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

Community of Inquiry

- Social Presence
- Cognitive Presence
- Educational Presence

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

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

• 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
  – 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

• D2L Positives
  – 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

Quantitative Analysis 1

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 Total</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMS_Read_All</td>
<td>57</td>
<td>4.52</td>
<td>0.559</td>
<td>2.344</td>
<td>94</td>
<td>0.021</td>
</tr>
<tr>
<td>Teach_Presence</td>
<td>58</td>
<td>4.3424</td>
<td>0.77158</td>
<td>2.480</td>
<td>95</td>
<td>0.015</td>
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<td>Social_Presence</td>
<td>57</td>
<td>3.9567</td>
<td>0.62533</td>
<td>-2.40</td>
<td>94</td>
<td>0.011</td>
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<tr>
<td>Cognitive_Presence</td>
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<td>4.0058</td>
<td>1.00887</td>
<td>-2.795</td>
<td>94</td>
<td>0.006</td>
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<td>LMS_Eval</td>
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<td>4.1360</td>
<td>0.58411</td>
<td>-2.187</td>
<td>94</td>
<td>0.031</td>
</tr>
</tbody>
</table>

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

Results

<table>
<thead>
<tr>
<th>Standardized Coefficients</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-2.064</td>
<td>0.041</td>
</tr>
<tr>
<td>Gender</td>
<td>0.013</td>
<td>0.251</td>
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<tr>
<td>Age</td>
<td>-0.131</td>
<td>2.362</td>
</tr>
<tr>
<td>Number completely online courses taken prior to this course</td>
<td>0.006</td>
<td>0.109</td>
</tr>
<tr>
<td>Teach_Pr_scale</td>
<td>0.528</td>
<td>7.512</td>
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<tr>
<td>Soc_Pr_scale</td>
<td>-0.085</td>
<td>-1.307</td>
</tr>
<tr>
<td>Cog_Pr_scale</td>
<td>0.332</td>
<td>4.268</td>
</tr>
<tr>
<td>Satisfied with course management system</td>
<td>0.146</td>
<td>2.417</td>
</tr>
</tbody>
</table>

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

References


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To Download These Documents

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