**The Active Learning Continuum**

**Where are you on the Active Learning Continuum?**

**Before you settle on a case or PBL style, ask your self what your comfort level is.**

**Continuum of course objectives**

Acquisition of knowledge --------------------------------------------Acquisition of skills

**Interaction in your classroom**

Limited interaction -------------------------------------------------Extensive interaction

**Levels of control**

Need total control -----------------------------------------------------Need little control

**Sage on the Stage………………………………………………………………..Guide on the Side**

**Willingness to take a risk**

Cautious---------------------------------------------------------------------Adventurous

**Level of student experience**

Inexperienced---------------------------------------------------------------Experienced

Modified from Using Active Learning in College Classes: A Range of Options for FacultyTracey Sutherland and Charles Bonwell, eds*. New Directions for Teaching and Learning* , *67*, Fall 1996, Jossey-Bass Publishers.

**LEARNER CHARACTERISTICS**

**ACTIVE LEARNING DESIGN PRODUCT #1**

**List characteristics of your students—developmental, preferred learning styles, interests, group dynamics, prior knowledge of concepts, career goals. Where does the case or PBL you are designing fit into their major? What do they already know?**

**You might consider visiting** [**http://assessment.aaas.org/topics/BF#/**](http://assessment.aaas.org/topics/BF#/) **, that provides a way to develop concept tests for many topics and looks at student misconceptions or preconceived notions. You could use another concept inventory, specific to your discipline. See this paper for a list of bio examples.**

[**https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5426623/**](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5426623/)

**CURRICULUM OUTCOMES**

**DESIGN PRODUCT #2**

**List specific curriculum outcomes your students will achieve through the redesigned learning unit. Hint: What do you want your students to learn, to know, to be able to do as a result of your unit?**

**What are the learning issues you want students to investigate?**

**Use different levels of Bloom’s taxonomy.**

[**http://www.odu.edu/educ/roverbau/Bloom/blooms\_taxonomy.htm**](http://www.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm)

**See the Bloom’s handout for describing outcomes.**

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**ENGAGING STUDENTS: THE HOOK**

**ACTIVE LEARNING DESIGN PRODUCT 3**

**Now you are ready to choose an existing case or begin to write a new one!**

**Provide copies of the documents or materials that will “hook” students into the relevance of your unit and introduce them to their role and situation. If your “hook” will include a person, a scientific paper, video, role-play, news story etc., describe it clearly here. Describe how the hook will interest your students? Make sure you consider inclusive teaching practices.** [**https://www.facultyfocus.com/free-reports/diversity-and-inclusion-in-the-college-classroom/**](https://www.facultyfocus.com/free-reports/diversity-and-inclusion-in-the-college-classroom/)

**For more detail, see product 5.**

**Find a case, a PBL or a “clicker case that might work.**

**Or Use a news story, an article, a picture an artifact etc**

**Or Write a new case.**

**Writing a New Case**

**Cases can be short or long, single scene or multiscene, can lead to labs or investigations, can include data for analysis. *Remember good problems and cases generate questions that need answers; they make the students want to figure out what’s going on; want to learn anything they can to resolve the issue; they generate drama and suspense***

1. **Outline a story that will create a compelling need to know** 
   1. **Make it realistic and authentic**
   2. **Make it exciting, think of cliffhangers**
2. **Create characters for your story that students can identify with**
3. **Create a Timeline with decision points for suspense**
4. **Generate 1-2 scenes that set the stage for the problem, involve students with the characters, require observations and generate hypotheses or questions**
5. **Share with a colleague** 
   1. **Have them identify data, observations, hypotheses, and ideas**
   2. **Have them guess your objectives**
   3. **Refine draft**
6. **Generate Know/Need to Know or Learning Issues**

1. **Move on to more scenes if required**
2. **Repeat sharing with colleagues**
3. **Share drafts with experts**

**Revise, revise, revise**

1. **Pilot case**
   1. **Write notes immediately after implementation:**

**What worked**

**What didn’t**

* 1. **Were there surprises?**

**No case is ever finished**

**Identify resources and background.**

**Identify resources needed**

**Labs**

**Books**

**Websites**

**Materials**

**Pictures, videos, scientist biographies or items that assist in making case relevant**

**Identify Products that you will ask students to produce to show learning**

**Issues analysis and summaries**

**Posters**

**Authentic reports**

**Posters**

**Data analysis**

**Problem solutions**

**Design of labs**

**Some cases or problems have an epilogue that resolves the case or brings closure; some are left open ended**

**You may want to write guide questions and or facilitator prompts**

**PERFORMANCE ASSESSMENT AND SCORING RUBRIC**

**Design Product #4**

**Yes, I know backwards design folks would do this much earlier. But I find it more useful after you’ve thought the case or PBL through. Specify two or three “along the way” assessments you will insert as your students work on the unit/problem/concept.**

**Specify the final, authentic performance assessment at the end of your problem unit in which students will demonstrate what they know, can do and value via presentations of their solution(s) to the problem.**

**Sketch out a beginning rubric for assessing students’ final performance. What criteria state your expectations for a successful performance? What evidence will demonstrate that students have learned? BE SURE the rubric aligns with your curriculum outcomes and standards.**

**Diversity and Inclusion**

**ACTIVE LEARNING DESIGN PRODUCT 5**

*Inclusive Teaching* means teaching in ways that do not exclude students, accidentally or intentionally, from opportunities to learn. It can mean using a diversity of materials: visual, auditory, kinesthetic etc. For some background and hints, please visit <https://www.facultyfocus.com/free-reports/diversity-and-inclusion-in-the-college-classroom/>

Free download!

**Content Integration** *Using resources from a diverse range of cultures and groups to illustrate course concepts and ideas.* This may involve choosing texts and illustrations that highlight the contributions of different groups or choosing problems, cases or contexts that highlight concerns of different groups. For example, one could use health disparities for data analysis in a mathematics course. One could also use scientists from different countries, races, ethnicities or genders to illustrate the case. Podcasts and vodcasts are useful!!

**Knowledge Construction** *Facilitate students’ understanding of the value-laden assumptions and biases operating within a given field or discipline.* Although many scientists and mathematicians operate as if science is value free the choices of what topics are studied and even the descriptions of scientific processes often contain gender and cultural biases. Examine history of scientific ideas can be one way to dispel bias. Examining how scientists work to avoid bias in the scientific process is another approach. Peer review of class work can assist in this.

**Prejudice Reduction** *Create learning environments that foster students’ rejection of negative gender and racial attitudes and values.* Students must learn to work in teams and value the contributions of all team members. As you think about implementing the case or PBL, consider how you will form groups, what guidelines for discussion and civil discourse will be in place.

**Equity Pedagogy:** *Adopt, integrate, and develop a set of teaching skills and techniques that reflect* *consideration of the full range of cultural perspectives and practices that influence student learning.* Inclusive pedagogy means incorporating multiple modalities, teaching teamwork, using active learning strategies that engage all students.

Students can be excluded when we teach in ways that favor particular backgrounds or ways of learning. For example if we use only sports analogies or card games to illustrate mathematical ideas, or automobile examples in physics, people who are unfamiliar may have a more difficult time. We must communicate expectations for success for all students and consider differences in background and preparation and provide alternative routes for equalizing the learning outcomes.

**For the concepts or units you are working on, list some ways you can make the unit inclusive.**

**Choose one or more diversity elements to include.**

**UNIT PLAN**

**Design Product #6**

**Outline your preliminary teaching and learning plan for your unit. Include the time you expect to spend on various teaching/learning events, materials and resources needed, embedded assessments, etc. (keeping in mind the need for flexibility as the students’ inquiry and the problem unfold)**

|  |  |  |
| --- | --- | --- |
| **Day/Class Period** | **Learning Events** | **Resources Needed** |
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**RESOURCE LIST**

**Design Product #7**

**List resources you have used in designing the unit and that you plan students will use in their inquiry. Resources may include books, articles, web sites, videos, people (contact information), agencies, etc. You will likely add to this list as you implement the unit.**