RSU Faculty Insights

Spring 2013

The *Faculty Insights* newsletter is sponsored by the University Assessment Committee and the RSU professors who have shared instructional practices they believe are especially useful in engaging students and improving learning.

The contributors to this inaugural newsletter and their methods are listed below and on the following pages. If you would like additional information, please contact them. They would be glad to tell you more.

RSU Faculty Insights

The Wrap-Up

The wrap-up is a brief writing assignment, based on the required reading, and due several hours before each class. It includes three "lessons" and two "puzzles." Lessons are things that students learned and/or found interesting in the reading. "Puzzles" are things that they found strange, confusing, or in need of further investigation.

These get students engaged in the agenda for the day.

Preparing the wrap-up accomplishes at least two things. First, it gets students involved in the reading, and gives them a chance to focus on what matters to them. Second, in face-to-face classes, doing the wrap-up before class ensures that most students have done at least some of the reading; this makes classroom time more productive than it would be otherwise.

I read through the wrap-ups before class and select several for use that day. A student presents his/her lesson or puzzle. I then invite responses from other students. This gets lots of people involved. It also gets students engaged in the agenda of the day. Usually I continue the discussion initiated by the wrap-ups. On rare occasions I give lectures; when I do this, I keep referring back to the lessons and puzzles and comments made about them by members of the class. The wrap-up is the key to teaching and learning in the class.

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RSU Faculty Insights

PowerPoint Caution

To use PowerPoint or not use PowerPoint? I believe that PowerPoint can be a valuable tool in educating students during lecture. I use it in my classroom as a supplement to lecture and board work. But I do not use PowerPoint exclusively as a teaching tool, especially in my freshman classes. Students often think that the PowerPoint slides hold all the information they need, but most often it provides just a summary of the lecture.

I still use the white board to present concepts that require time and thought. The students are more likely to copy what I put on the board than the abbreviated form offered in the PowerPoint. Based on exam results there is a connectivity of concepts from the board that does not occur from the PowerPoint. PowerPoint slides allow professors to move through lectures quickly, but this can also mean that students may not process the information well.

Students have a certain level of responsibility for taking notes and reading supplemental materials, but it is our responsibility to present information in a way that provides an optimum learning environment. Therefore I think PowerPoint in education should be one of several supplements to lecture, but not the main method.

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RSU Faculty Insights

Process-Based Thinking

The enormity of the Earth and its processes tends to overwhelm many students in the Geosciences. For example, if there is flooding on the East coast, what causes it? What areas of the Earth are impacted? Are the habitats of organisms damaged? Is the land damaged by erosion? Are water supplies polluted?

The project I've developed to help student contemplate and begin to understand these complexities is my Earth Events Project, which I've described below. I have found it helps students to analyze and integrate ideas about processes; they begin to reject their habit of memorizing and, instead, begin to adapt to a dynamic, process-based thinking based on scientific inquiry.

It helps students to analyze and integrate ideas.

Students produce a data sheet for 25 Earth events that occur during the semester. For each event they must provide information such as the event's date and location, possible impact on humans, which Earth spheres were involved and their possible interactions, and humans' attempts to deal with the event and its repercussions. Once the data are gathered and evaluated, the students plot the events on a world map.

This exercise is hands-on and enables students to see the relationships between current earth events and real-world consequences.

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RSU Faculty Insights

Starting Discussions

One of the more difficult aspects of teaching lower-division courses is getting the students to participate in class discussions. This is understandable since public speaking is one of our greatest fears; nevertheless, it is an important skill. As I tell my students, any job that brings with it a degree of responsibility will likely require them to speak in front of groups.

In order to foster discussions, I have developed a strategy. This begins with an assigned reading that is provocative and intentionally controversial. Students select a quote from their assigned chapter and write one paragraph about the topic.

This approach is more than an icebreaker; it's a confidence builder.

They bring what they have written to class and read it out loud. I understand that they may be nervous or uncomfortable, especially the first time, so they do not have to stand or come to the front of the class; they can simply read it while sitting at their desks.

On the day of the discussion, we have a quiz. I also have the students bring two copies of their paper. They keep a copy and give me the other one, which I use to underline key statements while they are reading so I can ask questions. When the quiz is over the discussion begins with the first student reading what he or she has prepared.

This approach is much more than an icebreaker; it's a confidence builder. The discussions are lively and thoughtful. And we all gain from the broad participation.

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