

MISSOURI TEACHING SYMPOSIUM



June 20-21, 2013

THE EVOLUTION OF IS 1800:

**From Traditional to Online to
Hybrid and the Hiccups and
Successes on the Way**



<http://www.youtube.com/watch?v=1pvgfmEU2Ck>

Introduction:

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- **Me, myself and IS 1800**
 - ...in another life
 - DOS: the beginning
 - From Visual Basic to HTML

Changing from BA 103 to IS 1800:

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- **Meets a Gen Ed requirement**
 - **3 hours class**
 - **Topics include:**
 - **Bits and bytes**
 - **Hardware and software**
 - **E-Mail**
 - **Office Suite**
 - **HTML**
- **30% non-business majors**

Our concerns

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- ❑ 6 to 7 sections every semester
- ❑ Revolving door of adjuncts
 - ❑ Difficult to recruit
 - ❑ Course drift
- ❑ The need to keep up with technology
- ❑ Lack of student use of resources for support



Development of Online Sections

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- **We were awarded a grant to develop an online version of IS 1800.**
- **On our campus at that time, online classes meant that students were never required to come to campus at all.**
- **Implications:**

Online Deployment

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- I was able to work with an experienced faculty member to help develop the class.
- We met on a regular basis.
- The online class first deployed in Fall 2010.
 - I ran parallel sections of ~25 students each with exactly the same content.

Issues:

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- **What I had to change:**
 - **Approach**
 - **Being “nicer”**
 - **Exam delivery**
 - **Learning new technology**

- **I can remember my dean asking how you can teach technology online when they don't know technology.**

Did it work?

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- **No significant difference**
 - ▣ **Mid-term course/instructor survey**
 - **Mirrors the CoBA evaluation questions**
- **No significant difference – Grades**
 - ▣ **See results slide:**

Side by Side Comparison for Fall 2010:

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GRADES	FACE-to-FACE	ONLINE
90 – 100	15 (55%)	15 (65%)
80 – 89	8 (30%)	6 (26%)
70 – 79	4 (15%)	2 (8.5%)
Totals	27	23

Information Systems 1800

Pilot Comparison

Fall 2010: Analysis of Average Results

			Face to Face Average	Online Average	Difference
Assignments					
E-mail: out of 30			29.68	29.67	0.01
Concepts: out of 30			28.17	27.64	0.53
Word: out of 50			47.62	46.14	1.48
Web Page: out of 75			68.32	66.16	2.16
Excel: out of 50			43.75	44.89	(1.14)
Access: out of 50			43.88	45.42	(1.54)
Exams					
Exam I: out of 150			130.00	132.00	(2.00)
Exam II: out of 150			121.96	130.09	(8.13)
Excel Multiple-Choice: out of 50			39.92	42.76	(2.84)
Excel Hands-On: out of 50			43.00	42.85	0.15
Final: out of 200			156.00	165.81	(9.81)

Second semester:

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- **I was able to offer the parallel sections for a second semester and results were:**

Information Systems 1800

Pilot Comparison

Spring 2011: Analysis of Average Results

			Face to Face Average	Online Average	Difference
Assignments					
E-mail: out of 30			29.87	29.45	0.42
Concepts: out of 30			28.48	28.85	(0.37)
Word: out of 50			48.48	46.71	1.77
Web Page: out of 75			71.42	68.52	2.90
Excel: out of 50			47.62	36.27	11.35
Access: out of 50			46.50	46.14	0.36
Exams					
Exam I: out of 150			127.14	130.92	(3.78)
Exam II: out of 150			123.96	128.11	(4.15)
Excel Multiple-Choice: out of 50			40.89	41.56	(0.67)
Excel Hands-On: out of 50			45.04	40.41	4.63
Final: out of 200			155.78	161.76	(5.98)

And I learned:

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- **Panopto for lectures**
 - **Getting equipment and learning**
- **Alter exams**
 - **How/when to make Respondus exam available**
 - **Will safeguards still work?**
 - **Excel Exam for online format:**
 - **How to “protect” screen shots**
 - **Used .pdf**
 - **Need alternate resources for hands-on files**

Next steps then:

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- **Lectures needed to be more in-depth online**
 - **Can't answer questions asynchronously**
 - **Need to be specific as to dates, can't just say Tuesday or the 4th**
- **Recording textbook practices (file work)**
 - **Better for students after I had practiced in my face-to-face section**
 - **Learned how to name the recordings (duh!)**

..need a short break

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- <http://www.youtube.com/watch?v=783CfN2R18k>

And we were ready for the final piece:

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Invitation to participate:

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□ **Missouri Course Redesign Initiative:**



Experts in improving learning and
reducing cost in higher education.

Began Work in:

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- **Spring 2011**
- **Remember, I had the online experience in hand.**
- **Final proposal sent July 2011**

- **Accepted, then the work begins.**
- **I was able to do my own pilot of a hybrid in Fall 2011.**

What drove our methodology:

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- **Our definition of hybrid:**
 - ▣ **Courses in which a significant portion of the learning activities have been moved online, and time traditionally spent in the classroom is reduced but not eliminated.**

- **We want to use the best of online and face to face for the benefit of our students.**

Why the Hybrid?

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At home



In class



Students watch videos or screencasts from instructor to get oriented to content



Instructor works with students on hands-on and face-to-face work
“Guide on the Side”

- **Reduce # of Class Meetings**
 - **With online, interactive learning activities**
 - **Significant changes in remaining in-class meetings**

Hybrid delivery mode as designed:

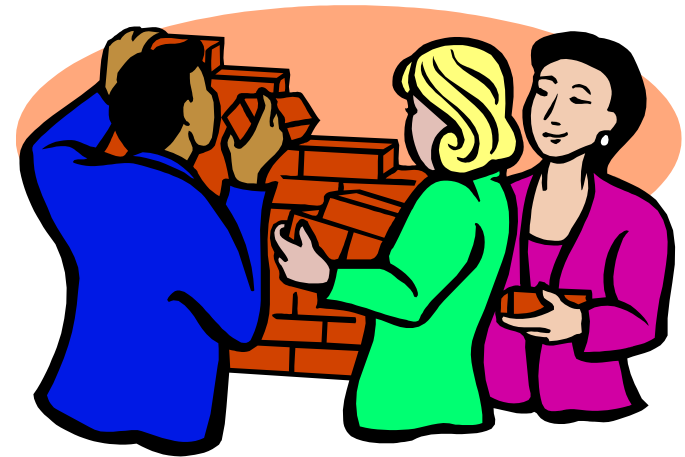
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- **~300 students per semester**
- **One full-time instructor**
- **3 grad learning assistants**
- **1 peer tutor**
- **Class meetings: ~10 per semester**
- **Weekly support labs**

The process:

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- **Great team:**
 - **Instructional designer**
 - **CTL**
 - **FRC**
- **Support from the provost**



Solutions used in the pilot:

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- **One instructor**
 - 100 students
 - At most, one weekly class meeting
- **More technology:**
 - Almost exclusive use of learning management system
 - Use of Panopto for a variety of applications
 - Lectures
 - Lessons
 - Exam reviews
- **Enhanced student support**

More solutions:

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- A robust Learning Management System that was a repository for all course resources
- A custom-designed web portal from the textbook publisher and a textbook with rich supplemental course software



- A learning management tool that encouraged “pushing” assignments and “pulling” completed work



...and continuing

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- ❑ Online grading that posted grades and allowed for evaluative comments
- ❑ Group Discussion boards
- ❑ Blogging on current technology topics
- ❑ Extensive use of a “lecture-capture” product
- ❑ A web-based Virtual Desktop environment (VDI) that provided free access to software

And finally:

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- **Informal Student Support labs that encouraged interactions with both tutors and instructor.**



..and the fun begins

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- **Full implementation Fall 2012**
 - ▣ **300 students per semester**
 - ▣ **6 recitation sections, ultimately collapsed into 3**

Some details:

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- **Skills Mastery Projects**
- **Assignments**
 - Had to develop checklists for each
- **Feedback delivered in MyGateway**
 - With comments for students to see
- **Where you stand:**
 - Points
 - Work so far
 - Remaining points
 - How to calculate letter grades

Some more details:

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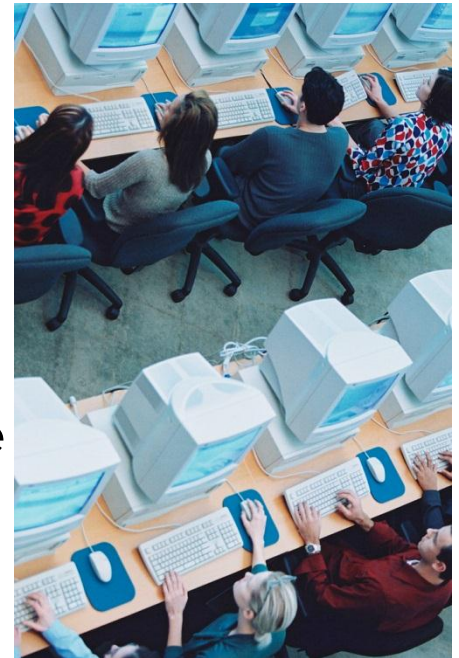
- ❑ **Assignment difficulty builds**
- ❑ **Assignments are released at intervals**
- ❑ **Monitor student progress via column statistics feature**



Full Implementation:

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- **First week of class,**
 - No support lab classrooms
 - Solved for the next week
- **First exam**
 - Not enough slots for students in the Online Testing Center
 - And surprisingly, students procrastinated



OTC Impact:

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- ❑ **One testing site has been closed.**
- ❑ **Alternative sites have been closed and alternative rooms have a technology mismatch.**
- ❑ **All exams are now offered completely online, except for the Excel Exam.**
 - ❑ **File work and MC**
 - ❑ **Need to be sure of mastery because of downstream classes.**

Full Implementation:

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- **Our e-mail tutor had an issue with starting to work at the beginning of the semester:**
 - Eventually resolved
 - Led to a change in our original design

We lost one of our tutors.

- Since e-mail was the first assignment, I set up a rule
- We have necessary staffing levels.

So, what changes from Fall to Spring?

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- ❑ **No peer tutor**
- ❑ **All online testing, except for Excel**
- ❑ **Able to re-use demo recordings**
- ❑ **New equipment led to no “chipmunking”**
- ❑ **Some tutor issues**
- ❑ **I am more comfortable.**

Some additional takeaways:

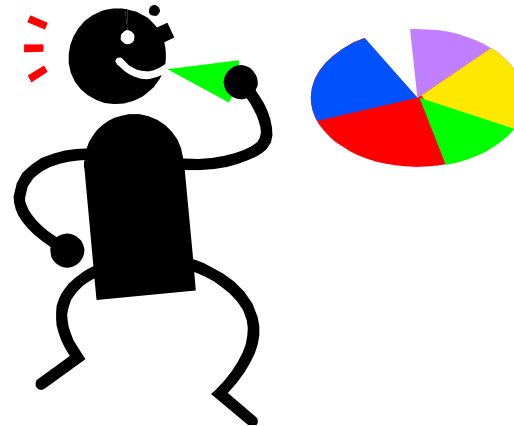
- **During my 4 week summer class that ended last week:**
 - **Implemented some suggestions from my Spring 2013 class**
 - **When an application is introduced, we should meet face to face.**
 - **It seems that the choice to use locally developed product is preferred.**

As a result of:

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- Face to face
- Online
- Hybrid

- We began:



Our peer reviewed article:

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- Will appear in JOLT: Journal of Online Learning and Teaching
 - September 2013
 - Authors
 - Kathleen Burns
 - Don Sweeney
 - Jeremy North
 - Will Ellegood

- Title: A Longitudinal Comparison of Course Delivery Modes of an Introductory Information Systems Course and Their Impact on a Subsequent Information Systems Course

The Process:

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- We looked at several years of classes that I taught.
 - Face to Face
 - Online
 - Hybrid

- We looked:
 - Demographics
 - GPA
 - Learning outcomes



First set of results:

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□ Demographics

- During an extensive analysis, of which I was not a real part of:
 - No commonalities were evident.
 - Nothing stood out as a predictor.

Looking at GPA:

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- In all delivery modes, the incoming GPA of IS 1800 students was the best predictor of success.



Which students had the best outcomes?

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- Recall, we found out about GPA.
- But in our research, the students who took the class in face to face mode earned higher letter grades.

We then looked at the downstream class:

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- IS 2800
- Required of all business majors
- Taught in both face to face and completely online

- Again, demographics showed no strong correlations.
- And again, the incoming GPA was the best determinant.

The “ta da” from our research:

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What we found:

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- Students who took IS 1800 online or in hybrid mode had better learning outcomes in IS 2800.

- And...

Stated so I can understand:

- However, the most remarkable finding of this study was that those students who took the initial course in online or hybrid delivery mode showed greater success, as a group, in the second, more advanced Information Systems course, as measured by course grade, than students who took the initial Information Systems course in the face-to-face mode.

Why:

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- Those of us business and economic types around the table were like, and this means?
- Dr. Burns to the rescue.



Dr. Burns helped us find:

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- There may be multiple reasons:
 - ▣ Constructivist theories of learning which argue that students who are actively involved in the learning process are more successful and retain more.
 - ▣ In online and hybrid environments, instructors are more likely to act as facilitators, allowing students to become more active participants in the learning process

- Another explanation has to do with the instructor, but...

So:

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- Face to face
- Course coordinator
 - ▣ Common final and stuff
- Online development
 - ▣ My concerns
- Hybrid development
 - ▣ Best of both worlds
- Research
 - ▣ Interesting findings that deserve further analysis



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One of our “cool” classrooms



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Where I work and teach



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...one more time

That is where we are.

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- Questions?
- Clarity?

- Comments?