

Effect of Learning Management Systems on Student and Faculty Outcomes

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Presentation handouts available from:
www.depaul.edu/~jmoore/d2lstudy-dtl

Agenda

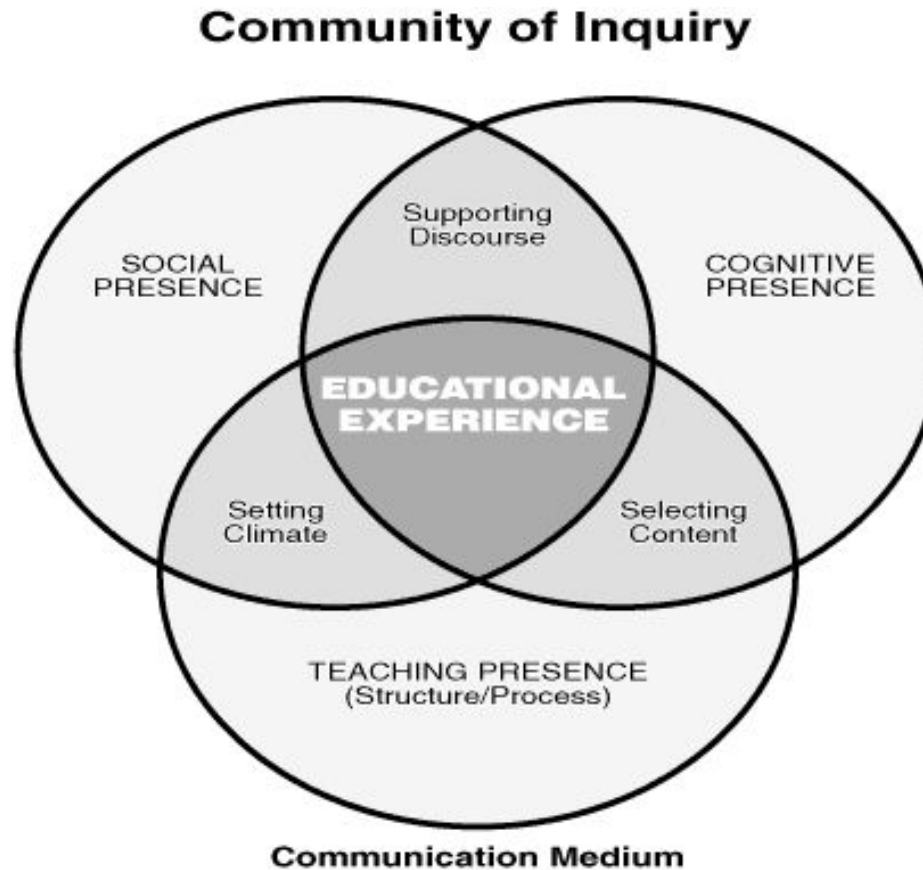
- Introduction
- Demonstrations
- Summary of qualitative results from faculty interviews
- Initial results from the student surveys
- Q&A

Introduction

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

Garrison, D.R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *Internet and Higher Education*, 2, 87-105.

Community of Inquiry



Garrison, Anderson & Archer, 2000

LMS Features

- Learning Management Systems
 - Blackboard, Desire2Learn, Angel, Moodle, eCollege, Sakai, WebCT, Edge, Zen, etc.
- Key features/affordances:
 - Contiguity of elements needed for work
 - Ease of feedback
 - Ease of communication

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

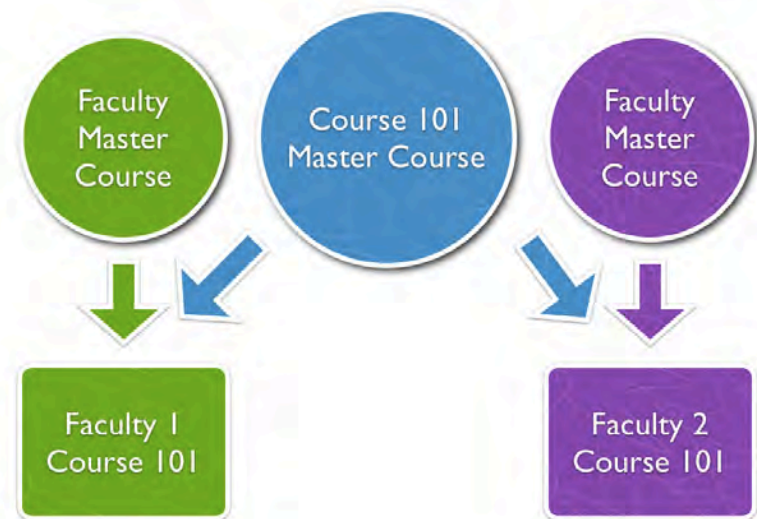
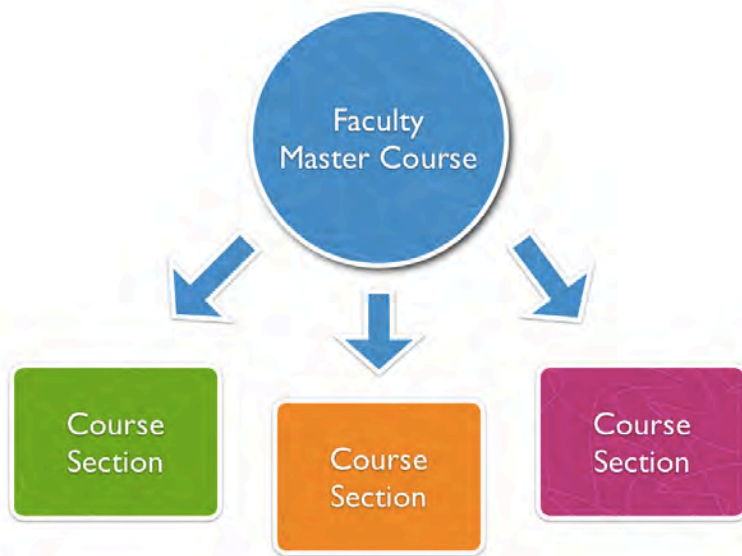
- Courses offered in two LMSs
 - Same course; over time, same faculty
- COI & satisfaction survey for students
- COI & satisfaction survey for faculty, plus tool use

Class Demonstrations

- Commerce: MKT 595, Internet Marketing

Three Features

Content Management



Hyperlinking




Your blog assignment this week is to:

1. Create a blog for MKT 595 using [Blogger](#).
2. Post one journal entry to chart your research, discoveries and thoughts for this week (this is graded as assignment 4). **NOTE:** This must be Internet marketing related.
 1. Use tags to categorize your postings.
 2. Respond to any comments left on your blog.
3. Share the URL for your blog on the [Week 1 discussion board](#).

Complete instructions are in the [Week 1 handouts \(PDF\)](#).

Scripting



Properties Restrictions Comments

 Saved Successfully (Apr 14, 2010 2:04 PM).



Availability

Hidden: ☐ Hide this module ?

Date Availability: ☐ Has Start Date


April 14 2010 2:04 PM   Now

☐ Has End Date


April 21 2010 2:04 PM   Now


☐ Display in Schedule

Release Conditions



To gain access to this item, the following conditions must be satisfied:

Completes 1 attempt(s) on the survey: **Week 2 Survey** 

Completes 1 attempt(s) on the quiz: **Week 2 Quiz** 

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.
- Response scale: 5 = Extensive use; 4 = a significant amount of use; 3 = a moderate amount of use; 2 = a little bit of use; 1 = no use.
- Response scale: 5 = Extremely satisfied; 4 = Satisfied ; 3 = Neutral; 2 = Dissatisfied; 1 = 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

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

- 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

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	Use of LMS Tools	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
LMS_Read_All	Low Tool Use	57	4.32	.659	-2.344	94	<u>.021</u>
	High Tool Use	39	4.62	.544			
Teach_Presence	Low Tool Use	58	4.0424	.77168	-2.480	95	<u>.015</u>
	High Tool Use	39	4.3886	.49222			
Social_Presence	Low Tool Use	57	3.8967	.62533	.240	94	.811
	High Tool Use	39	3.8661	.59518			
Cognitive_Presence	Low Tool Use	57	3.9591	.58421	-2.015	94	<u>.047</u>
	High Tool Use	39	4.1838	.45731			
Satisfaction	Low Tool Use	57	4.0058	1.00887	-2.795	94	<u>.006</u>
	High Tool Use	39	4.5214	.67014			
LMS_Eval	Low Tool Use	57	4.1360	.71194	-2.187	94	<u>.031</u>
	High Tool Use	39	4.4231	.49055			

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

Conclusions

- Faculty use of LMS Tools matters to student engagement and satisfaction
- Student satisfaction with the LMS matters to student satisfaction with the course
- More to come! Please join the study:
 - D2Lstudy@depaul.edu

Q&A

References

Clark, R.C., & Mayer, R.E. (2008). *E-Learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning* (2nd Edition). San Francisco, CA: Pfeiffer/John Wiley and Sons.

Garrison, D.R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *Internet and Higher Education*, 2, 87-105.

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To Download These Documents

- www.depaul.edu/~jmoore/d2lstudy-dtl