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Optimizing the Pedagogical Efficacy of Moodle

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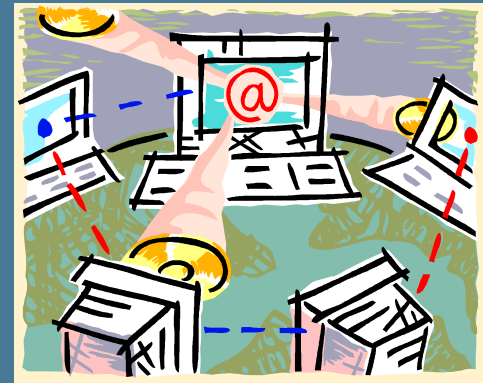
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Optimizing the Pedagogical Efficacy of Moodle



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Prevalence of Course Management Systems

Learning management systems (LMSs) have dominated the teaching and learning landscape in higher education for the past decade, with a recent Delta Initiative report indicating that more than 90 percent of colleges and universities have a standardized, institutional LMS implementation (1).



(1) EDUCAUSE Quarterly (EQ), Volume 33, Number 1, 2010, Envisioning the Post-LMS Era: The Open Learning Network, J. Mott

Definitions

Traditional: Course where no online technology used; content is delivered in writing or orally.

Web Facilitated: Course that uses web-based technology to facilitate what is essentially a face-to-face course. May use a course management system (CMS) or web pages to post the syllabus and assignments.

Blended/Hybrid: Course that blends online and face-to-face delivery.

Online: A course where most or all of the content is delivered online.

Over 6.1 million students were taking at least one online course during the fall 2010 term; Thirty-one percent of all higher education students now take at least one course online. (2)

(2) Going the Distance: Online Education in the United States, 2011, Elaine Allen, Ph.D., Jeff Seaman, Ph.D., Babson College, November 2011.

Moodle

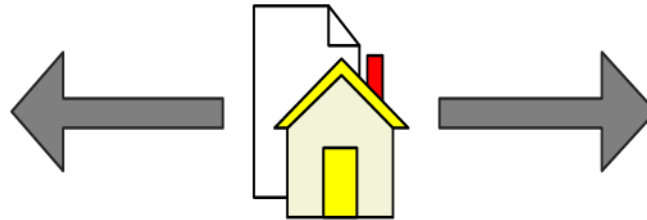
Administration

- Syllabus
- Announcements
- Links to Other Resources

- News Forum
- Homework Discussion Forum

- Learning Objectives
- Check Figures
- Homework Solutions
- Practice Exercises
- Notes; Class Inking
- PowerPoint Slides

- Camtasia Videos
- Links to Web-based Videos



Link to WebEx Recordings

Quizzes



Moodle

Course: ACFN 325, Intermediate I, Spring 2012 (Li-Kuehne) - Windows Internet Explorer

https://moodle.csbsju.edu/course/view.php?id=2354

Share Browser WebEx

- Restore
- Import
- Reset
- Reports
- Questions
- Files
- Unenroll me from ACFN32501A, 2012
- Profile

My courses

- Accounting and Finance Internships
- ACFN 325, Intermediate I, Spring 2012 (Li-Kuehne)
- ACFN 326, Intermediate II, Spring 2012 (Li-Kuehne)
- ACFN 330 Sec. 1: Governmental & NFP Accounting
- Book Every Semester (BEST)
- ACFN 113: Financial Accounting (Fall '09 Li-Kuehne)
- ACFN 113: Financial Accounting (Fall 2010 Li-Kuehne)
- ACFN 113: Financial Accounting, Fall 2011 (Li-Kuehne)
- ACFN 114 - 05A: Managerial Accounting
- ACFN 310: Corporate Finance
- ACFN 310/ MGMT 331: Corporate Finance (Li-Kuehne)
- ACFN 325: Intermediate Accounting I (Li-Kuehne)
- ACFN 325: Intermediate

1 Announcements

1. Common Final Exam: Wednesday, May 9th, 6:00pm - 8:00pm. Simons Hall G30.

2. **Chapters 7 & 17 Quiz is moved** from February 29th **to March 2nd.**

2 Syllabus and other Resources

Textbook Website: [Kieso, Weygandt, Warfield: Intermediate Accounting, 14th Edition - Student Companion Site](#)

Link (eifrs.iasb.org) to IFRS: [Welcome to the IFRS Foundation](#)

Link to FASB Codification: [American Accounting Association - FASB Accounting Standards Codification](#): Username: AAA51660; Password: SuqipMQ

- Syllabus
- Link to an example IFRS Annual Report: Marks and Spencer
- IFRS Illustrative Financial Statements (KPMG)
- Microsoft 10K
- Ernst and Young, Example IFRS Financial Statements

3 Homework Discussion Forum

Post questions, comments, and proposed solutions.

[Homework Discussion Forum](#)

4 WebEx Session Recordings

- Chapter 4 Discussion: WebEx, January 29, 2012
- Chapter 4 & 5 Quiz; Adjusting Entry Practice WebEx Session; February 5, 2012
- Snow Day WebEx Class: Chapter 17
- Exam 2 Review WebEx Session: March 11, 2012

5 Chapter1 (Financial Accounting and Accounting Standards) and Chapter 2 (Conceptual Framework for Financial Reporting)

Learning Objectives:

Change more...
Older topics ...

Upcoming Events

There are no upcoming events

Go to calendar...
New Event...

Recent activity

Activity since Tuesday, March 27, 2012, 02:34 PM
Full report of recent activity...

Nothing new since your last login

Start | [Icons] | 4:10 PM 3/28/2012

WebEx and Camtasia Videos

Chapter 6: Accounting for Capital Projects and Debt Service

Capital Projects Funds

1. Capital Projects Funds(CPF)-Definition

- A fund that accounts for and report financial resources that are **legally restricted and contractually required** for the acquisition of capital assets.
- The primary purpose of this fund is to ensure and demonstrate the expenditure of the dedicated financial resource is both legally and contractually compliant.
- The total cost of a capital project is accumulated in a single expenditures account, which accumulates until the project is completed, at which time the fund ceases to exist.
-I.e. Fund has a "Project-life focus," not year-to-year focus.
- Government **MUST** maintain capital projects funds for resources that are **legally restricted, committed, or assigned** to expenditure for capital outlays.
 - ✓ This includes the acquisition or construction of capital facilities
 - ✓ Fund **DOES NOT ACCT. FOR CAPITAL ASSETS** themselves. These are maintained in a **Schedule xx capital asset (GFA)**
- Two types of capital projects
 - ✓ General (public benefit)
-Examples: public buildings, roads, highways and bridges, park improvements, sewers systems, plant and equipment; etc.
 - ✓ Special assessment (private benefit)

Chat

from Bob Ledger to Host, Presenter & Panelists: Are capital assets included in proprietary funds?
from Michelle Li-Kuehne to All Participants: Yes, capital assets are recorded in proprietary funds.

Send to: Host, Presenter & Panelists

Participants

Michelle Li-Kuehne (Host)

Panelist: 1

Michelle Li-Kuehne (Host)

Attendee: 1

Bob Ledger (me)

We've noticed that you have a webcam. Select here to send video to other participants.

Microsoft Word - Worksheet1.docx

File Home Insert Page Layout References Mailings Review View

Color Thickness

Participants

Name	Joining time / Leaving time
Sarah Taylor	08:14 PM / 08:22 PM
Kevin Blackley	08:14 PM / 08:24 PM
Jack Ryan	08:14 PM / 08:27 PM
Sarah Carlson	08:14 PM / 08:27 PM
Sasha Albury	08:14 PM / 08:25 PM

Summary of Data

For the Year Ended December 31	Amount
2007	\$(600,000)
2008	250,000
2009	1,000,000
2010	400,000

Other information:

Year	Projected Benefit Obligation	(market related value) Plan Assets	Corridor	Accumulated OCI (G/L)	Minimum Amortization of (Gain) Loss
2007	\$4,000,000	\$3,400,000	400,000	0	0
2008	4,500,000	3,640,000	450,000	<600,000>	<15,000>
2009	4,900,000	3,900,000	490,000		
2010	5,250,000	4,360,000	525,000		

Regina Company has a stable labor force of 250 employees who are expected to receive benefits under the plan. The total service-years for all participating employees are 3,500. The beginning balance of unrecognized net gain or loss is zero on January 1, 2007. The market-related value and the fair value of plan assets are the same for the 1 year period. Use the average remaining service life per employee as the basis for amortization.

Use the schedule above to calculate the minimum amortized gain/loss for each of the years. Apply the "corridor" approach in determining the amount to be amortized each year.


$3500 \div 250 = 14$

Are these “great” resources making a difference?





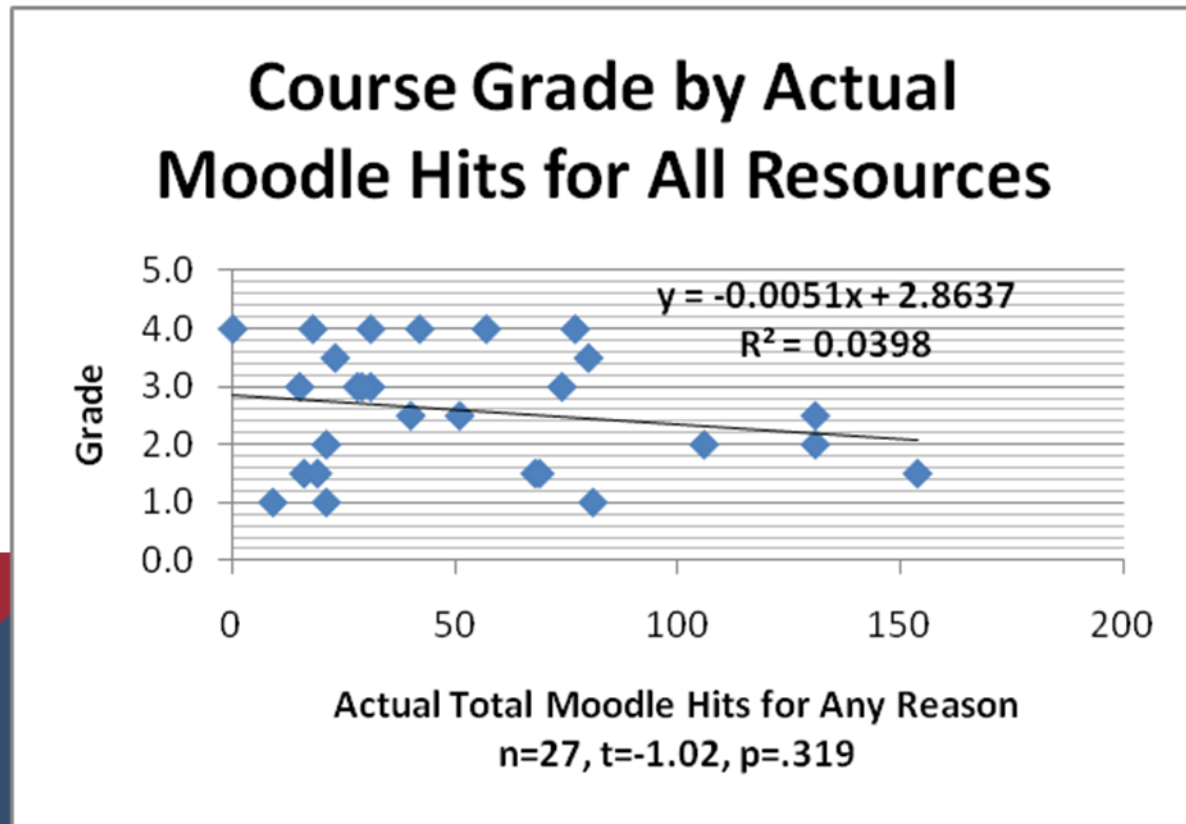
Initial Study

- Three introductory financial accounting courses, fall 2009 (n = 27) and fall 2010 (n = 52).
 - Analyses were performed to determine whether student Moodle use correlated with student performance.
 - A student survey was conducted to gather quantitative and qualitative evidence to determine what resources were considered most useful by students, and to compare student perceptions of usefulness with actual use.
 - Pre- and post- course exam were administered during the fall 2010 study to assess how Moodle use impacted student learning.
- 

Fall 2009 Results

Fall 2009

- Results indicated a slightly negative relationship (not statistically significant, $p=.32$) between Moodle use and course grade.



Multiple Linear Regression: Pre/Post Test Ratio, Fall 2010

Variable	Estimate	T stat	P-value
Intercept	0.4126	3.3875	0.0016
Moodle Hits for Written Solutions (homework and worksheets)	-0.0141	-1.8843	0.0668
Moodle Hits for Video Solutions and Check Figures	<u>0.0469</u>	4.1884	<u>0.0002</u>
Moodle Hits for Written Chapter Objectives	<u>0.1163</u>	1.9732	<u>0.0554</u>
Moodle Hits for PowerPoints	-0.0207	-1.2763	0.2092
Moodle Hits for Written Check Figures and Templates	-0.0318	-1.1877	0.2419
Moodle Hits for Written Chapter Outlines and Other Handouts	-0.0265	-0.7242	0.4731

Correlation and Regression Analysis: Fall 2010

Results

Fall 2010

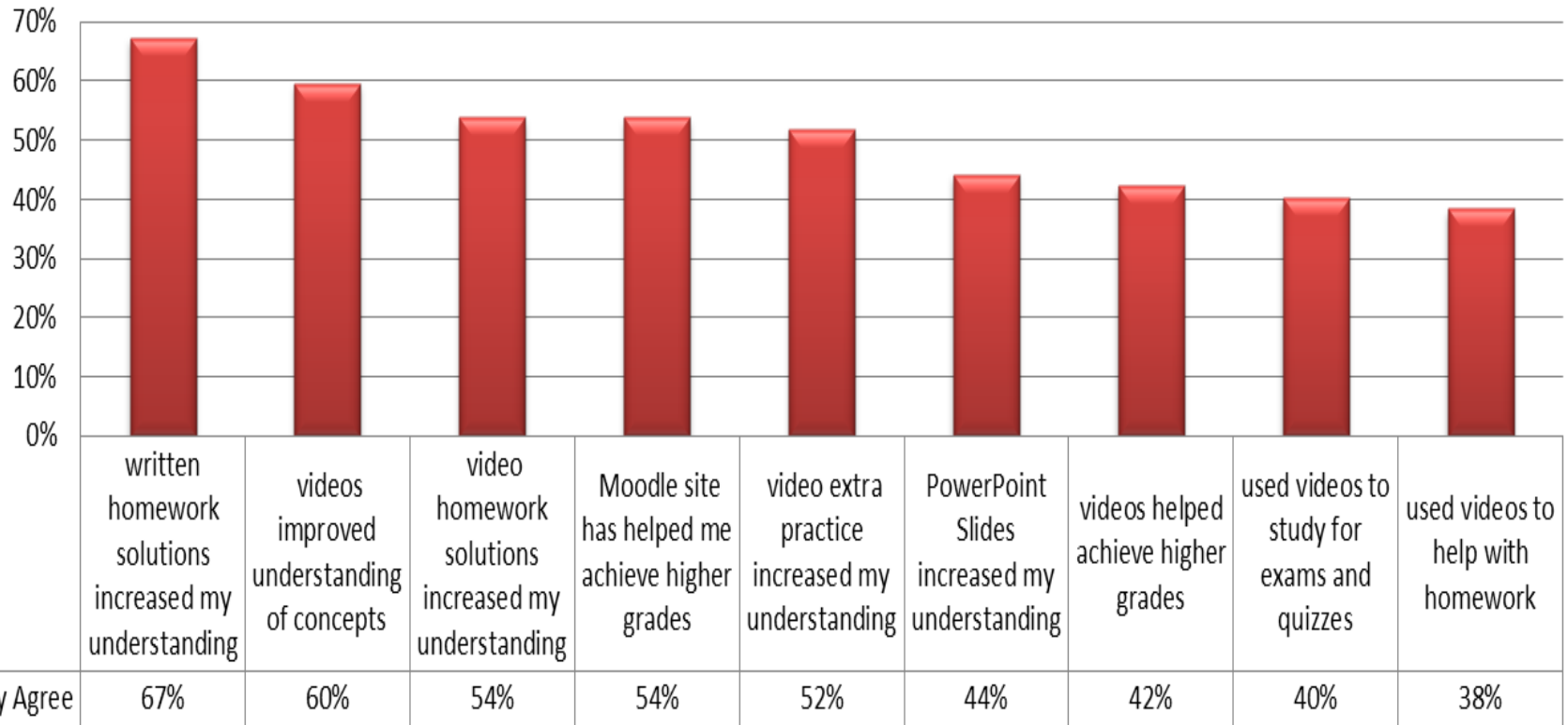
- The multiple linear regression model for various Moodle resources and course grade was not statistically significant, $p = .087$. Similar to results from the 2009 study, several Moodle resources appear to have a slightly negative relationship with Course Grade.
- A multiple linear regression was performed using the post/pre-exam ratio as the dependent variable, and various Moodle resources as the independent variables; $p = .0025$, $R^2 = .38$
- The model showed a positive relationship between the use of videos and the Pre/Post Exam Ratio ($p = .0002$).

Actual Moodle Hits, Introductory Course, Fall 2010

	Total	Written Solutions (homework and worksheets)	Video Solutions and Check Figures	PowerPoints	Written Check Figures and Templates	Written Chapter Objectives	Written Chapter Outlines and Other Handouts	Syllabus
# of Resources Evaluated	110	46	26	10	5	10	12	1

	Total Moodle Hits for all Resources	Total Hits for Written Solutions (homework and worksheets)	Total Hits for Video Solutions and Check Figures	Total Hits for PowerPoint Slides	Total Hits for Written Check Figures and Templates	Total Hits for Written Chapter Objectives	Total Hits for Written Chapter Outlines and Other Handouts	Other Moodle Hits, e.g. Syllabus
% of Total Hits	100%	35%	19%	13%	10%	7%	7%	9%
Mean # of Hits	34.2	12.1	6.5	4.5	3.4	2.4	2.4	

Student Perception, Introductory Course, Fall 2010

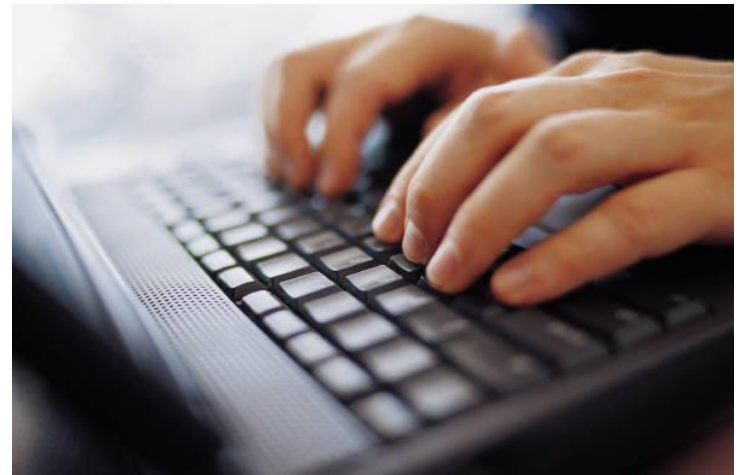


■ %Agree/Strongly Agree

Fall 2011: Classes

- **ACFN 113**
 - Introductory course ($N = 26$)
 - WebEx attendance **required** (or substituted forum post)
 - WebEx content: basic concepts
 - Pre/Post Test
 - Survey

- **ACFN 326**
 - Upper-level course ($N = 58$)
 - WebEx attendance **not required**
 - WebEx content: advanced concepts
 - Survey

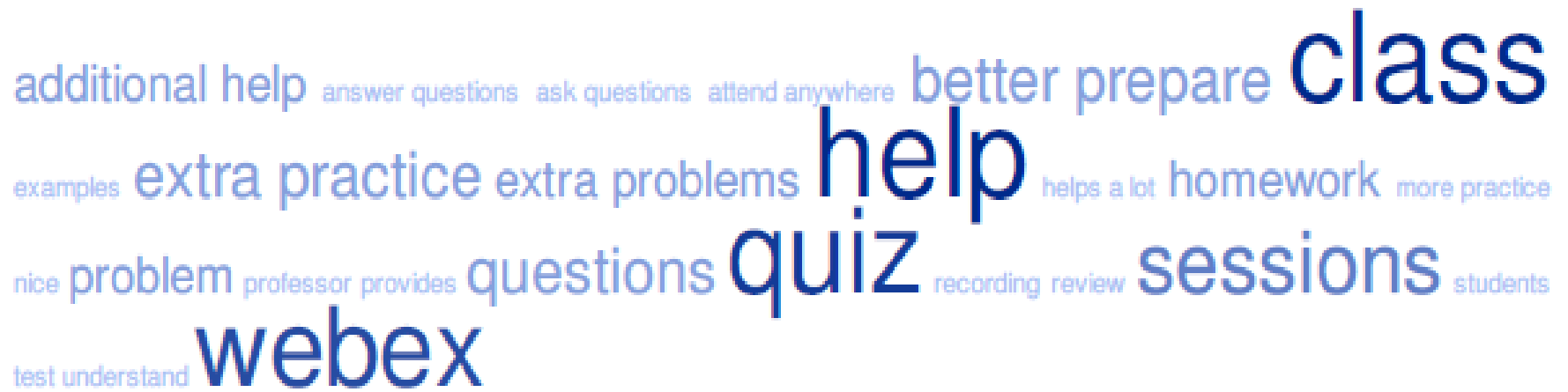


Purpose of Fall 2011 Study

- Explore student attitudes toward Moodle and WebEx resources
- Explore relationship between WebEx and student performance
- Explore relationship between Moodle use and student performance

Fall 2011: Qualitative Survey Results

Indicate what you liked about any aspect of the course Moodle site.



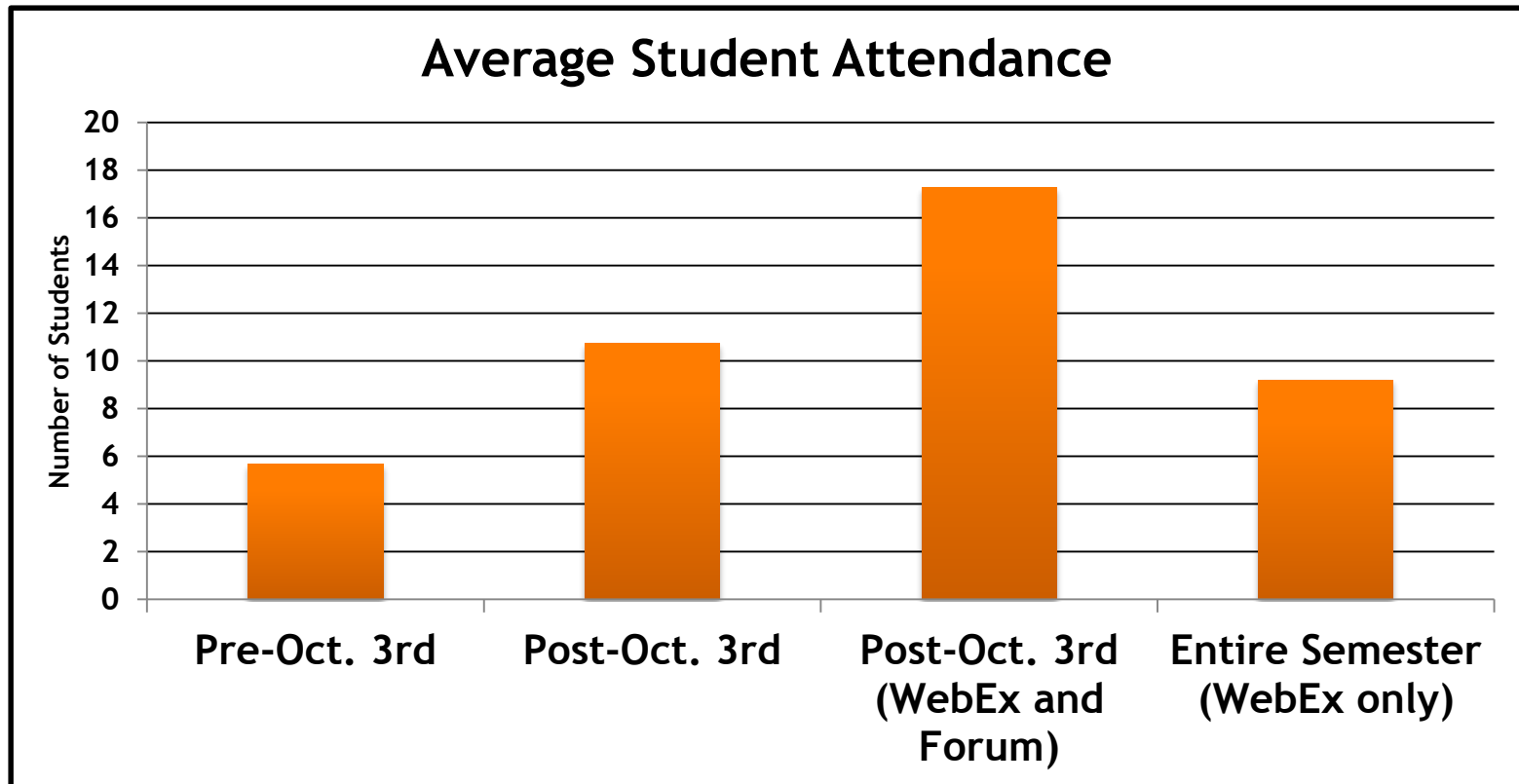
“Organized, all useful/helpful information in one place.”

Fall 2011: Method

- Included Moodle and WebEx data for ACFN 326 (Intermediate Accounting)
- Compiled end-of-semester grades, “Final Grades”
- Scored and compiled “Pre/Post Test” results for ACFN 113 (Financial Accounting)
- Collected “Total WebEx Attendance” from website, grading records
- Collected both “WebEx Link Hits” and “Total Moodle Hits” from Moodle
 - Excluded from “Total Moodle Hits”: User View, Course View, Course Recent, Quiz, Forum Search, etc.



Fall 2011: Results for ACFN 113



WebEx Session Attendance Averages (Per Session):

Pre-October 33rd: 5.7

Post-October 3rd: 10.7

Post-October 3rd (both WebEx and Forum): 17.3

Entire Semester (WebEx Only): 9.2

Fall 2011: Results for ACFN 113

N = 26

Correlation Between **“Pre/Post Test”** and:

Variable	Pearson's 'r'	P Value
“Total WebEx Attendance”	.356	.075
“Total WebEx Link Hits”	.190	.351
“Total Moodle Hits”	.474	.014*

N = 26

Correlation Between **“Final Grade”** and:

Variable	Pearson's 'r'	P Value
“Total WebEx Attendance”	.209	.305
“Total WebEx Link Hits”	.095	.645
“Total Moodle Hits”	.241	.236

Fall 2011: Results for ACFN 326

- Average WebEx Session Attendance: 10.91 students/session

N = 58

Correlation Between “Final Grade” and:

Variable	Pearson's 'r'	P Value
“Total WebEx Attendance”	.376	.020*
“Total WebEx Link Hits”	.044	.792
“Total Moodle Hits”	.085	.611

Conclusions

Financial Accounting (1st year students)

- Neither student use of Moodle resources, nor WebEx attendance, appear to impact the course grade.
- Moodle use appears to impact students increased knowledge of the course material as shown by the comparison of post-exam to pre-exam scores.
- Of all the resources available, student use of Camtasia videos and attendance at live WebEx sessions show the most significant relationship to improvement in the pre- to post-exam scores.

The implication is that student entry-level skills are more influential in predicting course grade than other factors, such as Moodle use.

Intermediate Accounting (upper level accounting course)

- Overall use of Moodle did not impact students' course grades.
- WebEx live attendance was significantly correlated with higher course grades.

Limitations

- Frequencies of Moodle hits were analyzed. Differentiation due to the length of Moodle visits was not recorded.
- The assumption that students were unaware their Moodle hits were being monitored appears reasonable for the introductory accounting classes (1st year students).
- Students in the Intermediate Accounting classes were generally aware that hits to Moodle can be monitored.
- ACFN113 students were required to attend WebEx (or post to the homework discussion forum) for participation points, which may have skewed the pre/post exam correlation results.
- WebEx sessions were optional for ACFN 326 students which may have skewed the correlations results upward.

Future Study

- Add a pre/post test to the ACFN 326 analysis.
- Focus on the quality of WebEx use; monitor chat and “attentiveness” ratios.

The Future

“Although the LMS needs to continue serving as an enterprise CMS, it also needs to be a student-centered application that gives students greater control over content and learning. Hence, there is continual pressure for the LMS to utilize and integrate with many of the Web 2.0 tools that students already use freely on the Internet and that they expect to find in this kind of system. Some educators even argue that the next requirement is a Personal Learning Environment (PLE) that interoperates with an LMS.(3)”

(3) EDUCAUSE Review ,Volume 44, Number 4, July/August 2009, Top-Ten IT Issues, 2009, A. S. Agree, C. Yang, and the 2009 Educause Current Issues Committee.