"Time Warping" Education: A Blended-Learning Business Statistics Course Example

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Knowledge (Education) Dilemma

- Knowledge is increasing at a pace faster than people can learn.
- What should be added or eliminated from a (120-hour) curriculum?
- Solutions:
  - Drop/Add material
  - Increase "time" requirement beyond 120 hours
  - Make students learn more

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Presentation Overview

- What is "time warping" education?
- How to time-warp course components
  - Introduction, lectures, homework, exams, student/instructor interaction, and grading
  - Traditional versus Time warping techniques
  - Supporting technologies
- Advantages/Disadvantages
  - Student's perspective
  - Instructor's perspective
  - School's perspective
- Example: Business Statistics course

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My Business Statistics Course

- Required course for all business majors
- "Accelerated" format
  - 8 weeks
  - Meets twice a week for 2 ½ hours each time
  - Uses a computer lab for Excel
- Non-traditional (older, working) students
  - Any scheduling flexibility is appreciated (i.e., blended)
- The first, and last statistics course for business students
- Typically a "feared" course

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"Time Warping" Education Definition

- Manipulating "time" in order to increase student learning while providing benefits to the student, instructor, and school.
- Assure (a minimum) "equivalent" content
- Techniques can be applied to F2F, Blended, and Online courses
- If done well, this "time" manipulation will be unnoticed by students.

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Course Components

- Set-up and introduction
- The "lecture"
- Homework
- Exams
- Student interaction (questions) and office hours

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Technologies

- Learning Management System (LMS) (Blackboard, WebCT, Desire2Learn, Moodle, others)
- Website (webpages)
- Email
- Videos (Flash, podcasts, mobile)
- Mobile (iPhone, iPad, smartphones, etc.)

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"Traditional" Course Scenario

- Students come to course on Day 1.
- Instructor lectures, student take notes, instructor gives assignments
- Students submit work, graded by TA or instructor
- Exams intermixed
- Goes on for 16 weeks
- Office hours are used for help

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Set-up and Introduction

- Traditional
  - First day introductory items: Review syllabus, review course administration, instructor introduction, student intros, etc.
  - Lost meeting
- Time-warped
  - Introductory email and introductory videos
  - Pre-course assignment
  - Asynchronous delivery of all course materials
  - Scheduling modifications (one week before course begins)
- Technologies
  - Email
  - Website (Syllabus & Assignments)
  - LMS (Restricted course components & resources, discussions, upload assignments, take "quiz")
  - Videos
- Answer questions and address problems before course begins

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Introductory Email Example

Rick Jerz   January 10, 2013 10:04 PM
To: Rick Jerz   Hide Details
Bcc: shepperdheatherm@sau.edu   Sent - Rick 48
STBE337 - Welcome!

Hello STBE337 ACCEL Students,

Welcome to STBE337, Business Statistics. I am Dr. Jerz and I will be your instructor for the upcoming STBE337 course.

This is my first (and the longest) "email" that you get from me. **Please read it carefully.** I am sending this email to all the email addresses that are on the Registrar's system for you, so you might get more than one from me.

This semester, our course will begin on Monday, January 14th. This is a 50/50 hybrid course, we will be in-class on Mondays and "online" on Thursdays. I think that you will really enjoy this format.

The syllabus can be found at http://www.rjerz.com/c/bs/STBE337/STBE337_Syllabus.html. The textbook (shown on the syllabus) is in our SAU bookstore. On the syllabus, click the "Assignments" link (near the top) to view what we will be covering this semester and the days that we will be meeting "in-class." Please notice on this "Assignments" webpage that I have a **Pre-Course assignment** for you to do before our first class meeting. This assignment and most other course resources are found on my Moodle link at http://www.rjerz.com/moodle/, which is also on the shown on the top of my syllabus webpage. The Pre-Course assignment is there to make sure you do not have any problems and are ready to go on the first night.

When you get to Moodle, click on the "Business Statistics - STBE337-F12" course (see the attached graphic). Then you will need to "Create a new account" (right-bottom button.) This should be a simple process (read and do the seven simple steps shown, or follow my video at this link). By the way, you can create any login ID and password that you will remember, as long as the password contains at least 8 characters and one number. It does not have to match your SAU login. After you create your account you will get your confirmation email with a URL to copy and paste into your browser, then you can then access the course with the following enrollment key "**stats16**". Let me know if you have any problems. This version of Moodle is still a little new to me, so your feedback is very important. I think you will enjoy using Moodle. Please do not contact SAU's Information Technology or ACCEL's staff with any questions you might have about Moodle or my webpages because they won't be able to help since I manage my own content.

I make nearly all the course resources available to you in Moodle. Once you are logged into Moodle, you can see these resources and try some of them. Don't worry, you can't break anything nor affect your grade, yet. If you happen to be in Blackboard, you can also get to Moodle from our course on Blackboard.

I made Chapter 1 materials available to you and you can begin the homework for this chapter.

I prefer using email whenever possible. Please let me know if you ever have any questions or if something on my website is not working for you.

Sincerely,

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Instructor Introduction Video

- (on my website)

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Course Introduction Video

- (on my website)

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Pre-Course Assignment

- Able to login to course LMS
- Take quiz: student survey
- Upload assignments: a photo
- Use discussion forum: Introduce themselves

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Lectures

- Traditional
  - Instructor lectures, students take notes,
- Time-warped
  - Demonstration
  - Video lectures, at student's convenience
  - Notes and resources available online
  - Ability to "flip" the course
- Technologies
  - Digital video
  - Podcasts (use of iPhone +)
  - LMS
  - PowerPoints/Word/PDF/Videos

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Audio Editing Demonstration

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Homework/Assignments

- Traditional
  - Limited problem set
  - Grading can be an issue
  - Turned in in batch
- Time-Warped
  - LMS used to deliver randomly selected problems
  - Turned in at the student's convenience, before due date
  - Graded automatically by the LMS
  - Homework can be repeated
  - Homework videos (for problem solving w/Excel)
  - Scheduling: Open early, closed late, two-weeks
- Technologies
  - Homework videos
  - LMS

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Exams

- Traditional
  - 1 – 2 hours in the classroom (graded by hand, scantron, TA)
  - One class meeting used
- Time-warped
  - LMS used to deliver exams with randomized, yet similar questions
  - Delivered outside of classroom time
  - Timed (two hours)
  - Available at least for 24 hours (time zone independent)
- Technologies
  - LMS that works (began in the classroom, F2F, have done the whole weekend)
  - Randomized exam questions
  - Variable question types

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Student Help and Support

- Traditional
  - Questions during lecture
  - Office hours
  - Advantage to the student who asks
- Time-warped
  - Questions anytime via email and LMS
  - No office hours (continuous)
  - Everyone benefits from posted questions
  - Video responses
  - Instructor's answers are "reusable"
- Technologies
  - LMS - Discussion forums
  - Email
  - Real-time videos

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Grades and Final Grading

- Traditional
  - Gradebook updated once a week
  - Final grade can be a mystery to students
- Time-warped
  - Online gradebook updated continuously
  - Final grade is always known
  - Few questions from student (less time)
- Technologies
  - LMS

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Advantages & Disadvantages

- Student's Perspective
- Instructor's Perspective
- School's Perspective

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Students' Assessments & Comments

- Students like the ability to be able to work on their own time schedule
- Students like not needing to spend as much time in the classroom
- Students do not complain about too much time involved in the course
- Wow, this professor is really "wired"!

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Faculty Perspectives

- My lectures are complete
- Carefully "add" material and content
- Able to deliver MORE content than F2F
- Opportunity to "flip" the classroom
- Time grading work is minimized
- Time is better spent improving educational components
- Provides "flexible" time schedule
  - Able to be in two places at the same time
- Videos:
  - Provide exact record of what was said to students.
  - Easy to spot needed improvements.
  - Can be used for assessment
- Negative: Prep Time

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School Advantages & Disadvantages

- Keeping up with the modern trends and student desires
- Better resources utilization
- Better assessment data (via the LMS)
- Marketing the program: Many students like the delivery format
- Disadvantages:
  - Investment in information technology resources
  - Incentives for faculty

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Presentation Resource Webpage

- http://www.rjerz.com/personal/work/Presentations/Time_Warping_Education.html
- Rick@rjerz.com

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