Sabbatical Proposal: Design Based Learning
Svetlana Kasalovic, Graphic Design and Multimedia Professor

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 a portable cup that keeps a beverage hot but protects your hand from heat? They make progressively more complex models, analyzing and revising them to come up with a workable solution. DBL applies this way of thinking to teach the required curriculum, by turning topics into a challenge and having students make models that reflect the concepts they are learning.

How Does Design-Based Learning Work? DBL applies this way of thinking by turning topics into a challenge and having students make models that reflect the concepts they are learning. Before the students start reading, writing or talking about the lesson, the instructor presents the challenge. For example, if the lesson is about sustainability, the challenge might be, "Design a never-before-seen recyclable city."

The teacher begins by asking the students to make a list of Don't Wants. Students voice all their preconceived ideas and fears about the subject by suggesting features the city should not have.

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 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.

2. The most intensive part of my preparation for the sabbatical research is The Summer Institute for Teachers – an intensive program in the DBL methodology at the Art Centre College of Design. Two three day sessions that take place between July 30—August 1 and August 4—5, 2009 demonstrate how to optimize learning with tools and resources that promote critical

thinking, excite and involve students, and lead to high achievement on standardized tests. California State Polytechnic University accepts the Summer Institute for Teachers as the first 4 units course in its 20 units masters' program in Design-Based Learning.

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: October 25, 2009 and January 10 and March 14, 2010. In this seminar and planning workshop, lead faculty from the 2009 Summer Institute for Teachers will provide coaching sessions on how to extend one's knowledge and tailor one's lessons. Finished works include:
– a series of design challenges with guided lessons
– measurable criteria in identifying Design Challenges across all subjects
– practice in identifying Design Challenges across all subjects

4. During the Spring 2010, and within the scope of the DBL research, I will continue to familiarize myself with the Second Life Education and include the Second Life modules into the DBL design challenges. SL is a virtual world where the users define their own context; similar to a "blank canvas," it is a virtual canvas for creativity. With this current advent of virtual world technology, there now exist enhanced and expanded learning opportunities with an environment to relate to. Second Life is used as a platform for education by many institutions, such as colleges, universities, libraries and government entities. There are over one hundred regions used for educational purposes covering subjects such as chemistry and English. Instructors and researchers in Second Life favor it because it is more personal than traditional distance learning.

The proposed DBL project entails these specific activities:
– Learn to apply simplified design techniques to teach problem solving.
– Experience hands-on activities for engaging students
– Establish criteria for evaluating Design-Based Learning across the curriculum.
– Develop an action plan for MM M10 – Intro to Digital Media class. This class teaches Digital Media Literacy and it could provide the tools and techniques for the DBL communities.
– Develop a series of design challenges with guided lessons, setting measurable criteria or practice in identifying Design Challenges in computational as well as language arts.
– Integrate strategies from the design disciplines into the anthropology and criminal justice curriculum.
– Discover how to optimize learning with tools and resources that promote critical thinking, excite and involve students, and lead to high achievement on standardized tests.
– Prepare the Flex Day workshop on DBL.

The benefits of this project include:
Benefits to Faculty member
– This presents an opportunity for professional growth that will make it possible for me to become an expert in the field of DBL. I will become more familiar with developments which have occurred in the use of graphic design and multimedia in education across curriculum since I obtained my graduate degree

– 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.

– My active presence in the DBL community will provide me with inspiration for ways to update the program goals of the multimedia and graphic design program at Moorpark College.

– California State Polytechnic University accepts the Summer Institute for Teachers course as the four semester units course in its masters' program in Design-Based Learning.

Benefits to Students

– The opportunity to learn through the new methods and techniques that I will have learned and practiced.

– DBL will enable 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

– Exposure to contemporary education trends that I will document during my collaboration with the DBL and Second Life Education practitioners and implement into Graphic Design and Multimedia curriculum.

– Instruction, counseling and leadership by a faculty member who is renewed, reenergized, and equipped with current knowledge of the latest developments, trends and theories in undergraduate and graduate education of today.

– Over an extended period of time, students learn to deal with more complex organizations and social relationships. They will learn to organize their ideas into models and charts, and to evaluate, justify and refine their thinking about a concept.

Benefit to College and District

– DBL is a proven method of involving students of all ability levels. It is especially helpful for students at the lower end of the scale, including those with learning disabilities.

– DBL is a proven method of teaching key concepts and Basic Skills. Student skills—in language, reading, math and other curriculum subjects—improve markedly.

– This project has the potential to reach various types of learners, including at-risk, gifted, ADD and ADHD students, and to address the professional development needs of the community in dealing with diverse learning styles.

– Improve and maintain a multimedia and design curriculum to include new technologies,

thereby preparing students for success in an increasingly changing world.

– Another possible application would be basic skills oriented learning communities.

– There has been interest from the Anthropology and Criminal Justice program to build a DBL learning community.

– My active presence in the DBL community will provide me with inspiration for ways to update the program goals of the multimedia and graphic design program at Moorpark College.

– The reputation and visibility of Moorpark College and the Ventura County Community College will be enhanced due to the increased visibility and reputation of its educators; I will be living proof of the vision of the school to offer its students innovative classroom experiences.

– The potential for innovative teaching and learning collaboration will increase for the College and District through engagement and contact with other DBL practitioners.

– The knowledge I will acquire will contribute to the Faculty Development agenda of the College.

– The FLEX Day presentation is an opportunity to share with the larger College and District community applications of DBL which may impact student success in a variety of disciplines.

Feasibility of Implementation

DBL is a proven method of making the curriculum come alive without any special supplies or equipment. Students learn to solve challenges using inexpensive materials.