Blackboard vs. Moodle
A Comparison of Satisfaction with Online Teaching and Learning Tools

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15 February 2005

What is Blackboard?

• Learning Management System (LMS) software partially owned by Microsoft
• Popular software used around the world
• Licensed annually (HSU pays approx. $8,600 each year)
• Used at HSU since 2001
• Over $1 million spent each year in the CSU on Blackboard licenses

What is Moodle?

• “Open source” (free!) Learning Management System (LMS) software
• Customizable by programming staff
• Flexible for the instructor and developer
• Supported by programmers world-wide

The Question ...

Can free software satisfactorily meet the needs of students, faculty, and instructional technologists for online teaching and learning?

Finding the Answer ...

• Consulted with colleagues at the annual CSU CATS (Community of Academic Technology Staff) conference
• Sought partners to replicate the experiment with Moodle--comparing it to the commercial software used at their campuses--so we could compare conclusions
• Chico, San Marcos, and San Francisco State agreed to join the research effort
• Found a teammate at Humboldt willing to teach online and pioneer with Moodle!
The Project

- Compared Moodle 1.3.2 to Blackboard™ 6.0 Basic Edition using a course previously taught in the classroom for 20+ years
- First experience using Moodle for both the developer and the facilitator
- First fully-online Moodle course in the CSU
- Facilitator’s first experience teaching online
- Students’ first time in a fully-online course
- 35 students thought they were enrolling in a face-to-face course
- Random assignment the first day of class: half in Blackboard, half in Moodle

Features Used

- Electronic assignment submissions
- Virtual areas for group work
- Self-assessment quizzes and online testing
- Sequential learning objects (Moodle only)
- Embedded ShockWave Flash (.swf) files
- Tracked specific student activity (Moodle only)
- Poll (Moodle only)
- Glossary (Moodle only)
- Survey
- Discussion forums
- Links to external Web pages

What the Course Looks Like

Moodle http://learn.humboldt.edu

- Blocks in three columns
- Course content column in the center
- Course content is organized by “week”, “topic,” or “social”

Blackboard http://blackboard.humboldt.edu

- Navigation buttons down the left side
- Opening at the announcement area

Facilitator’s Feedback

Moodle advantages over Blackboard:

- Providing individualized feedback easily to all assignments
- Easier to track each student’s activity in class
  - When and how often parts of class accessed
From where students access the course

Blackboard advantages over Moodle

- More polished appearance
- Better gradebook
- Threaded discussions easily differentiate between read and unread posts
- Announcements are more prominently displayed upon entering the course

**Student Satisfaction**

**Did Blackboard/Moodle enhance instruction?**

Blackboard:

- 0% strongly agree
- 23.1% somewhat agree
- 23.1% neutral
- 23.1% somewhat disagree
- 30.8% strongly disagree

Moodle:

- 7.1% strongly agree
- 21.4% somewhat agree
- 28.6% neutral
- 28.6% somewhat disagree
- 14.3% strongly disagree

**Student Satisfaction**

**Received adequate technical assistance?**

Blackboard:

- 23.1% strongly agree
- 46.2% somewhat agree
- 23.1% neutral
- 7.7% somewhat disagree

Moodle:

- 42.9% strongly agree
- 28.6% somewhat agree
- 7.1% neutral
- 21.4% somewhat disagree
Student Satisfaction
Technology-based activities developed problem-solving skills?

Blackboard:
- 0% strongly agree
- 53.8% somewhat agree
- 23.1% neutral
- 7.7% somewhat disagree
- 15.4% strongly disagree

Moodle:
- 21.4% strongly agree
- 0% somewhat agree
- 64.3% neutral
- 0% somewhat disagree
- 14.3% strongly disagree

Student Satisfaction
Well organized instructional materials?

Blackboard:
- 69.2% strongly agree
- 15.4% somewhat agree
- 7.7% neutral
- 7.7% somewhat disagree

Moodle:
- 57.1% strongly agree
- 35.7% somewhat agree
- 0% neutral
- 7.1% somewhat disagree

Student Satisfaction
Communication tools: Interaction with classmates?

Blackboard:
- 15.4 significantly enhanced
- 38.5% somewhat enhanced
- 23.1% neutral
- 23.1% somewhat impeded
Moodle:

- 21.4% significantly enhanced
- 50.0% somewhat enhanced
- 14.3% neutral
- 14.3% somewhat impeded

**Student Satisfaction**

**Communication tools: Interaction with instructor?**

Blackboard:

- 15.4% significantly enhanced
- 30.8% somewhat enhanced
- 15.4% neutral
- 38.5% somewhat impeded

Moodle:

- 14.3% significantly enhanced
- 57.1% somewhat enhanced
- 21.4% neutral
- 7.1% significantly impeded

**Student Satisfaction**

**Web-based resources were effective learning tools?**

Blackboard:

- 38.5% strongly agree
- 38.5% somewhat agree
- 23.1% neutral

Moodle:

- 35.7% strongly agree
- 57.1% somewhat agree
- 7.1% neutral

**Student Satisfaction**

**Discussion Boards were easy to use?**

Blackboard:

- 69.2% strongly agree
Moodle:
- 57.1% strongly agree
- 28.6% somewhat agree
- 7.1% neutral

Results
Results

Correlations

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<th>Participation Scores</th>
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**. Correlation is significant at the 0.01 level (2-tailed).
Results

Correlations

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**. Correlation is significant at the 0.01 level (2-tailed).
Results
Results
End of Semester Evaluation Composite Scores

Student Comments

- Great experience
- I went into this course very concerned whether I could handle an on-line course or not. What I have discovered is how much I have learned from this type of learning format. *It forced me to participate a lot more frequently than I believe I would have in a traditional classroom setting*. Yes, I did put more time into this class than I might have in a regular classroom but it paid off for me. I learned I can do this!

Student Comments

- It was hard to finish assignments on time because it was hard to find computer access.
• One of the things I didn’t like about this class is that I received everyone’s responses to anything on my email account. This made me feel like nothing was private. (Moodle student)
• This class was a good learning experience. I am not sure if online classes are for me though. Although someone who is shy like myself the online posts were great because I was involved in them, usually I don’t participate much in class.

Student Comments

• I enjoyed the fact that I could log on whenever I wanted. The elimination of my alarm going off at 7:30 was awesome! I enjoyed the material and how it was presented.
• I found it difficult to remember that I had an online class that I had to check in with 3 or more times per week.
• Overall I thought that the online learning experience was good. I felt that I learned a lot and was forced to read the text more than I do for most of my classes.

Student Comments

• One thing that I didn't like was having too post 3 times a week. Sometimes, if I was one of the last people to say anything, I would have to come up with something original to say after their was not much else to add about the subject. It didn't happen too often though. I just like how in a sit down class, when your having a bad day you can just let others speak up.
• I had a hard time in this class because it was online. I learn better in the classroom with the teacher and students physically present in class.
• I really enjoyed taking an online class and look forward to taking another one this summer!

Student Comments

• I really enjoyed taking this class and I learned a lot and think I will be able to apply this knowledge in the future.
• I do feel like I would have learned more if it was in a class setting. I sometimes did not have the motivation to "learn" the material. With that said, I also did learn some valuable info. The posts made it easy to express my thoughts and participate with class mates.
• When we first started this class I wasn’t thrilled about the idea of an online class, however it ended up being alright. Having the class online gave me the time to do the work around my schedule and I really liked having that liniancy.
Developer's Feedback

Moodle advantages over Blackboard:

- Easier to maneuver (fewer “clicks”!)
- Less area monopolized for navigation
- Easier to incorporate multimedia elements
- More tools available (glossary, poll, lesson, journal)
- Track student activity to see which parts of the course are preferred
- Quiz tool scores correctly and provides details on the student’s use
- Can be customized to add desired features
- Features are robust
- Survey allows as few as two choices

Developer's Feedback

Blackboard advantages over Moodle:

- Moodle’s fixed block at the top wastes screen “real estate”
- Blackboard’s features seem more intuitive for beginners
- Built-in survey tool already available
- Readily available “Resources” area for external web sites to be grouped

Moodle or Blackboard for Future Courses?
Developer Satisfaction

- Excellent local support to customize Moodle with more desirable features
- Better results incorporating video in Moodle
- Campus support to explain features and make implementation suggestions
- Flexibility results in some confusion when Moodle features are changed with no warning
- Remarkable array of tools in Moodle—some unavailable in Blackboard
- Not all Blackboard features work like they should: quiz scoring, replicating the course without breaking internal links, etc.

Moodle Customizations

- Essay questions added to the quiz module
- Surveys added
- Gradebook improved with added features
- Date/time programming for topics and/or individual activities
- Quickmail: Allows emailing all or selected students in a course with attachments and a history
- Features added to Moodle’s Lesson module
- MyFiles: Students and faculty share files with selected groups
- Return Assignment: Faculty return graded assignments to students

Student Satisfaction

Would like another (Blackboard/Moodle) course

Blackboard:

- 46.2% strongly or somewhat agree
- 30.8% neutral
- 23.1% somewhat or strongly disagree

Moodle:

- 57.2% strongly or somewhat agree
- 21.4% neutral
- 21.4% somewhat or strongly disagree

Student Satisfaction

Which do you prefer, Moodle or Blackboard?

No preference – 42.9%
Moodle - 35.7%
Blackboard - 21.4%
I haven't spoken to Dr. Munoz specifically about your request, but as a co-author of the presentation you refer to, I believe I have authority to give you permission to share the data we've posted with others. I'm confident Dr. Munoz won't object--she's very busy most recently, as I mentioned, with writing content for a new course I'm developing with her for summer session--and I'm sure her lack of reply was an oversight.

It caught both of us by surprise that the mere publication in an obscure corner of the Internet of the PowerPoint presentation we used at a local education colloquium would gain so much attention so quickly. I was confident the topic would be of interest to many when it was published in a journal, but we didn't expect so much feedback even before publication.

One thing that I hope has not misled people reading the presentation notes: the initial project was to be conducted simultaneously at four CSU campuses (Humboldt State, Chico, San Marcos, and San Francisco State). Unfortunately, the partnership at San Marcos dissolved before they could implement a course in Moodle (the instructional designer took a job at another campus), Chico's study results are merely anecdotal because they didn't use our survey instrument, and San Francisco State lost their student survey data in a server crash. Speaking to Chico and San Francisco representatives, however, they indicate their results to be consistent with ours--just not documented.

So the data reported in our presentation is from a very small sample--a class of 35 students. We had hoped to underscore the validity of our findings from the other university experiences (some fully-online, some hybrid; two WebCT campuses, two Blackboard campuses; some huge classes, some small) but our partners fell through. I'm not sure that's clear from the presentation and I hope it hasn't misled anyone. I'm confident that when other campuses replicate our study with well-designed courses the results will be the same.

We expect to expand our study to address some of the concerns voiced by our sister campuses in the CSU. "How can you avoid the chaos of migrating courses to a new LMS?" (Faculty are voluntarily migrating because of a better feature set.) "How can you rely on a volunteer community for support of a mission-critical application?" (the support we get from the volunteer community is more responsive than that available from the commercial vendor), and similar doubting worries.

Early next month I will be meeting with the CSU Vice-Chancellor of Academic Technology (when he visits our campus on another matter) to learn what research would most benefit the CSU to analyze the feasibility of open-source LMS software. So, in summary, I'm hopeful that this small study could be the first installment of research that could be ground-breaking in the CSU to pave the way for adoption of more open source alternatives.

Thank you for your interest. Hopefully the synergy of our work will bring benefit to the education community.

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No, Dr. Munoz did not reply. A simple permission would be sufficient (or