tr>
<tr>
<td><strong>Allow notes</strong></td>
</tr>
<tr>
<td><strong>Hide description before available date</strong></td>
</tr>
<tr>
<td><strong>Email alerts to teachers</strong></td>
</tr>
</tbody>
</table>

If your institution has a standard coversheet that needs to be fixed to all submissions, this coversheet can be supplied (in PDF format of course) and will be prefixed to students' submissions.

Controls can be placed on the files students submit. It is likely you will want to restrict submissions to PDF format, unless you want students to submit an accompanying file with their PDF. Students can submit more than one file. Each PDF file they submit is concatenated into a single document as it arrives at the server, so a single document is presented when marking.

Help files are available here to explain each setting.

With the assignment in place, students submit their PDF files in much the same way they would submit using other assignment types. The Upload PDF Assignment Type offers a two-staged submission. First students must submit each individual file. Once all the files are sent to the Moodle server, the student completes and confirms their submission, making it available for marking.

**For More Information:**

Assessing Students

When assignments have been submitted, the teacher can mark from the assignments list. The module author recommends marking with the Allow quick grading preference turned on. This makes sense as the PDFs are annotated in a separated window, so using grading windows means a lot of open windows. If you are using this Assignment Type it is likely that most of your feedback will be in the PDF itself, so adding a mark and a short overall comment on the assignments list page is probably sufficient.

To annotate a submission, click on the submission.pdf link. This opens a new window with a student’s combined submission, visible page by page.
In this window, a teacher can annotate a student's submission. Comments can be started by left-clicking on the document. A comment box will appear and text can be inserted; when editing is complete, click off the comment. If you wish to edit a comment, clicking on the comment will allow you to change the text inside. Right-clicking on a comment will allow you to control background color. It is also possible to save comments to the Comment Quicklist by right-clicking on a comment and selecting Add to Comment Quicklist. This is particularly useful when marking a large number of submissions as it saves retyping repeated comments. To use a comment from the Quicklist, simply right-click where you want the comment to appear and choose the comment from the list.
Assessing Students

You can also add lines to the document to indicate where corrections need to be made, or to add emphasis. To draw a line, or more than one, hold the Ctrl key, then click-and-drag the mouse.

Changes are saved as you make them, so if you close the window, your changes will reappear when you come back. You can also click the button labeled Save Draft and Close for the same effect. A teacher can move from page to page, adding comments and lines as they go.

It should be noted that a document including a teacher's annotations will not be made available to the student until you click Generate Response. The "response" is a new document, based on the submitted document, and including the annotations created by a teacher. Once created, a student can download this response document from their view of the assignment.

Back at the submissions list, the teacher can add a general comment and set a mark, then save the marks by clicking Save all my feedback at the bottom of the list.

How it works...

The response document is produced very efficiently. It is not a bitmap capture (like a digital photograph) of the document with annotations. It is effectively the original PDF document with annotations as vector (drawing) objects. All original text and graphics are preserved after the addition of these new objects. These new objects add only a very small amount to the original file size.

There's more...

In general, assignment feedback can be classified as structured or unstructured. The Upload PDF Assignment Type is an ingenious solution to providing unstructured feedback in an online environment, especially as there are no documents that need to be transferred back and forth between the server and the teacher's machine.

The pedagogical applications are wide open:

- Essays (of course)
- Reports
- Poetry
- Artworks
- Journal articles
- ...and effectively anything that can become a PDF

For More Information:  
See also

- Peer Review Assignment Type

Allowing students to contribute to assessment

<table>
<thead>
<tr>
<th>Name</th>
<th>Question Creation Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module type</td>
<td>Activity</td>
</tr>
<tr>
<td>Author</td>
<td>Jamie Pratt</td>
</tr>
<tr>
<td>Released</td>
<td>2008</td>
</tr>
<tr>
<td>Maintained</td>
<td>Actively</td>
</tr>
<tr>
<td>Languages</td>
<td>English, Spanish</td>
</tr>
<tr>
<td>Compliance</td>
<td>Good</td>
</tr>
<tr>
<td>Documentation</td>
<td>Limited online documentation, help files</td>
</tr>
<tr>
<td>Errors</td>
<td>Some errors displayed when error reporting is turned on</td>
</tr>
</tbody>
</table>

The Question Creation Module allows students to contribute Quiz questions and be rewarded with marks. This is a great pedagogical activity and the questions produced by students can be used in creative ways.

Getting ready

Unzip and copy the module directory into the /moodle/mod/ directory then visit the Notifications page.

For More Information:
Assessing Students

How to do it...

After adding the Question Creation Module you can create an instance of this activity from the Add an activity... menu.

The configuration page for this module is somewhat overcomplicated, however, once you have used it, the settings become apparent.

Like most modules, there is a Name. There is also a description that appears as an Introduction to students in their view of the activity. A time period for the activity can be specified with an opening and closing date.

For More Information:
In the Grading section, there are a number of options, some of which are obvious and some that require explanation. A Question Creation activity can contribute to a course assessment and as such there is a Grade value. This grade value is constituted from a mix of:

- Automatic grading (based on number of questions created by a student, that is, a participation mark)
- Manual grading (based on a judgment of quality by the teacher)

A 50%/50% mix means that the student gains half the available marks by simply creating the required number of questions and the other half based on the judgment of the teacher. A different ratio can be chose to shift this balance depending on the teacher's preference. For a fully automated assessment, a ratio of 100%/0% can be used. For a grade that is wholly based on the teacher's judgment a ratio of 0%/100% can be used.

The number of questions that need to be created can be specified. The grade value is then distributed across this number of questions.

The types of Quiz questions can be restricted to specific types or students can be allowed to create questions of any type. The teacher can direct that the student create a minimum number of questions of specified question types. For example, the teacher could direct that two of the questions that a student creates should be Multiple Choice. Such enforcement is achieved in the sections labeled (rather incomprehensibly) as Will Grade Minimum Number of Questions of Type (optional).

At the bottom of the configuration page, there is a setting that controls what level of editing students have over their own questions.
Assessing Students

It is not clear at first what each level of access means, nor why access needs to be restricted. Students can be controlled in their freedom to create, preview, edit, and delete questions. The module author suggests that there may be complications if a student edits a question after it has been graded, although he also suggests that students could improve questions based on feedback and such questions could then be re-graded (and the module facilitates this). For the most intuitive setup for students, the highest level of access is probably best. The teacher could then grade the questions after a set deadline. In a two phased approach that allows questions to be improved, questions could be checked at a specified date, with final question edits required by the set deadline.

Students have an interface to launch the question creation process. When a question type is selected, students then create a question of that type using the same interface that a teacher uses when they create questions for a quiz.

You should create a question. The better the question, the higher your mark.

Activity is open. No time limits set.

Required Questions to Create

- You've done 3 extra questions. 3 questions of any of the types below will be graded
  - Calculated
  - Description
  - Essay
  - Matching
  - Embedded answers (Cloze)
  - Multiple Choice: You've done one question of this type.
    - JavaScript description (70/100) A bit too basic
  - Short Answer: You've done 2 questions of this type.
    - Source code (70/100) A good question, but not too well written
    - Array index (80/100) A great question
  - Numerical
  - Random Short-Answer Matching
  - True/False

- You have been awarded a total grade of 86.67 / 100 for this activity.
  - You have been awarded an automatic grade of 50 / 50 for these questions, since you have done 3 of 3 required questions.
  - A teacher has awarded you a grade of 36.66667 / 50 for the questions you have done.

Students can create more than the required number of questions. Their final mark is based on the best questions they have created.

Questions created by students appear in a list much like an assignments submission table.

For More Information:

In this view, a teacher can preview a question and grade it. They can also provide comments on each question. The final grade is calculated when the teacher clicks the button at the bottom of this page labeled **Save all grades & feedback**. Grades are calculated according to how many of the required questions a student has created and the quality of each question. The student's final grade is the calculated value across all of their questions.

### How it works...

Questions created by students are stored in the Moodle Question Bank. In that form they can be used by teachers in the course like any other question in the Question Bank.

### There's more...

Requiring students to create questions is a great learning exercise. It forces students to think about the course materials at a higher level in order to form questions that someone else will find challenging.

The real possibilities of this activity fall not in what the students can create, but in what the teacher can do with the questions that students have made. Here are some ideas:

- Using the best questions for regular quizzes (keeping in mind that at least one student will already know the answer)

For More Information:  
Assessing Students

- Using the best questions for quizzes for a successive cohort
- Using student created questions as the basis for a final exam

Getting more out of quizzes

<table>
<thead>
<tr>
<th>Name</th>
<th>Drag-and-drop matching question type, Drag-and-drop ordering question type, Image target question type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module type</td>
<td>Question type</td>
</tr>
<tr>
<td>Author</td>
<td>Adriane Boyd</td>
</tr>
<tr>
<td>Released</td>
<td>2007</td>
</tr>
<tr>
<td>Maintained</td>
<td>Actively</td>
</tr>
<tr>
<td>Languages</td>
<td>English, German, Japanese, Russian</td>
</tr>
<tr>
<td>Compliance</td>
<td>Good</td>
</tr>
<tr>
<td>Documentation</td>
<td>Design documentation, readme.txt file</td>
</tr>
<tr>
<td>Errors</td>
<td>None displayed</td>
</tr>
</tbody>
</table>

Automated assessment can be used to complement other assessment mechanisms, or in some cases, to replace it entirely. Moodle offers the Quiz module for automated assessment and quizzes can contain a variety of different types of questions. In line with Moodle's principle of modularity, it is possible to add new question types to this mix. Here are a few good examples.

Getting ready

Unzip and copy the question type directories into the /moodle/question/type/ directory, then visit the Notifications page.

How to do it...

You can add questions directly to the question bank to be added to quizzes later, or you can add questions as you are developing a quiz. To create questions in the question bank, click on Questions in the Administration block on a course page.

In the question bank, you can add new questions by selecting a question type from the list labeled Create new question.

For More Information:
The Drag-and-drop matching question type is an extension of the regular matching question type. It relies on JavaScript to allow students to drag together matching items, but falls back to the functionality of the regular matching question if JavaScript is not turned on. It is a pretty safe bet that you can rely on students having JavaScript turned on, so it is likely they will get the most out of this question type.

Selecting Drag-and-Drop Matching from the Create a new question menu will launch the creation of a new question of this type. All question types have the same General settings.
Assessing Students

Enter a name for the question and the question text, then scroll down.

For a Drag-and-drop matching question, you must supply at least three pairings. The nomenclature for pairings is slightly odd. Each pairing is grouped as **Question 1, Question 2,** and so on:

<table>
<thead>
<tr>
<th>Question 1</th>
<th>Question</th>
<th></th>
<th>Answer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stop</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 2</th>
<th>Question</th>
<th></th>
<th>Answer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Slow-down</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 3</th>
<th>Question</th>
<th></th>
<th>Answer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 4</th>
<th>Question</th>
<th></th>
<th>Answer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 6</th>
<th>Question</th>
<th></th>
<th>Answer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Turn around</td>
<td></td>
</tr>
</tbody>
</table>

For each pairing there is a **Question** and an **Answer.** When the question is displayed, the list of **Question** text labels will appear on the left and the matching **Answer** text labels will appear, in shuffled order, on the right. Adding a pairing without a **Question** label adds an **Answer** label that will not be matched. This is useful for adding distracters to the quiz question.

The Drag-and-drop ordering question type allows questions to be created that require students to put a list of items into the correct order.

Selecting **Ordering** from the **Create a new question** menu will launch the creation of a new question of this type. Again there are general settings that must be entered. Add a question name. You may also want to add question text that gives the context of the items and prompts the user to reorder the items.

Below the general settings, the items to be ordered need to be specified. The items should be entered in the correct order; they will be shuffled each time the question appears to a student.

For More Information:
There is also an option to Display the items horizontally. With this option checked, the items will appear side-by-side, which would be appropriate for a short list of items with brief labels. Leaving this option unchecked causes the items to appear in a vertical list.

The Image target question type allows the teacher to upload an image containing areas that can be identified. The student must drag a target onto the correct area (or one of a number of specified areas) to answer the question correctly.

Before adding an Image target question, you should upload an image to the course files area. Click on Files in the course Administration area. In Files, click on the button labeled Upload a file and you will be presented with a form containing a file browse box. Click Browse and a file dialog box will appear. Locate the image file (it should have a .jpg extension) and select it. Back at the Upload a file form, click on the button labeled Upload this file and, after the file is uploaded, it should appear in the files area. With the file in place, you can then create an Image Target question that makes use of it.

Selecting Image Target from the Create a new question menu will launch the creation of a new question of this type. In the General settings, add a question name and question text that prompts the user to drag the target onto the identifiable item.
Assessing Students

Below the general settings, there is a drop-down list labeled **Question image**. Opening the list will reveal the images in the course directory that can be selected. Select the image you have uploaded and click on **Insert image to specify answer**.

The page will reload and the chosen image will appear.

For More Information:
You must now specify the area within the image that, if identified by the student, will be seen as a correct answer. On top of the image there is a semi-transparent mask and within this there is a resizable area. The area can be moved by clicking and dragging it. It can also be resized by dragging the handles around the edges of the image. It is possible to add more target areas if needed.

**How it works...**

The Drag-and-drop matching question type provides a far more intuitive interface for identifying matches, compared to the regular matching interface. This would be particularly useful for assessing younger students.

To answer the question, a student must drag the options from the right on to the target locations on the left, next to the appropriate label. Students can drag questions off the targets or replace answers with another.

Answer correctness is not displayed in the teacher preview of the question, but it does appear when a student answers the quiz.

For More Information:
A Drag-and-drop order question appears with the items appearing in shuffled order. The student must drag items to their correct position. When an item is moved, other items make way by moving around it. The end result is a very intuitive way of ordering items.

2 Order the following days of the week.
Marks: 1

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday</td>
<td>Thursday</td>
<td>Friday</td>
<td>Wednesday</td>
</tr>
</tbody>
</table>

☐ I don’t know

The Image target question type appears with the question text above an image, and a cross-hair target to the left.

3 Drag the target onto the light that means "stop".
Marks: 1

Drag the target onto the image:

The student must drag the target onto the image, within the designated area in order to achieve a correct answer.

For More Information:
There's more...

These new question types open up a number of new teaching applications. The Drag-and-drop matching question could be used for:

- Matching injuries to first-aid treatments
- Matching inventors to their inventions
- Matching sports stars to their sports or movie stars to their movies

Drag-and-drop order questions could be used with information that falls into a sequence.

- Ordering the atomic mass of particles
- Ordering steps in biological process
- Ordering statements in a computer program so it will produce a correct output

The Image target question type can be used to ask students to locate items visually.

- Identifying locations on a map
- Identifying specific people in a group photograph
- Playing "Where's Wally"/"Where's Waldo", perhaps adapted to a particular teaching context, for example, "Where's Einstein"

See also

- QuizPort module (see Modules and plugins database)

Giving immediate formative feedback

<table>
<thead>
<tr>
<th>Name</th>
<th>Hidden Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module type</td>
<td>Filter</td>
</tr>
<tr>
<td>Author</td>
<td>Dmitry Pupinin</td>
</tr>
<tr>
<td>Released</td>
<td>2008</td>
</tr>
<tr>
<td>Maintained</td>
<td>Limited</td>
</tr>
<tr>
<td>Languages</td>
<td>English, French, German, Hebrew, Japanese, Russian</td>
</tr>
<tr>
<td>Compliance</td>
<td>Good</td>
</tr>
<tr>
<td>Documentation</td>
<td>Online documentation</td>
</tr>
<tr>
<td>Errors</td>
<td>None displayed</td>
</tr>
</tbody>
</table>

For More Information:

Assessing Students

The main aim of assessment is to encourage student learning. Not all assessment needs to be worth marks and not all assessment needs to be large scale. The Hidden Text filter allows hidden text to be included in and around a Moodle site. This can be used to prompt students to anticipate answers and then reveal them to confirm their suspicions and reinforce their learning.

Getting ready

Unzip and copy the hiddentext directory into the /moodle/filter/ directory then navigate to Site Administration | Modules | Filters | Manage Filters and click on the eye icon in the row labeled Hiddentext.

How to do it...

With the filter in place, text can be marked as hidden text by placing filter tags around it. In a WYSIWYG editor [span] and [div] tags can be used. A [span] tag can be used within a sentence and a [div] tag hides a section of a paragraph or more.

If you wanted to ask a question and temporarily hide the answer you could write content as follows:

```
Before the hidden content there is a filter tag:

[span filter="hidden text"]

The end of the hidden content is followed by a closing filter tag:

[/span]

When the text is parsed by the filter, the hidden text is replaced by an eye icon.
```
Clicking on the icon reveals the hidden text.

Clicking the icon again re-hides the content.

The icon itself is meaningful, but not necessarily intuitive. It is possible to add a label to accompany the icon. This is achieved by adding a `desc` attribute to the initial filter tag.

The label is then rendered next to the icon as follows.

Assessing Students

How it works...

The Hidden Text filter uses the YUI library to hide and reveal text. This is how it achieves a fade effect.

There's more...

The Hidden Text filter is not limited to questions and answers. It can be used to hide content of any kind. Here are some applications:

- Hiding additional information that, if shown in the original view, might overcomplicate the content for most readers
- Inserting links that do not distract from the flow of the content, but can be revealed if needed
- Placing “Easter eggs” or secret information around the site to encourage students to explore

Recognizing high performers

<table>
<thead>
<tr>
<th>Name</th>
<th>Course Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module type</td>
<td>Block</td>
</tr>
<tr>
<td>Author</td>
<td>Vlas Voloshin</td>
</tr>
<tr>
<td>Released</td>
<td>2009</td>
</tr>
<tr>
<td>Maintained</td>
<td>Limited</td>
</tr>
<tr>
<td>Languages</td>
<td>English, Russian</td>
</tr>
<tr>
<td>Compliance</td>
<td>Good</td>
</tr>
<tr>
<td>Documentation</td>
<td>readme.txt file</td>
</tr>
<tr>
<td>Errors</td>
<td>None displayed</td>
</tr>
</tbody>
</table>

There's something to be said about a little competition to motivate students. Informing students about the top performers in a course, allows them to have an accurate understanding of their success in the course. The Course Results block allows a teacher to show the best (and worst) results from any marked activity within a course, or category grades, or even the course total.

For More Information:
Getting ready

Unzip and copy the block directory into the /moodle/blocks/ directory then visit the Notifications page.

How to do it...

In the Blocks list, the Course Results block is listed as Results. When a block is initially added it will present a message encouraging you to update it.

Clicking on the configuration icon takes you to the configuration page.
Assessing Students

The first choice you need to make is the grade item you want to display in the Course Results block. If you want to show the overall course results, you can choose Course Total. You need to specify a number of highest or lowest results; you can't leave both of these as zero. Unless you are a ruthless teacher, unafraid of litigation, you would not want to reveal the identity of your poorest performing students, so you will more than likely want to set a number for the highest results.

You can choose if names and pictures are shown with results. Result values can be given as percentages, fractions (for example, 80/100) or as numeric marks.

The block title can be set, which allows you to have multiple blocks for different results. You can also provide text to appear before and after the results list.

How it works...

The block shows the top results in a table.

<table>
<thead>
<tr>
<th>Assignment Results</th>
<th>We'll done everyone.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The 3 highest results:</td>
<td></td>
</tr>
<tr>
<td>1. 🌟 Kevin Smith 100%</td>
<td></td>
</tr>
<tr>
<td>2. 🌟 Jenny Xu 100%</td>
<td></td>
</tr>
<tr>
<td>3. 🌟 Jill Jones 80%</td>
<td></td>
</tr>
<tr>
<td>The next assignment is due in two weeks.</td>
<td></td>
</tr>
</tbody>
</table>

The table updates automatically based on the latest results each time the page is loaded.

See also

- Quiz Results block (see Modules and plugins database)

For More Information:

Where to buy this book

You can buy Moodle 1.9 Top Extensions Cookbook from the Packt Publishing website: https://www.packtpub.com/moodle-1-9-top-extensions-cookbook/book

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