# SCORM Explained

## What is SCORM?

**SCORM** is an acronym for **S**harable **C**ontent **O**bject **R**eference **M**odel, a collection of specifications that allow online content to share information with a SCORM-conformant learning management system (LMS) such as Blackboard Learn. SCORM was developed by the Department of Defense as a method for content developers to build lessons (called SCO's or Shareable Content Objects) which would "play" in any LMS, avoiding redevelopment for multiple systems.

SCORM "packages" are often created by private companies, such as textbook publishers, or by instructional designers.  A SCORM package is a self-contained ZIP file containing components in a format required by the SCORM specification. Commercial software packages, ranging from StudyMate ($100) to Articulate ($1000), create SCORM-conformant files which can post grades directly to the Blackboard Learn Grade Center. Several computers in the FIT Lab and Multimedia Studio include software which the Online Learning Team has tested and verified as SCORM-conformant.

## SCORM and Blackboard Learn

The **SCORM Engine Building Block** is available to faculty members as a Content Type in Blackboard Learn.  This Building Block supports content that conforms to the SCORM 1.2 standard and the SCORM 2004 4th Edition standard. However, the exact standard used does not need to be determined in advance because the Building Block handles each type automatically.

The Building Block manages and plays SCORM packages. Instructors import SCORM packages into their Blackboard Learn course in the same way they add other content. However, the SCORM Engine presents a great many options. For example, instructors can choose to add a Grade Center item, as well as select from other options such as tracking. When a learner interacts with content that has been set to be graded, the grade is recorded in the Grade Center; if other options are set, additional attempt data such as total viewing time and completion status can also be recorded to assist the instructor in grading.

This document describes the process for uploading a SCO and also discusses some of the advanced SCORM-related options that are available in Learn.

## Adding a SCORM package to Learn

The Instructor adds SCORM packages in the same manner as any other content.  First, they click on the **Build Content** tab and then select **Content Package (SCORM)**.  They then search for the file on their computer and click on the **Submit** button.  The instructor is then presented with a page where they add a **Title,** an optional **Description**, select **SCORM Availability** options, and finally select **Grading** options.

## Let's take a closer look at Grading Options

Blackboard Learn allows the instructor to select whether a SCORM Module receives **No Grade**, or allows the instructor to input a **Point Value** or score.

After submitting, the instructor can now see a column in the Grade Center which contains the grade a student will receive when he or she takes the assessment included in the module.

In most cases, instructors choose to collect only the grade from the SCORM in the Learn Grade Center; however, there are also some advanced options that can affect the behavior of the SCORM player or the way students interact with the content.

## Advanced SCORM Player Options

Most of the time, an instructor should not need to access or change the SCORM Player Advanced Options, since **the default settings are set for maximum compatibility and performance**. The SCORM package should already have the intended navigation, flow, and behavior, and the default settings are most likely to display it correctly. However, there are times when an instructor may wish to change the player behavior. To do this, an instructor selects the **Edit** option from the dropdown menu next to the SCORM title after submitting the SCO. In fact, the options remain hidden until the instructor clicks on the **Yes** radio button next to section 3, **Advanced Options**. This launches a whole new set of options discussed in detail below.

### Navigational Controls

These settings determine the availability of navigational controls in the SCORM Player. Instructors select settings to a large degree based on the built-in functions of the SCORM content they have uploaded.

- **Show Navigation Bar** setting determines if the player display a navigation bar to the learner. Remember, in most cases, the SCORM content has its own navigational system so this item does not need to be selected.
    - **Show Finish Button** setting determines if the learner sees a button close the player and return to the LMS. When a learner presses the button, it closes the current content and returns to the main content whether the learner has completed the content or not.
    - **Show Close SCO Button** setting determines if the learner can close a SCO. This option should remain unchecked in most, if not all, cases.
    - **Show Progress Bar** setting determines if the learner sees a progress bar.
        - **Use Measure for Progress Bar** determines how progress is calculated.
    - **Show Help** setting determines if the **learner sees a help feature**. Note: The help feature must be a part of the SCORM package.
- **Show Title Bar** setting determines if the learner sees title bar.
- **Prevent Right Click** setting prevents learners from right-clicking on the player window which might be critical in a testing situation. The setting also prevents learners from copying content.
- **Show Course Structure** setting determines if the learner can see the course structure in an outline format. This option is helpful for courses containing multiple SCOs.
    - **Course Structure Start Open** setting determines how the learner sees the course structure index by default
        - **Width** set at a certain size

- **Structure Status Display** determines what is shown in the Grade Center: a score, a completion, the two options separately, the two options combined, or nothing.
- **Invalid Menu Item Action** determines what happens if the user makes an invalid menu selection: show the links, show the links disabled, or hide the links.
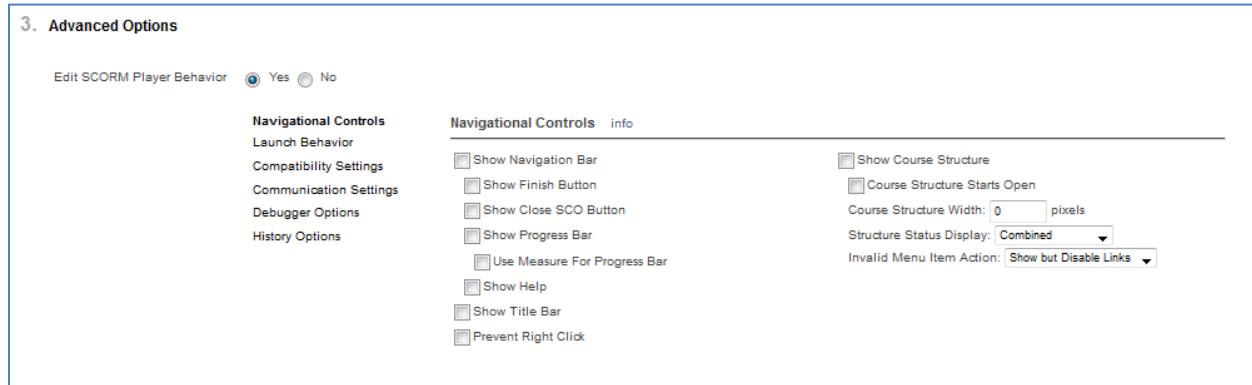


**Figure 1** This screenshot shows the default settings for SCORM Advanced Option, Navigational Controls

## Launch Behaviors

- **SCO Launch Type** setting determines how each SCO is launched. Selected by a drop-down list, possible values are:
  - in the main frame,
  - new window,
  - new window after click
  - new window without a toolbar.
- **Player Launch Type** launches the SCORM Player in-line in a browser frame rather than in a new window. Selected by a drop-down list, possible values are:
  - in the main frame,
  - new window,
  - new window after click
  - new window without a toolbar.

- **New Window Options** setting determines the dimensions of the content player when launched in a new window. These settings have no effect unless a new window option has been selected as SCO Launch Type or Player Launch Type.

  - User Value Defaults: Launch the new window using the client browser's default dimensions.

  - Full Screen: Launch the new window in full screen mode. If this option is selected, you must provide some means for the student to exit the content, such as an exit or close button or link.

- Specify New Window Dimensions: Set the new window dimensions explicitly.

  o Width for content: The width of new windows in pixels.

  o Height for content: The height of new windows in pixels.

- REQUIRED: Above dimensions are required for the course to function properly: If selected and the client browser cannot support the specified dimensions, a warning message is displayed to the student.
- **Prevent Window Resize** is self-explanatory.  This option may be required when content must be a certain a certain size.



**Figure 2** This screenshot shows the default settings for SCORM Advanced Options, Launch Behavior

## Compatibility Settings

These settings are generally used for troubleshooting course content packages that have encountered errors, fail to launch, or have problems.  If instructors feel that there is a need to adjust the Compatibility Settings, they should first contact the Online Learning Team for assistance and guidance.

These are the default settings that should be used:

- **Finish Causes Immediate Commit** - This setting is provided to deal with single SCO courses where there is difficulty in capturing exit status. Enabling this option records completions accurately.
- **Logout Causes Player to Exit**
- **Always flow to First SCO -** If enabled, the SCORM player always loads the first course in a SCO, regardless of whether the sequencing rules dictate this behavior.
- **Enable Validation of SCORM Interaction Results** – This setting allows Learn to capture the data it needs from the learner's actions.

- **Use Quick Lookahead sequencer** - Lookahead processing enables the SCORM Engine to dynamically update the course navigation structure that is visible and available depending on the state of the current SCO. By default, this setting should be enabled.
- **Rest Runtime Data Timing** – When Exit is Not Suspend
- **Return to LMS Action** – Legacy
- **Maximum Suspend Data Size** – 4000
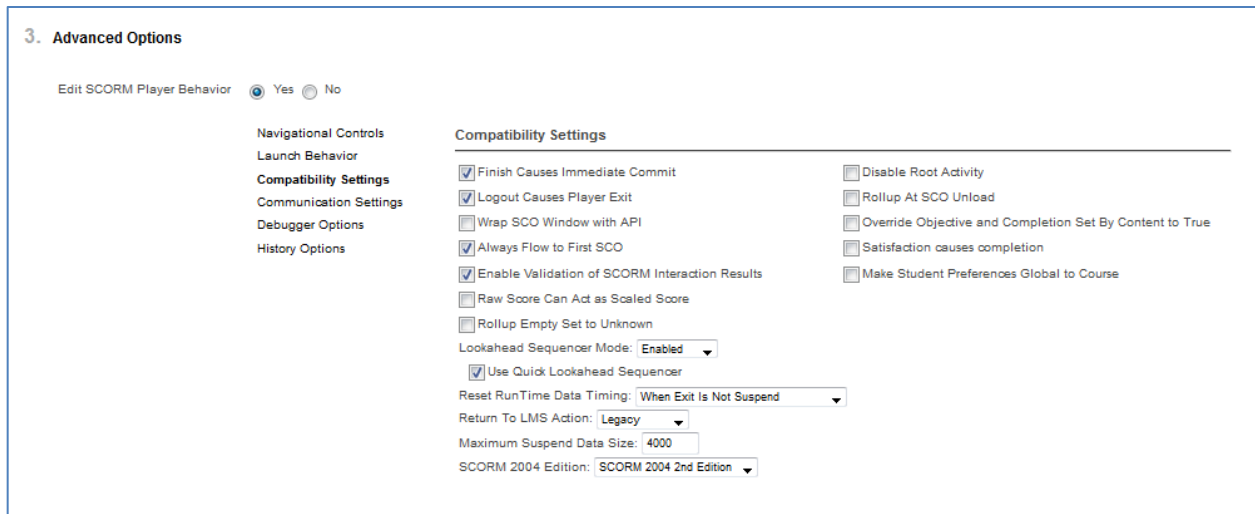- **SCORM 2004 Edition** – SCORM 2004 2<sup>nd</sup> Edition



**Figure 3** This screenshot shows the default settings for SCORM Advanced Options, Compatibility Settings

## Communication Settings

These settings affect how the player saves course status.

These are the default settings that should be used:

- **Maximum Failed Attempts** - 2
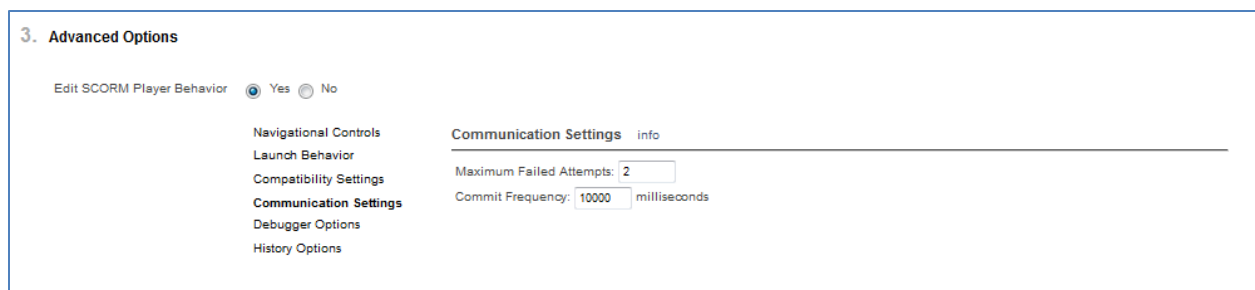- **Commit Frequency** - 10000 milliseconds



**Figure 4** This screenshot shows the default settings for SCORM Advanced Options, Communication Settings

## Debugger Options

This section contains settings related to client side (browser) logging.

These are the default settings that should be used:

- **Control** - detailed
- **Runtime -** detailed
- **Sequencing** - detailed
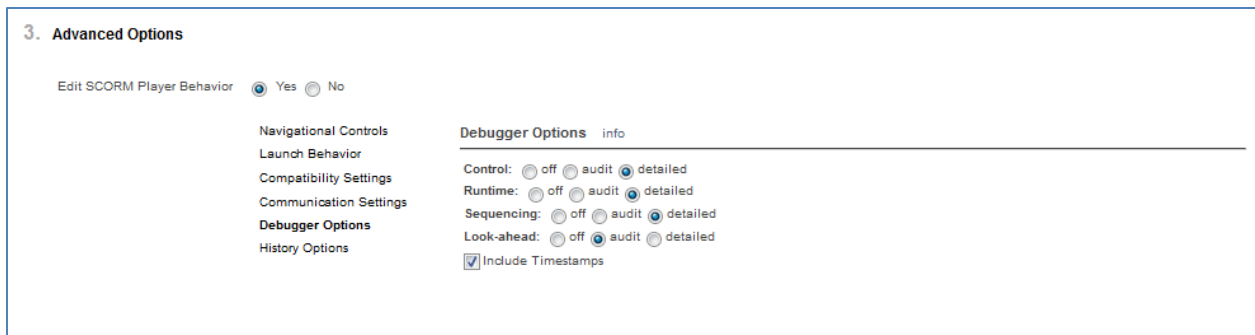- **Look-ahead** - audit
- **Include Timestamps**



**Figure 5** This screenshot shows the default settings for SCORM Advanced Options, Debugger Options

## History Options

These settings affect the collection of launch history information.

These are the default settings that should be used:

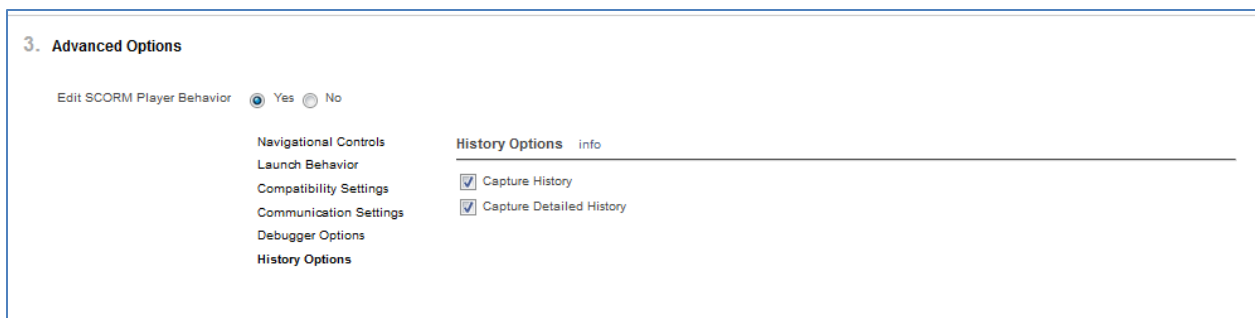- **Capture History**
- **Capture Detailed History**



**Figure 6** This screenshot shows the default settings for SCORM Advanced Options, History Options