

# Effect of Using D2L on Student and Faculty Outcomes

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Presentation handouts available from: [www.depaul.edu/~jmoore/fusion2010/](http://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?

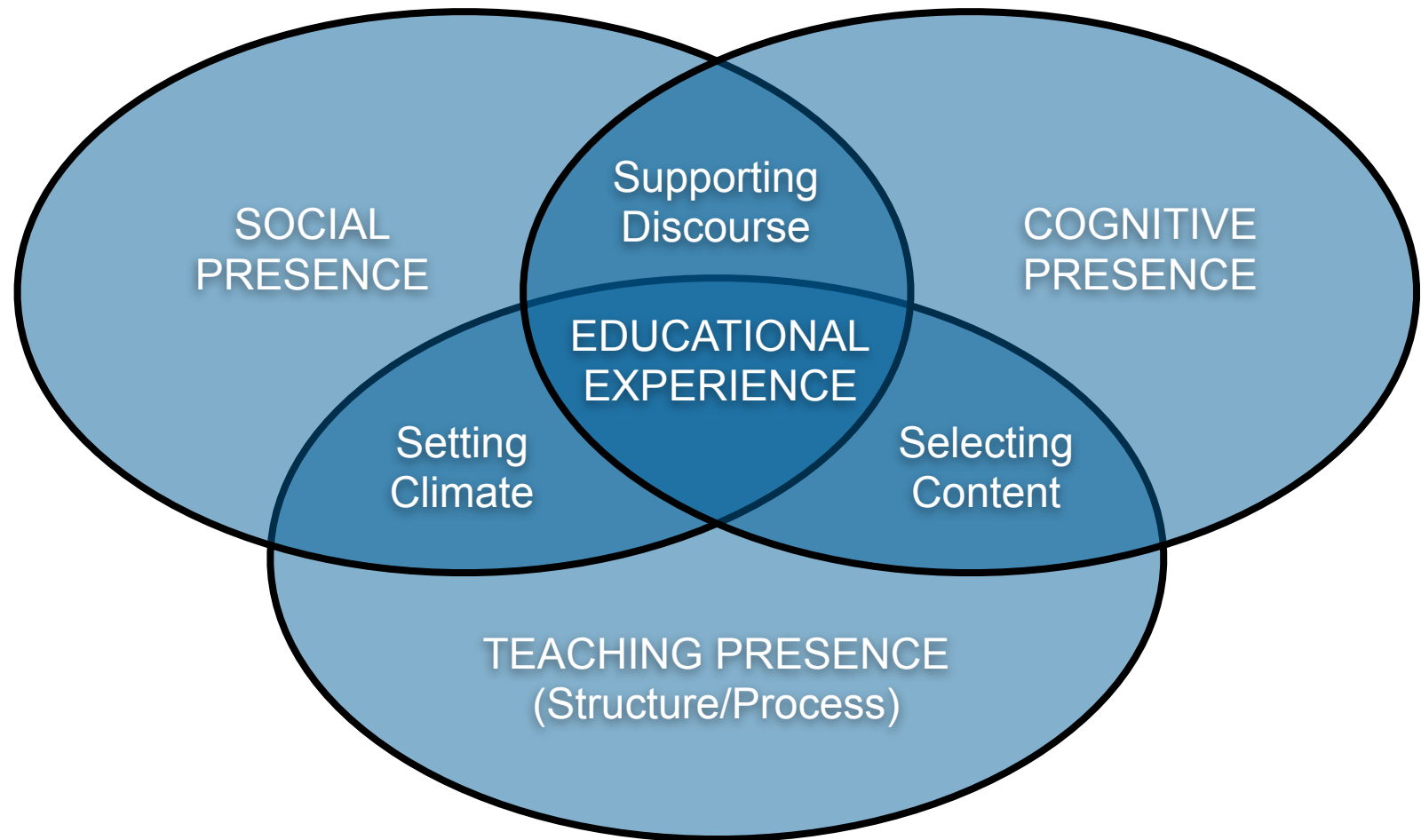


- Many pedagogies and schools, one LMS
- Effect of course design
- Effect of instructional style
- Separation of course design from instruction

# Overall Question

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

# Community of Inquiry



Garrison, Anderson & Archer, 2000

# LMS Affordances

- Contiguity of elements needed for work
- Ease of feedback and communication

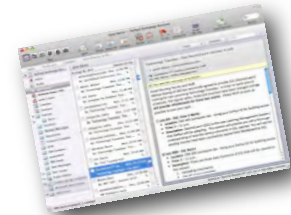
# D2L Features

- 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



Blackboard



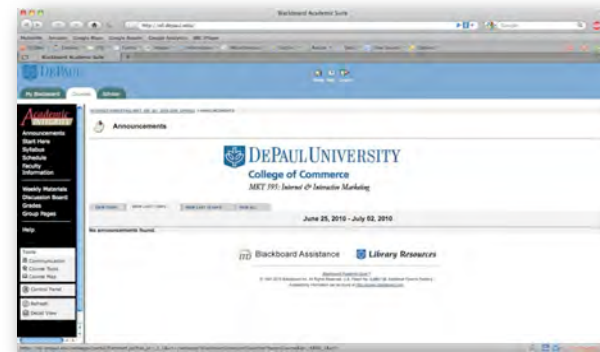
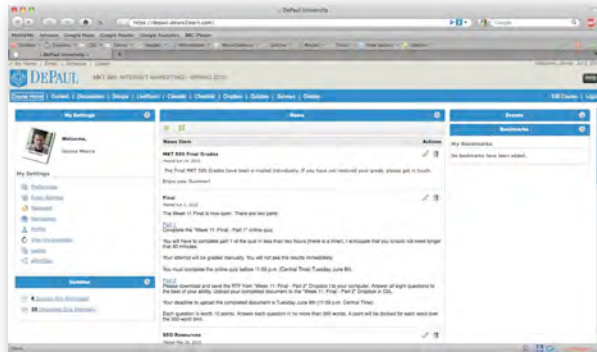
- Integrated Wimba
- Automated email of announcement



# 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

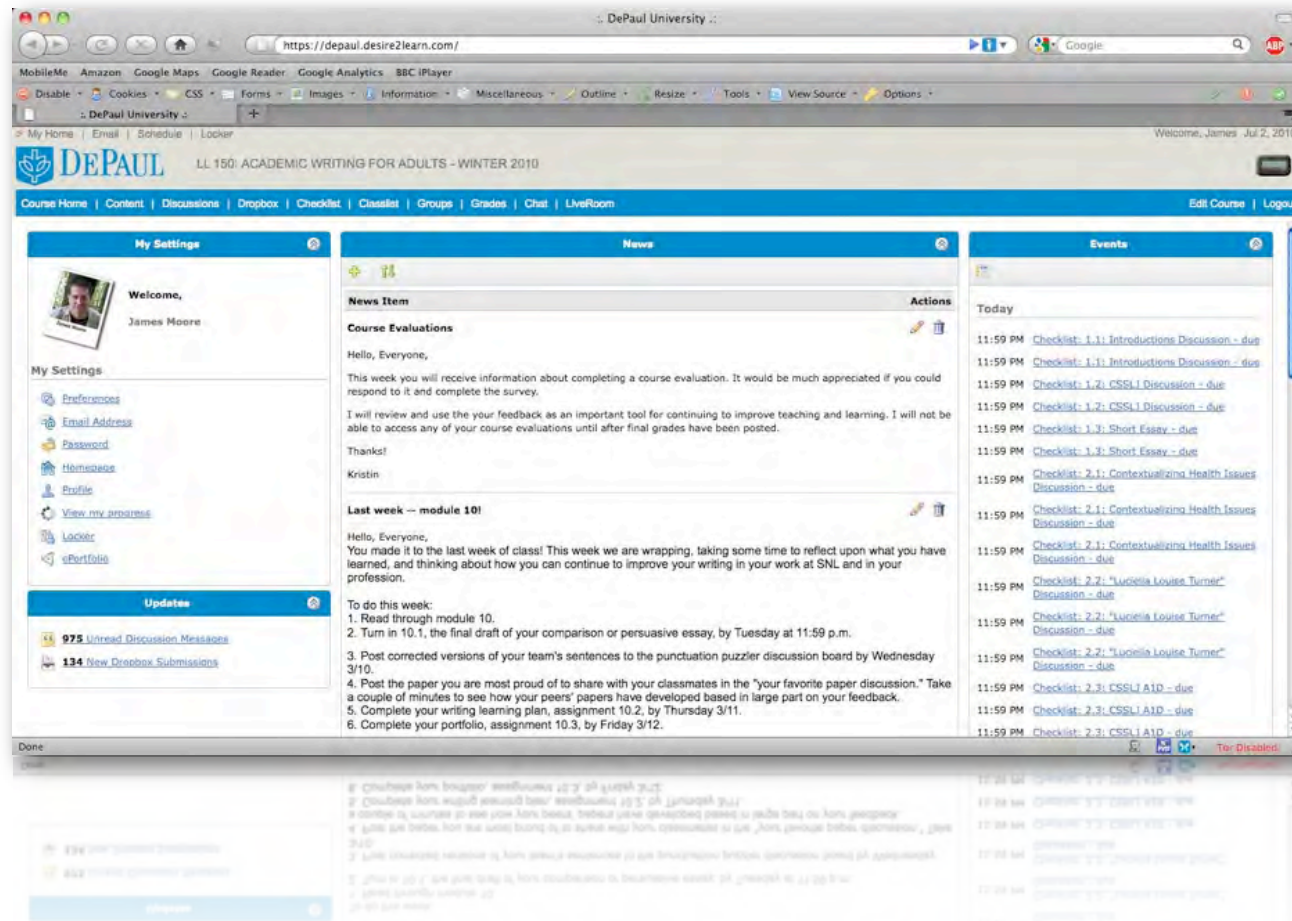
# Research Methods: Stage 2



- 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.

5	Extensive use	Extremely satisfied
4	A significant amount of use	Satisfied
3	A moderate amount of use	Neutral
2	A little bit of use	Dissatisfied
1	No use	Very Dissatisfied

# 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



Blackboard

# Faculty Interview Results

- Blackboard Positives
  - Efficiency (p. 2)
    - Early warning system
    - Reports on student activity



Blackboard

# Faculty Interview Results

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



Blackboard



# 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

- D2LPositives



- 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

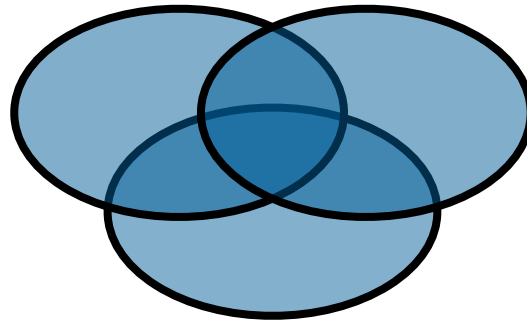
# Faculty Interview Results

- 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

# 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

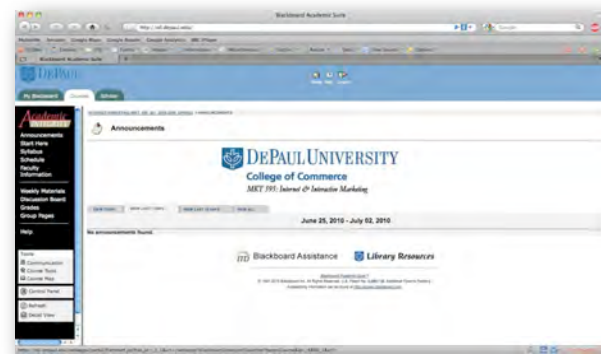
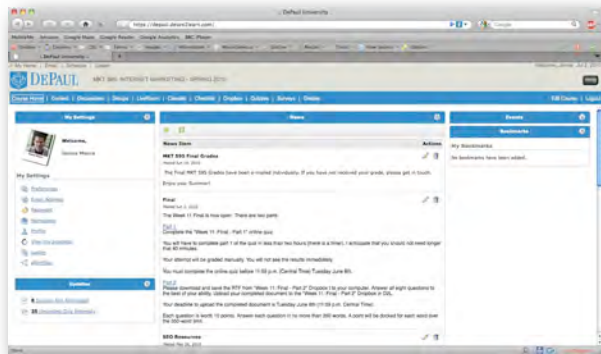
	Use of LMS Tools	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
LMS_Read_All	Low Tool Use High Tool Use	57 39	4.32 4.62	.659 .544	-2.344	94	0.021
Teach_Presence	Low Tool Use High Tool Use	58 39	4.0424 4.3886	0.77168 .49222	-2.480	95	0.015
Social_Presence	Low Tool Use High Tool Use	57 39	3.8967 3.8661	.62533 .59518	.240	94	0.811
Cognitive_Presence	Low Tool Use High Tool Use	57 39	3.9591 4.1838	.58421 .45731	-2.015	94	0.047
Satisfaction	Low Tool Use High Tool Use	57 39	4.0058 4.5214	1.00887 .67014	-2.795	94	0.006
LMS_Eval	Low Tool Use High Tool Use	57 39	4.1360 4.4231	.71194 .49055	-2.187	94	0.031

# 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

	Standardized Coefficients	t	Sig.
	Beta		
<sup>1</sup> (Constant)		-2.064	.041
Gender	.013	.251	.803
Age	-.131	-2.362	<b><u>.020</u></b>
Number completely online courses taken prior to this course	.006	.109	.913
Teach_Pr_scale	.528	7.512	<b><u>.000</u></b>
Soc_Pr_scale	-.085	-1.307	.194
Cog_Pr_scale	.332	4.268	<b><u>.000</u></b>
Satisfied with course management system	.146	2.417	<b><u>.017</u></b>



# 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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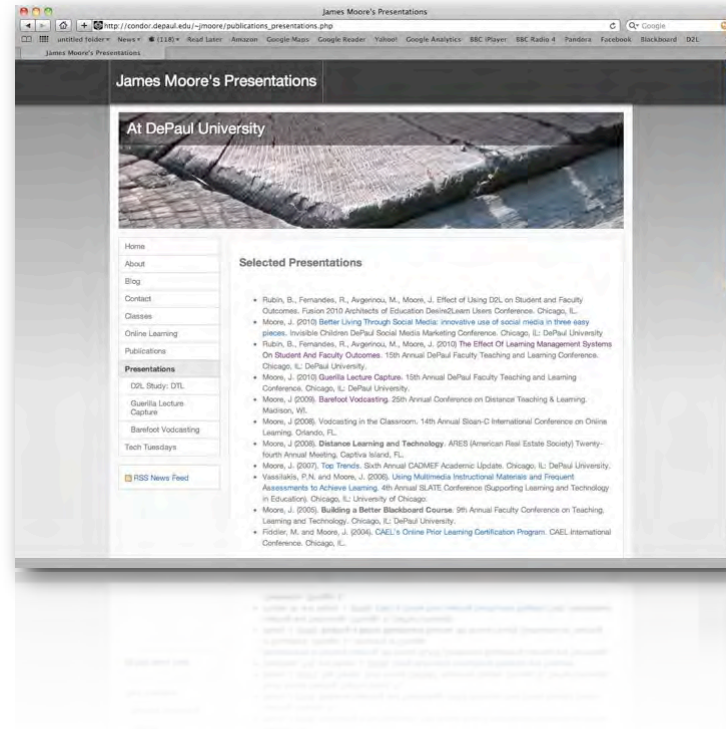
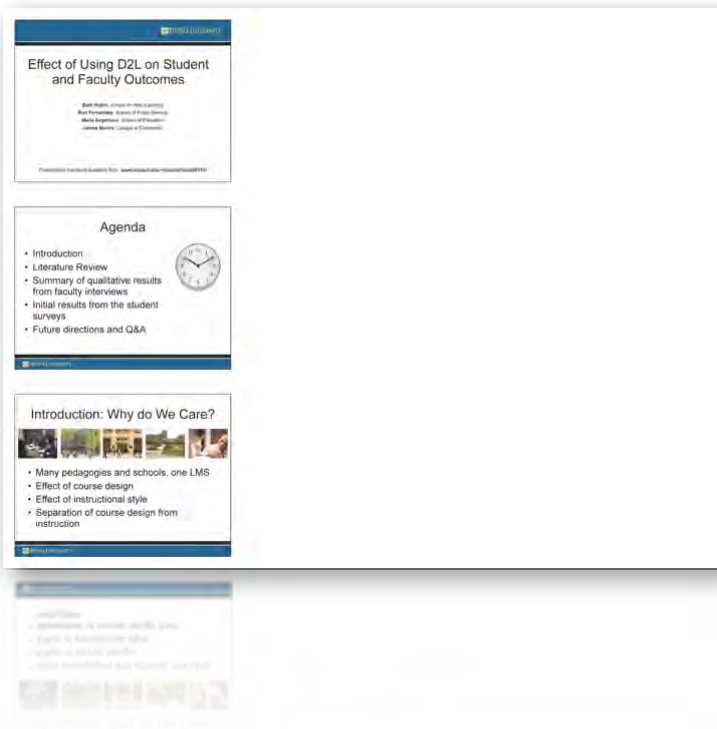
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