

**NSF Material and Energy Balance (MEB) Virtual Community of Practice (VCP) – 2013  
Individual Project Summary**

**Name:** \_Katie Cadwell\_\_\_\_\_

**University:** \_\_Syracuse University\_\_\_\_\_

**Number of semesters you have taught the MEB course:** \_3\_\_

**Summary of your fall implementation activity:**

I tried a LOT of things in the Fall 2013 semester.

I changed textbooks, which although not a result necessarily of the MEB-VCP, had a huge impact on the class. More of a direct result of the VCP was that I created and implemented a pre- and post- concept test online using a mix of questions pulled from LearnChemE.org and my own brain. I also used CATME to form project teams. I tried using “lo-fi” polling using colored cards with conceptual questions. I wrote and used a discovery activity that was based on a mini-assignment from the VCP. I also significantly expanded my use of an inverted learning classroom model, and made some changes to how I implemented it. I think that’s pretty much it.

**What worked well? Feel free to share qualitative and quantitative assessment results, if any, to describe student performance.**

I like the new textbook and will keep using it. I thought CATME did a good job of forming project teams, and had fewer complaints about inabilities to find meeting times outside of class. I liked that the course was even more flipped than before, and for the most part the students adjusted well to the format. I did a TON of think-pair-share questions, I really like how they break up my lecture and wake students back up.

My D/F/W rates were on par with previous semesters (~19% for F13), but students were generally more engaged in the classroom. I have the same students this semester in Thermo I, and at 9:30am on the first day of class today, they were already participating more than previous classes have.

**What could have been improved, and what would you do differently next time?**

I think that the pre-/post-concept test questions need some topical editing – some key concepts are barely touched while others have several questions. Need better balance there. (I have not yet had a chance to go through to see how the pre-/post-concept test results turned out. Think that and editing the questions might be a summer project).

I also think I could have used CATME better by having students use it to give each other feedback a couple times during the semester. I liked the polling of concept questions, but my use of them fell off steeply around midterms. Basically, I think I tried too many new things at once, and these were the two to go so that I could work more on the others.

Some of the in-class activities need to be better structured or edited for length so that we come back together more often, and to help keep students on track (and to give them more instantaneous feedback). It’s tough, though, because of different groups working at different speeds. I’m going to have to think on to work that out. I still don’t have recorded/online lectures for the energy balance portion of the course, but I have it for everything else! To be worked on in Fall 2014, I suppose.