

7.391 Concept-Centered Teaching Semester I

Discussion Day 9: April 26, 2006

Activity

- Ask the class to brainstorm topics we covered in high school physics
- Discuss what we do and don't remember and discuss if asking college students to remember high school is the best way to assess predictors of college success.

Laboratories

I. Predictors of Success in College

1. How important do you think race, ethnicity, gender, social economic class, etc. are in predicting someone's success in biology? What can teachers do to help students overcome these variables?
2. How do we retain minorities in science? Are there programs specifically designed to do this?
3. Do you think particular textbooks are better or worse in preparing students for college biology or the faculty involved is more important?
4. The paper suggests changes in high school physics courses that could help better prepare students. Could these changes be applied to college, too?
5. A movement has now been made to include TEAL-like classrooms or class talk in college physics classrooms. Do you think these devices and methods are effective?
6. This paper uses college grades as a measure of success. Are grades the only measure of success? What about retention? How do we assess these ideas?
7. Why does having a professor of the same gender as the student increase the student's performance?
8. How can covering fewer topics help the students understanding and retention?
9. Why are homework problems negatively correlated with students' grades?
10. Why do demonstrations and demonstration discussions not help students learn physics?
11. Are all of the correlations and regressions really useful values?