Flipped Classroom: Disaster or Coup de Gra

By Buffie Schmidt, MBA, Ed.S.

May 8, 2013
OVERVIEW

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- Findings
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  - Take Away for Future Research
- Flip Your Class!
  - Exit Exercise – Your Design!
Buffie Schmidt, MBA, Ed.S.

Education:
- B.S. in Computer Science and Mathematics with Minor in Chemistry from Brenau University in Gainseville, GA
- MBA & Ed.S. in Ed. Leadership from Augusta State University

Career:
- Walt Disney World Co.
- Electrolux
- Troy University
- CompUSA
What's Next?

First Love

"As we start a new school year, Mr. Smith, I just want you to know that I'm an Abstract-Sequential learner and trust that you'll conduct yourself accordingly!"

Newest Love

http://serc.carleton.edu
Teaching Philosophy

- Employers hire for skills – not degrees:
  - Problem solving, critical thinking, decision making, communication, collaboration, time management
- Education = Power
- Perception = Reality
- Win Battles and Victory will follow
- In business (life) the audience is key
  - Know your students

- I Strive to engage students, Foster Deep thought and Critical Inquiry
- Require students take some responsibility for learning
  - Accept nothing late
- Utilize varying forms of teaching/evaluation methods
Teaching Philosophy

- Differentiated Teaching
  - Provides multiple ways for processing concepts, demonstrating knowledge, and evaluating assessments
  - Goal: Maximize growth of individual students
  - Goal: Meet student where they are

- Authentic assessment
  - Engage in real life scenario
  - Reinforce knowledge and skills learned in classroom
    - Simple as leprechaun comic task or as involved as graph creation from newspaper
  - Performance based learning and assessment
Getting Started Exercise

Boring Basics

- Select one concept/chapter with which you know your students struggle for which you are willing to try something new
- Organize into groups of 2 or 3
- Share your topics with each other
- Complete the Boring Basics handout
  - Share at least one idea with someone
  - Receive at least one idea from someone
Name: 
Discipline: 
Course: 
Problematic Concept/Chapter: 

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**SHARED IDEA**
(You share)

Struggle:

Your Current Solution:

New Idea/Solution:

---

**IDEA RECEIVED**
(Someone shares an idea with you)

Struggle:

Suggested Solution:

---

Contact Info:
Name: 
Email: 

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5/8/2013
BORING BASICS
Flipping Defined

- An Old Idea with a New Name and a Twist

Backwards Classroom
Inverted Instruction
Inverted Classroom
Blended learning technique
Reverse Teaching
Peer Instruction
Reverse Instruction
Flipping Defined

- So What’s the New Twist
  - Focus on Higher Level Thought (deeper learning)
  - Maximize Time with Instructor
  - Increased one-on-one opportunities (Bloom 1984)

- No need to flip the entire course right away
  - Flipping one assignment will change the world for someone

*......Dates back to start of printing press
Flipping Defined

The Basics of Flipping

Before Class - Student reviews/learns concepts
- Instructor spends less time lecturing and more time with students (Often achieved via technology-video lectures)

Classroom time - Apply concepts to other contexts
- Differentiation made easier
- Higher level thought ([Blooms Taxonomy](https://en.wikipedia.org/wiki/Bloom%27s TAXOMONY))
- Collaborative, Student Centered, Experimental Learning

After Class – Student engages in reinforcement activity
- Retention is achieved/improved
- *Findings – Close the loop
- Assess the flipped assignment

*Findings is added by me.
Flipping research only practices the first three.
Flipping Defined

### Traditional
- Class Lecture
- Homework/Quiz
- Class Lecture
- Homework/Quiz
- Exam

### Flipped
- HW: Video Lecture
- Class discussion
- HW: Reading activity
- Class small groups
- Exam

**Teach by Telling**
Teacher = Talker
Student = Bored
Class = Knowledge/Understanding

**Teach by Questioning**
Teacher = Tutor
Student = Engaged
Class = Application/Analysis
Flipping Defined

How are you using your class time?

Everyone knows learning must be serious and difficult and you must remain seated at all times. No fun allowed.

*http://blog.cbl-global.com
*http://headrush.typepad.com
Flipping Defined

- How are you using your class time?

- Higher level thought
- Creativity
- APPLICATION
- Deeper Thinking
- Exciting
- Critical Thinking
- Analysis
- Improved retention
- Solution based discussion

Background
Process Examples Defined

**Step 1: Require assignment on concepts being covered in class to be completed prior to class**
- Voiceover on powerpoint
- Video lecture (Khan Academy, itunes University, personal lecture capture, educational youtube)
- News clip (selected or unsolicited)
- Homework based on concept/chapter
- Group assignment with specific deliverables
- Others?

*Also assists with time management skills
**Forces student to own learning*
Process Examples Defined

**Step 2: Integrity of Flipping Assignment:**
Ensure students ethically complete the pre-activity

1. Short quiz at the beginning of class
   - Built into grade or for extra credit
2. Begin class with discussion assuming Blooms Level 1 & 2 knowledge levels
   - Dismiss class if the majority are unprepared and do not re-cover in the next class period
3. Begin class with short group exercise requiring application
   - Take up the papers with names

*Important at the beginning of the semester!
Process Examples Defined

Step 3: Thought Provoking, Goal Assignments used to stimulate deeper thought, improve critical thinking, and encourage creative, application, and analytical thought resulting in excitement and concept retention

1. Current Event Class Discussion
   - Encourage and Reward participation
2. Small Group Discussions
3. Clicker Questions
4. Working End of Chapter Problems (math)
5. Solving Project Based Learning Assignments

*Goal assignment: What have you always wished you had time to do in class?
Process Examples Defined

Step 3: Thought Provoking, Goal Assignments used to stimulate deeper thought, improve critical thinking, and encourage creative, application, and analytical thought resulting in excitement and concept retention.

6. Real-Life Document Analysis (hand on, labs)
7. Problem Solve/Clarify
8. Individual Reflection
9. Course Projects:
   o Debates
   o Presentations

In-depth Application
Case Studies

*Active Learning Assignment Assistance
Process Examples Defined

Step 4: Follow up Assignment in an attempt to solidify the imprint of the newly gained knowledge on the student’s mind.

- Additional Experience –
  - After class assignment of choice
  - Write in journal
  - Interview professional
  - Mind map the concepts
  - Review of Key concepts

Students Engage and Retain more when they have choices

*Consider requiring a minimum number to be completed over the semester in a portfolio*
Process Examples Defined

Step 5: Results Assessment

- Compare – was your “flip” effective
  1. Exam Scores
  2. Embedded Questions assessing specific Learning Outcomes
  3. Overall Course Grades
  4. Course Evaluations
  5. ETS scores
Discipline Integration

- Political Science/Economics
  - Provided later
- Communication
  - Require (memo, resume, cover letter) be brought to class prior to class discussion on written communication chapter
  - Require 2 minute informational/persuasive speeches on topic of choice on day covering oral communication. (do not have to choose everyone, allow class to critique speakers, offer extra credit for volunteers)
Discipline Integration

- **Mathematics/Finance**
  - Require analysis of firm of choice using specific equation or concept being covered (remember there is not a need to apply all of your knowledge to concept specific assignments)

- **English**
  - The local newspaper is an excellent source of inaccuracies
  - Utilize your library!

- **Physical Education**
  - Video of Rules, Sportmanship, Team Selection

- **Sciences, Art, Music, Logistics, or any Discipline**
  - Follow outline to follow.....
Discipline Integration

How to Flip Your Course – Flipped by Schmidt

- Design the deliverable considering
  1. Where is your concept used in real life?
  2. What assignment will benefit students beyond specific concept understanding?
  3. Evaluation of group or individual assessment (rubric?)

- Don’t focus on the concept you need them to learn!
- Do focus on how the concept will be utilized/applied in their life.
  - Know your students. Personalities, goals, majors, year in school, learning styles

- Whenever possible:
  - Allow students to choose
  - Partner with local businesses
My Design

**Before - Boring Basic, traditional delivery/assignments**

1. Attend lecture of chapter
2. Complete homework/quiz
   - Repeat #1 and #2 for three or four chapters
3. Complete Exam
   - Repeat #1-#3 for three or four exams
4. Complete Final Exam
My Design

After - Flipped Classroom

1. Read Chapter & Complete Homework
2. Attend Class & participate in daily activity
   - Repeat #1 and #2 for three or four chapters
3. Complete Exam
   - Repeat #1-#3 for three or four exams
4. Complete Project Based Learning course project

*We must change our approach to evaluation if we really desire to change our approach to teaching – students study according to assessment practices!
My Design - Data

Boring Basic verse Flipped Classroom

- 37-45 students
- Mostly Sophomores
- Some Juniors
- Few Freshmen/Seniors
- 50% Business Majors
- 30% Political Science

- No significant differences amongst the cohorts
- Evening classes were smaller with more upperclassmen and non-traditional students
My Design - Data

### Boring Basic verse Flipped Classroom

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Spring 11</th>
<th>Spring 12</th>
<th>Spring 11</th>
<th>Spring 12</th>
<th>Fall 11</th>
<th>Fall 12</th>
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<td><strong>100</strong></td>
<td><strong>100</strong></td>
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</table>

**Sources of Flips**

- Exams and Debates > 50% of course grade
- Graphs are used to prepare student for exams and debate (formative assessment)

**Findings**

Spring Semester: **Day** classes

Spring Semester: **Evening** classes

Spring 2011 & 2012

Fall Semester: **Improved Flip Assignment**
### My Design - Data

#### Boring Basic verse Flipped Classroom

<table>
<thead>
<tr>
<th>Assignment</th>
<th>DAY Class</th>
<th>EVENING Class</th>
<th>Improved Flip</th>
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<tr>
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<td>Spring 11</td>
<td>Spring 12</td>
<td>Fall 11</td>
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<td>Graphs</td>
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<td>Journal</td>
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<td>Participation</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
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</table>

#### Sources of Flips

- **Exams and Debates > 50% of course grade**
- **Graphs are used to prepare student for exams and debate (formative assessment)**

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**Greater Percentage assigned to Flipped Assignment & Performance Assessment**
## Student Outcomes

### Boring Basic verse Flipped Classroom

<table>
<thead>
<tr>
<th></th>
<th>Macro Afternoon</th>
<th>Macro Evening</th>
<th>Macro Afternoon</th>
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<td>SPRING 11</td>
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<td>Flipped</td>
<td>Traditional</td>
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<td>#Students</td>
<td>45</td>
<td>45</td>
<td>19</td>
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<tr>
<td>A</td>
<td>29%</td>
<td>31%</td>
<td>37%</td>
</tr>
<tr>
<td>B</td>
<td>36%</td>
<td>49%</td>
<td>16%</td>
</tr>
<tr>
<td>C</td>
<td>13%</td>
<td>11%</td>
<td>16%</td>
</tr>
<tr>
<td>D</td>
<td>4%</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td>F</td>
<td>9%</td>
<td>4%</td>
<td>16%</td>
</tr>
<tr>
<td>W</td>
<td>9%</td>
<td>4%</td>
<td>11%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Completion Percentage</th>
<th>Completion Percentage</th>
<th>Completion Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B, or C</td>
<td>78%</td>
<td>91%</td>
<td>68%</td>
</tr>
<tr>
<td>DFW</td>
<td>22%</td>
<td>9%</td>
<td>32%</td>
</tr>
<tr>
<td>% change</td>
<td>13%</td>
<td>-13%</td>
<td>20%</td>
</tr>
</tbody>
</table>

*Spring Semesters – Mind Map (flip assignment)*
*Fall Semester – Online Homework (flip assignment)
Take Away

- This really works!
  - More students successfully completed course
  - Integrity of Flipping Assignment is important!
    - Must not be a “cake” assignment
  - Traditional and Non-Traditional students will benefit differently

- I was able to:
  - Add more current events and ‘dream topics’ to classroom experience
  - Achieve higher level of thought in class discussions and witness ‘light bulb’ moments as critical thinking took a foothold
  - Course debates were so engaging a graduate faculty member duplicated and continues to use in her MBA course.
Take Away

**Time Commitment**
- Preparation of Flipped Assignments
  - Integrity, Concept based, Assessable
- Preparing students for ‘flipped’ experience
  - Explaining concept
  - Specific before/during/after class expectations
- Managing student expectations and the ‘flipped experience’
  - Encouragement for slow to grasp students
  - Maintaining challenge for quick learners
  - Incorporating higher-level thought scenarios into curriculum

**Well worth the time based on**
- Final assessment
- Student comments (need to study these!)
Future Research Opportunity

- Further discover the differences among traditional verse non-traditional student benefit
- Explore possible differences in afternoon verse evening students
- Determine differences in course evaluation comments
- Determine retention level success by following up 6/12 months later
- Others?
Nursing Discipline Example

- **Flipping**: Students complete initial learning on their own time and class time is used to work through problems, apply concepts to scenarios, collaborate with instructor or peers, and ultimately achieve deeper level understanding from interactive and engaging activities resulting in higher level thought.

- Watch Video by Andrew Wolf from the School of Nursing at the University of Rochester Medical Center
  - [http://www.youtube.com/watch?v=UL0ADbzCR2U&list=PLJ5kKhwVxA5Ju4lv0ZBqVGiUx1-HSQqMJ](http://www.youtube.com/watch?v=UL0ADbzCR2U&list=PLJ5kKhwVxA5Ju4lv0ZBqVGiUx1-HSQqMJ)
Exit Exercise

Flipped by Schmidt

- Complete the Flipped by Schmidt handout
  - Share your outcomes/ideas with each other

- * Problem Concept/Chapter: Select one concept/chapter with which you know your students struggle for which you are willing to try something new (Gains from Trade)

- !! - Specific Concept Struggle: Be specific concerning the struggle your students experience on this concept (math)

- 1 - Big Picture: Where is this concept utilized in real life? What career path utilizes this concept?

- 2 - Real World: What assignment relates to or requires student to enter the real world. Think cross-discipline/multidimensional

- 3 - Evaluation: Be sure to consider the level of difficulty with rubrics, formative/summative or objective/subjective assessment
Handout Instructions

This worksheet is for YOUR benefit. It will help you devise effective Flipping ideas. Orange boxes are assignment ideas you will choose from to utilize in class or as flipped assignments. Blue Boxes indicate a recommended process to derive excellent ideas for flipped assignments that address root concepts/issues by utilizing real-life and proven retention increasing strategies.

• *Problem Concept/Chapter:* Select one concept/chapter with which you know your students struggle for which you are willing to try something new (Gains from Trade)

• !! Specific Concept Struggle: Be specific concerning the struggle your students experience on this concept (math)

• 1 - Big Picture: Where is this concept utilized in real life? What career path utilizes this concept?

• 2 - Real World: What assignment relates to or requires student to enter the real world. Think cross-discipline/multidimensional

• 3 – Implementation/Evaluation: It is now time to create your assignments and Flip your course/lecture. Be sure to consider the level of difficulty with rubrics, formative/summative or objective/subjective assessment

• Share your outcomes/ideas with others
Gains from Trade

Decisions based on information

1. Service Industry
2. Locate profit/loss article in newspaper discuss possible gains from trade realized/available

1. Politician
2. Review elections coverage and discuss comparative advantages of candidates and effect on candidacy

1. Sales Cashier

1. Budgets
2. Elections
3. Statistics

1. Business Owner
2. Locate financial statements for large corporation and discuss possible Gains from Trade utilized

1. Profits/Loss
2. Taxes
3. ROI, TVM

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Exit Exercise

Your Findings?

- Compare Handouts
  - Which one do you think will excite and engage your students the most?
  - Which one do you think will result in higher level thought, greater retention, improved critical thinking, and decision making skills?
  - Which one are you more excited about?
    - If you are not more excited about the Flipping process, Why?
      - How can you make it more concise?
      - How can you adapt the concept to your teaching style?
Why Flip?

* What are we all about?

http://www.fossati.us/teaching.php

*Make it FUN for YOU!
**Adapt to YOUR teaching style!
THANK YOU

- Please Feel Free to Contact me with Thoughts or Questions!

Direct Cell Phone: 706.836.9638
Email: bschmidt@gru.edu
**Levels of Student Thinking Desired in an Assignment**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Knowledge</td>
<td>This thinking skill tells you that a student can recall or recognize information, concepts, and ideas in the approximate form in which they were learned.</td>
</tr>
<tr>
<td>2. Comprehension</td>
<td>This thinking skill tells you that a student can grasp and interpret prior learning.</td>
</tr>
<tr>
<td>3. Application</td>
<td>This thinking skill tells you that a student can transfer selected information to a life problem or a new task with a minimum of direction.</td>
</tr>
<tr>
<td>4. Analysis</td>
<td>This thinking skill tells you that a student can examine, take apart, classify, predict, and draw conclusions.</td>
</tr>
<tr>
<td>5. Synthesis</td>
<td>This thinking skill tells you that a student can originate, combine, and integrate parts of prior knowledge into a product, plan, or proposal that is new.</td>
</tr>
<tr>
<td>6. Evaluation</td>
<td>This thinking skill tells you that a student can appraise, assess, or criticize on the basis of specific standards and criteria.</td>
</tr>
</tbody>
</table>

*The level of thinking you want from a student in an assignment is based on the level from which you select the verb you use. The type of thinking required at each level becomes more complex as you go from knowledge to evaluation.*

*Return to #10*  
Flippling Defined

*Return to #15*  
Step 2: Integrity
<table>
<thead>
<tr>
<th></th>
<th>Thinking Words to Use in Assignments</th>
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<tbody>
<tr>
<td>6</td>
<td>Evaluation</td>
</tr>
<tr>
<td></td>
<td>appraise, choose, compare, conclude,</td>
</tr>
<tr>
<td></td>
<td>decide, defend, evaluate, give your</td>
</tr>
<tr>
<td></td>
<td>opinion, judge, justify, prioritize,</td>
</tr>
<tr>
<td></td>
<td>rank, rate, select, support, value</td>
</tr>
<tr>
<td>5</td>
<td>Synthesis</td>
</tr>
<tr>
<td></td>
<td>change, combine, compose, construct,</td>
</tr>
<tr>
<td></td>
<td>create, design, find an unusual way,</td>
</tr>
<tr>
<td></td>
<td>formulate, generate, invent, originate, plan, predict, pretend, produce, rearrange, reconstruct, reorganize, revise, suggest, suppose, visualize, write</td>
</tr>
<tr>
<td>4</td>
<td>Analysis</td>
</tr>
<tr>
<td></td>
<td>analyze, categorize, classify, compare, contrast, debate, deduct, determine the factors, diagnose, diagram, differentiate, dissect, distinguish, examine, infer, specify</td>
</tr>
<tr>
<td>3</td>
<td>Application</td>
</tr>
<tr>
<td></td>
<td>apply, compute, conclude, construct,</td>
</tr>
<tr>
<td></td>
<td>demonstrate, determine, draw, find out, give an example, illustrate, make, operate, show, solve, state a rule or principle, use</td>
</tr>
<tr>
<td>2</td>
<td>Comprehension</td>
</tr>
<tr>
<td></td>
<td>convert, describe, explain, interpret, paraphrase, put in order, restate, retell in your own words, rewrite, summarize, trace, translate</td>
</tr>
<tr>
<td>1</td>
<td>Knowledge</td>
</tr>
<tr>
<td></td>
<td>define, fill in the blank, identify, label, list, locate, match, memorize, name, recall, spell, state, tell, underline</td>
</tr>
</tbody>
</table>

Bloom divided the verbs into six categories. All the verbs in a group indicate a kind of thinking skill needed to complete an assignment. The verbs denote what a student is to do.
Active Learning

People generally remember...
(learning activities)

- 10% of what they read
- 20% of what they hear
- 30% of what they see
- 50% of what they see and hear
- 70% of what they say and write
- 90% of what they do.

People are able to...
(learning outcomes)

- Define
- Describe
- Explain
- Demonstrate
- Apply
- Practice
- Analyze
- Define
- Create
- Evaluate

Passive Learning
- Read
- Hear
- View Images

Active Learning
- Participate in Hands-On-Workshops
- Design/Manage Lessons
- Simulate, Update, Evaluate a Lesson
- Design/Perform a Presentation - "Do the Real Thing"

[GRU GEORGIA REGENTS UNIVERSITY AUGUSTA]

*wordpress.com

Return to #17
Step 3: Thought
Notes