

SCI 199Y: Random Walks and Mathematical Discovery

Discussion questions, week 11.

You have read the excerpts from “The teaching and assessing of mathematical problem solving”; from “Assessing student growth in mathematical problem solving”; and from the “NCTM Curriculum and Evaluation Standards”.

Working on your own, consider (and make notes about) the following questions. (Later, we will discuss them in a “fishbowl” format. And, next week or the week after we may do a follow-up “assessment exercise” in class.)

Question #1. Why are assessment issues important in Mathematics Education? (List as many reasons as you can.)

Question #2. What does it mean to say that “testing drives teaching”?

Question #3. What are some limitations of traditional math tests? (List as many as you can.)

Question #4. What do Campione et al. mean by “static tests”? What do they identify as a major problem with them?

Question #5. What do Campione et al. mean by “dynamic tests”? Why do they feel they are an improvement over static tests? Do you agree with them?

Question #6. In the excerpt by Kroll et al., what occurred with the student “Ali”? What does this imply about mathematics assessment?

Question #7. In the excerpt by Kroll et al., what occurred with the student “Nathan”? What does this imply about mathematics assessment?

Question #8. What methods are suggested by the NCTM for assessing students’ ability to solve problems, for giving students feedback, and for reporting students’ progress to parents? Do you agree with these methods?

Question #9. Discuss the example math questions presented by the NCTM. What types of questions are emphasized? Do you feel that these questions would aid in mathematics assessment? Why or why not?

Assignment for next week: Work on your Minor Paper!! (No reading assignment.) Next week you should be prepared to present your paper ideas to a fellow student, who will then have to present them to the whole class. (Don’t forget that the Minor Paper itself is due on Monday, Dec. 2, at 4:00 p.m.)