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# 10

## Lessons

When I was growing up, I enjoyed reading a series of books called *Choose Your Own Adventure*. Written in second person, they placed the reader into the story as the main character. Each chapter was a page or two long ended with a choice of actions. I could choose the action I wanted to take and turn to the appropriate page to see what happened. I could then make another choice and turn to that page, and so on until the story ended or my character died, which happened with disturbing regularity.

The Moodle lesson tool is a lot like the *Choose Your Own Adventure* books. Each page in the lesson can have a question at the bottom of the page. The resulting page depends on the answer the student gives. You can create branching paths through the material based on the selections students make at each page.

With branching lessons, you can create programmed learning opportunities in which each correct answer brings up a new piece of information and a new question. You can also easily create flash-card lessons and, with a little creativity, you can use the lesson module to create simulations and case studies to respond to student input which results in a degree of interactivity.

There are two basic page types in the lesson module. The question page presents the student with a question, and the student has to enter a correct answer. After a student submits his answer, he will see the response you've created and will be taken to another page or looped back to the same page. Question pages are scored and added to the student's cumulative grade.

A branch tables page presents the user only with the option to select a branch. There is no correct or incorrect answer for each response, and the student selections do not impact his grade.

The authors of the tool envision branches as tables of contents giving students access to chains of questions. At the end of a chain, the user will return to the branch table, be presented with another branch table, or end the lesson. Of course, you don't have to create a lesson this way. You can use the branch table to create a branch simulation in which the student's choices present him with consequences and new decisions. At the end of the chapter, we'll explore some other creative ways to apply the lesson module.

Creating a lesson isn't complex, but the math of branching lessons means you have to plan carefully how you want to use this capability. Unless you prune your branching lesson, you will end up with huge number of options for students, and a large number of pages to write.

## Creating a Lesson

Before you begin creating a lesson, it's a good idea to draw a lesson flowchart. Lessons require more advanced planning than many of the other tools. With the potential for branching on each page, advanced planning is critical before you begin to develop your lesson. Even with two choices per page, if every choice results in a new page, you will quickly need a very large number of pages. The first page will require two additional results pages, and each of these will require two more for a total of seven pages just to two choices. The key to minimizing the number of pages is to reuse as many as possible.

Take a few minutes to draw a flowchart for your lesson. What will the first page display? What are the options? Where will the options take the student? It's important to answer these questions for each page of the lesson to avoid getting lost while you are actually creating the content.

Once you have your flowchart, it's time to start creating a lesson.

To add a lesson to your course:

1. Click Turn Editng Mode On.
2. In the Add an Activity menu, select Lesson. You'll then see the Add a New Lesson page, as shown in Figure 10-1.

Updating lesson in week 2 ?

Name:

Maximum grade:  ?

Maximum number of answers/branches:  ?

Maximum number of Attempts:  ?

Action after Correct Answer:  ?

Minimum number of Questions:  ?

Number of Pages (Cards) to Show:  ?

Student can Re-take:  ?

Handling of Re-takes:  ?

Available from:    -

Deadline:    -

Figure 10-1. New lesson page

3. Give your lesson a descriptive name.
4. Select the maximum grade for completing the lesson (from 0 to 100).
5. Choose the maximum number of answers/branches per page. This is the maximum number of selection options you want per page.
6. Select the options you want to use for this lesson:

#### Maximum number of attempts

This represents the maximum number of attempts a student can make on any question. If a student has difficulty with a short-answer or numerical question type, she can make this number of attempts before being moved to the next page.

#### Action after Correct Answer

This determines how the system responds after a correct answer. Most of the time, you'll want the system to show the page you've selected as a response. You can also elect to have the system randomly display a question the student hasn't seen yet, or one she hasn't answered.

#### Minimum number of Questions

With this option, you can set the number of questions used as a base for calculating the student's grade. If you set a minimum number of questions, the student must answer at least this many questions to receive full credit.

#### Number of Pages (Cards) to Show

Set this parameter only if you are creating a flash-card lesson. If this is set to a number greater than 0, students will be shown that number of cards, and the lesson will end. If this is set to a number greater than the number of cards you've created, Moodle will display every card.

#### Student can Re-take

You can allow students to retake the lesson or not. You can set this only to Yes or No. You can't set the number of times a student can retake a lesson.

#### Handling of Re-takes

If you allow students to retake the lesson, you need to set a grading policy. You can use the mean of the student's grades on the lesson or select the maximum grade.

7. Once you've selected the options you want to use, set the availability date and the deadline.
8. Click Save Changes. You will then be taken to the editing page for the first page of the lesson.

Once you've set up the basic lesson shell, you need to create the first question page of the lesson. Each lesson's question page consists of a title, some content, and the question choices at the bottom of the page. When a student answers a question, he sees the response for his answer and a Continue button. The Continue button takes him to the appropriate branch page.

By default, the first response takes the student to the next page while all other responses return the student to the same page. After you've created a page, you can come back and edit this behavior. The lesson automatically presents the question choices in random order so you don't have to worry about the first response always being the correct one.

To create the first page, fill in the form shown in Figure 10-2:

1. Give the page a name. The name will be visible to the student as he completes the lesson. You can also use it to organize your pages as you build the lesson.
2. Enter the page contents. The contents will need to include the question you want the students to answer as well. If you are creating flash cards, you'll want to enter only the question here.
3. Select the question type. Your options are multiple-choice, true/false, short-answer, numerical, and matching.
4. If you want to use multiple-answer, multiple-choice questions or want case-sensitivity in the short-answer responses, select the question option.
5. Enter the correct answer to the question in the Answer 1 box.

The screenshot displays a lesson construction interface with the following sections:

- Page title:** A text input field.
- Page contents:** A rich text editor with a toolbar containing options for font face (Trebuchet), font size (1 (8 pt)), heading (Heading 1), bold (B), italic (I), underline (U), strikethrough (ABC), subscript (x<sub>2</sub>), superscript (x<sup>2</sup>), insert image, link, unlink, and undo/redo. Below the toolbar is a large text area with a mouse cursor.
- Path:** A label indicating the current path is 'body'.
- Question Type:** A dropdown menu set to 'Multiple Choice' with a help icon.
- Question Option:** A checkbox and a help icon.
- Answer 1:** A text input field.
- Response 1:** A text input field.

Figure 10-2. First page in a lesson

6. Enter the response generated by the answer.
7. Enter any other answer choices you want to student to consider with responses for each.
8. Click the Add a Question Page button at the bottom of the page.

You'll then see the lesson construction page, such as the one shown in Figure 10-3. Each page you create will be listed here with a number of options below it:

#### Import Questions

You can import questions from a variety of formats. The lesson module will create a page for each question you import.

### Add a Branch Table

A branch table is a lesson page without responses to student selections. Instead, each selection option branches to another page. Branch tables do not impact a student's grade.

### Add an End of Branch

If you use branch tables, you should end each branch with an end-of-branch page, which takes the student back to the last branch table page so she can select another alternative.

### Add a Question Page Here

Click this link to add another question page. You can add a question page above or below any page.

Which page is this?	
<b>Multiple Choice</b>	
<b>Answer 1:</b>	The second page
<b>Response 1:</b>	Not yet
<b>Jump 1:</b>	Next page
<b>Answer 2:</b>	The first page
<b>Response 2:</b>	Yes!
<b>Jump 2:</b>	This page
<b>Answer 3:</b>	The third page
<b>Response 3:</b>	Did you read the above?
<b>Jump 3:</b>	This page
<b>Answer 4:</b>	I don't beleive in page numbers
<b>Response 4:</b>	Hmmm.. very philosophical, but wrong
<b>Jump 4:</b>	This page
<a href="#">Check Question</a>	
<a href="#">Import Questions</a>   <a href="#">Add a Branch Table</a>   <a href="#">Add an End of Branch</a>   <a href="#">Add a Question Page here</a>	
<b>Branch Table</b> ⌵ ⌵ ×	
<a href="#">Table of contents</a>	
<b>Branch Table</b>	
<b>Description 1:</b>	Off to the next page
<b>Jump 1:</b>	Next page
<b>Description 2:</b>	Jump to another chapter
<b>Jump 2:</b>	Page 1
<b>Description 3:</b>	Jump to the end of the lesson
<b>Jump 3:</b>	End of lesson
<a href="#">Check Branch Table</a>	

Figure 10-3. Lesson construction page

At the top of each page table, you'll see the icons for moving, editing, or deleting the page. Below the page details, you'll see a button labeled Check Question. Clicking on this button shows the lesson from the student's point of view. You can answer questions, check out branches, and interact with the lesson. The only thing you won't be able to see is the final grade.

You can also test your lesson by clicking the Check Navigation link on the bottom of the page list. This link will take you to the first page in your lesson as a student would see it. You can then start from the beginning of the lesson and work your way through.

Once you've created your first page, you can add a new page, add a branch table, or edit an existing question. You'll need to add each page you want students to be able to view.

## Managing Lessons

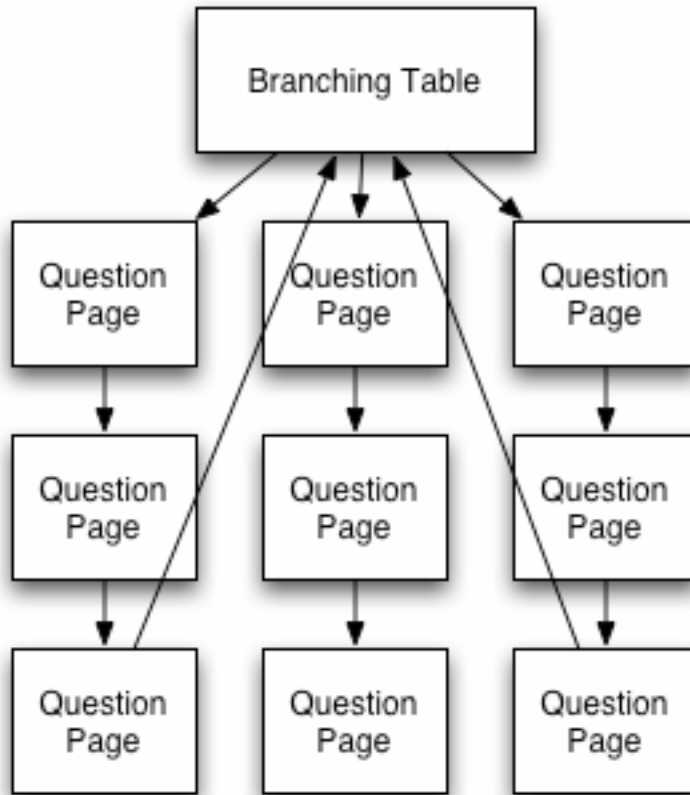
Once you've created your lesson, there isn't much management involved. Unlike other modules, the lesson module does not give you direct access to a student's performance. Instead, the only way to track a student's progress is through the grades module. As students complete the lesson, their scores will be recorded in the gradebook (see Chapter 12). If you've allowed students to view each lesson multiple times, their scores may change as they repeat the lesson.

## Effective Lesson Practices

Lessons can be an interesting change of pace for your students. They may require more upfront development time than many other types of tools, but they do provide some benefits. The two basic lesson types, branching quizzes and flash-cards are relatively easy to set up.

### Branching Quizzes

The most basic lesson structure is branching quiz. You use branches to organize sets of questions around different topics or concepts in your course. Each branch of the quiz leads to a linear series of pages and test questions and then returns to the main branch. The main-branch page acts as a table of contents for the lesson, as shown in Figure 10-4.



*Figure 10-4. Branching quiz schematic*

If you decide to build this type of lesson, be sure to include a link to the end of the lesson on the main page. If not, the students will have no way of ending the lesson and recording their score.

If you create a lesson with a branch table and strings of questions, be sure to set a reasonable minimum number of questions. Otherwise, students will be able to visit one branch and receive a maximum score for the lesson, even though they didn't look at any other branches.

To create a branching quiz:

1. Create the lesson and the first question page by following the instructions.
2. Create a question page for the first question in each branch.
3. Create a branch table with a branch for each of the questions you just created.



4. Be sure to make the last branch a link to the end of the lesson.
5. After you've saved the branching table, move it to the top of the pages list.
6. Under the first question for the first branch, create the second question page for the next step in the branch.
7. Fill in the question page for the second question. Put the correct answer in the first answer slot if you are creating a true/false or multiple-choice question.
8. Continue adding questions to the branch until you are finished.
9. Add an end-of-branch after the last question in the branch.
10. Below the first question for the each of the remaining branches, repeat steps 6 through 9.
11. When you have added all your pages, review your lesson by clicking the Check Navigation link.

## Flash Cards

Flash cards can be a useful way to practice recalling basic facts and definitions. As we discussed in Chapter 9, learning vocabulary can be one of the most difficult tasks for novices in any field of study. Flash cards allow students to practice rapidly recalling definitions as an initial step toward learning how to communicate in a new field.

The lessons module can act like a deck of flash cards, presenting either the whole deck or a subset of cards to students when they want to study the new terms. Each question page is a separate card, and students can rapidly react to each one in turn. This is a very different structure than the branching quizzes.

Setting up a flash-cards lesson requires specifying options when you first create the lesson. To create a flash-cards lesson:

1. Follow steps 1 through 4 for creating a lesson in the "Creating a Lesson" section.
2. Consider setting a low value for the maximum grade. You want to reward students for using the flash cards but also make them a valuable learning tool.
3. Use the following options:

### Action after Correct Answer

Set to unseen or unanswered. This tells the lesson module you don't want it to present the next page in order.

### Minimum number of questions

Keep this at 0. The students shouldn't have a choice about the number of cards they see.

### Maximum number of cards

If you want to limit the number of questions students see each time they practice with the cards, set this to a nonzero number. Make it large enough to give students enough practice, but not so large they become fatigued by the sheer volume of questions.

### Student can Re-Take

Unless you have a very specific reason for limiting retakes, I recommend setting this to yes. Flash cards are used to practice recalling information rapidly. Save the assessment of students' recall skills for a quiz.

### Handling of Re-Takes

I recommend setting this to the maximum to encourage students to reuse the flash cards to attempt to get the maximum score.

4. Once you save the lesson options, simply create question pages. The order doesn't matter. You're basically creating a deck of questions to draw from.

Once you've created the deck of flash cards, you can release it to your students so they can practice answering the questions you've created.

## Creative Lesson Uses

While branching quizzes and flash cards are interesting applications, there is a hidden potential in the lessons module that makes it much more interesting than it at first appears. If we take advantage of the ability of each answer in a question page to link to any other page, we can create branching *Choose Your Own Adventure* -style simulations or case studies.

### Simulations and case studies

A branching simulation can be a great learning tool. On each page, the student reads some information or looks at a picture (or both) and makes a decision about what to do next. For example, a medical simulation may start out by presenting a patient's complaint and then asking what should be done next. Possible choices could be to order a test or to do nothing. If the student orders a test, each branch would present the results of the test and asks the student what should be done next. Each page could include an option to switch from diagnosis to treatment, which would branch the student to a different set of options.

To successfully create a branching simulation, you will definitely have to map out each page in advance. The first page should introduce the situation. You'll need to include enough details in the first page to get the students started. If you have other materials you want them to use in the simulation, you may want to create a resource link the students can access before they start the lesson.

If you just want students to engage in the decision-making process and not receive a grade, simply create a series of branch tables. Otherwise, you can create a combination of branching tables and questions.

To create a simulation:

1. Create a lesson as you would a branching quiz lesson. If you're just using branch tables, assign a point value of 0 to the lesson.
2. Create the first question page. If the first question page will be the first page in the simulation, be sure to provide enough details about the case so the students can start making decisions.
3. Create the first set of decision-result pages from the first page.
4. Go back and edit the first page and assign each answer a link to a resulting page. Be sure the first answer is the best choice since students will receive a point it.
5. Create the decision-result pages for each of the other decision pages.
6. You'll need to create all of the pages in advance or, after you create each iteration of decision-result pages, go back and add the links to those pages in the decision page.
7. After you've completed adding all of the pages and links, test your simulation with the Check Navigation link.

