What are good ways to prepare students for active learning?

Put your answers on the flip charts. Comment on others' answers too (stars, +1, -1, check, x, etc.)

“DO THE FLIP!” USING ‘GUIDED PRACTICE’ FOR ACTIVE STUDENT ENGAGEMENT

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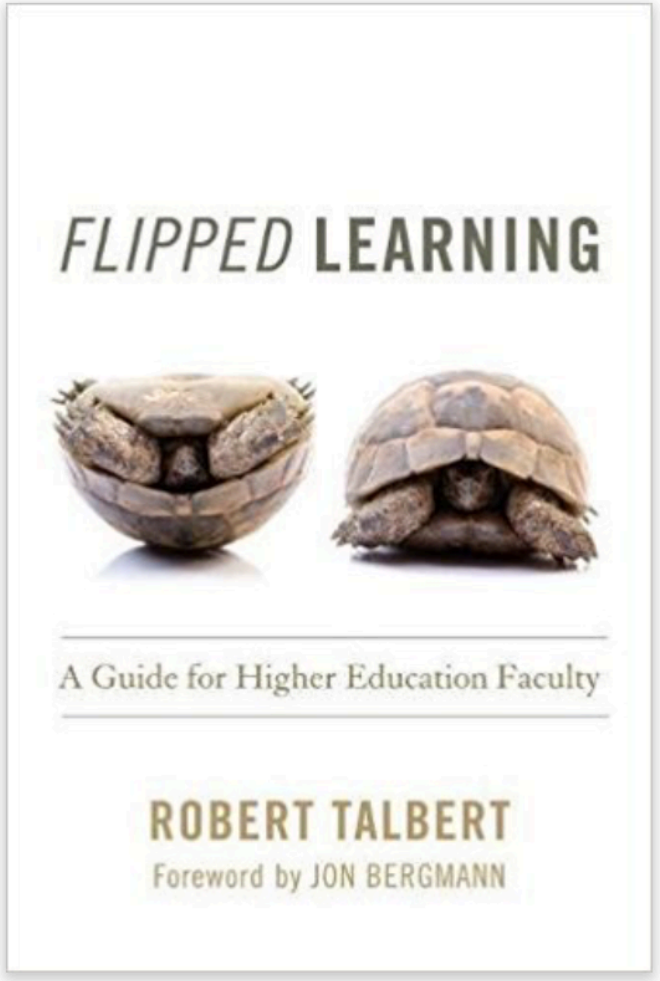
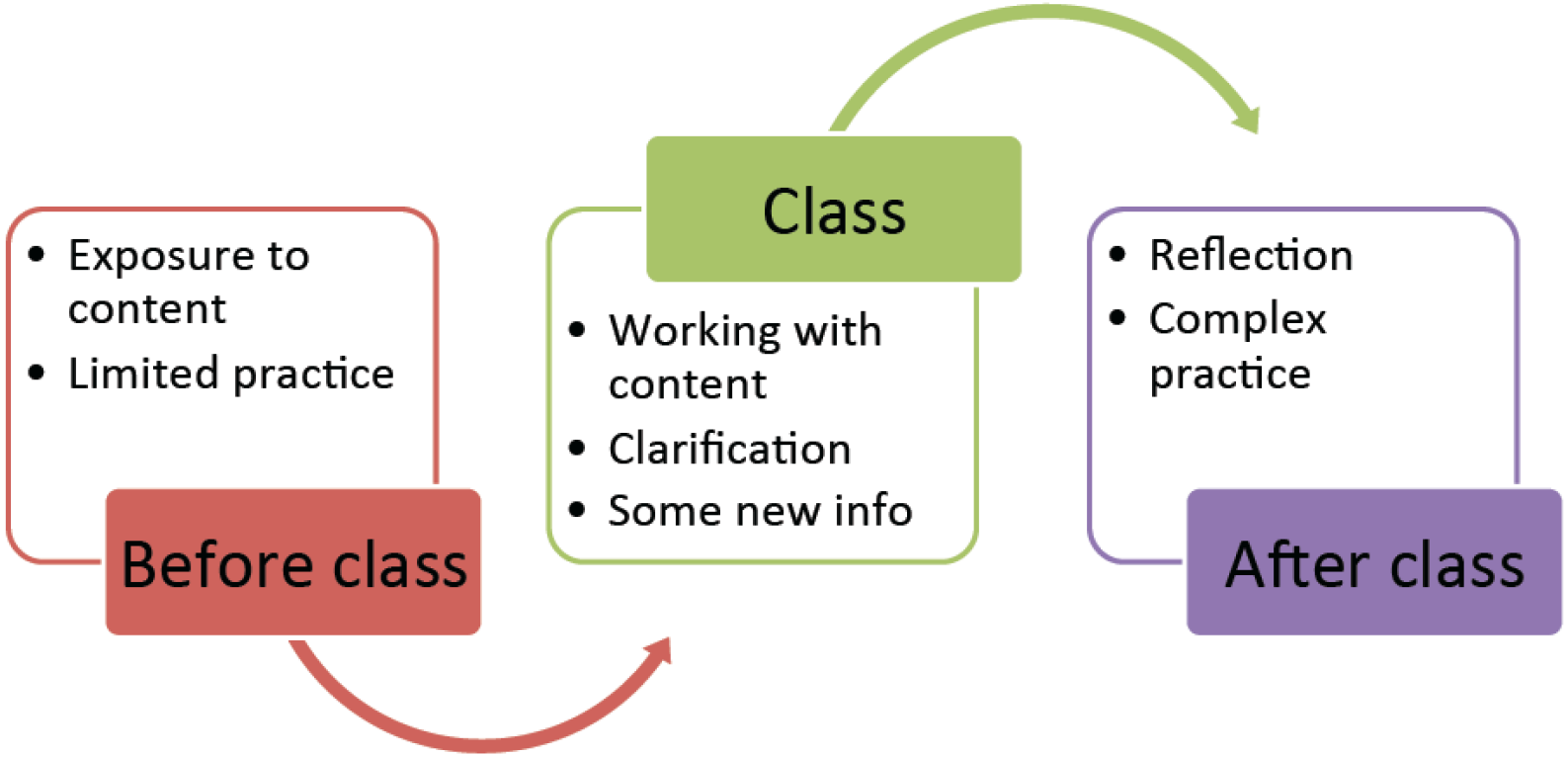
https://tinyurl.com/yytbadq7

TALBERT'S APPROACH

Robert Talbert (2017). *Flipped Learning: A Guide for Higher Education Faculty.*



COMPONENTS OF THE FLIPPED MODEL



OVERVIEW OF A FLIPPED LESSON PLAN

Pre-session work [individual space]

- guided practice
- graded for timeliness, completion (i.e., effort)
- informs planning for group space activity

In-session activity [group space]

- interactive group-worthy activity
- clearly relies on pre-session work

Post-session follow-on [individual/team space]

- guided “advanced” practice
- uses pre- and in-session activity
- provides feedback to students and to instructor

TODAY'S DELIVERABLES

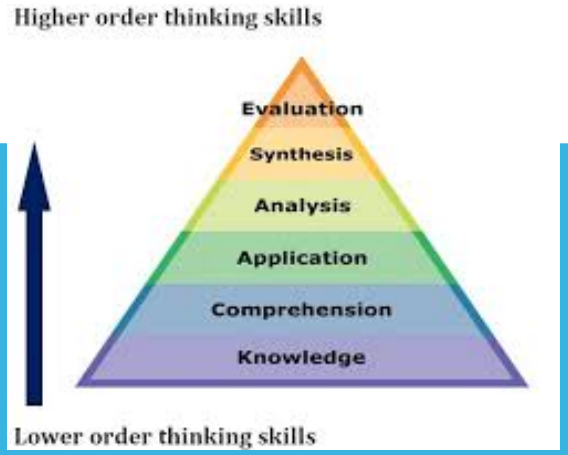
Generate a partial draft of a pre-lesson guided practice

Generate a partial draft of a post-lesson advance guided practice

Decide on next actions to progress with your lesson plan

STEPS OF FLIPPED LESSON PLANNING

1. Create a list of learning outcomes (LOs) and designate them as basic or advanced based on cognitive complexity (Bloom's taxonomy).
2. Arrange the LOs into basic and advanced LOs.
3. Develop a plan of in-class activities linked to the advanced LOs. Map out the details.
4. Plan pre-class activity linked to the basic LOs; create a guided practice document.
5. Design and construct any post-class activities intended for students (reinforce basic and advanced LOs).



START WITH A TOPIC….

Write down ONE topic that you will teach right after this conference, in one to three class sessions.

STEP 1: DEVELOP LEARNING OUTCOMES

Write out learning outcomes for your topic:

- Unambiguous
- Action oriented
- Measurable
- Comprehensive
- Minimal

- Basic – outcomes that students can meet on their own. Linked to preparatory activities
- Advanced – outcomes that students need your support to meet. Linked to group (class) space and post-class activities

STEP 1: DEVELOP LEARNING OUTCOMES

Basic

Vague: Students will know the elements on the periodic table of elements.

Clear: Students will be able to identify the elements of the periodic table based on their symbols.

Advanced

Vague: Students will learn the programming language, Python.

Clear: Students will use Python to complete a data mining analysis.

STEP 1: DEVELOP LEARNING OUTCOMES

- Write 2-4 LOs for your topic. (7 minutes)
- Check with your neighbor for clarity and complexity. (5 minutes)
- Share out challenges in writing LOs. (2 minutes)

(Note that this is an extended think-pair-share)

STEP 2: SPLIT LOS INTO BASIC AND ADVANCED

Label your LOs as Basic and Advanced:

- Which ones can be learned individually?
- Which ones will students need help with?

You can think of basic as linked to pre-class activities and advanced as linked to in-class and post-class activities.

STEP 3: PLAN EFFECTIVE IN-CLASS ACTIVE LEARNING STRATEGIES

What's your favorite active learning activity?

- Strategies: https://tinyurl.com/yaneyqub
- Tools: https://tinyurl.com/y9kp9hhx

STEP 4: PRE-CLASS ACTIVITIES AND GUIDED PRACTICE DOCUMENT

Key components of the guided practice:

- Overview
- Learning outcomes
- Content acquisition activities
- Exercises/tasks to demonstrate learning outcomes and provide accountability

WHAT ABOUT CONTENT ACQUISITION ACTIVITIES?

Videos!

Make your own – try not to do this.

Select and curate other people's.

MAKE SURE THEY ARE CAPTIONED

Eight ways to get content besides watch videos

Simulations

Podcasts

Read – textbooks, trade mags, primary source

Simple experiment

Talk to someone

BUT WILL THEY DO THE WORK? YES, IF:

- Moderate
- Failure tolerant
- Organized
- Engaging
- Accountability included

WHAT ABOUT EXERCISES AND TASKS FOR PRACTICE AND ACCOUNTABILITY?

Online Quizzes

- Eight things to do besides online quizzes
- Submit a question
- Submit a summary
- Quiz in class based on notes
- Brain dump at beginning of class
- Put important info on whiteboard
- Mind-map
- Pre-class discussion board

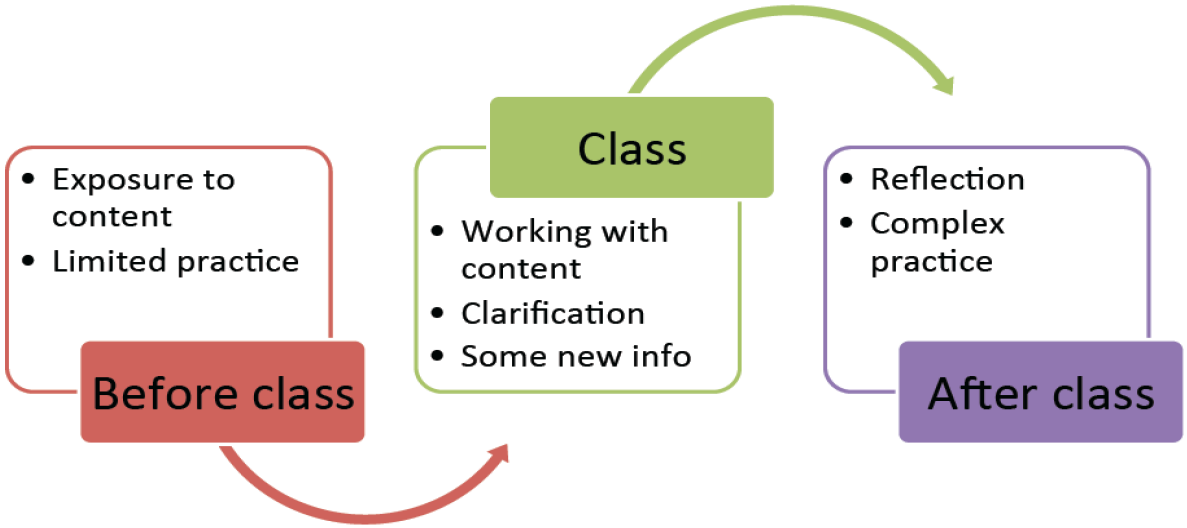
CAUTION: MODERATION IN PREP WORK

3 hours in class = 6 hours outside

Prep work ~1 hour per week.

Advanced work ~2-4 hour per week.

Leaves 1-3 hour for projects and studying.



STEP 5: "ADVANCED PRACTICE" POST-CLASS ACTIVITIES REINFORCE ADVANCED LO'S

Key components of advanced guided practice:

- Learning outcomes
- Advanced exercises to demonstrate LOs
- Reflection and integration (metacognition)

Contribute to the shared google doc:

What do you do currently after class to reinforce course content?

What additional reflective or integrative activities would reinforce student learning?

EIGHT THINGS TO DO BESIDES PROBLEM SETS

- Formal writeup of in-class work
- Post-class project
- More practice (good for quantitative courses)
- Post class discussion board
- Ideas for reflection assignments:
  - Identify methods of learning that worked well or not
  - Learning journal – motivation, affect, & behavior
  - Writing that helps connect ideas
  - Planning upcoming work – project milestones and future plans

POST-CLASS REFLECTIVE ACTIVITY

Design post-class activity that builds on in-class work and supports your advanced LOs.

- Think outside of the box– beyond just additional homework
- Your activity should include a reflective/integrative component

POST-CLASS REFLECTIVE ACTIVITY

Share with a partner. Provide some feedback of the post-class activity. Questions to consider:

- Does this activity help to reinforce concepts discussed in class?
- Are students asked to think about their process of learning and the strategies they are using for problem-solving (metacognition)?
- Are students asked to integrate pre-class and in-class learning in this post-class activity?

BEST PRACTICES AND RECOMMENDATIONS

- Provide purpose and rationale
- Be organized and clear
- Pre-class activities at the lower level of the taxonomy with reasonable workload
- Use a variety of activities for every phase, but don't go nuts
- Consider time commitment for students – moderation in out of class work
- Use other people's videos the first year; make your own the second year depending on what you need
- Ensure that the hardest work happens in class, while you're around to help! Post-class is about reinforcement.
- Take good notes of implementation

Questions and discussion?

NEXT ACTIONS DELIVERABLE

Part 1: What is the next action (one item you can do in 5 to 50 minutes) you will do to progress in your planning?

Part 2: What extra resources or information do you need to get that action done (if any)?

ACKNOWLEDGEMENTS AND REFERENCES

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