

*The Design of Learning Environments***Learning Centered Environments**

The National Research Council uses the term “learner centered” to refer to instruction that focuses attention on the “knowledge, skills, attitudes, and beliefs of the learners” (2000). In short, learner centered instruction means that teachers need to “get a sense of what students know” (Council, 2000). For myself there are many methods that I apply to affect learner centered instructions in the classes I teach. On the first day of class I have each student stand and tell the class a few things about themselves, like where they work, what their experience is with the subject matter, and what their expectations are of the class. Through this process I find that several things are being accomplished. First and foremost it helps to create an environment where students become more comfortable with each other. In technical courses students are often intimidated by others students, fearing that everyone else knows more than they do. By the time each student is done talking about their experiences with the subject they’ll be learning, for the most part, students quickly find out that they are all at about the same level – beginners. The student introductions also help students find other things they have in common and it gives them an opportunity to bond around their commonalities. The second thing I do is to try and convey to students that this class is not organized around a student/instructor paradigm, but is instead a classroom of peers who are all interested in learning more about a particular subject. I achieve this in part by making my students an active part of my lectures. Instead of lecturing to them, I make it more of an exploration of information. It becomes more of a discussion than a lecture and it lets me check for student comprehension of the material without having to just sit them down and give them a multiple choice quiz on every chapter we’re learning in class. Another method I find very helpful is giving students the reins to control their own learning. When

teaching programming languages like HTML, CSS, XML, or ActionScript, I find that students put more effort into learning and get a better understanding of the material when they are allowed to come up with their own projects instead of using the ones that are included in their textbooks. It has been my experience that when students set their own goals they put a lot more effort into it and better retain what they are learning.

### **Knowledge Centered**

Knowledge centered overlaps with student centered instruction and “begins with a concern for students’ initial pre-conceptions about the subject matter” (National Research Council, 2000). As I stated in the section above on student centered learning, I use the first day of class to hear what the students have to say about why they are enrolled in one of my classes and what they expect to attain as a result of the class. This gives me an early opportunity to clear up any misconceptions students might have about the subject they will be learning and to plan ahead on how to incorporate certain parts of the subject matter into class discussions. It is a process that allows me to, as the National Research Council puts it, “focus on the kinds of information and activities that help students develop an understanding of disciplines” (2000). I think the in-class discussions give the students an ability to apply metacognition to their learning because they can speak their mind on a subject we are covering and get feedback from myself or their peers which helps to facilitate an opportunity for them to reflect on how well they are grasping the material. I try to also incorporate progressive formalization into my classrooms by allowing students to choose their own projects. This motivates them into using their own interests to influence the goals that they set for themselves in the course. At first their work is very coarse and unorganized, but as they progress through the course they start to learn how to apply a structure to their work that gives their projects a more cohesive and professional look and

feel. I believe that one of the things that my courses are most successful at accomplishing is giving my students the ability to “learn the landscape” of the discipline they are encountering. To meet this end, I go way beyond the standard “rutted paths” that are traditionally used to teach a subject. I try to give them the big picture, a feeling for what it is like to work in the environment that they are striving towards. My courses give students a much richer learning experience than just memorizing programming syntax because they are constantly involved in developing projects just as they would if they were working on real job. I encourage them to use their ingenuity and locate resources outside of the classroom to help them to better understand the subjects we are covering and to experience each application in a real world scenario. For instance, I have them build a library of URLs from Web sites that are similar to the type of Web site they are building for themselves, this way they can see the way others organize their HTML code, how to implement certain features that pertain to that genre of Web site, and what already exists in the development community. I also give my students deadlines and enforce them in an effort to impress upon them that this is something they’ll need to get used to, in that their real job will constantly have deadlines that they need to meet.

### **Assessment Centered**

I agree with the National Research Council when they state that “in addition to being learner centered and knowledge centered, effectively designed learning environments must also be assessment centered” (2000). When I first started teaching I viewed this concept from more of a behavioral perspective and used a multitude of quizzes and exams to assess my student’s learning. It has only been in the last few years that I realized that my previous methods weren’t creating learning that was giving my students the ability to transfer what they were learning in the classroom room to real world scenarios. I’m not sure how it came about, I think by mostly

trial and error, but I slowly converted my teaching methods from lecture and test to more of discussion and project process. I have found that my student completion rate has increased dramatically since I began this new process. I have also changed my assignment scoring process from one in which their first submission was the only one that counted, to one where they still need to meet the initial deadline, or be penalized on their score, but more like it would be in the real world, I give them feedback on their submissions and allow them to improve upon their work based on my comments. I have had many students tell me how much they appreciate this type of methodology and, as I said, my student completion rates have increased dramatically because of the change.

### **Community Centered**

The National Research Council uses the term “community centered” as a reference to “several aspects of community, including the classroom as a community, the school as a community, and the degree to which students, teachers, and administrators feel connected to the larger community of homes, business, states, the nation, and even the world” (2000). In order to help the entire classroom to come together as a community, one of the first things I try to do is to dispel some of the standard “unwritten norms” about how students should interact within the classroom environment, especially when it comes to students asking or answering questions. I tell my students that there are no stupid questions and that the only stupid questions are the ones that go unasked. During class discussions when I or another student poses a question, if a student blurts out an answer, right or wrong, I praise them for answering. In the case of the wrong answer instead of saying “no, that’s the wrong answer,” I’ll say something like “well that’s a good answer, I can understand why you might think that, but in this case it’s not the one we’re

looking for.” It is my feeling that this creates an environment where students aren’t fearful of being wrong and instead are encouraged to ask and answer questions. When they feel they are uncertain of their comprehension they’ll feel at ease to ask necessary questions. When they think they know the answer they’ll feel comfortable in providing an answer even when they might not get it right. In the past, before I adopted this technique I can remember seeing students “turn-off” as soon as I told them “no” that they didn’t have the right answer. Now, they seem to interact during discussions with a lot more enthusiasm and less inhibition. Another technique I find to be very successful with students is when they have made a mistake, say by mistyping syntax, I’ll tell them a story about how I got it wrong once too and maybe share a trick I use to help myself remember how to organize the information in my brain. I think it helps too that I emphasize how much I am a student just like them and talk about my successes and failures when I was in their shoes learning this subject. As far as bringing the larger communities into the classroom, I find it is helpful to talk about how I use the knowledge that they are learning when dealing with the “real world,” like how to deal with client issues, sometime these are issues that I have just experienced, sometimes they have happened in the distant past, but students seems to be able to better comprehend what they are learning when they understand how it might be used in real world scenarios. I also like to talk about and expose my students to the “development” community. I like to expose them to where all the standards, and rules, and regulations come from. Like why do we use “alt” tags when adding images to a Web page. I explain to the students that some viewers of their Web sites might be using screen readers and are unable to see the images that they are putting in a page. I’ll even include a little introduction to the Americans with Disabilities Act, so that they’ll understand that alt tags are more than just a courtesy, it’s the law. I find a good motivational technique is to introduce students to some of the businesses and

individuals who have had success in the field of Web design. It has the same effect as up-and-coming athletes who idolize their favorite sports figure; it gives them role models who they want to be like. Finally, one of my favorite things about teaching career education courses at the community college is our internship program which allow us to give students actual real world experiences and in many cases a foot-in-the-door to help them get started in their career field before they have even finished college.

### **Works Cited**

National Research Council. (2000). *How people learn: Brain, mind, experience, and school*. Washington, D.C.: National Academy Press.