

Engagement is my key to Student Success

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Like many two-year colleges, my students form a diverse population. I have students from just out of high school to those nearer to retirement. Approximately a third of my students are the first generation in their family to attend college. A slim majority of my students are white, many are Latinos, a few are of Asian or African descent. The majority of my students work at least part-time; however, some work full-time. Many are parents. As a result, their educational experience is often quite challenging to them; and therefore, I must give them the greatest possible opportunity to learn in the classroom and to have a diverse approach to teaching each class.

In my experience, the best way to encourage students to learn is to make the class as interactive as possible. I try to limit the amount of time they are passively sitting and listening. I find that if I engage the students, they pay attention and learn more. To accomplish this engagement, instead of lecturing to the students, I tell them some information and then ask them questions to relate the new information to something they already know. By grounding the information and constantly checking for understanding, the content of the class becomes clearer. For example, when discussing the difference in viscosity between basaltic and rhyolitic lavas, I use the example of ketchup for basalt and peanut butter for rhyolite. I ask them to describe how each of the fluids would behave on an inclined plane. Then I get them to connect that behavior to the lavas. They quickly and easily recognize the difference and most do not forget it.

When introducing new topics, if I have hands on materials to illustrate the points, I will use them. For example: I have found that students struggle with the concept of clastic texture in sedimentary rocks and because we live on the Gulf Coastal Plain, there are no rock outcrops that students see with any regularity so their experience with rocks is often limited to pebble- and cobble-sized samples rather than outcrop-sized. As such, they have a hard time envisioning the relationship between a body of sand and a layer of sandstone. To assist, I place three bags of sediment (one of sand, one of silt/clay, and one of pebbles.) on each group's lab table. I also place a quartz sandstone, a siltstone, and a conglomerate on each table. By using the sediment samples and having the students match the sediment to the rock it will become they can better visualized and better understand clastic texture.

Fieldtrips are essential to student success in the geosciences. My students often comment that the fieldtrips really brought the material to life. I take my students on several fieldtrips locally during class-time and have optional fieldtrips on the weekends. By offering the out-of-class fieldtrips as extra credit, I have approximately one-quarter of my class attend. There is usually an observable difference in the depth of understanding of coastal process, for example, between a student who attended the Galveston Island State Park fieldtrip and one who did not. Fieldtrips also increase student curiosity as they are introduced to a world they never noticed before.

One of the greatest difficulties with the approach I use to cover new material is that it takes a long time. We cannot cover the quantity of content I used to when I lectured for 50 minutes and students quietly took notes. But, I have come to the conclusion that delivery of a vast amount of content to the students expecting them to absorb it all is neither necessary nor practical. My introductory classes are just that, introductory. It is my mission to get them outside noticing the world around them and making connections between that world and their lives. My goal is to introduce them to the major processes of the earth and through that introduction make them curious to learn more when they have a new experience with the out-of-doors or hear of something on the news long after they have left my classroom. Based on continued contact and the types of questions I receive from students who have completed the course, I believe that I do have some success with my approach to student learning.