The Flipped Classroom

What:
Take the "content delivery" (lecture) out of face-to-face time, and flip the whole learning cycle upside down, requiring students to watch pre-recorded lectures online BEFORE class begins.

Why:
Students can watch the lecture more than once (or rewind the parts that are confusing), and can do it on their own schedule. The second (larger) motivation is that class time is now freed up for application, synthesis, and evaluation activities, rather than dissemination of facts and concepts. You have time for role-plays, simulations, groupwork, problem-based learning, scenarios, or even just answering student questions. A third, less obvious-reason: student engagement and motivation in the whole enterprise now rises since there is more accountability and also more interesting interactions.

How:
1. Build lectures via screencast (recorded PPT is usually simplest) and place into Canvas
2. Require students to take a quiz online before the next class period (note: most such quizzes can be self-grading, with no work necessary from the instructor. These quizzes are to take care of lower-levels on Bloom's taxonomy; the ensuing class period will deal with the upper levels)
3. Use class time for activities that gauge student understanding (and go no further if they have difficulty). Often this takes the form of "application" type exercises. If students master this and there is time left, consider activities that "deepen" the learning, and go to the next step (think of Bloom's Synthesis and Evaluation type of activities).
4. Monitor the night-before quizzes and tailor a response as part of the F2F class, perhaps by inserting a just-in-time mini-lecture (5 minutes?) that addresses problems everyone seemed to have on the quiz.

Chickering/Gamson's Seven Principles of Good Practice:

1. GOOD PRACTICE ENCOURAGES STUDENT -- FACULTY CONTACT
2. GOOD PRACTICE ENCOURAGES COOPERATION AMONG STUDENTS
3. GOOD PRACTICE ENCOURAGES ACTIVE LEARNING
4. GOOD PRACTICE GIVES PROMPT FEEDBACK
5. GOOD PRACTICE EMPHASIZES TIME ON TASK
6. GOOD PRACTICE COMMUNICATES HIGH EXPECTATIONS
7. GOOD PRACTICE RESPECTS DIVERSE TALENTS AND WAYS OF LEARNING

Chickering, A.W., and Gamson, Z.F. (1991). Applying the Seven Principles for Good Practice in Undergraduate Education. New Directions for Teaching and Learning. Number 47, Fall 1991. San Francisco: Jossey-Bass Inc

Bloom's Taxonomy

"By the end of this course, students will be able to…"

Knowledge
arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce, state, describe, enumerate, identify, match, read, record, select, view, write

Comprehension
classify, cite, convert, describe, discuss, estimate, explain, generalize, give examples, make sense out of, paraphrase, restate, summarize, trace, understand, express, identify, indicate, locate, recognize, report, review, select, translate, illustrate

Application
apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write, act, administer, articulate, assess, chart, collect, compute, construct, contribute, control, determine, develop, discover, establish, extend, implement, include, inform, instruct, operationalize, participate, predict, prepare, preserve, produce, project, provide, relate, report, show, teach, transfer, use, utilize

Analysis
analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test, breaks down, categorize, correlate, diagram, focus, illustrate, infer, limit, outline, point out, prioritize, recognize, separate, subdivide

Synthesis
arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write, adapt, anticipate, collaborate, combine, communicate, compile, devise, express, facilitate, generate, hypothesize, incorporate, individualize, initiate, integrate, intervene, invent, model, modify, negotiate, progress, rearrange, reconstruct, reinforce, reorganize, revise, structure, substitute, validate

Evaulation
appraise, argue, asses, attach, choose, compare, defend, estimate, judge, predict, rate, core, select, support, value, evaluate, contrast, conclude, criticize, critique, decide, interpret, justify, reframe

Lectures in a Can
Capturing Narrated PowerPoint Presentations and Uploading

Method 1: Record audio on PowerPoint, save as .wmv, upload to YouTube, and link from Canvas.

1. Open an existing PPT presentation.
2. Open SLIDESHOW tab.
3. Click "record slide show." A popup will come; leave the default settings.
4. Click "start recording", and simply click to advance the slides as usual. Be cautious that you do not talk while clicking – it may be best to pause for a second before clicking for the next slide, and pause another moment after the next slide loads.
5. When done with the lecture, you may be asked if you want to SAVE the slide timings (if so, click yes).
6. Click to "save as" and switch file type to Windows Media (wmv). After the video file is created, upload the file to YouTube (suggested privacy setting of "unlisted") and provide a link to embed directly in Canvas. (If using a Mac, there is an option to save-as into a .mov file).

Note that you don't have to start over each semester, even if your content changes a little bit. To make any changes next semester, return to the original PPT and delete the audio/speaker icon on one individual slide, then follow the steps above to record replacement audio for just this one slide, then click ESC rather than advancing to the next slide. Perform the YouTube steps again to make a new movie.

Method 2: Capturing a lecture as a movie involves letting the students see what's happening on your computer screen – such as when you want to show how to navigate through a webpage, or how to use Excel to build a chart, and so on. Camtasia is ideal for this, but a free solution is to use a product called Screencast-o-Matic (http://screencast-o-matic.com). Once it's installed, there is a simple single-click to record your computer screen and your voice. Note that there is a fifteen minute maximum to such movies (this is free software, after all). The file will be saved as .avi, which can be uploaded to YouTube as well. Jing (available for both PC and Mac: www.jingproject.com) is yet another alternative with a 5-minute limit and Flash output.

Backup Technologies
a) AuthorPoint Lite (free, but more files to work with. Has a nice table of contents)
b) CamStudio.org (no five-minute maximum, but also no progress bar or rewind ability)
c) Camtasia or Captivate (usually $150+)
d) Midrange software: SnagIt (PC) or ScreenFlow (Mac), or Articulate
e) Institutional/enterprise software: Elluminate, Abode Connect