Shifting to a Copernican model of the Solar System
by shifting away from a Copernican model of teaching
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Traditional, instructor-centered lectures are like the Copernican (Sun-centered) model of the Solar System. The instructor (Sun) sits front and center in complete control while “illuminating” the students (planets), especially the ones close by. The planets have no influence on the Sun, very little interaction with each other, and no ability to move in different directions. The Copernican Revolution was a triumph for science but not for science education.

ASTR 310 (Exploring the Solar System) is a service course offered to non-Science students. This term, we concentrated on shifting the instruction from instructor-centered to student-centered. When teaching the class about the shift from the Ptolemaic (Earth-centered) model to the Copernican (Sun-centered) model of the Solar System, we saw dramatic gains in the students’ understanding the concepts after we re-wrote and re-taught the lesson in the following class.

(Madly) re-wrote presentation to create opportunities for students to:
- personally explore concepts
- create their own knowledge
- share that knowledge with peers

same question, 97% correct.