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Overview of InTeGrate Module Use

Spring 2015 Classes

***EPCC – GEOL1302/1102 Principles of Geology***

I used several InTeGrate Modules in this class during Spring 2015. During Fall 2014, the curriculum had been shifted from more of a traditional “historical” geology class to a broader principles of geology class. The new curriculum was to include units on climate variability, human natural resources use and renewable/nonrenewable resource development and sustainability that had not been focused on in prior classes. The modules included interesting ways of introducing and covering several of these topics.

The class makeup was as follows:

7 students:

2 Hispanic American Males

3 Hispanic American Females

1 non-Hispanic American Female

1 Hispanic Mexican National Female

The small class size resulted in all students having a level of comfort that encouraged student participation in discussions.

The following two units were used in this class:

*Climate of Change Module*

*Unit 1 - Forecasting Climate Variability and Change: A Matter of Survival*

This unit was deployed to the class generally as outlined in the suggested instructions for the module. The article handout was provided to each student at the beginning of class and the students were given 15-20 minutes to read through the article comparing and contrasting the issues associated with the Incas, Mayans and Vikings. We did the Gallery Walk as a class on the board and discussed the differences in the climate changes the civilizations experienced, as well as their responses. The students completed the Reading Comprehension Quiz for a class assignment grade worth 20 points. The average grade was 17; the median was 18; max 20; min 12.

The module interested the students and they all participated well in the discussions. The students seemed to have a good grasp on the concepts presented. The materials were easy to use.

*Unit 6 - Adapting to a Changing World*

Several activities from this unit were used during about a week (two to three class periods).

Activity 1 – At the beginning of one class period, we started reviewing the Powerpoint “Climate Change Profile Adapting to Change”, where the first slide directed the students to go to the URL: [http://uw.kqed.org/climatesurvey/index-kqed.php](http://uw.kqed.org/climatesurvey/index-kqed.phpT) to take the climate change personality survey. All of the students in class had access to a smart phone so they took the survey individually and noted their survey outcome. After taking the survey we tallied up on the board each student’s name and their personality classification, discussing the assumptions about each classification and concluding that some students actually “straddled the line” in some cases, and that their feelings about climate change were not all black and white across the board when considering different aspects.

Activity 2 – We then reviewed the Powerpoint slides, compared our results to the national data and talked about differences and similarities we observed. We also discussed at length the Population Characteristics that affect Vulnerability and the applicability to El Paso using the Word document “What Population Characteristics Affect Vulnerability?” from the Module.

The worksheets “What’s your climate change personality?” and “Understanding your social vulnerability to climate change” were completed by the students in class as we discussed the topics, for a grade of 10 points each. These questions in general were to stimulate thinking and discussion rather than test knowledge, and all of the students got grades of 100% on both of these worksheets.

Activity 3 – I also deployed the “Adaption to Extreme Heat Waves” activity to the students. There were a couple of slides on this topic that were shown in the Powerpoint in Activity 2, so they had had an introduction to the topic earlier. The students were each given a copy of the module handout and took a few minutes to read through and answer the questions individually. We then went through the handout to discuss each of the points and questions as a class. We discussed the three case studies presented (urban hot spots/tree cover in Chicago, cool roofs in NYC, and Heatwave Response Plan developed by Wangaratta Australia) and how they might be utilized in El Paso.

These activities were very beneficial to the class as far as introducing them to several concepts associated with climate change. They were interactive, using the online survey, Powerpoint slides and various handouts, to illustrate and promote thinking and enhance discussion of the topics. And they were also very easy to use.

*Human’s Dependence on Earth’s Mineral Resources Module*

*Unit 1: People, Products and Minerals*

Four activities from the module were used in two class periods for this unit.

Activity 1 – Minerals and Products. The students had already been introduced to minerals and rocks in their 1301 class in a prior semester. For this activity we briefly reviewed the “product” Powerpoint slides included in the module. We then got out the mineral specimens from the 1301 class and worked through the Minerals and Products worksheet as a class. Since it was a small class we gathered around a table and passed around each mineral specimen so the students got to see and feel the mineral as we discussed what it was used for, how it was obtained, etc. The students turned in the worksheet for a grade worth 10 points.

Activity 2 – Review of Minerals and Rocks. We reviewed the topics of natural resources, mineral resources, minerals/rocks and the rock cycle in class using powerpoint slides and class discussion.

Activity 3 – Economic Development and Resource Use. We spent a portion of a class period looking at and interpreting the graph of GDP per capita vs consumption rates of minerals/materials for various countries, then went through the associated questions in class discussion format.

Activity 4 – TED Video – Global population growth, box by box. <http://www.ted.com/talks/hans_rosling_on_global_population_growth>

We played the video in class. The video provides a simple illustration of population growth, resource use and the concepts behind the idea of sustainability. The students greatly enjoyed the video because it was so straightforward and basic, and put the concepts out there in a simple and elegant manner.

Again, these activities were beneficial to the class for the concepts associated with resource use and sustainability. They were interactive and enjoyable for the most part, using the hands-on discussion of minerals and their uses, Powerpoint slides and handouts, as well as the TED video. And they were also very easy to use.