Organic Chemistry Flipped Classroom

Out of Class (Instructor)

Before the beginning of the semester, the instructor prepares 2-4 6 minute videos for each class during the semester. The videos cover the easier topics within the course. Students have 2 classes per week and the number of videos per week does not exceed 5.

Out of Class (Students)

Before each class, the instructor usually prepares 2 (but anywhere from 1-3) one-sided portfolio (PF) organic chemistry activity sheets.

In Class (Instructor)

Before each class, students watch 2 to 4 videos. During the first 20 minutes of each class, the instructor asks if there are any questions about the videos and writes them down and answers them in an order decided upon by the instructor.

In Class (Students)

Students are given 15-30 minutes to complete the first PF activity sheet and are given the choice to work in pairs or solo. The instructor circulates and answers any questions students may have. The instructor gives a theory lesson (in total approximately 20 to 30 minutes) on topics that build on the topic in the videos but are more challenging. Students are then given 15-30 minutes to complete the second PF activity sheet. The instructor circulates and answers any questions students may have. At the end of the class, students hand the PF activity sheets in (to the instructor).

The instructor gives a formative assessment of the PF activity sheet. Students get a star if their answer is correct or they get an X or a tip on how to correct it if it is incorrect. The instructor will never give the final answer. The instructors then give back the PF activity sheets to the students.

Students have 5 tests during the semester and have to submit their corrected portfolio activity sheets before each test.

The instructor marks the portfolios after each submission; each incorrect answer is considered (whether it was an answer not corrected at all based on the formative assessment or whether it was an answer corrected incorrectly). Each submission is worth 1% of their final mark (for total of 5% of their final mark).

At the end of the semester, students have produced a portfolio containing all of their organic chemistry exercises completed throughout the semester.