Moodle versus Blackboard in Distance Education

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Course: MDDE620

Assignment: 60 Points Assignment

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Contents

Introduction

This paper will analyze the Learning Management System (LMS) Moodle, which is an open source LMS. Review and analysis of various research findings, studies, and cases where Moodle has been used will be conducted. In addition, a comparison of Moodle's features with Blackboard will be shown. Also, identify some negative aspects of Moodle, as everything has something that works for some and doesn't work for others.

What is Moodle?

Moodle is a Learning Management System that is used mostly in the education field. It is an open source LMS, thus available to anyone, free of charge. It was originally developed by Martin Dougiamas to help educators create online courses with a focus on interaction and collaborative construction of content. It is continuously evolving to fulfill its users' needs (Moodle, 2011).

There are a significant number of people exposed to Moodle. This doesn't mean that all the users and sites are using Moodle as a LMS, as there are also some that use it as a Content Management System (CMS). Every month, there are thousands of sites and users that are using Moodle for their LMS and CMS needs (Moodle, 2011).

How is Moodle used in education?

Although initially designed for higher education environment (university), Moodle has quickly become used across a broad range of organisations worldwide to conduct courses fully online or support face-to-face teaching and learning (Moodle, 2011).

Its modularity, flexibility, security and free availability have attracted learning communities ranging from single primary school classrooms to large universities, businesses, government departments and other places where people learn (Moodle, 2011).

Primary Education

In primary education settings, Moodle can be particularly useful as a very safe entry-point to the online world. Easy addition of multimedia, links to useful resources, scaffolding of learning activities, fun quizzes, easy insertion of engaging learning objects and catering for parental involvement are just some of the highlights of existing Moodle use in the early years of formal education (Moodle, 2011).

Secondary Education

Frequent uses in Primary education can be extended in late childhood/adolescent years particularly with social, collaborative learning features like forums, wikis, glossaries, blogs and more. At this stage, teachers often streamline submission of assignments, post feedback, and grades. Many creative educators begin to encourage peer evaluation through ratings, design of

projects in groups, even editing of roles and permissions, thus adding responsibility for courses and individual activities (Moodle, 2011).

Tertiary Education

The use of Moodle in Secondary education is often extended further at the tertiary/university level. This includes greater personalisation for flexible anytime/anywhere learning. At this level, Moodle often becomes more customised, drawing on external resources (e.g. RSS, integration with external systems and mobile devices) to help independent and collaborative research. Search, enrolment, sharing of courses and other scholarly material through Moodle 2.0's Community Hubs will further enhance creation of communities of practice, connected across a class or entire world (Moodle, 2011).

Adult Education and Training

Moodle is frequently used in provision of adult learning/training in many small and large government and business organizations. SCORM-compliance, completion-tracking, easy provision of essential content for achieving stated competencies, various enrolment and payment options, and the use of social and collaborative features for discussions or projects make Moodle an ideal choice for adult education, training and professional development.

Analyzing Moodle's Usage

Moodle's usage by world-wide users

Registered Sites	72, 074
Countries	223
Courses	5, 846, 241
Users	57, 175, 781
Teachers	1, 294, 348
Enrollments	25, 555, 557
Forum posts	92, 890, 058
Resources	51, 776, 095
Quiz questions	108, 292, 136

Source: Moodle, 2011

The statistics are very favourable for Moodle. As you can see that there are millions of users world-wide using Moodle today. And this numbers have been growing over the years as Moodle was first launched.

Moodle's growth from 2003 to present
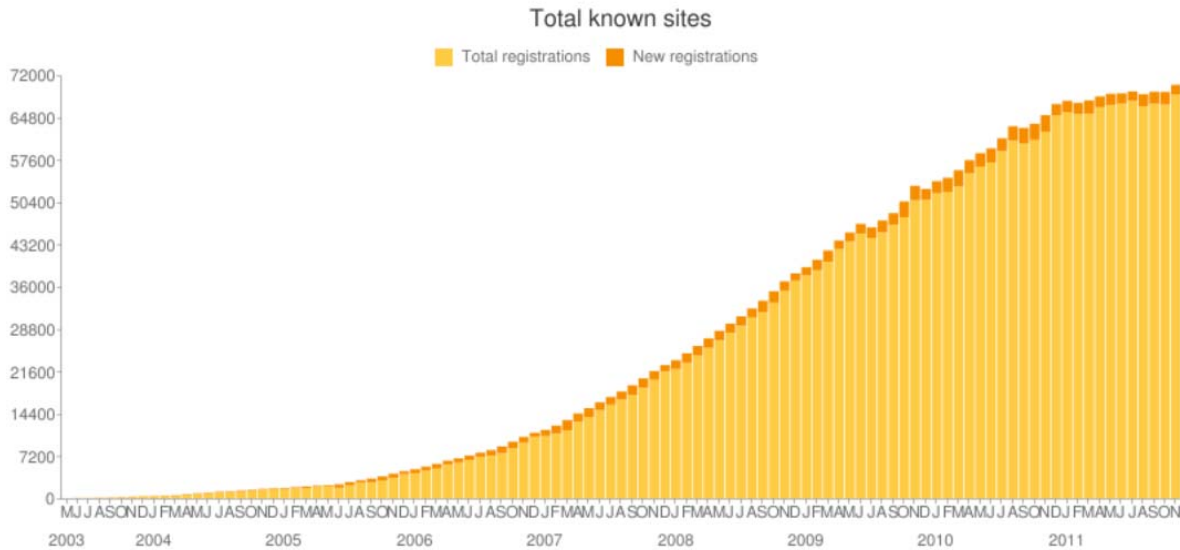
Source: Moodle, 2011

The chart above shows how many world-wide sites are being used presently and how many were used in 2003, and the growth in the number of sites is also shown. From less than 10,000 sites world-wide in 2003 to more than 72,000 sites presently, Moodle has grown at an exponential rate over the years.

Comparing Moodle with Blackboard

There is a table on Appendix A that lists various features and states whether Moodle and/or Blackboard have them or not. Not all the specifics will be explored, as each feature can be beneficial to one individual and a pain for another. Rather, the better approach would be to look at how many options that are already built into the LMS; the scalability of the LMS, upgrade ability, integration with social media, integration with other applications and ease of use.

Number of options that are built in to the LMS

These should be easily turned on and off, and not require hours of code modification. Compile a list that is specific about what features and functions are built in to this LMS and how many require customization. Then, rate those features according to how important they are to your business.

In Moodle, there are a lot of different options of modules that the user can turn on and off easily, without having to install or uninstall them separately. In Blackboard it is the same idea, where the user has the option to enable or disable these options. Example of the options can be glossary, discussion forum, quizzes, html page, etc. (Siemens, 2006).

Scalability

Scalability means that when you have only a dozen students at the moment, you should be able to easily upgrade to hundreds and thousands. It can also indicate your ability to go from two

courses to fifty without having to rewrite the change too much custom work in the LMS itself.-->
I don't get this last sentence!

Both systems allow for a single user to thousands to millions of users on one site. For example,
the biggest Moodle site has more than one million users and so does Blackboard. Both LMS'
scalability is excellent (Konstantinidis et. al., 2011).

Ability to upgrade

Both Moodle and Blackboard can be upgraded, however, the complexity resides in how many
users, courses, programs, etc are in the LMS. you have in the system. As the less users you have
on the system, the easier it can be upgraded. For Blackboard to be upgraded you will need to pay
Blackboard to do this for you or pay them for support, however, with Moodle, if the time and
resources are available the upgrade can be done to a newer version. However, the cost to pay
Blackboard can be equivalent to the cost of paying for your resources and the time spent doing
the task, so we cannot conclusively say whether either system have an advantage here
(Konstantinidis et. al., 2011).

Integrations with social media

Social media is becoming more and more important in learning. ELearning is much more than
old training material converted to run on the Internet. These integrations should be built into the
LMS and be turned on or off with a few clicks.

This is where Moodle has an advantage over Blackboard. Moodle has RSS feeds enabled within
it, so that allows for the users to connect to Facebook, Twitter, blogs, etc. Whereas Blackboard
doesn't have the RSS feed option at all (Konstantinidis et. al., 2011).

Integrations with common applications

Integrations with other systems like PayPal are an important aspect to new Learning
Management Systems. One can add YouTube and many other sites to this list. These
integrations should be built into the LMS and be turned on or off with a few clicks.

With Blackboard, at the moment PayPal is not integrated. Moodle has PayPal integrated into the
system already; however, this is a new feature, so we cannot conclude whether it works well or
not. Because of Moodle's vast community, a lot of features can be added as the need arises. That
is a major benefit for an open source LMS like Moodle. For Blackboard on the other hand, any
integrations with other systems, the users have to pay Blackboard. This is not to say that for
Moodle you do not have to pay for anything, that really depends on the urgency of the
integration and the need by other users' in Moodle's community (Konstantinidis et. al., 2011).

Ease of use

This isn't just how easy it is for you to get reports. It's how easy it is for teachers or trainers to add content, monitor courses, interact with students, and do what teachers do. It's also about how easily the students and adults in business settings are able to gain access to the content, navigate about, share their experiences, and still do their day to day jobs.

For Moodle, the satisfaction level has shown a trend of increasing over the years, however, for Blackboard, it hasn't been as good. As you can see from the chart below, Blackboard's satisfaction level has been dropping from 2003 to 2011. In addition, comparing Moodle, with Blackboard directly, students were more satisfied with Moodle (Walsh, 2010) (Konstantinidis et. al., 2011).

Overall satisfaction with Blackboard
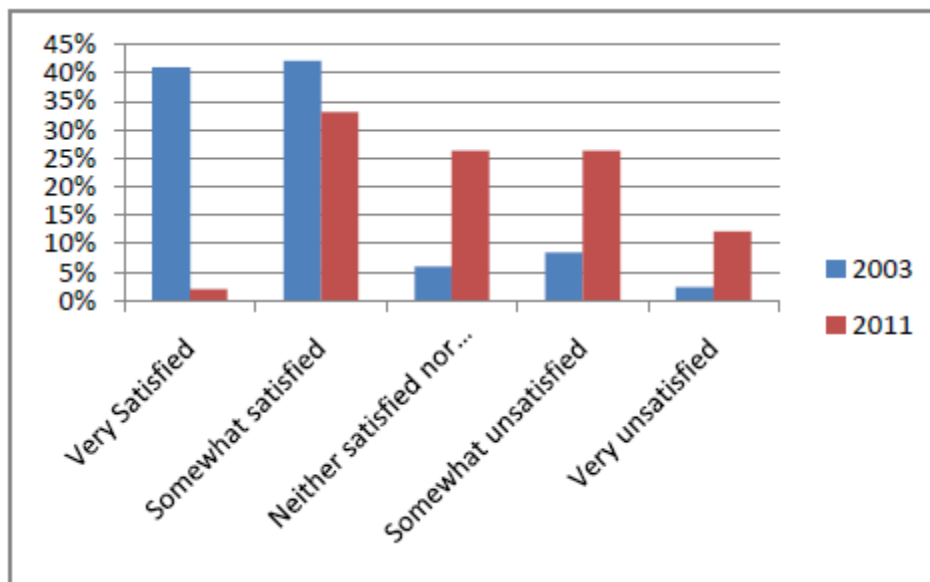
Source: Farquhar, 2011

One can see from the chart above that the satisfaction level with Blackboard has dropped from 2003 to 2011. As other Learning Management Systems have become available over that period, the impact can be seen in how well users perceive Blackboard. This can be due to increased competition (Farquhar, 2011).

Strengths and Weaknesses of Moodle

What are Moodle's strengths?

Moodle is a great tool to help guide and organize not only online classes, but in face to face classes as well. The best advantage Moodle has is that it is a free, open source LMS and so in theory has no costs in dollars attached with it. With some survey results, teachers have been very satisfied with it. It also allows the users to organize their course structure by week and/or topics. It provides the user an easily accessible editing feature and as a result, students don't need to

have technical skills to take advantage of those features. Lastly, it allows the user to switch between different roles, depending on the hierarchical structure to see the view of what the students would see (Moodle, 2011).

What are Moodle's weaknesses?

Like any other Learning Management System, Moodle has weaknesses too. Users have complained that it doesn't allow them to embed media objects in certain web browsers, however, that is only an issue in less common web browsers, i.e., Safari, Google Chrome. Another problem that has come to the surface for some users is that when they are sharing files, they cannot upload more than 2 MBs in size of files. This is a major problem for students, as the course creators can upload large sizes of files for course content. And finally, with a community of users that are not compensated with financial means for their contributions, the problem always arises with the response to a problem. When users experience a problem or ask for a module to be developed, the time duration is lengthy. And often for newly developed modules, the resources are simply not available on how to use those modules, yet (Moodle, 2011).

Is Moodle the right answer for a higher education institution?

Deciding whether a higher education institution should use a Learning Management System would require a more in depth analysis. Rather, a comparison between which option is better, Moodle or Blackboard, is completed. A look at features and functions, costs involved, and vendor model for these two Learning Management Systems.

Features & Functions

Both of these tools have a lot of different functionality available, either natively, or through add-on types of functionality. If different functions are going to be the deciding factor in selecting one of these versus the other, one would really need to drill in and compare and decide for themselves which features and functions make the difference for their institution. So as discussed earlier, Moodle offers an advantage over Blackboard for systems integration and features, such as PayPal and RSS feeds. If an organization requires these integrations then Moodle will be a better option, otherwise both Learning Management Systems are viable (Konstantinidis et. al, 2011).

Cost

As an open source product, Moodle is simply less expensive. Blackboard is sort of like the "Rolls Royce" of today's LMS, and there are users of the product who would say that if you want the best LMS money can buy, you should make the financial commitment to Blackboard. On the other hand, if you want a premier product for a much lower cost, Moodle is really the way to go. Another thing to be aware of is that Blackboard builds substantial annual increases

into their pricing model, since they are continually procuring and integrating additional products into their offerings, with the intent of adding value for their users (Konstantinidis et. al, 2011).

However, depending on factors like number of users, courses, etc., the amount of resources that would be involved in managing an LMS should be considered. If the LMS ever crashes, then with Moodle the user is limited to the support of the online community, whereas with Blackboard you will get help from the company. But that support comes with a cost of course (Konstantinidis et. al, 2011).

Product/vendor model

As indicated above, Moodle and Blackboard are very different products with very different vendor models. One is open source, and there are many support and service vendors to choose from, while the other is proprietary and there is just the one company to work with. How that impacts the decision is left up to the user and their respective institution to determine.

Again, this comes down to what kind of support the user is looking for from the vendor. With Blackboard, a vendor must be involved and that is Blackboard itself, whereas with Moodle, the user can have a vendor to support them or decide against it, so more options are available (Konstantinidis et. al, 2011).

Conclusion

Moodle has become a very popular Learning Management System in the distance education field. More and more institutions are shifting towards it as their Learning Management System. However, Blackboard is also a very popular Learning Management System, which has advantages over Moodle. But the key difference between the two systems is that Moodle is open source and doesn't have licensing fees that Blackboard has. Moodle also offers significant number of intuitive features that the higher education institutions can utilize to serve their learners. When organizations are thinking about implementing a new Learning Management System, they need to consider a lot of factors such as cost, vendor, scalability, ease of use, integration with other systems, etc.

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Appendices

Appendix A

Features / LMS	Blackboard 9.1 SP3	Moodle 2.0.1+
Content		
Files	yes	yes
Directories / Folder	yes	yes
Create / extract file archives	yes	yes
Blank Page / Page	yes	yes
HTML-Editor	yes (formula editor)	yes (with LaTeX filter)
Multilanguage filter	no	yes
External links	yes	yes
Internal links	yes	yes (no separate feature, but Moodle uses permanent links)
Audio	yes (embedded QuickTime-Plugin, Internet Explorer uses WM-Plugin)	yes (embedded Flow Player)
Video	yes (MPG + WMV in all Browsers with installed QT-Plugin, Internet Explorer uses Windows Media-Plugin FLV + MP4 are not supported)	yes (FLV embedded FlowPlayer in all browsers MPG only with Internet Explorer and installed Plugins WMV only with Internet Explorer and installed Plugins MP4 only with Internet Explorer and Chrome)
S.C.O.R.M.	yes	yes
IMS-Content-Package	yes	yes
Assignments		
Upload a single file	yes (assignment)	yes
Upload multiple files	yes (assignment)	yes
Online text	yes (quiz)	yes
Offline activity (create a gradebook item)	yes	yes
Tools		
Glossary	yes (only editable by the instructor)	yes (participants can also add entries) + glossary block
RSS Feeds		yes (database, forum, glossary)
Blogs	yes (course-bound)	yes (system-wide and within a course)
Graded blogs	yes	no

Features / LMS	Blackboard 9.1 SP3	Moodle 2.0.1+
Lesson	yes	yes
Self and Peer Assessment	yes	yes (Workshop)
Survey / Feedback	yes	yes
Address book / contacts	yes	yes (messaging system)
Calendar (course)	yes	yes
database	no	yes
Adaptive release / restrict access	yes (scheduled, depending on grade, depending on total course grade, depends on access to defined content, define your own rules)	yes (scheduled, depending on grade, depending on total course grade, depends on access to defined content/activities)
File storage / exchange	yes (instructors can use the file area, students can use file exchange in their group)	yes (my private files, students can use the database activity)
Plagiarism check	yes (Safe Assign integrated)	not integrated, but there is an API for such services
Search files (course)	only with a corresponding building block (e.g. Search XL)	no (only global search !development!)
Journal	yes	no
Graded journal	yes	no
Activity completion	yes	yes (content is marked as completed when accessed or participants are allowed to mark content as completed by themselves)
Wiki	yes	yes
Graded wiki	yes	no
Voice tools (Mail/Recorder/...)	only if Wimba Voice Tools are installed	no (NanoGong implementation for 2.0 ?)
Test / quiz		
Pools / question bank	yes	yes
Export test results	yes	yes
Export submissions (answers)	yes	no
Question types:		
- File response	yes	yes (assignment >> upload a file)
- Either/or	yes	yes (multiple choice)
- Hotspot	yes	no

Features / LMS	Blackboard 9.1 SP3	Moodle 2.0.1+
- Opinion scale	yes	yes (multiple choice)
- Fill in the blank	yes	yes (cloze = hard to handle)
- Multiple answer	yes	yes (multiple choice)
- Multiple choice	yes	yes
- True/false	yes	yes
- Calculated formula / calculated	yes	yes
- Calculated multiple choice	no	yes
- Essay	yes	yes
- Short answer	yes	yes
- Calculated numerical / numerical	yes	yes
- Matching	yes	yes
- Random short answer matching	no	yes
Communication		
Send emails	yes	yes, using the messaging system, Quickmail implementation for 2.0 ?)
Send messages	yes	yes (using the participants block or using the messaging system)
Chat	yes	yes
Discussion board / forum	yes	yes
Change type of forum	yes (by configuring e.g. single discussion)	yes (standard, question and answer forum, single discussion, each person posts one discussion)
Forum:	yes	yes
- Anonymous posts	yes	no
- Attach a file	yes	yes
- Participants can create threads	yes	yes
- Subscribe forum	yes	yes
- Subscribe threads	yes	no
- Moderate a forum	yes	no
Graded forum	yes	yes
Search forums	yes	yes (block)
Course		

Features / LMS	Blackboard 9.1 SP3	Moodle 2.0.1+
Announcements / News forum	yes	yes
Group management	yes	yes
Group selection	yes	no (Groupchoice implementation for 2.0 ?)
Group tools	email, blog / wiki / journal / discussion forum (graded), chat, tasks, file exchange	wiki, forum, glossary, database, chat, test, choice, workshop, lesson, assignments
Course reports	yes	yes
Grade center / grades	yes	yes
Early warning system	yes	no
Customization / settings (Name, duration, enrollment, language, guest login, availability)	yes	yes
Course formats (forum, topics format, weekly format)	no	yes
Meta-enrollment	only if Community System is installed	yes
Manage course menu	yes	restricted (course menu gets built from existing content)
Customize course style	yes (menu, banner and theme)	yes (course theme, use label resource to add a banner)
Folder structure	yes	only for files
Manage Tools	yes	yes
Course backup / export	yes	yes
Course import	yes	yes
Course restore	yes	yes
Import content/features from other courses	yes	yes
File management	yes (course-bound)	yes (user-bound / course-bound)
File quota	yes (course-bound)	yes (user-bound)
Permissions and roles		
Pre-defined roles	instructor, teaching assistant, course builder, grader, student, guest	Site administrator, manager, course creator, editing teacher, teacher, student, guest, user, frontpage
Edit existing roles	yes	yes

Features / LMS	Blackboard 9.1 SP3	Moodle 2.0.1+
Define new roles	yes	yes
Switch between trainer and participant view	yes (editing off = participant view)	yes
My institution / My Home (Block)		
RSS Feeds	no	yes
Announcements / News forum	yes	yes
To do list / Upcoming Events (block)	yes	yes
Messages	no	yes
Report card / quiz results	yes	yes (block)
Online users	yes (Pronto Instant Messenger)	yes (using messaging system or online user block)
My calendar	yes	yes
Navigation	yes, using MyPlaces to navigate to your courses	yes, using navigation block to navigate through: My Home, Blogs, courses, topics, participants, ...
Download of complete course content	no	no (resource download implementation for 2.0 ?)
Personal information / profile	yes	yes
Create a downloadable list of participants	yes (using the grade export: name, define additional columns)	yes (using the grade export: name, email, university id)
Un-enroll form a course	yes (E-merge un-enrollment tool)	yes (un-enroll self from course)

Source: Walsh, 2010