The “Classroom Flip”
A Model for
Pedagogically Effective
Use of Instructional Technologies

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Introduction

- New technological resources available . . .
- . . . but it’s NOT about the technology
- My Quest:
  - How can instructional technologies (or Course Management System) be used to affect teaching & learning?
  - Do “distance learning” technologies have any effective uses in enhancing face to face classes?

Goals for Session

- Identify Your Instructional Needs
- Define “Pedagogically Effective”
- Introduce the “Flip” Model
- Discuss Application
- Provide Examples
- Go where you want to go!

If I could fix one thing …

- Students are unprepared for class
- How do I get my students to spend enough time in the class material?
- How do I get them to read the text?
- How do I help them apply the content?
- If I use active learning strategies, how do I get in all the content?
Pedagogy to Practice

- Needs to be a relationship between
  Your Instructional Need
  Selection of an appropriate Instructional Strategy
  Use of IT or CMS to support the strategy

“Pedagogically Effective”


Seven Principles

- Encourage student-faculty contact
- Encourage cooperation among students
- Encourage active learning
- Give prompt feedback


Seven Principles

- Emphasize time on task
- Communicate high expectations
- Respect diverse talents and ways of learning

What I Wanted to Fix

- Find an approach to move from “stage” to “side”
- Reduce time spent on lecturing
- Open up class time for active learning

What I Wanted to Fix

- Focus more on understanding and application than on recall . . .
- . . . while not sacrificing presentation of the factual base
- Provide students with more control over their own learning

What I Wanted to Fix

- Give students a greater sense of responsibility for their own learning
- Provide students with more opportunities to learn from their peers
- Key: Use IT or CMS in pedagogically effective ways

The Classroom Flip

- Move lecture material out of the classroom through online delivery
- Extend conversation
- Do text quizzing online
- Hand in homework electronically

- Move “homework” into the classroom where faculty can serve as guide
- Use opened up time for application and practice
- Have more time for active learning
Other Support

- Concept first presented April 2000 (Baker, 2000)
- The “Inverted Classroom” (Lage, Platt & Treglia, 2000)
- “An End to Student Segregation: No More Separation Between Distance Learning and Regular Courses” (Turoff, 1999).

Pedagogy to Practice

- Needs to be a relationship between
  - Your Instructional Need
  - Selection of an appropriate Instructional Strategy
  - Use of IT or CMS to support the strategy

Need->Strategy->IT

<table>
<thead>
<tr>
<th>Need</th>
<th>Strategy</th>
<th>IT Support</th>
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<tbody>
<tr>
<td>My student’s aren’t prepared for class discussion because they haven’t kept up with the reading.</td>
<td>Use more frequent quizzes over the text readings.</td>
<td>Online quizzes can be set up to be made available right up to the time class starts and then turn off. Students must read the material &amp; take the quiz before class.</td>
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<td>Encourage their engagement with the readings through discussion of key points with others in the class.</td>
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<td>Set up discussion groups for the class in the Threaded Discussion area in which regular discussion of text reading can be done.</td>
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Menu of Topics

- Online “Lectures”  
  - Features - Benefits - Examples - Classroom Changes
- Online Discussions  
  - Features - Benefits - Examples - Guidelines - Classroom Changes
- Online Quizzing  
  - Features - Benefits - Examples - Classroom Changes
- Student Collaborative Space  
  - Features - Benefits - Classroom Changes
- Homework Drop Box  
  - Features - Benefits - Examples
- Faculty & Student Assessment  
  - How much time?
Online “Lectures”

- Features
  - Web pages [delivered in CMS]
  - Multiple media sources available
  - Student use is recorded
  - Can link to
    - Objectives
    - Student notes
    - Discussion area

- Online “Lectures”
  - Principle: Encourage active learning
  - Principle: Communicate high expectations

- Benefits
  - Not restrained by class time
  - Can link to extra resources
  - Statistics on student use available
  - Student accountability
  - Increased time in-class for application and discussion
  - Don’t sacrifice “coverage”

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Online “Lectures”

Adding Media
Classroom Changes

- Structure for class:
  - Clarify
  - Expand
  - Apply
  - Practice
- Time for Active Learning
- Emphasis on "higher order" thinking
- "Sage by the side" there at point of need

Online Discussion

- Types of Discussion
  - Synchronous (Chat Rooms)
  - Asynchronous (Threaded Discussion)

Online Discussion

- Features
  - Available through "stand alone" software
  - Automatically created by CMS
  - Messages archived
  - Public/Private
  - With names/Anonymous
Online Discussion

- Principle: Emphasize time on task
- Principle: Encourage cooperation among students
- Principle: Encourage student-faculty contact

Online Discussion

- Benefits
  - 100% participation
  - "Voice" to the silent students
  - Thoughtful, articulate responses
  - Opportunities to practice critical thinking
  - "Time on task" with content
  - Builds dialog between students
  - Access to outside experts
  - Transcript available for review

Online Discussion

- Benefits
  - "Deepens" students understanding of the material as they "explore issues, take positions, discuss those positions in an argumentative format, and reflect on and re-evaluate their positions" (Greenlaw (1999), *Journal of Economic Education*, p. 34).
Online Discussion (Blackboard)

- Discussion Board
- Various threads
- Online Discussion
- Jenzabar
- Online Discussion
- WebCT

Online Discussion (Jenzabar)

- Forum: General Discussion
- Description: Picture for family Jenzabar pages
- Topics:
  - Discussion Board
  - Current Events
  - International

Online Discussion (Jenzabar)

- Forum: Discussion on Internet
- Description: Internet discussion

Online Discussion (WebCT)

- Course: 401: Macroeconomics
- Topics:
  - Textbook
  - WebCT Discussion Board
  - WebCT Resources
  - WebCT FAQs
Posting Example

“[H]ow can we avoid permitting the social gap between those who can afford to take advantage of technology and those who cannot to widen uncontrollably? What methods can be taken to prevent the social injustice of limited opportunities according to social status from being reborn in modern society after we have worked so hard to abolish, or extinguish such previously existing depriving and unfair norms of society? . . .”

Posting Example

“. . . Another issue that has been raised for discussion is the fact that we as human beings in our society are becoming more and more controlled by technology. Is this something that we, especially as christians, should work to decrease, or should we embrace it and seek methods in which we can use it to the glory of God?”
Student Assessment

- The threaded discussions helped me to internalize concepts. The discussions were not just two-minute class discussions that I forgot shortly after class dismissed. The discussions were something that I spent a significant amount of time thinking about, working on, and reflecting on what my partner said. Because of this I remember a significant portion of what was discussed.

Student Comment from Education Class, Winter 2000

Instructions for Discussion

- Bert Wheeler’s Guidelines
  - Each student will be required to post to a bulletin board at the class’s WebCT site and participate in a threaded discussion (20% of total grade).
  - The postings will be based on pre and post debate discussion
  - Each student should “average” two (2) postings per debate.
  - It will be necessary to “keep up” with the postings. If a student attempts to post a large number of times at the end of the quarter, the postings will not count.

- Bert Wheeler’s Guidelines
  - If an individual student’s postings are not of a sufficient quality, notification will be made by email.
  - The purpose of the postings will be to show reflection, synthesis, evaluation and deliberation on the specific issue or ethical dilemma.
  - The grade on the postings will be earned based on 18 total posting opportunities.

Classroom Changes

- Small groups carry over into class work
- Students better prepared for in-class discussion
- Students may gain more confidence to participate in-class
- More time in class for “higher order” thinking
Online Quizzes

- Types of assessment:
  - Surveys
  - Frequencies
  - Self-Assessment Questions
    - Ungraded
    - One question at a time
  - Provide feedback
- Quizzes
  - Graded
  - Lots of options for delivery

Online Quizzes

- Types of items:
  - True-False
  - Multiple Choice
  - Matching
  - Short Answer
  - Multiple Answer
  - Essay
  - Fill in the Blank

Online Quizzes

- Features
  - Set time available
  - Generate quiz from bank of questions
  - Automatic grading
  - Provide immediate feedback
  - Allow multiple attempts

Online Quizzes

- Principle: Give prompt feedback
- Principle: Emphasize time on task
Online Quizzes

- Benefits
  - Holds students accountable for reading
  - Saves class time
  - Provides immediate feedback
  - Can repeat for mastery
  - Can be used for practice tests
  - Provides formative assessment for class discussion

Online Quizzes (Blackboard)

Online Quizzes (Jenzabar)

Online Quizzes (WebCT)
Classroom Changes

- Less need to overview text
- Better discussion, since students have read material prior to class

Student Collaborative Space

- Features
  - Area for students to upload material
  - Only members can save files
  - Rest of class only sees what the members make public

Classroom Changes

- Focus more on "higher order" thinking
- "This leaves class time for expanding on the topics and discussing them at a deeper level because [the students] have been prepared before coming to class."
Student Collaborative Space

- **Benefits**
  - Place for posting student projects
  - Assignments (individual or by assignment)
  - Group shared files (only group access)
  - Group reports (shared with class)
  - In-class presentation available for review
  - Students may view one another’s projects
  - Area for group collaborative work

Classroom Changes

- **Group has access to shared files in and out of class**
- **Students can learn from one another’s assignments outside of class**
- **Homework can be submitted outside of class**

Homework Drop Box

- **Features**
  - Provides assignment instructions
  - May deliver related files for students
  - Automatic availability
  - Students upload electronic files
  - Includes comment and grade fields
  - Automatically connected to grade book

Homework Drop Box

- **Benefits**
  - Don’t have to collect papers
  - No late work accepted
  - Can provide electronic comments (in paper and/or from submission page)
  - Grade automatically entered in grade book
Homework Drop Box (Blackboard)

- Example

Homework Drop Box (WebCT)

- Example

Homework Drop Box
Homework Drop Box

Your Name: John Doe

Your proposed topic can reasonably extend as you can at this point in your research:...discuss advertising and its effect on consumer's buying habits.

Your research question (if you have developed one at this point):

These days advertising effect everyone's buying habits, and if the advertising is deceptive, what changes do the consumers make? (Use one on the right “Exercise,” this needs to he assigned topic, so “Advertising on consumer’s buying habits” in not good to get you into the FTC college or court decisions on deceptive advertising. It’s going to get you any survey of consumer behavior, which is not the right direction for this class. The one possible connection may be in the role of the FTC regulation of deceptive advertising, but that topic is around pretty well by the entry examination of the history and development of FTC’s role. That kind of topic needs to be more focused. The FTC role, the enforcement and the role of advertising, but as the ethical advertising case will see other that takes you. Here you have ability to feel any?

The type of project you propose during this topic should be adding an “X” in the brackets next to your choice:

[ ] Research Paper

Faculty & Student Assessment of “Flipped” Classes

Faculty Assessment

- John Schauf, Edgewood College
  - Information Technology
- Cheryl Irish, Cedarville University
  - Special Education
- Susan Warner, Cedarville University
  - Marriage and the Family

“Now I do little lecturing. The students are expected to read the chapter, review my online chapter notes, and then we work on the homework in class. I find that I can provide much more help to the students when I can immediately answer their questions... The students accomplish more ‘homework’ because they are not stuck for hours on a question that I can answer immediately.”
"The upshot is that I can cover the critical material much more quickly and thoroughly than I can in a traditional class. You have to depend on your students getting more of the material on their own while you concentrate on the crucial. The students love it . . . and they are doing better on the whole than the same caliber students from my past classes."

John Schauf
Information Technology

"I can now use class time for discussions and learning activities I didn’t have time for before. I was frustrated with the short amounts of time I had in the past for these important experiences, but with WebCT for the concrete activities, we’re able to focus on higher levels of learning in class."

Cheryl Irish
Education

"WebCT provides me with a mechanism for holding students accountable for reading assignments. They read the assignment and then take quizzes and participate in small group discussions over the reading material while in WebCT. This leaves class time for expanding on the topics and discussing them at a deeper level because they have been prepared before coming to class."

Cheryl Irish
Education

"I was concerned my students have an outlet to be able to discuss relevant issues that surfaced during class discussion. So I divided them into group of approximately eight students. Each group had its own private bulletin board where they could post their reactions. They would often talk about their own families in ways they would not in class."

Susan Warner
Sociology
The students say…

- These discussions helped me "dig" inside myself and find out what I truly thought. I grew as a teacher and as a Christian.

- ...I was not put on the spot and also was given plenty of time to think about ideas.

The students say…

- I think that I shared in more detail than I would have in class...sometimes in class time would run out and I would still be thinking about things...so it was nice to be able to have a place to talk about some of those things.

The students say…

- It (threaded discussion) helped me to internalize topics better because I had to think about the issues. I had to look things up in the book, in my notes and in my Bible to formulate my entry. Having to do all that work was sometimes frustrating, but it definitely helped me to learn it better.

The students say…

- I often felt rushed to get this done because I had so much other work to do and had to wait for my partners to respond but I did internalize concepts...I learned about my own beliefs in the process.
The students say…

- When writing the threaded discussion, I seemed to write a lot more than I would share in class. The reason being: I like to write a whole lot more than I like to talk. I also seemed to be able to think more deeply about the subjects and Biblical integration thus could write more.

Student Assessment

- The threaded discussions helped me to internalize concepts. The discussions were not just two-minute class discussions that I forgot shortly after class dismissed. The discussions were something that I spent a significant amount of time thinking about, working on, and reflecting on what my partner said. Because of this, I remember a significant portion of what was discussed.

Time Spent

- Accounting of time spent on Mass Media Law & Regulation (Fall 2001)
- WebCT used for:
  - Content
  - Delivery of student briefs & memos for all to read prior to class
  - Homework submission
  - Quizzes over text
  - Grade book
Classroom Flip – Integrated Classroom
(Iowa Workshop)

07/21/2002

Time Spent

- Plan & Prep: 21.6%
- Communication: 7.7%
- Content Development: 15.6%
- Evaluation: 14.9%
- WebCT: 40.3%

Activity | Time Spent | Percentage
--- | --- | ---
Planning and Preparation | 17.50 | 11.50
Planning | 2.95 | 1.90
Content Development | 12.33 | 8.20
Syllabus | 6.98 | 4.5
Communication | 7.15 | 4.70
Evaluation - Formative | 1.85 | 1.20
Evaluation - Summative | 2.63 | 1.60
Evaluation - Individual Summative | 37.85 | 23.40
Quiz Setup | 1.58 | 1.00
File Management | 4.12 | 2.60
WebCT | 6.50 | 4.10
WebCT Administration | 0.55 | 0.35

Citations
