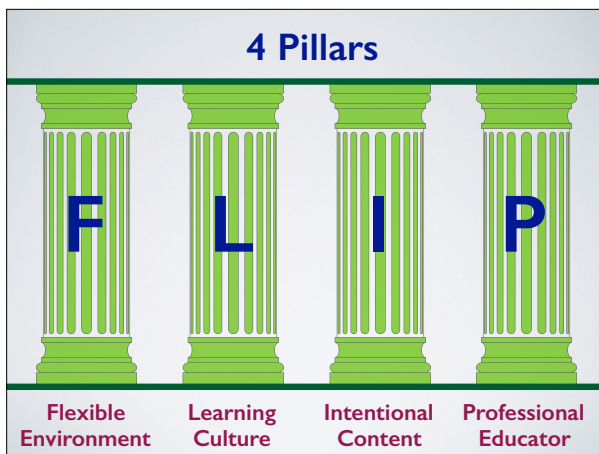


I teach a special education math methods course where students are asked to apply math content and pedagogy in their first lesson planning assignments of their coursework. To give more time for students to practice with my feedback, I am implementing a “flipped” learning model for this course.

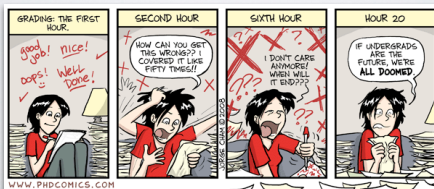


There are 4 pillars of Flipped learning: First, the teacher must maintain a flexible environment that establish spaces and time frames that permit students to interact and reflect on their learning. Second, the flipped Learning model deliberately shifts class instruction to a learner-centered approach, where in-class time is dedicated to exploring topics in greater depth and creating rich learning opportunities. As a result, students are actively involved in knowledge construction as they participate in and evaluate their learning in a manner that is personally meaningful. The teacher is the facilitator, scaffolding learning opportunities and providing expert feedback. The third pillar is intentional content. This means the teacher must expertly decide what content requires direct instruction and what students should explore on their own. Finally, the fourth pillar establishes the role of the teacher as a professional educator who is reflective in ones practice, connects with others to improve ones instruction, accepts constructive criticism, and tolerates controlled chaos in ones classroom. While this approach is not appropriate for every lesson in every course, it is my belief, based on feedback from previous semesters, that this pedagogical approach will make this course most beneficial to my students.

*Flipped Learning Network (FLN). (2014) The Four Pillars of F-L-I-PTM*

## PRE-FLIP CONCERNS

- no time to apply content, to practice, or to explore curriculum
- gaps in student math content knowledge
- effort given to out of class activities
- poor collaboration skills/group work habits
- time required to grade “formative” assignments



I taught multiple sections of this course for two semesters before I started flipping it. What I found was I ran out of class time to have students apply the content. In this course I cover everything from the common core standards, RtI for math, disability impact on math, assistive and instructional technology for math, assessment, evidence-based instruction, AND I need to provide their first exposure to the lesson planning and reflecting process. Additionally, I am battling major gaps in math content knowledge. By the time I introduced them to concepts, reinforced their misconceptions in math, most of their practice had to be done outside of class. This meant limited exposure to curriculum materials, relying on individual practice out of class and out of class group projects. Since students rarely give a lot of effort unless a grade is attached, this meant a lot of grading on my end to give feedback on what really should be formative, practice activities.

## FLIPPED IMPROVEMENTS

initial exposure to content in readings/video before class



embedded questions

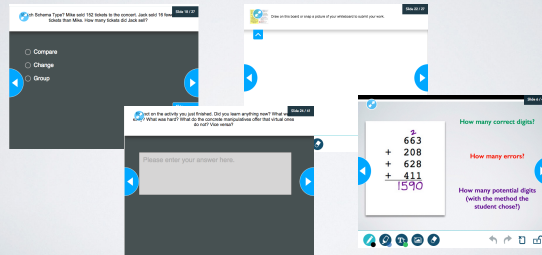
due by Midnight before class

"Good Faith Effort"

My flipped class now includes readings and "learning lesson" videos that must be completed by midnight the night before class. I use Edpuzzle ([www.edpuzzle.com](http://www.edpuzzle.com)) to host my videos because it allows me to embed formative assessment questions as checks for understanding. I embed I grade these only on completion and a "good faith effort." So far, I have had excellent feedback from my students on these learning lessons. I make them due by midnight the night before so I can quickly scan through their responses in the morning before class in case I need to address any common misconceptions to the whole group.

## FLIPPED IMPROVEMENTS

spiral curriculum & give distributed (cumulative) review in class



When students engage with content before class, it gives me the opportunity to clarify or emphasize just key concepts during class. I also free up enough time to One tool I use to do this review is nearpod. ([www.nearpod.com](http://www.nearpod.com)) which allows me to "push" my lecture slides to individual devices and embed additional quizzes or activities. I can ask students to answer multiple choice or short answer questions for the review, or I could even have them draw their responses using a whiteboard with our without a template. This option also allows for paper-pencil work and snapping a photo of their work as a submission.

## FLIPPED IMPROVEMENTS

applied and collaborative, hands-on activities with my immediate feedback



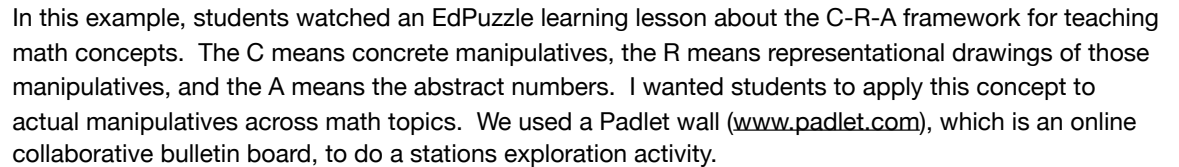
collaborative lesson plan

lesson planning tasks

Explore curriculum materials

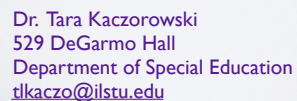
In class, this also gives room for collaborative application and practice. Students share Google drive (<https://drive.google.com>) folders with their work groups and with me so I can monitor their work and add comments without hovering over them. I make templates for digital worksheets right in Google docs so they can just copy them into their folders. When students work on the same google doc or google slide, they can all edit the same document or presentation at the same time on their own computers. Since this is their first time lesson planning, I have them meet in class so I can monitor and foster their group work habits. They keep meeting logs and assign individual tasks between meetings. They even make a team "contract" to keep each other accountable. With everyone's busy schedules, it's nice for them and me to be in communication as they work on their activities.

- Apply CRA model to actual manipulatives & virtual manipulatives through Padlet activity



- **Discussions!** — time to discuss current issues in the field

Not everything we do in class is high-tech. We use plenty of whiteboards and explore low-tech math curriculum materials. By flipping, we also get time to engage in valuable discourse about current issues in the field. I use various structures for discussions like socratic seminars with speaking and listening circles, jigsaws, around the world, converstations, etc. (see a big list of discussion strategies here: <http://www.cultofpedagogy.com/speaking-listening-techniques/> )



Overall, flipping my classroom has dynamically changed how I teach and how my students learn. The same assignments I used to give as homework are now being done in class and the quality of work I am receiving from my students is far superior. The feedback I get from my students is that they value hands-on application and really enjoy video lectures with embedded checks for understanding. If you want additional ideas or if you want to talk with me more about this, feel free to email me at [tlkacz@ilstu.edu](mailto:tlkacz@ilstu.edu)