

Sabbatical Proposal: Design Based Learning

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BACKGROUND

Design-Based Learning is a highly researched, project-based and standards based educational methodology that helps present challenging concepts concretely and reach various types of learners, including at-risk, gifted, ADD and ADHD students. Its goal is to tap students' natural creativity to develop higher-level thinking and enhance comprehension of the college curriculum. It provides tools and techniques for teaching students basic skills and knowledge from any subject so that they learn how to think critically at the highest level & to invent, extrapolate, adapt and transform information & to gain a deeper understanding of subject matter. These techniques promote language acquisition, oral language development and enriched learning experiences for all students.

Design-Based Learning was developed by Doreen Nelson, a professor at Art Center College of Design and California State Polytechnic University, Pomona, and recipient of the California State University 2006 Wang Family Excellence Award in education. Doreen Nelson pioneered the field of design thinking in education and developed the nation's first Master of Arts degree program in Design-Based-Learning at Cal Poly Pomona. DBL methodology demonstrates how design and creativity enhance and extend the teaching of math, science, language arts and social studies. It has been practiced world-wide in public schools, colleges, museums and universities.

What is Design-Based Learning? A teacher using DBL challenges students to create never-before-seen physical objects that reflect themes, concepts and standards. For example, a class studying ancient Egypt, China, Greece and Mesopotamia might begin by working in teams to build a 3D scale model of a place in that ancient world. Doing so compels them to answer questions such as "What types of dwellings will people live in?" and "What values will they live by?" Armed with their own solutions, students investigate topics about these societies in required texts. Students learn in an interactive environment that promotes the recall and reuse of information. They learn to make logical connections, identify cause and effect, draw analogies, and think critically at the highest level. Using simplified techniques from the design professions, they learn to plan, experiment, discover, interpret, discriminate, revise and justify their thinking.

Practicing designers in the design professions are always faced with new challenges and have tools for approaching the constant change of the marketplace. For example, how can you make

This list is written in red (STOP).

Then the instructor introduces a list of Needs. The list introduces all the vocabulary of the concept being studied. But the students don't know this. All they know is that these are the ground rules for the challenge. This list is written in green (GO). Students refer to the Needs as they work, and they are graded on their understanding of the vocabulary and on their inclusion of all the items in the list.

The students make instant 3-D models representing their solutions and explain the workings of their models to the group. They learn to accept suggestions that lead to revisions. Then the students present their revised models to the class, which offers more suggestions.

Talking, reading, writing and computation are central components of DBL. The students learn to give oral presentations, construct charts, maps and diagrams, do research, draw up comparative lists, write reports and make mathematical calculations.

This never-before-seen recyclable city challenge might involve research into the roles of gravity and vibration (science), historical methods of travel (social studies), and the interdependence of food producers and consumers (social studies), as well as calculation of distances, capacities and sizes (mathematics).

What Does DBL Accomplish? DBL enables students to acquire intellectual and social skills that can be used in all fields of study, as well as in everyday life. These skills include:

- Thinking critically and asking thoughtful questions
- Independently locating relevant information
- Creatively adapting information to a specific need
- Testing the validity of an idea
- Learning from mistakes and coming up with fresh solutions
- Working cooperatively with others and democratic decision-making

PROJECT DESCRIPTION

The sabbatical leave I am applying for would be used to learn the Design-Based Learning educational methodology that is applicable to my field of visual and media arts, as well as the broad college curriculum. During the sabbatical I plan to develop a series of design challenges with guided lessons in graphic design, multimedia and the language arts.

Specific Activities:

1. Preparation for my sabbatical research will start during the Spring 2009. I will be attending the Introduction to Design Based Learning (Peer Coaching Seminar) at the Art Centre College of Design. Experienced DBL educators in all subjects lead small groups of first-time participants through an introduction to the Design-Based Learning program. This introduction includes three sessions: January 31, March 7 and April 4, 2009. The sessions teach how to optimize learning with tools and resources that promote critical thinking, excite and involve students, and lead to high achievement on standardized tests.

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3. To learn more about integrating strategies from the design disciplines that engage students in meaningful, higher level learning, as well as implement this body of knowledge into the series of design challenges with guided lessons, I will be engaged in seminars, workshops, research and practice in Design Based Learning. The DBL follow-Up Seminar includes three sessions:

The program will require me to carry out new research, allowing me to become a greater asset to my students and to the college and district.

I will be immersed in an award winning education program, which will allow me to learn new ways of teaching.

I will do research about the practice of use of design and multimedia in higher learning.

The focus is on developing my teaching skills through the use of the new methodology.

I will gain knowledge in new techniques that I will use in my work and share with my students and colleagues.

