The Question
Which teaching innovations will lead to increased student engagement and understanding of course content?

Goals
- Increase student engagement and understanding of course content
- Move towards more inquiry based teaching practices
- Gain experience doing and assessing action research in the classroom
- Shift from teacher-centered to student-centered classrooms
- Teach “processes” not just “content” of the discipline

Innovations
While the AIs designed and implemented their innovations independently, the Collegium proceedings greatly influenced which innovations were ultimately used in their classes. These innovations included: Concept maps, peer evaluations, classroom assessment techniques, and various other activities.

Concept Maps
Maps were designed to help students make connections and explain relationships between various topics they were exploring. This was done through in-class activities including handouts or a class on the white board. It was also given as homework and then discussed as a class later.

Peer Evaluations
Students were given a mini-lecture on how to give effective feedback, then guided through a peer evaluation of mini-reports using procedures outlined in a handout. They identified three specific areas that needed to be revised and justified their critiques. Finally, they reflected on what changes they might make to their own papers based on their evaluations.

Classroom Assessment Techniques (CATs)
The majority of AIs began using informal CATs to pinpoint where misunderstandings were for their students. Often this occurred by passing around 3x5 cards and having them write down the “muDDiest point” from that day’s lecture.

New Classroom Activities
Other activities introduced to the students include:
- Teaching phylogenies with chocolate bars
- Dead White Guys party game

Approach/Methods
- The departmental teams (Biology, Anthropology, Communications and Culture, Learning Sciences) explored ways they might improve instruction so their teaching would be framed by theory on what works and based on evidence of how their students are learning.
- Readings, forum postings, and collegium discussions during the Fall 2008 semester focused on signature pedagogies, analysis of learning environments, Classroom Assessment Techniques (CATs), and the processes and tools of each discipline.
- During Spring 2009 the first cohort of 12 AIs designed their own teaching innovations for improved student learning based on what they had learned during the previous semester of the collegium.
- Results for each innovation were reported to the collegium through Collegium presentations and online forum postings.

Findings
1. STUDENT ENGAGEMENT.
In nearly every teaching innovation that was completed by Associate instructors, there was a reported increase in student engagement.

"I definitely got their attention and energy. Students were engaged and active." – Written Reflection 3/2009

2. ACTION RESEARCH
"I may have gotten a little crazy with CATs this semester. I feel like I’m doing things all the time." – Written Reflection 3/2009

The use of formative classroom assessments is an iterative process:

"I would like to hand their reflection sheet back to them with their papers once I’ve graded them and ask them to re-evaluate whether they addressed the areas that they felt needed to be revised on their rough drafts. I think that would give both me and the students a better understanding of whether this exercise was worthwhile." – Written Reflection 3/2009

3. LEARNER CENTEREDNESS
By implementing CATs and other inquiry based practices, AIs were able to better recognize which questions their students were wrestling with and made needed adjustments.

"Although I personally excelled in lecture-based classrooms, many students do not respond well to this format, and I might have found a deeper connection to certain subjects in school had they been presented to me in a learner-centered way." – Written Reflection 1/2009

4. TEACHING PROCESSES
A focus on signature pedagogies during the Collegium led to reflection on processes in addition to content.

"One of the things I really want students to be able to do is to see connections between ideas, and I’m often frustrated by how little they seem to be able to do this. I think the concept maps will both force them to sit down and make those connections and will model for them an approach to learning where there is room for ambiguity and differences of viewpoint (people will connect things in different ways for different reasons)." – Written Reflection 1/2009

Conclusions & Future Work
Self-reported findings show an increase in student engagement and understanding of course content as well as a shift away from teacher-centered to more learner-centered classrooms. Additionally, many of the classroom assessments made explicit what the students were actually learning enabling AIs to make course adjustments appropriate to the level of their students’ understanding.

The successes reported will impact the design of future iterations of the collegium and recommendations are made for the improvement of AI training and support across disciplines.

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