

Ohio NExT Abstracts
Fall 2012

Reading and Writing in Mathematics Classes
Tommy Ratliff, Wheaton College

One of the broad goals in almost any course is that students develop into independent learners who can assimilate new material and apply it to situations that are not just boilerplate problems that follow examples they have previously seen. One of the major challenges in achieving this goal is to structure the assignments and class meetings in a way that is both meaningful to the students and manageable for the instructor. In this talk, I will discuss some of my attempts to meet this challenge through the use of pre-class reading assignments and writing projects. I will describe some of my successes, failures, and modifications I have made over the years. There will be plenty of time for participants to discuss how these approaches may be applicable to their own courses

An Inquiry-based Introduction to Proofs Course
Carl Mummert, Marshall University

I will talk about my version of a sophomore-level introduction to proofs course at Marshall University. This course incorporates several inquiry-based techniques, including reduced lecture and daily student presentations. My course also meets university requirements for a "writing-intensive" class by using prose assignments including "proof analyses" and a final portfolio. I will discuss my experiences with inquiry-based teaching and how these methods can be adapted for other mathematics courses.

Conversational Calculus
Paige Rinker, John Carroll University

The Project NExT sessions at the Joint Mathematics Meetings in January inspired me to adopt a nontraditional method of assessing student learning in my calculus courses: student presentations of examples and homework. Adding a substantial presentation component to the content-packed calculus II course I was preparing to teach presented challenges on numerous fronts. In this talk, I will describe how I addressed these challenges and share how this tactic was received (by my students and my colleagues), what I have changed (and what I would change back) and other lessons I learned along the way.

How to be a Good Teacher is an Undecidable Problem
Erica Flapan, Pomona College

I spent much of my early career trying to find the algorithm for how to be a good teacher. I read articles about pedagogical techniques and talked to successful teachers about their methods. But nothing seemed to work quite as well for me as it did for the person describing it. Then I began to compare being a good teacher with being a good parent. I had never sought an algorithm for good parenting, so why should I expect there to be one for good teaching. In fact, there is no teaching technique that will work at all institutions, for all teachers, all classes, and all students. Rather, each person's teaching methods should fit their personality and their mathematical preferences as well as the needs and goals of their courses and their students. In this talk I will describe some pedagogical techniques that have worked for me and others that have not.