Effect of Using D2L on Student and Faculty Outcomes

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Presentation handouts available from: www.depaul.edu/~jmoore/fusion2010/
Agenda

- Introduction
- Literature Review
- Summary of qualitative results from faculty interviews
- Initial results from the student surveys
- Future directions and Q&A
Introduction: Why do We Care?

- Many pedagogies and schools, one LMS
- Effect of course design
- Effect of instructional style
- Separation of course design from instruction
Overall Question

What effect does the Learning Management System have on student and faculty behavior, engagement and satisfaction?
Community of Inquiry

LMS Affordances

• Contiguity of elements needed for work
• Ease of feedback and communication
D2L Features

- Content tool for Module-based structure vs. tool-based structure
- Checklist tool with links
- Deadlines and calendar
- Automated notification of absence (Intelligent Agent)
- Integrated TurnItIn.com
- “Default reading” view in Discussion
- Durable internal links
Bb Features

- Integrated Wimba
- Automated email of announcement
Research Methods: Stage 1

• Courses to be offered in two LMSs
  – Initial data: mixed courses and faculty
• COI & satisfaction survey for students
  – (Swan, et al., 2008)
• COI & satisfaction survey for faculty
• Student and faculty posts and feedback
• Faculty interviews
Research Methods: Stage 2

• Courses offered in two LMSs
  – Same course; over time, same faculty
• COI & satisfaction survey for students
• COI & satisfaction survey for faculty, plus tool use
Class Demonstrations
Academic Writing for Adults: LL 150
Qualitative Analysis: Faculty Interviews

• Which tools or features in the LMS allowed you to teach more efficiently?
• Which tools or features in the LMS allowed you to teach more effectively?
• Which tools or features in the LMS hindered your ability to teach efficiently?
• Which tools or features in the LMS hindered your ability to teach effectively?
Qualitative Analysis: Faculty Interviews

- What tools did you use in the Course Management System to teach this course? Please evaluate your use of each of these.

<table>
<thead>
<tr>
<th></th>
<th>Extensive use</th>
<th>Extremely satisfied</th>
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</thead>
<tbody>
<tr>
<td>5</td>
<td>A significant amount of use</td>
<td>Satisfied</td>
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<tr>
<td>4</td>
<td>A moderate amount of use</td>
<td>Neutral</td>
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<tr>
<td>3</td>
<td>A little bit of use</td>
<td>Dissatisfied</td>
</tr>
<tr>
<td>2</td>
<td>No use</td>
<td>Very Dissatisfied</td>
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</table>
Faculty Interview Results

• Blackboard Positives
  – Efficiency:
    • All materials in one location and easy to access
    • Discussion is easy to use
    • Discussion report of # of new posts
    • Announcements
    • Email
    • Familiarity of system
    • Multiple views of discussion
    • Gradebook
Faculty Interview Results

• Blackboard Positives
  – Efficiency (p. 2)
    • Early warning system
    • Reports on student activity
Faculty Interview Results

• Blackboard Positives
  – Effectiveness:
    • Email
    • Discussion & assessment
    • Feedback in gradebook
    • Ability to link to external URLs
Faculty Interview Results

• Blackboard Negatives:
  – Efficiency:
    • Grade Center – hard to navigate and use
    • Lack of grouping/organization of different tools
    • Difficulty using asynchronous podcasts
    • Inability to have 2 elements open at same time
    • Multiple steps needed to link to external ULRs
    • Limited bandwidth and large files take a long time and limit PowerPoints
    • Slow downloads and uploads
Faculty Interview Results

• Blackboard Negatives:
  – Efficiency (p. 2)
    • Slow downloads and uploads
    • Wimba and Chat are hard to use
    • No notification of others currently online
    • In discussion, can’t tell who is responding to whom
    • Items that are time-dated disappear (rather than lock) when time expires
Faculty Interview Results

• Blackboard Negatives:
  – Effectiveness:
    • Grade Center – hard to use, students don’t see feedback
    • Discussion is cluttered
Faculty Interview Results

• D2L Positives
  – Efficiency:
    • Drop Box is easy to use
    • Reports on student activity
    • Interface is easy to use, attractive, symbols are clear, visual, intuitive
    • Ease of adding materials, links, documents
    • Ease of structuring Contents: components and tools fit syllabus design; organize elements together
Faculty Interview Results

• D2L Positives
  – Efficiency (p. 2):
    • Announcements
    • Discussion – easy to use, can see who is responding to whom
    • Email tool
    • Automated email notifying students when grades are posted; automated email when students are out of the class
    • Integration with TurnItIn
Faculty Interview Results

• D2L Positives
  – Efficiency (p. 3):
    • Content links open in new pages, allowing students to see several things at same time
Faculty Interview Results

- **D2L Positives**
  - Effectiveness:
    - Feedback easy to give and for students to access
    - Discussion responses showed who responded to whom
    - Integrated Turn-It-In
    - Checklist for students to track progress
    - LiveRoom
    - Linking to external URLs is easy, and no cross-platform problems (e.g. with Safari)
Faculty Interview Results

• D2LPositives
  – Effectiveness (p. 2):
    • Online presence alert
    • Alert re # ungraded projects, new posts, etc.
    • Quizzes have more options and features
    • Group tools all worked, and enabled submitting work from the group
Faculty Interview Results

• D2L Negatives
  – Efficiency:
    • Lack of familiarity with tools
    • Search tool is case sensitive, easy to misuse
    • There is a limit on the size of emails
    • Email puts users into “to” field, vs. “bcc”
    • Difficulty setting up groups
    • System crashed occasionally with insecure content
Faculty Interview Results

• D2L Negatives
  – Effectiveness:
    • No automatic date and time on announcements, unless instructor clicks to add it
    • Hiding files didn’t always work
    • Sorting items by submission date didn’t always work
Research question: Does faculty use of Learning Management System (LMS) tools affect student reactions to an online course?
Method

• Factor analysis of student COI data to confirm factor loadings

• Create separate scales of Teaching Presence (TP), Social Presence (SP), and Cognitive Presence (CP) scores for each respondent, as well as satisfaction with class and LMS.

• Compare COI and satisfaction of students in classes where faculty had high tool use vs. low tool use.
## Results

<table>
<thead>
<tr>
<th>Use of LMS Tools</th>
<th>Low Tool Use</th>
<th>High Tool Use</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<th>df</th>
<th>Sig. (2-tailed)</th>
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Quantitative Analysis

Research question: Does student satisfaction with the Learning Management System (LMS) affect their satisfaction with an online course?
Method

• Regress student TP, SP, and CP, and student reported satisfaction with LMS on Student satisfaction with online course (dependent variable).

• Control for respondent age, sex, number of prior online courses
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Conclusions

• Faculty use of LMS Tools matters to student engagement and satisfaction
• Student satisfaction with the LMS matters to student satisfaction with the course
• Qualitative data indicate that D2L tools are easier to use
Future Directions and Q&A

• Comparison across LMSs, with same course and faculty
• Quasi-experimental study, convenience sample


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