

1035-L1-1140 **Tevian Dray*** (tevian@math.oregonstate.edu), Department of Mathematics, Oregon State University, Corvallis, OR 97331. *Teaching Calculus Coherently*. Preliminary report.

Much of elementary mathematics, including calculus, has traditionally been presented as a toolbox of formulas, to be learned largely by rote; the only skill involved other than memorization is the ability to determine which formula to use when. Professional mathematicians eventually develop a more coherent view of the subject, but this is not often visible to students in coursework up to and including the lower division. The Department of Mathematics at Oregon State University has recently begun an attempt to teach “coherent calculus” by:

- Adopting a “reform” text;
- Using *ConceptTests* during lecture;
- Replacing recitations by “labs”;
- Holding weekly instructor meetings with time for discussion;

This structure has forced us to confront our own expectations of what calculus students should learn, and to resolve them as a group. A measure of our success was obtained through the use of the Calculus Concept Inventory (CCI) to measure student gains in conceptual understanding. This talk discusses our successes and failures to date, including preliminary results from the use of the CCI. (Received September 18, 2007)