

# A Comparative Analysis between Moodle LMS and TotaraLearn (from Northgate)



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# 1 Introduction and Background

A learning management system (LMS) is a software (web or desktop) that is used to plan, implement and appraise a specific learning process. An efficient LMS would typically provide the teacher (or instructor) with the tools needed to create and deliver course content, monitor pupil participation and engagement and assess the student performance and progress. The LMS would also normally provide the students with the capability to use interactive features and modules such as discussion boards and video conferencing. LMS' also includes assessment tools, grading tools and administrative tools.

It is critical for the Jamaica Constabulary Force (JCF) and particularly the National Police College of Jamaica (NPCJ) to have access to the most up to date, cost effective, modern and cutting edge LMS system based on the nature of the work they do and based on the distribution of their human resources and physical assets across Jamaica. For an LMS system to function efficiently, the internet connectivity must be of an acceptable standard to ensure that the content is being assimilated in the timeframe and at the pace it was intended without frustration.

There are several immediate benefits and advantages for huge organizations such as the JCF to invest in a modern learning management system. Some of these benefits include the consolidation of learning resources in one place for several students to have access and the simplification of the creation of lessons for teachers as there are tools that are built in to assist. The administration of learning programmes is also made more efficient by using learning management systems since the administrator can log into a single system to access all the information that is needed in one place.

This document provides an objective overview and comparative analysis of the Moodle LMS with the TotaraLearn LMS based on the information that is available.

## 2 Moodle Learning Management System

Moodle is an open source learning platform and learning management system (LMS) that is written in the PHP programming language that is normally suited for web development. It assists educators, administrators, and learners by providing a secured integrated system to interact with materials to be learned. Moodle now provides the NPCJ with a virtual asynchronous learning environment and allows for the uploading of teaching and learning content in various file formats. Moodle is highly customizable and gives local developers the option to add and customize different tools and modules at minimal or zero cost. The NPCJ currently uses the Moodle Higher Education option, the regular open-source Moodle Education and they use the do-it-yourself pricing model that is managed by the IT department. NPCJ is also considering the implementation of the H5P plugin which will allow users to share and reuse content on Moodle. The pros and cons of the typical Moodle LMS platform is presented in Table 1.

*Table 1: The Pros and Cons of Moodle LMS*

<b>PROS</b>	<b>CONS</b>
It is open-source.	Moodle is not powerful enough to smoothly handle large volumes of active users at a time.
It is supported by an active and supportive community	Some customization features require the users' ability to code.
The community supports a dependable JIRA issue tracker and forums.	The interface appears outdated.
It is customizable.	It lacks videoconferencing capabilities (the basic version).
It is widely available while being cost-effective.	It lacks immediate progress analysis such as learning growth of students
It allows users to sell content online.	There is a large volume of hidden features that requires the user to be trained to use the platform.
It has a large content database.	The mobile version is lacking some features.

PROS	CONS
It allows students and instructors to communicate via forums, blogs, chats and messages within courses.	There is limited integration with third-party software.
Its system offers impressive features regarding the upload and download of lecture notes, generating quizzes, and reports, etc.	Schedule management needs improvement as users are not able to set up timetables for lessons and exams.
It is equipped with dependable backup, restore and import features for lecturers.	Emails cannot be directly sent from the platform.
It is equipped with managing learners' profiles, including setting enrolment keys, to restrict valid users.	The discussion forums lack the ability of users to reply to a single user post, as well as anonymously or privately.
Since it is open-source and customizable, plugins can be designed to future enhance the productivity of instructors.	It lacks sufficient technical support.
It is LTI (Learning Tools Interoperability) compatible which allows it to communicate with other learning management systems.	The UI appears to be poorly implemented and may not be intuitive for some users.
It is dependable for score and record keeping; Assignments are integrated which allows for automatic grade records.	The platform may be hard to implement for some servers.
There are many tutorials available to help users navigate the system.	Despite being customizable, users are not able to hide or turn off features at will.
Creation and upload of users by instructors is highly efficient.	Cloning courses is slightly tedious.
The platform offers a dependable SCORM package.	Changes to SCORM packages are manual for each course in which the package is contained; This

PROS	CONS
	means that the user must reupload the corrected file each time.
The platform supports multiple authentication methods out of the box, and are not difficult to develop new method when necessary.	Certification of completion for courses are not customizable. This may be troublesome for unique modules within a course.
Creation and modification of classrooms works well.	There are occasional glitches when editing documents.
The platform integrates well with other classrooms such as WebEx, BigBlueButton, etc.	The cost of plugins and long-term maintenance may eclipse the initial affordability.
	The log file for tracking course activities is not efficient.
	Drag and drop capabilities are lacking in some features, such as the gradebook and question bank.
	It is not possible to enroll cohorts into multiple courses at the once
	Grade sheets are not editable.
	There is a limit of 64MB on file upload size which may affect users with larger documents.
	Documentation for some modules are poor which may be frustrating for developers.

### 3 TotaraLearn Learning Management System

The TotaraLearn LMS is an open-source enterprise learning management system that was originally developed off the open-source Moodle platform and is written in XHTML, HTML5, and ECMAScript 5.1 (or JavaScript). Totara is a flexible LMS solution that enables organizations to deliver learning effectively and can be implemented quickly and cost effectively. TotaraLearn is supported by over 90 certified partners globally, that provide added services such as cloud services, hosting, consulting, implementation, training, configuration and customization. The pros and cons of the TotaraLearn are presented in Table 2.

TotaraLearn focuses on:

- Learning - can be used to rapidly scale up learning programmes of the JCF.
- Upskilling - can be used to upskill and engage JCF members using blended and collaborative learning tools and techniques.
- Transformation - it aligns with and integrates with existing technology to fit into the current strategy to achieve the innovations that the JCF may need.

A key outcome of the Security Strengthening Project (SSP) which aims to contribute to an increase in the conviction rate for murders in Jamaica, aligns well with the implementation a cost effective and efficient learning management system by the end of the project. This LMS will bolster the training efforts of the JCF by helping to develop skills that will assist in the reduction of the rate of murders, increase the proportion of police investigations of murders that result in prosecution and train police officers in the use of technology in crime fighting.

The implementation of a modern and effective LMS will also fall in line with the planned technology acceptance model (TAM) and the change management initiatives within the JCF.

The LMS system will also support the different phases of the ADKAR model of change that focuses on awareness, desire, knowledge, ability, and reinforcement.

Table 2: The Pros and Cons of TotaraLearn LMS

PROS	CONS
Totara is an open-source software which means its source code can be freely inspected and modified by the admin to make changes based of their needs.	The User Experience Design of Totara has been lacking in terms of user engagement between learners and learning coordinators. In more recent updates some of these problems have been made better.
Good Support for fixing bugs	It lacks the option where the changes made in open source should be available for other users to use for reference or use according to their needs.
Active Users Community, that is helpful is the case where other users may have dealt with similar issues.	Seemingly complicated for users with a lack of technical understanding.
Continuous Development and updates	Usability is hindered by complicated site structure and permission management features
Versatile and customizable to fit the needs of almost any organization, affordably	Users have complained about poor documentation features related to programming and adding advance options to the source code
Provides a Demo version where potential users are able to explore the product and properly evaluate and compare it to other alternatives	Lacks an in-depth roadmap or guide that can walk less tech savvy users through every aspect of the product
There is the option to host your site domestically or to outsource hosting to a Totara Learn partner	AN administrator of the system, may have to exit and re-enter once they login as another user
Totara includes an action system that awards users with badges that can be displayed, users have stated that it incentivizes their staff to work harder to improve learning	Users have also expressed that the badges in the action system inspires more of an individualistic mindset among staff and less of a team-oriented approach.
It is very easy to customize your own learning path	The list of available features that Totara includes can be difficult for new admins to fully grasp using the system. This in some way necessitates some level of training. Working with a Totara Learn partner can solve this problem
Supports 30 languages	Users have said Totara's Graphical interface lacks aesthetical attractiveness.

<b>PROS</b>	<b>CONS</b>
Totara includes a seminar functionality with attendance tracking	
Allows users and managers to build customized syllabuses of courses for each user or team	
Detailed and customizable feature for reporting completions and grades	
Totara is dedicated to training their cloud hosting partners on how to better use the systems.	
Totara's branding can be made to reflect your branding. Users have said this feature has improved user engagement	
Excellent information security	

## 4 Notes from TotaraLearn LMS Demonstration

TotaraLearn is in the process of configuring the LMS and this version can be considered as a business version of Moodle. In some cases, system users will not be able to move on to a new module unless the current module is complete based on the final configuration of the system. There are different learning styles available in each module. One module will have up to 5 lessons, but the aim is to reduce the number of lessons in a single module.

The learning journey is clearly outlined in the TotaraLearn software based on the brief demonstration provided in the meeting held on June 16, 2021. This process is documented from notification of the new system to introduction videos, to revisions, to contacting a trainer if there are questions to be answered, and to mastering the use of the entire system. In TotaraLearn each module has a different set of steps to be followed. Overview of the lesson is normally provided in each module.

A practice environment is available for users. When accessing the system, users are asked to indicate their role and based on the selection, the user will be locked into a set of permissions based on the role selected.

## 5 NPCJ Feedback

Feedback from the NPCJ indicated that there is a certain level of ease as it relates to new learners and technology in TotaraLearn. The NPCJ currently needs more details before they can properly comment on some parts of the system. Infusion of locally produced videos and other content in the demonstration elements of the modules. The team from the NPCJ would need to go through the system in detail to get familiar with it before a final decision can be made. The SSP team is currently working with Northgate to work out the scheduling for additional demos and training with TotaraLearn.

There is also a level of customization that would be required to the LMS so potential users in the JCF will feel connected to the system, such that it does not feel like a packaged system that has been transplanted from the UK to Jamaica. One suggestion from the communications team is for the inclusion of local content (images and videos) in the workflow of TotaraLearn. This would possibly include endorsements from the Commissioner of Police among other JCF personnel at all levels. The system seems simple and should be easy enough to grasp based on feedback from the NPCJ. The conclusion of the NPCJ is that more time is needed with the system before a decision is made.

Before the JCF decides, live sessions with a team of potential system users at all levels is required. The system is a work in progress, and it would need to be confirmed when the system will be fully complete and functional without bugs and challenges. TotaraLearn is also in the process of rebranding the system which should be an important consideration for the JCF.

## 6 Question to be Considered

These are some useful questions that should be considered before a decision is made.

1. What is the cost of annual subscription and maintenance for TotaraLearn?
2. When (at what stage) will be the live demo and training sessions for TotaraLearn and who will be the personnel involved in these sessions?
3. What kinds of modules will be a part of these initial demos and training?
4. How many training sessions will be required for the complete system?
5. Who owns the data that is uploaded to TotaraLearn LMS?
6. What about the situation of technical support and Service Level Agreements? How long will system support be provided and is this an additional cost to the annual subscription fees?
7. What are the projections for the increase in subscription costs over the next 5 to 10 years?
8. How long will the customizations to TotaraLearn take in order for it to be fully operational for NPCJ?
9. Does the JCF have the budget to ensure that there will be continuity in terms of the payment of subscription fees and the maintenance of the system?
10. Is the system customizable and are there APIs that would allow an approved developer to build a module or system that would integrate seamlessly with the TotaraLearn LMS?
11. How easy will it be to migrate content for the current Moodle platform to TotaraLearn?

A comparison between Moodle LMS and TotaraLearn is provided in Table 3.

*Table 3: A comparison of the Moodle LMS and TotaraLearn LMS*

Parameters	Moodle LMS	TotaraLearn LMS (Northgate)
Proprietary/ Open source	Open Source (written in the PHP).	Built on Moodle's open source. Written in XHTML, HTML5, and JavaScript.
Cloud-based or desktop	Hosted locally on NPCJ internal webserver	Options for web and local server hosting.
License subscription type (Perpetual or Subscription)	No subscription	Cost associated with customized version
Updates and other SLAs	Updated by local IT administrator	Support available based on annual subscription fees.

<b>Parameters</b>	<b>Moodle LMS</b>	<b>TotaraLearn LMS (Northgate)</b>
Cost (per year)	\$0	Customized cost based on package selected.
Simultaneous user access	Not fully stress tested, average 300 simultaneous. Possible current maximum 1200-1500 based on current virtual machine specifications. NPCJ could tweak or move onto other servers with more resources.	1 to over 50,000 users is possible.
Content management (Single administrator; local upload/ Remote access; administrator level access content controls	Administered by NPCJ's IT department, one main site administrator supported by four (4) other team members.	Offers a wide range of content creation and management features, allowing you to populate online, offline and blended courses . Totara Learn offers drag-and-drop functionality to upload file resources such as documents, images, audio etc.
User management tiers	Four (4) tier - Student, Teacher, Manager, Administrator	Six (6) tiered user account management.
Backup	Backup on local NPCJ servers. Web server backups are also possible.	Backup on local and web servers is possible.

## 7 Conclusions

Moodle and TotaraLearn are both open-source learning management systems that offer many options. While Moodle was originally developed to be a free option for educators and trainers to create e-learning content, Totara is an enterprise solution with a focus on organizations rather than education.

TotaraLearn is better at setting hierarchies in an organization and in a training programme. Totara can also allow the administrator to setup several different levels of users to reflect different departments, ranks, partners, vendors and customers and also allows for unique branding in each sub-section.

Moodle LMS is a free option but requires customization by developers that can be time consuming and costly. TotaraLearn alternatively provides a packaged solution, that is already customized to meet the teaching and learning needs of the organization.

Independent research revealed that the annual subscription fees to use the Standard TotaraLearn LMS which will include TotaraLearn subscription, hosting and maintenance, support can cost approximately £11,810 for 500 users. A subscription for the same package with 5,000 users is approximately £22,270 and for 20,000 users' package, the annual cost is around £38,560. It is critical for the JCF to get a clear understanding and breakdown of the cost options for TotaraLearn subscriptions before they proceed.

*Data source: Asset Digital Marketplace*

URL: <https://assets.digitalmarketplace.service.gov.uk/g-cloud-12/documents/700341/641825458324499-pricing-document-2020-07-16-1642.pdf>

To select TotaraLearn as the LMS of choice moving forward, the Ministry of National Security (MNS) and by extension the Jamaica Constabulary Force (JCF) should outline at least a 5 to 10-year plan to finance the annual subscription fees. The non-payment of subscription fees will mean that the NPCJ and other stakeholders will not have access to the LMS and that will become a significant problem for learning at the college.

It is also not easy to move away from TotaraLearn LMS back to Moodle since there are several modules and applications in the TotaraLearn that would not be available in Moodle. There is a possibility to use the SCORM module migrate information from Moodle, but this has many limitations in terms of formatting and customization. SCORM is a good way of bundling externally developed interactive e-learning content and integrating into online and blended courses.

If Moodle is selected as the LMS of choice, then investments will have to be made in building software development capacities to create the modules and applications that are needed. Consultations with the NPCJ revealed that software development human resources is generally lacking at the college. Adequate time will also be required to get all the developments done if Moodle is selected. The decision that is to be made is a matter of cost for subscription fees for TotaraLean vs. time and investment in software development if Moodle is chosen. It should also be noted that it is easier to migrate from Moodle to TotaraLean, but it is exceptionally difficult to move from TotaraLearn back to Moodle. When migrating from TotaraLearn to Moodle functionalities like hierarchy, custom fields and reports will not be able to be moved across which will be a significant challenge.