



## HOW TO GUIDE – Captivate 2 SCORM Content Authoring

The objective of this document is to assist our customers with the creation of SCORM content using Adobe Captivate 2. We tested SCORM 1.2 and 2004 content packages created with Adobe Captivate 2 (Version 2.0.0 Build 1177, Full version) on the Firmwater LMS. Captivate is capable of creating content packages that contain a single sharable content object (SCO), which can be used to train as well as test students. Captivate does not support the creation of course content containing multiple SCOs. However, multiple SCOs can be manually combined to create more complex course structures. The instructions below summarize:

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- requirements for generating SCORM packages
- recommendations for relevant settings when generating SCORM packages
- limitations and solutions of using Captivate to create SCORM content

SCORM 1.2 content packages created with Captivate had problems calculating students' correct quiz scores following multiple attempts. Therefore, we recommend choosing the SCORM 2004 format when using Captivate 2 to create content for the Firmwater LMS.

### 1. Requirements for Generating SCORM Packages

The following outlines the requirements for creating SCORM 2004 content with Captivate 2:

- a. Ensure that your content contains some form of a quiz or a survey. Otherwise, the generated package is not a SCORM package and cannot be uploaded to the Firmwater LMS.
- b. Add a value for the element `<imsss:minNormalizedMeasure>` in the manifest file. Otherwise pass/fail scores will not be properly recorded.
- c. Add a reference to the file **standard.js** to the manifest file. Otherwise content packages cannot be launched, and the screen will be blank.
- d. Add a reference to the file **theName\_skin.swf** into the manifest file or disable the Skin Borders. Otherwise content packages cannot be launched, and the screen will be blank.
- e. If answers to quiz questions need to be stored in the LMS database, ensure that **Report interactions and the score** is selected for **Reporting Level** (Quiz Manager > Reporting > Reporting Level). Otherwise, if **Only report the score** is selected, students' answers to quiz questions will not be stored in the LMS database.
- f. When publishing content, do not use any special characters (e.g. &, %, or \$) for the .zip filename, otherwise the content will not launch.

Please refer to Section 3 for detailed information regarding these requirements.

## 2. Recommendations for Relevant Settings

### 2.1. Settings in the Quiz Manager

The Quiz Manager contains all the relevant settings for creating a content package (see Figure 1). The Quiz Manager includes five tabs: **Reporting**, **Quiz Settings**, **Pass or Fail Options**, **Default Labels**, and **PENS**. To access the Quiz Manager, click on **Project** in the menu bar and select **Quiz Manager**.

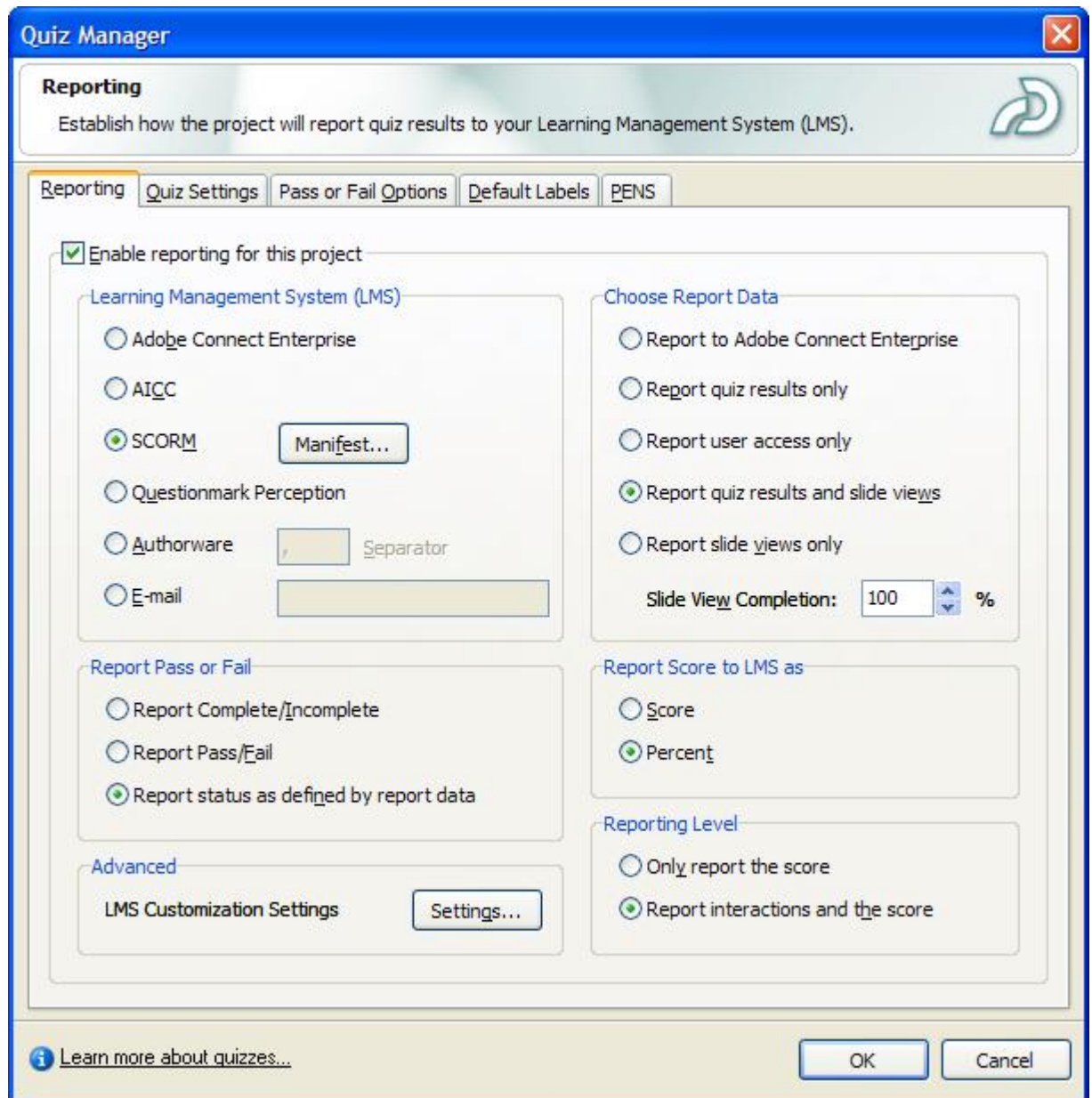


Figure 1. Screenshot of the Quiz Manager's "Reporting" tab



### 2.1.1. Reporting tab

The **Reporting** tab contains a variety of options for reporting students' statuses and results. On the **Reporting** tab:

- ▶ Select **Enable reporting for this project**.
- ▶ Under **Learning Management System (LMS)**, select **SCORM** (the settings for the SCORM manifest are described in the next part).
- ▶ Under **Report Pass or Fail**, select **Report status as defined by report data**.
- ▶ Under **Choose Report Data**, select **Report quiz results and slide views**.
- ▶ Under **Report Score to LMS as**, select **Percent**.
- ▶ Under **Reporting Level**, select **Report interactions and the score**.

The Reporting options outlined above are the recommended settings. Changing these options will not alter the way that results are reported to the Firmwater LMS except for the option **Only report the score** under **Reporting Level**. If you need to store students' answers to quiz questions in the LMS database, make sure you select the option **Report interactions and the score**. If **Only report the score** is selected, students' answers to individual quiz questions will not be stored in the LMS database.

### 2.1.2. SCORM manifest

On the **Reporting** tab, click on the **Manifest** button next to **SCORM**. In the pop-up window (Figure 2):

- ▶ Under **SCORM Version**, select **2004**.
- ▶ Under **Course**, enter a unique identifier. The course identifier in conjunction with the version will create a unique id which is used by the Firmwater LMS to distinguish between content packages. Please use a unique identifier for each content package, otherwise content may not load, or may delete existing content.
- ▶ Enter a descriptive course title to capture what the content contains.
- ▶ Under **SCO**, enter a unique identifier and a descriptive title for the content (SCO). These names may be the same as the course identifier and title.
- ▶ Enter other information as desired.
- ▶ Click on the **OK** button.

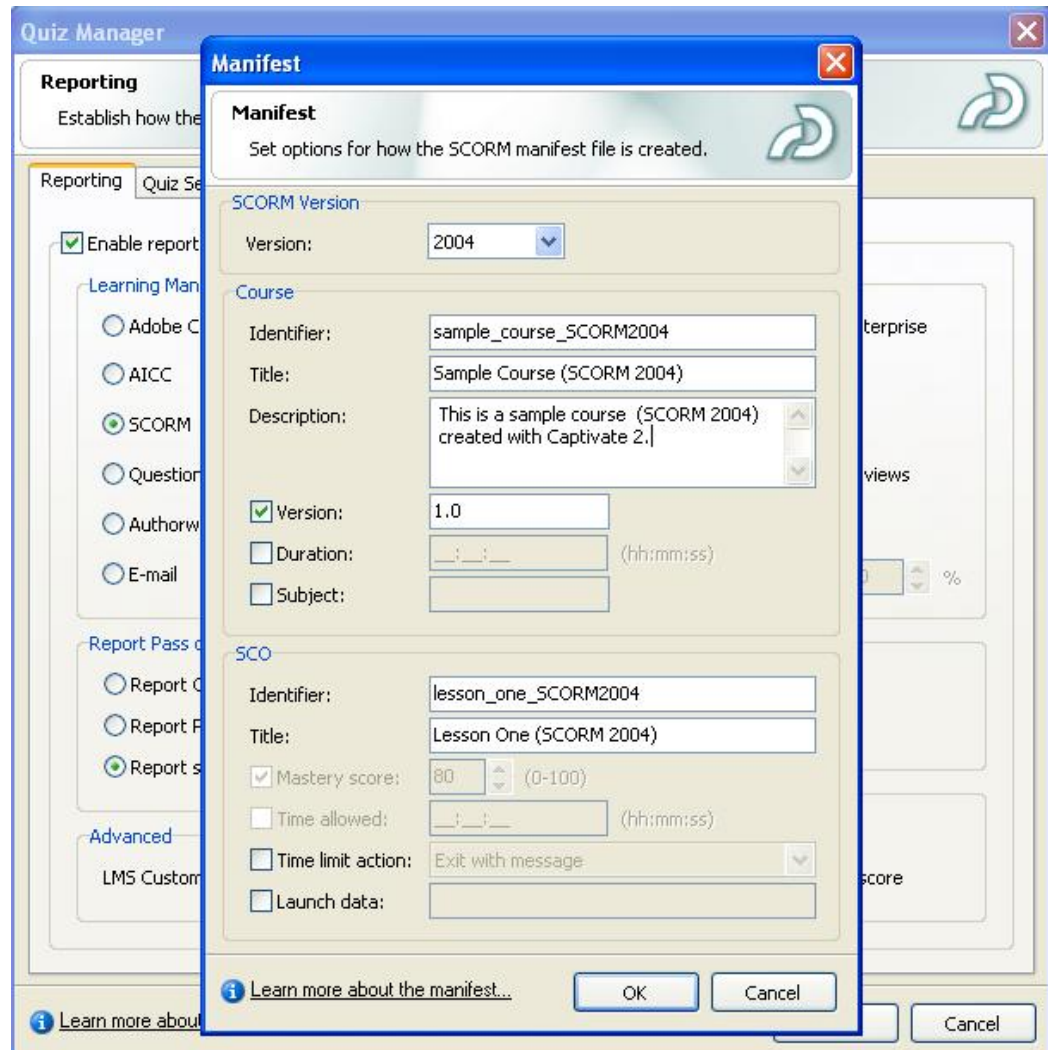


Figure 2. Screenshot of “Manifest” pop-up window

### 2.1.3. Remaining tabs

Set the settings as appropriate for the tabs:

- **Quiz Settings**
- **Pass or Fail Options** (See section 3.3)
- **Default Labels**

After all the settings in **Quiz Manager** have been set properly, click the **OK** button.



## 2.2. Settings in the Skin Editor

The Skin Editor allows the author to select the look of the playback control toolbar, add an on-slide menu, and add relevant information to be displayed after the student clicks on the **Information** button on the playback toolbar. To access the editor, select **Skin...** in the **Project** menu bar.

If you require the skin borders to be enabled, please view section 3.2 for instructions on how to add the file **theName\_skin.swf** to the manifest of your content package.

Otherwise, to disable skin borders:

- ▶ Click on the **Borders** tab.
- ▶ Un-select **Show Borders**.
- ▶ Click on the **OK** button.

## 2.3. Setting the Project Preferences

The **Project Preferences** menu permits you to change production settings like loading screens, background audio, etc. If you wish to use the same settings for **Preferences** repeatedly, open a blank project, set the settings in **Preferences** as desired, and save the blank project as a template for future use. To access **Preferences**, click on **Project** in the menu bar and select **Preferences**.

## 2.4. Advanced Interaction

**Advanced Interaction** is a one-stop menu to alter the settings of quiz questions and interactions (i.e. click boxes, text entry boxes, buttons). To access **Advanced Interaction**, click on **Project** in the menu bar and select **Advanced Interaction**.

## 3. Generating SCORM Content

Below you will find instruction on how to alter Captivate's SCORM packages in order for them to function properly on the Firmwater LMS. Please note that some changes only need to be made once to templates immediately after installing Captivate and the altered template can be used thereafter without having to make these changes for each project.

### 3.1. Every content package has to contain a quiz or a survey

Captivate assumes that every SCORM content package contains a quiz or a survey. If your content contains neither, although the option for generating SCORM content packages is still enabled, the generated package will not contain more than a Flash object, an HTML file and a **standard.js** file. Due to the missing manifest file, the content package will not be a SCORM package.

We suggest adding a simple survey question at the end of every training content package created with Captivate 2. Such a question might, for example, ask the user to provide feedback on the effectiveness of the training.



### 3.2. Manifest does not contain references to files `standard.js` and `theName_skin.swf` (when skin borders are enabled)

SCORM 2004 requires that the manifest lists all files to be used. Each SCORM content package created with Captivate contains a `standard.js` file. However, the reference to this file is missing in the `<resources>` part of the manifest file. Also, if skin borders are enabled (default), a file `theName_skin.swf` will be created but not referenced in the manifest file. This will result in a blank screen when launching your content on the Firmwater LMS. There are two solutions for adding the reference for file `standard.js`:

#### Solution 1: Modify the manifest file of the content package

Open `imsmanifest.xml` from the generated content package. Add the following line to the `<resources>` part:

```
<file href="standard.js"></file>
```

#### Solution 2: Modify the template manifest file

Go to `C:\Program Files\Adobe\Captivate\Templates\Publish`. Open `manifest2004.xml`. Add the following line to the `<resources>` part:

```
<file href="standard.js"></file>
```

When using solution 2, you do not need to modify the manifest file of each individual content package.

As to the missing reference to `theName_skin.swf`, if you require skin borders to be enabled, then you need to add a reference to the file `theName_skin.swf` to the manifest of your content package. In this case `theName` stands for the **Project Title** that you assigned to your content package (Figure 3). To add the reference to this file, open `imsmanifest.xml` from your content package and add the following line to the `<resources>` part:

```
<file href="theName_skin.swf"></file>
```

Remember to substitute `theName` with the exact title of your project. As the title of your project is likely to change, you will have to add this reference to each manifest file individually. Adding the reference in the template manifest file may result in content not loading into the LMS.

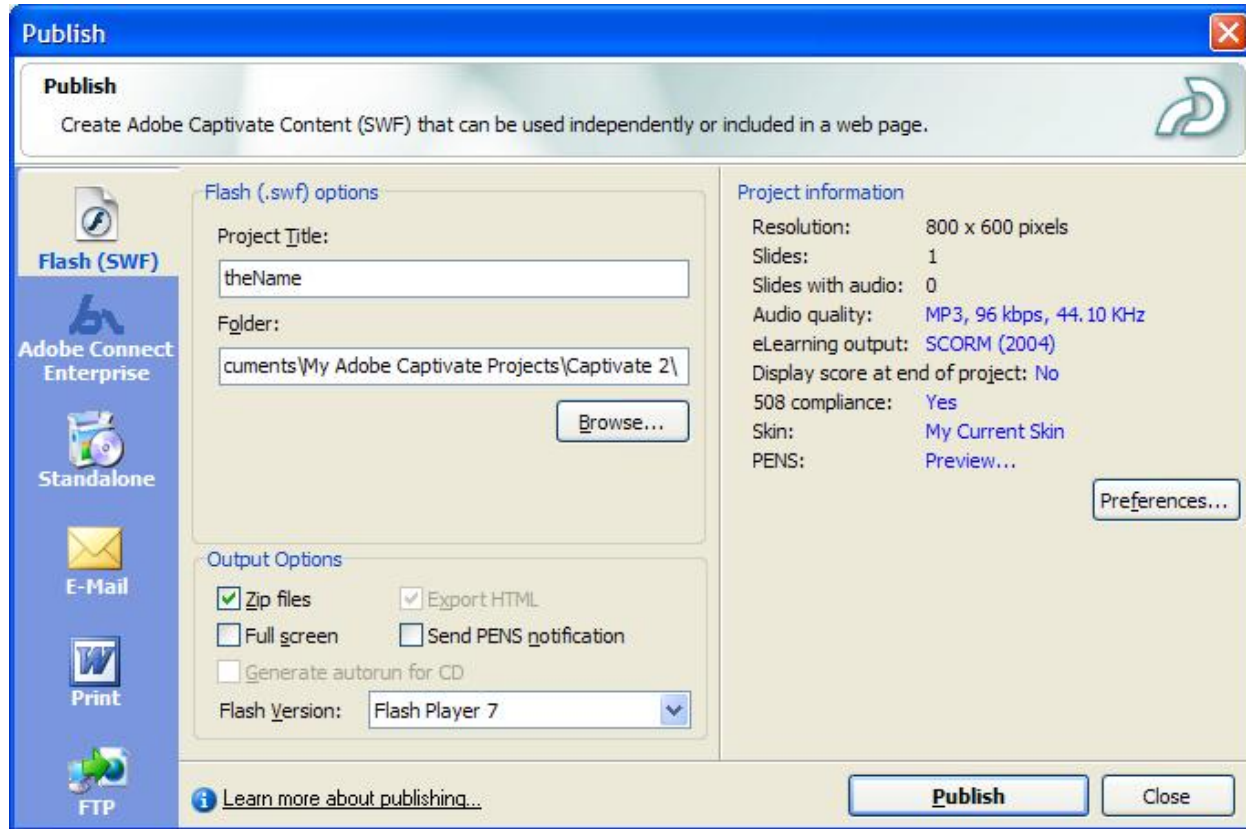


Figure 3. Screenshot of the “Publish” window

### 3.3. Setting passing scores for quizzes

Captivate’s SCORM content accounts for two different quiz passing scores:

1. scores reported within the SCO (reported on the results summary slide)
2. scores reported to the LMS (as indicated in the Firmwater LMS attempt history)

Entering different passing scores for these two values may result in inaccurate reporting; therefore ensure that all passing scores are the same value.

To set the passing score as reported within the SCO, click on the **Pass or Fail Options** tab (Figure 4) within the **Quiz Manager**. Set the passing score as desired.



The value for element `<imsss:minNormalizedMeasure>` in the manifest file determines the passing score for the LMS. Checking the template manifest file (i.e. **manifest2004.xml**) will suggest that the code for reading the passing score is missing, as indicated below:

```
<imsss:objectives>
<imsss:primaryObjective objectiveID="PRIMARYOBJ"
satisfiedByMeasure="true">
<imsss:minNormalizedMeasure></imsss:minNormalizedMeasure>
</imsss:primaryObjective>
</imsss:objectives>
```

The line `<imsss:minNormalizedMeasure></imsss:minNormalizedMeasure>` requires code that reads the passing score set by the content author. This missing value will result in inaccurate reporting of the students' status to the LMS. There are two ways for adding a value for the element `<imsss:minNormalizedMeasure>`:

#### **Solution 1:** Modify the manifest file of a content package

Open **imsmanifest.xml** of the content package. Add a passing score (in a decimal form) between

`<imsss:minNormalizedMeasure></imsss:minNormalizedMeasure>` (e.g. 0.6 for 60%, 0.8 for 80%). If the content package does not have a passing score, put zero.

#### **Solution 2:** Modify the template manifest file

Go to **C:\Program Files\Adobe\Adobe Captivate 2\Templates\Publish**. Open **manifest2004.xml**. Add a passing score (in a decimal) between

`<imsss:minNormalizedMeasure></imsss:minNormalizedMeasure>` (e.g. 0.6 for 60%, 0.8 for 80%). If the content package is not supposed to have a passing score, enter zero. This way you do not need to modify the manifest file of each individual content package, but the passing score of all content packages produced will be the same. If a content package requires a different passing score, modify its **imsmanifest.xml** manually following the procedure in Solution 1.

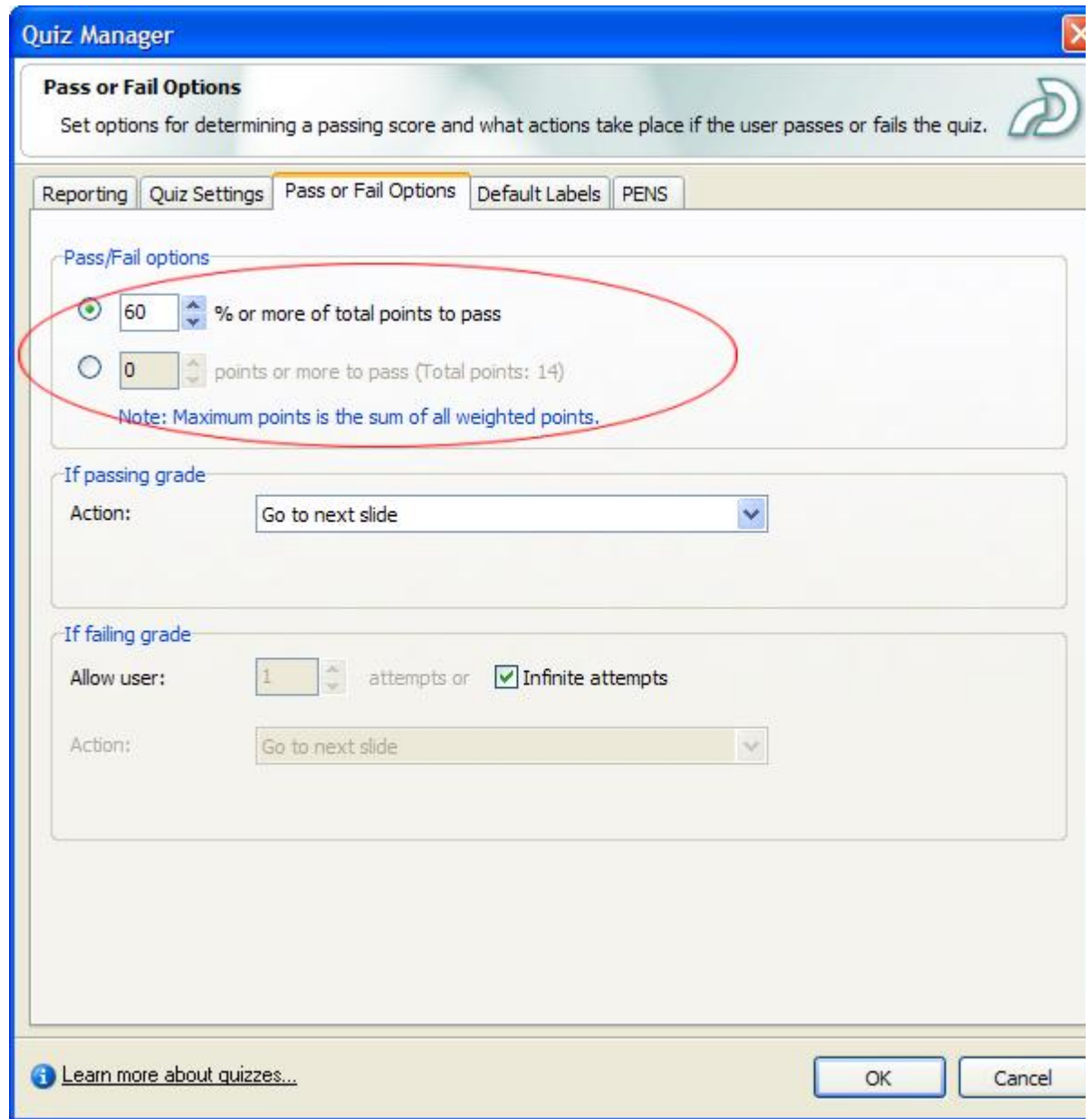


Figure 4. Screenshot of “Quiz Manager” pop-up window – Pass/Fail Options highlighted

### 3.4. Students’ quiz attempts are not limited

Quizzes can be set to allow one attempt, several attempts, or unlimited attempts. However, we discovered that with SCORM 2004 content packages, the number of students’ quiz attempts is not actually limited. Consequently, even if a quiz was set to allow only one attempt, the student could actually attempt it multiple times.



To effectively limit the number of attempts, we suggest loading the content into the Firmwater LMS and then editing the number of attempts allowed in the LMS before assigning the content to students. To do this, click on the **Content** tab within the Firmwater LMS, select your content, click on the SCO title and edit the SCO. Reset the number of attempts as desired and save.

### **3.5. Two limitations regarding surveys**

First, students' survey attempts are not recorded the same way as students' quiz attempts. Second, if a content package contains both a quiz and a survey, the survey questions will be included in the total number of quiz questions, and the total number of correct questions. For example, if a content package contains five quiz questions and three survey questions, the total number of questions indicated on the quiz results summary slide will be eight. If a student answered one quiz question and all three of the survey questions correctly, her number of correct questions would be recorded as four rather than one.

This will affect the number of correct questions recorded, yet this will not affect the score points or accuracy percentages assigned to students. Therefore, reporting of quiz scores, accuracy percentages, and pass or fail values should not be affected. If you require the value of number of correct questions to reflect quiz questions only, the solution is to include either a quiz or a survey, but not both.

### **3.6. Settings for reporting interactions**

In Captivate, interactions (i.e. click boxes, text entry boxes, and buttons) can be tracked and scored. Within the interaction reporting settings, the user can select/unselect two options: **Report Answer** and **Add to Total**. However, in our testing we did not observe any differences in the reporting of interactions caused by changing these options.

### **3.7. Special characters in the filename**

When the content contains special characters in the final .zip filename, then the content will not launch. Instead a blank screen appears. The solution is not to use any special characters as &, \$, or % when naming the .zip file.

### **3.8. Suspend and resume not supported**

SCORM 2004 content packages do not support suspending and resuming of training sessions. Students cannot resume training at the point where they exited it on a previous attempt.

#### **Note:**

Adobe launched Captivate 3 shortly after the completion of this evaluation. This document remains relevant regardless of improvements in Captivate's strengths (quizzes) and weaknesses (full motion recording). For detailed information on Captivate 3's new features please go to: [http://help.adobe.com/en\\_US/Captivate/3.0/index.html](http://help.adobe.com/en_US/Captivate/3.0/index.html). Firmwater is in the process of testing Captivate 3.



The information provided here was the result of our review of Tech Smith Camtasia Studio 4 and Adobe Captivate 2 over a four month period. We have attempted to fully and accurately reflect our experience using these tools. Both products are available on a trial basis and we recommend you test the product to ensure its suitability for your needs before purchasing. If you have any comments or questions, please send them to [info@firmwater.com](mailto:info@firmwater.com). Your feedback is most welcome.

### **About Firmwater**

Firmwater is an Internet consulting and development firm based in Toronto founded in 2001. Our focus is on enabling learning content providers to deliver their courseware and assessments simply and economically via the Internet to any number of their clients. Firmwater's leading product is the Firmwater LMS, a training delivery solution offered on a software as a service (SaaS) model. Firmwater offers consulting, custom development, and courseware creation services in support of the Firmwater LMS.

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