

Flipping in a Big Way

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The Basics

- College Algebra (MAC 1105)
- 3 Large Sections (75 students in each)
- 1 instructor, and 3 instructional assistants per section
- Fall 2014 – present

How the course is designed?

- Online platform (Webassign)
- Videos
 - View video and complete notes prior to class meeting
 - Video content problems
- Assignments
 - Webassign
 - In-class group and individual assignments
- Group forming (random, pretest)
- Students surveyed for feedback

How the course is managed?

- Base groups of 4 students
- One instructional assistant is assigned to approximately 25 students
- Instructional assistants check video notes, enter participation grades, assist students with questions
- Instructor runs the classroom, grades exams and any additional assignments

What does the day-to-day operation look like?

- Prior to class students watch videos, take notes (guided or regular), complete math problems
- Students enter and instructional assistants check notes
- Instructor addresses topics of concern (from the videos or assignment)
- Students work on assignment
 - Webassign questions
 - Teacher generated questions/worksheet/group quizzes
- Students are encouraged to seek help from base group first, followed by instructional assistants.
- The class is very fluid based on student needs

What do students say about the flipped classroom?

- Doing the lectures at home was more helpful because I could learn at my own pace.
- With the videos and teacher assistants the learning is easier other than just one person teaching. You get different points of view of doing problems.
- The online lectures are convenient because you can do them to fit your time schedule.

How has the large flipped college algebra class improved Valencia's ability to serve students and the community?

- The flipped classroom model improves our ability to serve our students. Classes are student-centered versus teacher-centered. During class, students work in groups and have the opportunity to "talk about math" with other students, enjoying the groups diversity in ability and gender. They are more engaged, exchange ideas, and hear multiple perspectives on problem solving.
- We can now accommodate more students with high quality instruction, and less operational costs. We have been able to serve students with a smaller instructor-student ratio with 4 "leaders" in the class room.
- The teacher is removed from the center of attention and is now a guide working with groups and individuals.
- Outside of class students gain control of their learning when watching the instructor created videos. They have the power to pause, rewind, and practice content that is graded immediately.
- The flipped college algebra course prepares students to work in groups of diverse peoples in the community.