7.391 Concept-Centered Teaching
Semester I

Discussion Day 5: April 12, 2006

Activity

- Ask the students to develop a crude concept map using the basic concepts of biology under the headings "Genetics", "Biochemistry", and "Molecular Biology."
- Discuss the possible impact of such maps on student understand of the big picture in introductory biology.

Concept Mapping

I. Group Dynamics

1. For concept mapping is it better to have the students in the same groups all year or to mix the groups up?

2. Should concept-mapping be done alone or as a group?

3. How should groups be assigned for this type of activity?

II. Creating a concept map

1. Should you teach your students how to do a model concept map in class so they know how to do it before assigning the individual concept map?

2. Which students benefit the most by concept mapping? The struggling students or the "smart" ones?

3. Would this approach work better or worse in a setting including a group of students with diverse science backgrounds?

4. Are there certain subjects in biology that lend themselves better to concept mapping than others? Which ones? Why?

5. Should the teacher periodically go over the maps with the students or allow them to work on their own?

6. Will the students benefit from trading maps?

7. How do you make sure all students are participating?

8. How do you make sure that the concept map is not seeding misconceptions as opposed to reinforcing truths?

9. How do you grade a concept map?

10. Is concept mapping or the group learning component that increases student learning?