



Increasing the Effectiveness of Online Education through Personalization
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Students are not alike. They don't learn the same. They don't react the same. They don't think they same. Tell any teacher in the world any of these common sense statements, and you are likely to hear the word "duh" somewhere in their response. However, despite this acknowledgement of these vast differences between students, my observations of online learning tells me that this fact is, for the most part, ignored in online education. The students read the same material, look at the same charts or images, and then write something or take a test. This approach works well for some students, but not for many others, perhaps because it does not fit their individual learning style and needs.

My Goal

My goal was to develop a more effective online course to support a more personalized and flexible learning environment that capitalizes on students' individual needs, abilities, and learning styles. My original intent was that the personalization of the class would come through 4 major enhancements to the course environment:

- A Multiple Intelligence-driven system of dynamically delivering course content to students based on their assessed learning style.
- The development of a CoP atmosphere among the students through the use of asynchronous and synchronous communication tools, and their integration into the course.
- Personalized and relevant assignments that connect the students to a "real world" practice in the subject.
- A flexible method for teaching and evaluating learning in the students that allows them to express their knowledge using a variety of methods, which enables students to communicate what they have learned in a way that is meaningful and natural to them.

What I did

First, I adapted a Multiple Intelligence Assessment for web delivery so that I could use it for the class. I was given permission by Dr. Terry Armstrong at the University of Idaho to use his assessment tool for this project. You can read more on the development process for the tool here:

<http://hale.pepperdine.edu/~wlmosele/638/a4/index.html#assessment>

I tested the assessment tool with various people, including friends, family members and my face to face classes. The data that I gathered suggests that there is a definite correlation between users' perception of their personality and their assessed learning style.

I developed a course environment that would act as a structure for the learning tools I would be developing. The course environment also allowed me to easily track student participation, and

allowed students to easily log in and locate the various parts of the class. Furthermore, it automated many of the “administrative tasks” involved with teaching the class, allowing me to spend more effective time in direct contact with students. Lastly, the course environment acted as a portal for our CoP, enabling students to easily access each others’ work, and discuss issues and problems they were having. Over the 6 week period in the class, the average student posted 12 messages to the discussion board. Of those, 5 messages were required assignments. I was very pleased with the level of interaction between the students, who frequently spent time reviewing one another’s web site, commenting on it in the discussion forum.

The course environment was tested by one of my face to face classes in the spring of 2001 (Cycles 1 and 2). I obtained some good feedback from students about the usability of the course environment, and was able to make changes to it throughout the class. By the end of the class, I felt that the usefulness of the course environment had improved significantly.

With the assessment tool and the course environment tested and in place, I began to develop the course content. To make sure that I covered as many learning style combinations as possible, I developed a wide variety of instructional tools, including:

- Text
- Images
- Video Clips
- Animations
- Interactive Activities
- Sound Bytes

These learning tools were programmatically linked to various learning styles so that students would be presented with the content that most likely fit their learning style (although they had access to all of the content). Not only did students participate in the use of the instructional tools, they used the information from their learning style profiles throughout the course, often referring to their learning style in discussions.

As I taught the class, I allowed students quite a lot of flexibility in the presentation and form of their assignments. They were told only that they were to develop a web site, posted live to the internet, which demonstrated the tools and principles learned in the class. The students were all very involved in the construction of their web site, with some even going to the extra expense of buying their own domain name and purchasing hosting. This personalization of their assignments seemed to boost their motivation in mastering new principles of web design.

A large portion of the students’ grades was based on their class participation. I left the definition of participation to them on purpose, and provided them with many opportunities to get involved. Some were very active in the discussion board, helping other students and evaluating other web sites. Others chose to participate in our synchronous discussions online using AOL Instant Messenger. Above and beyond those two more typical modes of participation, I also gave my students credit for contacting each other for help, and for one on one sessions with me working on specific concepts. Many students commented that the later method was both helpful and comforting as the class progressed, because they had access to me at the time they had the question, much like they would in a face to face class.

It sounds like I have created a method of teaching that would double the hours required for each class. The key to being able to spend this much contact time with students without doubling the time spent on the class is built in to the course environment. By providing myself with tools to automate or speed up the administrative tasks and even many of the instructional tasks, I was able to focus on relating to the students themselves.

My Reflections/Changes

First, my reflections and changes in practice and perspective should be examined only as part of the big picture of the learning and thinking that has taken place over the period of time that I have worked on this project. Aside from being involved in this program at Pepperdine, I have also been involved in activities, both instructional and non-instructional, that have had various effects on my methods and perception of teaching. This is especially true of online teaching.

So with that in mind, let me say that I have undergone some very important changes in the past 10-11 months of work. Here are some of the ones that are pertinent to this project:

- I have become convinced that it is absolutely impossible (at this point in time) to have successful teaching and learning online without human interaction and involvement.
- I have made a point of encouraging and allotting time for dialog with my students, both in and out of my classes.
- I have reduced the role that tests play in assessing my students' learning.
- I have elevated the role that tests play in the instruction of my students.
- I have made a greater effort to apply learning to the context of each of my individual students' situations, to give it relevance and importance.

Here is the most important thing that I've learned:

Learning is a social thing. It's also a personal thing. The key to effective teaching online lies in the instructor's ability to make social and personal connections to students in the course and between the students in the course. Longer-term learning requires a personal connection to that which is learned.

Where I'm headed now...

I am really interested in refining my teaching skills in general, but especially online. I think that online learning has a long way to go, and there are many uses for technology in that setting that haven't even been conceived of. I would like to be the one who thinks them up.

My plan is to continue the development and refinement of the course environment I am working on, and to continue learning how to be an effective online teacher. I would also like to teach others how to be effective online teachers. I think the fact that teaching online is such a different experience in and of itself allows us the freedom at this impressionable stage to make a big difference in the development of online teaching and learning.

In addition, I really want to take some steps at Bakersfield College to begin to develop a CoP around the online professors. I have been asked by the college president to present my research to the faculty as well, so I think I may have my foot in the door already. I'm excited about the possibilities.

Research Sources

Internet Resources

Index of Learning Styles. University of North Carolina. 1993 <<http://www2.ncsu.edu/unity/lockers/users/f/felder/public/ILSpage.html>>

Paragon Learning Style Inventory. Oswego State University of New York. <<http://www.oswego.edu/~shindler/plsi.htm>>

Kolb's Learning Styles. University of West Florida. April 23, 1998. <<http://www.uwf.edu/coehelp/advid/cmatuszek/homekolb.htm>>

Your Overall Learning Style.SIL International. March 21, 1999.
<<http://www.sil.org/lingualinks/LANGUAGELARNING/OtherResources/YorLrnngStylAndLnggLrnng/YourOverallLearningStyle.htm>>

Library Resources

Books

Dryden, Gordon and Jeannette Vos. The Learning Revolution. Torrance, CA: The Learning Web, 1999.

Jensen, Eric. Brain Based Learning. Del Mar, CA: Turning Point Publishing, 1996.

Journals

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Hayes, John and Christopher W. Allinson. "Cognitive style and the theory individual and collective learning in organizations." Human Relations. July 1998: 847-871.

McKay, Elspeth. "An investigation of text-based instructional materials enhanced with graphics." Educational Psychology September 1999: 323-335.

Pillay, Hitendra. "An investigation of the effect of individual cognitive preferences on learning through computer-based instruction." Educational Psychology. June 1998: 171-182.

Sternberg, Robert J. "Allowing for thinking styles." Educational Leadership November 1994: 365.

Personal Network

My main personal source is Dr. Richard Wright, professor of psychology at Bakersfield College and educational technology consultant. I have had an opportunity to work with Dr. Wright on several occasions, and have had many talks with him regarding this area of study. I know that he is also currently pursuing research and development in the area of learning styles and online education.

A secondary resource at Bakersfield College, dealing mostly with course design and pedagogical issues, is Dr. Greg Chamberlain, PhD, Educational Technology from University of Northern Colorado. While he does not specialize in cognitive learning styles, he does have expertise in the area of online course design.

Memberships

DEOS-L : The Distance Education Online Symposium discussion list.