Is it time to Moodle?

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ABSTRACT

The e-learning movement appears to be gaining momentum and for teachers of Information Technology, management pressure to get courses online is increasing. The majority of early e-learning adopters in New Zealand decided to adopt mature learning management systems (LMS) like Blackboard and WebCT. More recently a number of tertiary institutes have been looking to the open source community to provide a less expensive and hopefully equally functional e-learning support system. Within New Zealand there is a growing number of institutes looking towards Moodle an open source LMS built using PHP and providing support for a range of relational database products. Institutes such as Wairiki Polytechnic, Tairawhiti Polytechnic, The Open Polytechnic and Nelson Malborough Institute of Technology have adopted Moodle, while Bay of Plenty Polytechnic and Otago Polytechnic are keeping a watching brief. Add to this the ECDF funding provided by TEC to The Open Polytechnic and the apparent adoption of Moodle by TEC for courseware development and the case for keeping abreast of the Moodle movement becomes apparent.

This paper investigates Moodle from the viewpoint of an IT lecturer who has published courses on Blackboard for several years and who is facing the distinct possibility of having to migrate to Moodle in the near future. The paper compares the functionality of the two systems and examines issues such as materials migration, assessment, collaboration tools and activity reporting.

1. INTRODUCTION

Learning Management Systems (LMS) have matured significantly over the last fifteen years. The increasing sophistication and improvement in user features of these systems has lead to an explosion in the number of institutes using LMS to deliver blended learning and distance education courses. The early adopters of e-learning were attracted by the ease of use and functionality of systems like Blackboard and WebCT, and as a result they are now the most dominant LMS in use among tertiary educators. While Blackboard and WebCT are feature rich, they come with a hefty price tag, and as such many smaller institutes have struggled to justify the expenditure required to provide the LMS needed to support e-learning. The open source community has come up with a number of more affordable alternatives and systems such as ATutor, Claroline, and Moodle, which now provide many of the features that have made Blackboard and WebCT so popular. In New Zealand, Moodle has proven to be the most popular alternative to the major commercial products, attracting a growing number of polytechnics and private training establishments.

This paper compares the features of Blackboard and Moodle from the viewpoint of a technically proficient e-learning instructor and provides advice for tertiary institutes that may be considering changing their learning management systems.

The paper starts by investigating the pedagogical support for the use of computer mediated tools in the delivery of educational courses and identifies the features that educationalists suggest are necessary to provide a meaningful learning environment. The paper then compares the features offered by Blackboard and Moodle, and describes the experiences of a lecturer attempting to migrate a course from Blackboard to Moodle and briefly discusses the attitudes of students who have experience working with both platforms. The paper concludes by offering practical advice to institutes that may be considering changing platforms.

2. PEDAGOGICAL SUPPORT FOR THE USE OF LMS

Research would suggest that e–learning has

some way to go before it could be said to be able to fully duplicate the experiences of well conducted face to face learning (Johnson, Aragon, Shaik, & Palma-Rivas (2000). For learners who through choice or circumstances prefer to participate in blended delivery or distance learning, e-learning offers a viable alternative.

The constructivist approach to learning is one of the most popular educational principles among educational sociologists today. The principle has been credited to Jean Piaget (1975), who suggested that knowledge is actively constructed by the learner, not passively received from the environment. Social constructivism, an extension to constructivism has ideas that can be traced back to Vygotsky (1978), it focuses on the roles that society plays in the development of an individual. The social world of a learner includes teachers, friends, students, administrators, and participants in all forms of activity.

Teaching strategies using social constructivism include negotiating meanings with students, class discussion, small-group collaboration, and valuing meaningful activity over correct answers (Wood *et al.*, 1995). A constructivist perspective views learners as actively engaged in making meaning, and teaching with that approach looks for what students can analyse, investigate, collaborate, share, build and generate based on what they already know, rather than what facts, skills, and processes they can parrot (Dougiamas, 1998).

If learning management systems are to be used in support of distance learning, they should provide opportunities for learners to interact with instructors and fellow students, allowing learners to share ideas, build concepts based on existing knowledge, reflect on experiences and construct knowledge. Both Blackboard and Moodle provide collaborative tools like email, chat, discussion forums, virtual classrooms and reflective journaling features that assist student as they construct knowledge.

3. BLACKBOARD AND MOODLE COMPARISON

Blackboard is a commercial product produced by Blackboard Inc. and partially owned by Microsoft. Blackboard is the most dominant LMS provider. The Blackboard web site claims that that there are more than 50,000 sites in more than 70 countries. The current version is version 6 and users pay a yearly license fee based on the number of students that a site supports. Blackboard is a mature LMS with a large number of features that support blended and distance learning. The user interface is very intuitive and the majority of educators can, with minimal training, place materials on a server available for online delivery. Blackboard offers users a full and detailed online help system and is supported by user forums and Blackboard sponsored user conferences.

Moodle is provided freely as Open Source software (under the GNU Public License), which means that while Moodle is copyrighted, users are allowed to copy, use and modify Moodle provided that they agree to: provide the source to others; not modify or remove the original license and copyrights, and apply this same license to any derivative work. Moodle was first released in 2002 and was developed as an educationally sound alternative to Blackboard by Martin Dougiamas of Curtin University. Dougiamas now leads a team of developers worldwide who aim to continually improve the product for a growing number of educators around the world. The Moodle site claims to have more than 3,200 sites in more than 115 countries. Dougiamas claims that the design and development of Moodle is guided by social constructionist pedagogy with an emphasis on tools that promote collaboration and self evaluation. Moodle provides many of the tools available within Blackboard, however the user interface is more primitive and the online help is minimal in comparison. Like Blackboard, Moodle is supported by user forums and the Moodle community has started hosting Moodle user conferences.

4. CONVERTING A COURSE

As a result of its growing world-wide popularity, a number of New Zealand polytechnics have adopted Moodle. The e-learning management team at the Eastern Institute of Technology (EIT) Hawke's Bay indicated that Moodle should be considered as an alternative to its existing Blackboard system and the writer, a keen exponent of Blackboard decided to undertake a trial evaluation by attempting to duplicate a third year Web Application Development course us-

ing Moodle.

Moodle claimed to able to import courses exported from Blackboard. Experimentation with the import facility proved fruitless. By tinkering with the Moodle code it was possible to import major headings and some associated documents, however major content such as quizzes, surveys, gradebooks and discussion forum content were unable to be successfully imported. Investigation at the Moodle site suggests that while problems exist with the current version of Moodle the importing problems should be solved with the next release. Having been unable to import content automatically, the writer decided to attempt to set up the course manually.

Setting up a new course was a relatively straight forward exercise. The online and site documentation did not really explain in any detail the function of the configuration tools, however experimenting with each of the tools enabled the course to be created and users and teachers added. The visual presentation of the course while appearing primitive compared to Blackboard was easily changed using Moodle's theme feature, and the easy to use editing tools allowed features to be added or removed at will.

Since Blackboard at EIT is used primarily for course document management in support of blended learning, the writer attempted to duplicate the familiar look and feel of Blackboard using Moodle. This proved to be a frustrating exercise, as Moodle provided minimal online help and unlike Blackboard it appeared to adopt an approach where materials are organized into topics or weekly occurrences. By limiting the number of topics to one, it was possible to duplicate the course document structure of Blackboard. Experimenting with the Moodle time-based format it was found to encourage better activity and document organisation, and students when shown the result indicated preference for document presentation based on time.

The next step in the evaluation process was to attempt setting up quizzes and surveys. Moodle documentation suggested that it supported all of the Blackboard quiz and survey features as well as providing several extra features, including duplicate answer matching and embedded descriptive text and graphics. Once again Moodle claimed to have a Blackboard import process, which despite numerous attempts failed to work. It was possible to import quizzes using a third party translation tool, which converted the Blackboard quizzes into a text format that Moodle was then able to import. Creating new quizzes in Moodle proved to be simpler process, new questions are placed in a pool for the course and you can then easily select questions for an individual test from the pool. Moodle offers an impressive number of test control features and accurately records the results of any quiz attempt in great detail.

The next feature attempted for duplication was the discussion forum. Forums were easy to set up and control. Moodle also offered a number of forum presentation formats. All of the Blackboard features could be duplicated and experimentation with forum control and reporting features indicated a number of useful features which are not available in Blackboard.

Moodle unlike Blackboard does not use announcements, instead it utilizes a news forum. When students were shown this feature they indicated a preference for the Moodle methodology. An impressive feature of Moodle which the writer had not used in Blackboard was the scheduler, which is linked automatically with the news forum. It proved easy to set up and was enthusiastically received by students.

Moodle was able to duplicate the assignment features of Blackboard, configuration was simple and the control features were sophisticated and easy to apply. The reporting tools and gradebook features appeared somewhat primitive when compared to Blackboard. While a wide range of activities can be reported, Moodle does not supply the graphical reporting features of Blackboard.

Groupwork tools are a strong component in Blackboard. Even though Moodle indicated that groupwork features were supported, the writer was unable to get them to operate effectively and the supplied documentation did not provide much assistance. Searching on Google for "Setting up groups in Moodle", indicated that others had faced similar frustrations and a visit to the University of Humboldt web site, which provides excellent documentation relating Moodle, provided easy to follow instructions for setting up groups. Chat facilities and virtual community features proved easy to set up as did the glossary, snap poll and student journal features.

The aim of the evaluation was to duplicate

the features of Blackboard using Moodle and it was possible, with some experimentation and a little frustration, to be achieved.

5. STUDENT REACTIONS

During the trial, students of a third year Web Application Development course were exposed to the features of Moodle. All the students had previously used Blackboard, and they were given the option of using Blackboard, Moodle or both. Towards the end of the course, the students were interviewed to evaluate their reaction to the new environment. They all found Moodle easy to use and appreciated the way that Moodle presented materials week by week. When asked if would have any reservations if the institute was to adopt Moodle as a replacement for Blackboard the majority of students suggested that they would be happy with either system.

6. CONCLUSIONS

The rapidly growing interest in Moodle within the New Zealand e-learning community as a open source virtual learning environment suggest that it would be unwise to ignore its likely impact.

On the basis of the experiences of the writer attempting to convert a course from Blackboard to Moodle, it would be unwise to suggest that Moodle is currently a mature product that could compete on an equal footing with Blackboard in term of functionality. There are several features which the Moodle documentation claims to have, that do not function correctly, in particular the content and quiz import procedures. The online help that accompanies Moodle is at best primitive and while Moodle claim that the interface is intuitive, the writer, a firm supporter of e-learning tools and a PHP developer, who has built a functioning LMS had difficulty mastering some of the Moodle features. It should be noted however that none of the shortcomings identified impact on e-learner functionality, as far as the learner is concerned Moodle functionality meets or exceeds the functionality of Blackboard.

During the evaluation, the writer moved from being a skeptic, who believed that Moodle adoption would be an unwise move, to an enthusiastic supporter of Moodle, despite its relative immaturity as a product. The way that Moodle encourages instructors to organize materials sequentially and the tools that Moodle offers instructors and students to encourage regular student participation in course activities, make it an attractive proposition as an institute solution for supporting e-learning. The claims that Moodle was developed from the ground up with the principles of social constructivism in mind seem to be justified. The writer was so impressed with the Moodle approach that he has decided to stop developing the LMS that he has been using successfully in an intranet environment and move to Moodle.

For institutes who have no e-learning support tools, the writer whole heartedly recommends the adoption of Moodle. For those who are using a different LMS and who are considering moving to Moodle, the writer suggests a more cautious approach. Regular users of alternative LMS will be reluctant to change and a will find that migration requires substantial time and energy. Trying to duplicate the document storage approach of Blackboard and WebCT will not encourage instructors to take advantage of Moodle's social constructivist approach and will frustrate instructors who have been happily using competitive commercial products. Successful migration will require an organization to invest in the services of an e-learning "champion" who has experience developing courses using Moodle and who is a keen supporter of the social constructivist approach that using Moodle encourages.

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