Learn by Doing it Wrong: An Experience in Flipping a Class

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My Learn by Doing Experience

• What Could Possibly Go Wrong?
  – took all or nothing approach
  – produced all the video lectures first
  – assumed the rest would fall into place

• Did Not Communicate Concept Well

• Did Not Properly Organize In-Class Projects
  – not stand-alone exercise; students need guidance

• Assumed Students Would Read Before Class
  – provided no motivation

• Underestimated Student Pushback
Develop Your Own Flipping Concept

- Every One Will be Different
- Not Homework in Class and Lectures at Home
- Put Responsibility for Learning on Students
  - move them into active learning mode
- Teacher’s Role is Guidance or Supervision
  - “learning management”
- Lots of Work so Get Support Early
  - department very supportive but could not help much
  - reach out to others in flipping community
Communicate Your Concept

• Share Your Philosophy in Syllabus
• Students Won’t Understand Benefit
• Don’t Use “Flipping” or “Student-Centered”
• Discuss Briefly During First Class Meeting
  – don’t emphasize change
  – emphasize student responsibility to prepare
• Reinforce Benefit During Each Class Session
• Give Students Plenty of Lead Time on What to Expect in Next Class
  – develop a routine for them
In the Spirit of Sharing Philosophy

A Comment on Learning: Learning any subject matter is not simply the acquisition and accumulation of facts, or the regurgitation by the student of correct information. Learning involves the assimilation of facts into new information and integrating new information with your own knowledge and experiences. The student is learning when he or she can take something from one context and apply it in a different, unfamiliar context. The delivery or transfer of information by the instructor to the student is not sufficient to help the student learn or understand the material. Students must take an active role in the learning process.

In this course, active learning opportunities will be provided, requiring the student to engage directly in learning. The lessons for each class meeting are designed by the instructor on the assumption that the assigned readings from the textbook, video lectures, and lecture notes will be completed by the student before class. If students prepare for class by reading the assigned texts and course notes, and letting the instructor know what parts they find most difficult, then we can use class time to work together to develop a deeper understanding of the material. We cannot discuss all materials in class; still, students are responsible for mastering the necessary materials in order to reach the learning outcomes stated in the syllabus. This requires the student to engage an active learning approach in this class.
Think Through Your Projects

• Active Learning Begins Before Class Meets
  – requires much feedback

• Students Must Demonstrate Before Class
  – they have read the assigned material
  – they have watched the video lectures
  – they are prepared

• Students Should Have Some Idea
  – what you will cover in class
  – what they need to do to prepare
  – what they will do in class

• Submit Work for Grade at End of Class
Put Technology to Work for You

- Role of Technology is Key
- YouTube for Video Lectures
- eTexts and Articles Online
  - aplia.com; pearsonmylab.com
- PolyLearn (Moodle) for
  - posting assignments
  - reading forums (due before class)
  - dropbox for collecting in-class work
Give Students Lots of Information

• Online Research Guides
  – http://libguides.calpoly.edu/agb450

• Blogs for Communicating with Each Class
  – http://agb310.wordpress.com/
  – http://agb311.wordpress.com/
  – http://agb450.wordpress.com/

• Students Need Help Sorting Through It
  – they become responsible for using the information
  – they actively manipulate information
  – they want you to facilitate and supervise
Get Your Students Prepared

• Use Just In Time Teaching
  – students communicate their needs just before class
  – teacher tailors lecture and projects to their needs

• Decide on Method for Pre-Class Assessment
  – work must be graded or students lack motivation
  – reading forums

• In-Class Work Difficult if Student Unprepared

• Students Will Think They Can Fake It

• Link
  – http://webphysics.iupui.edu/jitt
Use JITT Judiciously

1. Plan Where, When, How, and Why of JITT
2. Ask Good JITT Questions
   a. broad ones designed to elicit level of conceptual (mis)understanding
   b. specific ones designed to show mastery of content
3. Read and Grade Responses
4. Design In-Class Work to Focus on Response

• Link
  – http://tlc.provost.gwu.edu/just-time-teaching-steps-1-4
Manage Your Students’ Expectations

• Students Will Be Confused, Uncomfortable
  – this is good; it’s called learning

• Be Ready for Pushback
  – provide support and guidance
  – let them gripe but don’t negotiate
  – “free pass” for one blown assignment (not reading)

• Be Consistent in Approach for Each Class
  – let them know what to expect
  – let them experience the benefit (the “Aha!” moment)

• Hold Students Accountable
Peer Instruction is Invaluable

• Peer Instruction Helps Make it Work
  – students teaching each other; asking each other questions
  – gives students stake in the process
  – encourage group work; discourage free riding

• Use JITT Responses to Form Peer Groups
  – know who the leaders are
  – present the problem; get groups to settle on one answer

• Links
  – http://blog.peerinstruction.net/
  – http://mazur.harvard.edu/education/educationmenu.php
So To Review

• Develop Your Own Flipping Concept
• Communicate, Communicate, Communicate
• Think Through Your In-Class Projects
• Make Technology Work for You
• Get Students Prepared
  – use JITT
  – use peer instruction
Final Words of Encouragement

You know you are ahead of the crowd because of all the arrows in your back.

– Dr. Jay Noel, Chair, AGB Department, Cal Poly
YouTube Links

If you wish to watch the video of this presentation prepared for the Western Economic Association International 88th Conference:

Part 1 – http://youtu.be/p1gz5XARvYU

Part 2 – http://youtu.be/s6wHeb2LNso
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