



LMS Evaluation Tool User Guide

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3waynet Inc. and the Commonwealth of Learning

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1. INTRODUCTION

We have written this guide to help you start using a software tool for evaluating Learning Management Systems (LMS's). This evaluation tool was created and designed by 3Waynet Inc. and licensed to Commonwealth of Learning. The tool is in the format of a spreadsheet.

This guide is written for the persons who will be actually using the tool to evaluate the LMS software. It assumes that you have a basic understanding of spreadsheets, and some working knowledge of either Microsoft Excel or OpenOffice.org. It is not a reference for either of these spreadsheet products.

We encourage you to open the spreadsheet and follow along as you go through this user guide.

The first sections of this guide provide an overview of the tool. The concluding sections provide instruction on how to use the tool as it is. It does not provide instructions for modification.



2. GENERAL OVERVIEW

2.1 General Guidelines

Before you can begin using this tool, you need to decide on the specific LMS software candidates that you want to evaluate. The number of LMS packages out there is too numerous to have them all evaluated.

Also, the LMS industry is a very active and dynamic one. The evaluation that you do with this tool represents a snapshot of this industry. New software releases and new products will certainly emerge to improve the functionality of LMS's, and if you are required to keep current, you need to update the spreadsheet from time to time. A good rule of thumb is to update the spreadsheet every 6 months to a year (depending on your specific requirements).

Because there are so many LMS packages available, you may want to consider must have criteria to be able to shortlist your candidates. For example, one approach may be to shortlist based on whether the application is Open-Sourced versus a Commercial Non-Open-Sourced packages. You may to only evaluate Open-Source packages, packages whose vendors are located in a specific geography, or packages that only support a specific operating system or hardware platform.

It is best to use the tool once you have a good idea of short-listed candidates. For your convenience, we have provided work-sheet templates in the Appendix that you can print out, and use to record, on paper, data about the LMS's. When you are ready, you can enter the data from the templates into the spreadsheet.

2.2 System Requirements

The tool was originally created as an Excel spreadsheet using Microsoft Office 2000. The filename is "**LMSReportCard.xls**". If you have a Windows computer with Office 2000 or later, then you should not encounter any problems running this spreadsheet.

The spreadsheet was also tested with OpenOffice. If you don't have MS Office or you are not running on a Windows platform, you may consider this alternative.

3. LMS TOOL OVERVIEW

There are four component sheets contained in the tool:

1. LMS Registry
2. Criteria
3. Features
4. Results

3.1 LMS Registry

The LMS Registry is the area in which you can list and provide information on each of the LMS candidate you would like to evaluate. This is where you would identify the LMS product name as well as maintain optional information on the product.

The product name is the only mandatory field you must enter. All other fields are optional. In our instance we have included company as an additional optional field. In our example, we use the fictional product MagicTutor created by MagicSoft. It may be useful to reference other information such as:

1. Product URL
 2. Contact Type – i.e.: sales, technical
 3. Contact Phone
 4. Contact Email
 5. Contact Address
 6. Operating Time Zone
-

3.2 Criteria

The Criteria sheet is an area that allows you to rate a list of general criteria you may wish to consider in your investigation. This does not consider the feature richness of a LMS as this is provided for in another area of the sheet.

The types of criteria we have included in the tool are outlined below:

3.2.1 Cost of Ownership

- What are the costs for licensing, software, hardware and custom development requirements?
- How fast can you be up and running?
- What level of expertise is required?
- What kind of support and assistance are available?

3.2.2 Maintainability and Ease of Maintenance

- How many valuable resource hours will this take to administer and maintain at the server level, and at the program level?
 - How granular and distributed is the administration (the more granular the better)?
 - Are all of the data processes automated and will they integrate easily with your other systems?
 - Does the program run on a server platform on which your staff already has excellent expertise?
-

3.2.3 Usability, Ease of Use, and User documentation

- How available is documentation, how-to guides, training and online help?
- How responsiveness will support be?
- Will the program require lots of training or is it fairly intuitive to use?
- How long will it take faculty to set up their courses at a minimal level?

3.2.4 User Adoption/ Vendor Profile

- Will the vendor be around tomorrow? How much market share?
- If the product is Open-Sourced, is there a strong development community associated with the program?
- Are comparable institutions currently utilizing the program?

3.2.5 Openness

Note: This criterion is applicable to Open-Sourced LMS's only.

- How open is the source code?
- Is it written in a modular format that is designed for easy modification and new, custom modules?
- Are there clear code specifications for writing new modules?

3.2.6 Standards Compliancy

- Does the LMS adhere to specifications like SCORM, IMS, OKI, AiCC?
 - Can the LMS import and manage content and courseware that complies with standards regardless of the authoring system that produced it?
 - Is XML support available?
-

3.2.7 Integration Capacity

- Has the application been integrated with other systems?
- Does the solution allow for ready integration with other systems?

3.2.8 Learning Object Metadata Integration

- How available is compatible content?
- What is the capacity to integrate with existing and newly created learning objects?

3.2.9 Reliability & Effectiveness

- Is the solution reliable? How well will this program help an average group of faculty deliver their materials online?

3.2.10 Scalability

- Is the program suitable for both small and large installations?
- How easily does the solution allow for growth of users, content, functionality?

3.2.11 Security

- Will it handle security or authentication schemas?
 - Are there tools for digital right management (DRM)?
 - Are the provisions for privacy issues?
-

3.2.12 Hardware and Software Considerations

- Does it support multiple Operating System platforms (including Open-Sourced OS)? Linux? Windows?
- What are the client browser requirements?
- What are the database requirements?
- What additional server software is required?
- What are the hardware specifications?

3.2.13 Multilingual Support

- Does the system support additional languages?

3.3 Features

This component allows you to evaluate and investigate specific features of the LMS. Institutions may choose to rule out an LMS based on it not containing a specific feature or function it requires. This section allows you to rank how well the LMS addresses a specific feature. You may also apply a weights to specific features.

The features we have included in our tool include:

3.3.1 Administration

- Manage user registrations
 - Set curricula, chart certification paths
 - Administer internal budgets, user payments, and charge-backs.
 - Create standard and customized reports on individual and group performance. Reports should be scalable to include the entire workforce.
 - Print Certificates
 - Build schedules for learners, instructors, and classrooms.
-

3.3.2 Security

- Encryption (encodes and decodes messages)
Ability to accommodate privacy. Note that full certificate-SSL (a protocol that encrypts a single TCP session) is likely to be too slow for this purpose.
- Authentication (verifies the identity of a user)
Username & password with forgotten password routine

3.3.3 Access

- Individual/Group Login and Password
- Assignable Privileges
Manage user profiles, define roles. Assign tutors.
- Browser accessible
- Course Authorization – Instructors approve enrolment.
- Registration Integration - Registration, Prerequisite Screening, Cancel Notification

3.3.4 Integration with other systems

- Integration with HR Systems.
 - Integration with CRM systems.
Student listing. Maintain student information.
-

3.3.5 Course Design, Development and Integration

- Customizable look and feel
- Support classroom and virtual courses
- Course templates
- Use of and access to learning objects
- Web-based authoring
- Support multimedia types
- Accessibility compliance
- Instructional design tools
- Curriculum management
- Easy Navigation/linking
- Easy Course structuring
- Extensible Architecture
- Support style sheets

3.3.6 Course Monitoring

- Course Listing/Catalogue
- Course Descriptions
- Schedules and Availability Control
- Course Usage Tracking.

3.3.7 Assessment Design

- Create test questions and facilitate test administration
 - Automated Testing and Scoring
 - Course Path Maintenance - Path lists and diagrams
 - Competency Mapping/Skill Gap Analysis
 - Self-assessment
-

3.3.8 Online Collaboration and Communications

- Community learning or collaboration components that support communication.
- E-mail - Ability to integrate with emails sent from regular POP mail accounts (from learners not logged in real-time)
- chat rooms
- online support / help desk
- file exchange
- online journals
- notes
- whiteboard
- discussion groups/forums

3.3.9 Productivity Tools

- Bookmarks
 - Calendar/Progress Review
 - Orientation/Help
 - Search
 - Work offline/Synchronize
-

4. HOW TO USE THE TOOL

4.1 Step 1 – Completing the LMS Registry

Open the spreadsheet and make sure that you are in the **LMS Registry** worksheet. If you are not positioned in that worksheet, click the corresponding tab, located at the lower left, to enter that worksheet.

You will find two columns in the worksheet: **Product Name** and **Company Name**. Enter the names of those LMS's that you want to evaluate.

The Product Name field is mandatory. For each product that you evaluate, you must enter its name here. Keep the Product Name short. If the product has a very long name, you may consider abbreviating it. The Product Names that you enter are used to automatically populate the appropriate column labels in the worksheets. You only need to enter Product Names once in this spreadsheet.

Enter other optional information such as Company Name. You may also include other optional information such as those examples mentioned earlier in this guide. Do this by adding columns to the far right side of the worksheet. Remember that optional information may be left blank.

The tool supports 10 product names. If you have fewer than 10 products, you can put blanks in the Product Names fields that you are not using (or leave the default values there). If you need to evaluate more than 10 products, the simplest way is to make a copy of the spreadsheet. You could modify the spreadsheet to include more product names but this requires familiarity with Excel or OpenOffice and is outside the scope of this guide.

4.2 Step 2: Completing General Criteria

For Step 2, you should be using the worksheet named "Criteria".

Rate each of the LMS's according to the general set of criteria provided. To help you understand and quantify each general criterion (e.g., Cost of Ownership), we have broken each of criteria into a set of questions (e.g., How fast can you be up and running?).

As you conduct research on the product, you should look for information that will help you answer these questions.

To complete step 2, evaluate each product in turn using the following procedure:

1. Record the answers to the questions in the corresponding cells. You can leave a cell blank if you don't have the answer. By recording the data, you will have information about the product at a quick glance.
2. Enter a product rating for each criterion. When you rate a criteria, consider each of the corresponding answers. The rating is on a scale of 1 to 5 (5 being most satisfactory; 1, least satisfactory).

You may choose to add additional criteria but this will also require you to adjust the “Results” sheet, as you will have an opportunity to apply a weight to each of the criteria being proposed in to calculating the final result. This topic is outside the scope of this guide.

4.3 Step 3: Rate Product Functionalities

For Step 3, select the worksheet named “Features”.

The component of the tool allows you to apply weights and a rating to the features and functionalities of the LMS’s being investigated.

To help you understand what we mean by each feature (e.g., “Administration”), we have further broken the feature down into a set of statements (e.g., “Manage user registrations”). As you conduct research on the product, you should look for information that will help you determine how satisfactory the product addresses those feature statements.

To complete step 3,

1. Enter a weight for each feature.
Not all features are of the same level of importance to you. You can factor in the differences in importance by specifying different weights for features. The weight is on a scale of 1 to 5 (5 means the feature is most important to you; 1, least important). Note that you only need to enter the weight once for each feature. The existing weights in the worksheet are examples only, and you should modify them.
2. Evaluate each product in turn using the following procedure:
 - a. Record how well the product supports the feature statements in the corresponding cells. This is the place where you can keep information discovered in your research about the product features. You can leave a cell blank.
 - b. After you have recorded your comments regarding the feature statements, enter a rating of the feature as a whole. Rate it using a scale of 1 to 5 (5 being most satisfactory; 1, least satisfactory).

The worksheet will automatically compute for each product the total weighted score (weighted sum over all features). Then, the worksheet will convert that score to a new scale (0-5), and the

result is called the re-scaled score. The re-scaled score is the score used in the next step of the process.

You may choose to add additional features. This topic is outside the scope of this guide.

4.4 Step 4: Completing Results

For Step 4, you should be using the worksheet named “Results”.

The purpose of this worksheet is to calculate a score for each LMS by combining the general and the feature-specific product ratings from Steps 2 and 3 respectively. From Step 2, the rating of each general criterion is automatically copied into this worksheet. From Step 3, the “re-scaled” rating of each product is copied into this worksheet under the criterion “Features and Functionalities”.

To complete this step,

1. Enter a weight for each criterion.
Not all criteria are equally important to you. For instance, you may place a higher importance on “Features & Functionalities” than “Cost of Ownership”. You can factor in the differences in importance by specifying different weights for the criteria. The weight is a number between 1 and 5 (5 means the criterion is most important to you; 1, least important).

The worksheet contains sample weights, and they should be modified to suit your requirements.
2. Optional. Enter comments in the Comments field.

This worksheet automatically calculates a combined score for each product.

The product with the highest score reflects the LMS that has the highest rating according to your investigation. Your actual selection of a LMS may not match the outcome of the evaluation conducted. Selection may be influenced by other factors related to the details of specific requirements not discussed in this document or addressed by the tool provided.

5. FURTHER INFORMATION

For further information on this tool or for information on support to specify your institution's LMS requirements please contact: info@3waynet.com.

6.2 Step 2: General Criteria

This worksheet contains a set of general evaluation criteria. Each criterion is further described by a set of questions. To complete this step, evaluate each product:

1. Record the answers to the questions in the corresponding cells. You can leave a cell blank if you don't have the answer.
2. Enter a rating for each criterion as a whole. Rate it using a scale of 1 to 5 (5 being most satisfactory; 1, least satisfactory).

Criteria	Questions/Rating	Product Name:
Cost of Ownership		
	What are the costs for licensing, software, hardware and custom development requirements?	
	How fast can you be up and running?	
	What level of expertise is required?	
	What kind of support and assistance are available?	
	Misc. comments	
	Rating	

Maintainability		
	How many valuable resource hours will this take to administer and maintain at the server level?	
	How granular and distributed is the administration (the more granular the better)?	
	Are all of the data processes automated and will they integrate easily with your other systems?	
	Does the program run on a server platform on which your staff already has excellent expertise?	
	Misc. comments	
	Rating	

Usability & Support		
	How available is documentation, how-to guides, training and online help?	
	How responsive will support be?	
	Will the program require lots of training or is it fairly intuitive to use?	
	How long will it take faculty to set up their courses at a minimal level?	
	Misc. comments	
	Rating	

User Adoption/Vendor Profile		
	Will the vendor be around tomorrow? How much market share?	
	(If product is Open-Sourced) Is there a strong development community associated with the program?	
	Are comparable institutions currently utilizing the program?	
	Misc. comments	
	Rating	
Openness	(For Open-Sourced Programs Only)	
	Is it written in a modular format that is designed for easy modification and new, custom modules? Are there clear code specifications for writing new modules?	
	Misc. comments	
	Rating	

Standards Compliancy		
	Does the LMS adhere to specifications like SCORM, IMS, OKI, AiCC? Can the LMS import and manage content and courseware that complies with standards regardless of the authoring system that produced it?	
	Is XML support available?	
	Misc. comments	
	Rating	
Integration Capacity		
	Does the solution allow for ready integration with other systems?	
	Misc. comments	
	Rating	

Learning Object Metadata (LOM) integration		
	How available is compatible content? What is the capacity to integrate with existing and newly created learning objects?	
	Misc. comments	
	Rating	
Reliability & Effectiveness		
	Is the solution reliable? How well will this program help an average group of faculty deliver their materials online?	
	Misc. comments	
	Rating	

Scalability		
	Is the program suitable for both small and large installations? How easily does the solution allow for growth of users, content, functionality?	
	Misc. comments	
	Rating	
Security		
	Will it handle security or authentication schemas?	
	Are there tools for digital right management (DRM)?	
	Are there provisions for privacy issues?	
	Misc. comments	
	Rating	

Hardware & Software Considerations		
	Does it support multiple Operating System platforms (including Open-Sourced OS)?	
	What are the client browser requirements?	
	What are the database requirements?	
	What additional server software is required?	
	What are the hardware specifications?	
	Misc. comments	
	Rating	

Multilingual support		
	Does the system support additional languages?	
	Misc. comments	
	Rating	

6.3 Step 3: Feature Requirements

This worksheet contains a set of feature-related evaluation criteria. Each criterion is further described by a set of statements. To complete this step, enter a weight for each feature. Existing weights are examples only. The weight is on a scale of 1 to 5 (5 means the feature is most important to you; 1, least important). Note that you only need to enter the weight once for each feature.

Then, evaluate each product:

1. Record any comments you may have regarding the feature statements in the corresponding cells. You can leave a cell blank.
2. Enter a rating of the feature as a whole. Rate it using a scale of 1 to 5 (5 being most satisfactory; 1, least satisfactory).

Features	Feature Weight	Feature Statements	Product name:
Administration	3	Manage user registrations	
		Set curricula, chart certification paths	
		Administer internal budgets, user payments, and charge backs.	
		Create standard and customized reports on individual and group performance. Reports should be scalable to include the entire workforce.	
		Print Certificates.	
		Build schedules for learners, instructors, and classrooms.	
		Misc. Comments	
		Rating	

Security		3 Encryption	
		Authentication	
		Misc. Comments	
		Rating	
Access		3 Individual/Group Login and Password	
		Manage user profiles, define roles. Assign tutors.	
		Browser accessible	
		Course Authorization. Instructor approves enrolment	
		Registration Integration. Prerequisite Screening, Cancel Notification	
		Misc. Comments	
		Rating	
Integration with Other Systems		3 Integration with HR Systems	
		Integration with CRM. Student listing. Maintain student information.	
		Misc. Comments	
		Rating	

Course Design, Development and Integration	3	Customizable look and feel	
		Support classroom and virtual courses	
		Course templates	
		Use and access Learning Object	
		Web authoring	
		Support multimedia types	
		Accessibility Compliance	
		Instructional design tools	
		Curriculum Management	
		Easy Navigation/linking	
		Easy Course structuring	
		Extensible Architecture	

		Support style sheets	
		Misc. Comments	
		Rating	
Course Monitoring	3	Course Listing/Catalogue	
		Course Descriptions	
		Schedules and Availability	
		Usage Tracking	
		Misc. Comments	
		Rating	

Assessment Design		3Creates Test Questions and Facilitate Test Administration	
		Automated Testing and Scoring	
		Course Path Maintenance	
		Competency Mapping/Skill Gap Analysis	
		Self-assessment	
		Misc. Comments	
		Rating	
Online Collaboration and Communications		3Email	
		chat rooms	
		help desks	
		file exchange	
		online journals	

		notes	
		whiteboard	
		discussion groups/forums	
		Misc. Comments	
		Rating	
Productivity Tools	3	Bookmarks	
		Calendar/Progress Review	
		Orientation/Help	
		Search	
		Work offline/Synchronize	
		Misc. Comments	
		Rating	

6.4 Step 4: Results

Calculate a score for each LMS by combining the general and the feature-specific product ratings from Steps 2 and 3 respectively. Rescale as appropriate the totals from step 3 so that a value of 1-5 is given.

1. Enter comments in the Comments field.
2. Enter a weight for each criterion. The weight is a number between 1 and 5 (5 means the criterion is most important to you; 1, least important).

Criteria	Comments	Weight	Product 1	Product 2	Product 3	Product 4	Product 5
Features & Functionality							
Cost of Ownership							
Maintainability							
Usability & Support							
User Adoption							
Openness							
Standards Compliancy							
Integration Capacity							

Learning Object Metadata integration							
Reliability & Effectiveness							
Scalability							
Security							
Hardware & Software Considerations							
Multilingual support							
Combined Score							
