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

J. Wesley Baker, Ph.D.
Department of Communication Arts
Cedarville University
Cedarville, OH

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 quizzes 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

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<tr>
<th>Need</th>
<th>Strategy</th>
<th>IT Support</th>
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<tr>
<td>My students 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 turned off. Students must read the material &amp; take the quiz before class.</td>
</tr>
</tbody>
</table>

Encourage their engagement with the readings through discussion of key points with others in the class.

Iterations

Tasks for Groups

- Start from the technology you think may help address your need
- Get into groups by technology
- Share what you are doing and any experiences you may have already had with the technology
Suggested Groups

- Web-based Content & Resources
  - Steve Isaac – Use of Web readings
  - Doug Carlson – Use of Web readings
- Online Discussion
  - Paul Beltman – Shared folders
- Online Quizzing
  - Dave Arnett - WebAssign
- Shared Collaborative Space
- Media
  - Rick Clark (also online workbook)
  - Scott Monsma (use of NPR stories)

Menu of Topics

Online “Lectures” & Resources

- 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 - Examples - Classroom Changes

Homework Drop Box

- Features - Benefits - Examples

Faculty & Student Assessment

- How much time?

Online “Lectures”

- Features
  - Web pages
  - Multiple media sources available
  - Can link to
    - Objectives
    - Student notes
    - Discussion area

- Principle: Encourage active learning
- Principle: Communicate high expectations

Benefits

- Not restrained by class time
- Can link to extra resources
- Increased time in-class for application and discussion
- Don’t sacrifice “coverage”
Online "Lectures"

Adding Media

Adding Resources

- Online Readings
- Gallery of Images
- Suggested Independent Readings
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)

- Features
  - Available through "stand alone" software
  - Messages archived
  - Public/Private
  - With names/Anonymous

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

- 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).
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.

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.
Instructions for Discussion

- 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 (QuestionMark)

Online Quizzes (WebCT)

Classroom Changes

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

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

- 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

- Principle: Respect diverse talents and ways of learning
- Principle: Encourage cooperation among students
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)
Homework Drop Box (WebCT)

- Example

Homework Drop Box (WebCT)

- Example

Homework Drop Box

- Example

Homework Drop Box

- Example
Faculty & Student Assessment of “Flipped” Classes

Faculty Assessment

- John Schauf, Edgewood College
- Information Technology
- Cheryl Irish, Cedarville University
- Special Education
- Small class (10) - online discussion
- Susan Warner, Cedarville University
- Marriage and the Family
- Large class (58) - online discussion

“I now do little lecturing. The students are expected to read the chapter, review my on-line 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.”
"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

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.”

-Susan Warner

"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.”

-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.

-Student Comments from Cheryl Irish, Winter 2000
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.

Student Comments from Cheryl Irish, Winter 2000

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.

Student Comments from Cheryl Irish, Winter 2000

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.

Student Comments from Cheryl Irish, Winter 2000

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.

Student Comment from Education Class, Winter 2000

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

Time Spent

- Plan & Prep
- Communication
- Content Development
- Evaluation
- WebCT
### Time Spent

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### Online Readings

- Readings for Topic #1 - Problem
- Readings for Topic #2 - Theoretical Factors
- Readings on Topic #3 - Institutional Factors
- Readings on Topic #4 - Policy Factors
- Readings for Topic #5 - Cultural Factors
Independent Readings

Citations
