DESIGN BASED LEARNING

Svetlana Kasalovic
DESIGN BASED LEARNING

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DESIGN AS AN EPISTEMIC ARTEFACT

Educational needs for acquiring critical thinking and complex problem solving skills call for the teaching and learning methods beyond the content driven lectures that result in temporary memorization of the facts without deep understanding. As an example, Design Based Learning (DBL) methodology suggests that "creative expression" should not be confined to the visual, performing and language arts, but integrated with the rest of the curriculum, and that the use of design and multimedia shouldn't stop at term project PowerPoint presentations.

My sabbatical leave has been used to explore the Design Based Learning educational methodology that is applicable to my field of visual and media arts, as well as the broad college curriculum. I have participated in the international workshops and conferences, and I have visited the schools of Architecture and Design in Los Angeles, London, Belgrade and Helsinki where I have observed some exceptional examples of Design Based Learning. I have also developed a series of design challenges with guided lessons in graphic design, multimedia and the language arts.

3_Bennedict O'Looney's lecture about genesis of the South Bank London
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in July 2009 I attended The Summer Institute for Teachers, an intensive program in the Design Based Learning methodology, at the Art Centre College of Design in Pasadena. The program was led by Doreen Nelson who developed the nation’s first Master of Arts degree program in Design-Based-Learning at Cal Poly Pomona. The Summer Institute for Teachers covers the first four units of this Masters’ program.

In her keynote speech, Doreen Nelson defined Design Based Learning as a method how to teach and learn, not as a project that could be completed by following the instructions, which makes it harder to learn. This method is based on John Dewey’s educational philosophy, accessibility of the spatial/3D memory and on the design objects as mediating artefacts.

During the five days of workshops, we were practicing how to turn our curriculum into a series of challenges and have students make models that reflect the concepts they are studying. To introduce ourselves to the group, our first challenge was to design a never-before-seen way to present our educational beliefs. We were given the criteria to avoid cliches, impersonal symbols and cartoon characters, and to build a
unique 3D object that reflects our educational philosophy. This exercise taught us that a 3D object is memorable, works as a connector and it talks back better than the words on paper.

Our next task was to design a Never-Before-Seen Civilization - the most popular DBL metaphor. We agreed that in our NBS Civilization we don’t want: chain stores, pollution, malls, need for homelessness, but we want: architectural diversity, renewable energy, locally produced food, places to heal the sick. We were instructed to have students collaborate in setting the criteria. Teachers may add specific criteria, for example biology teacher may add “water”, or political economy teacher may add “spreading our values to other places”.

Once each participant designed their 3D solution to, we started joining our models together. Depending on the discipline and the course content, class time could be spent on districts, on the whole, or if the topic is the constitution and government, joining of the parts could take few weeks.

Each district chose a commissioner for Movement, Shelter, Environment and Food, and commissioners met with the neighborhood to identify the problems. Once the problems are identified, commissioners are ready for the guided lessons and study - they feel the need to learn in order to revise their design.
Our next task was to implement three different DBL challenges in the semester, and to design a NBS way to show the sequence of the 3 challenges following the Doreen Nelson’s Curriculum Integration Chart. On the chart the triangle serves as a symbol for the challenge. It is upside down pointing to the lectures. You pour all your standards to the challenge and teach lesson by lesson. We presented the criteria behind the sequence, and very clear connections between the challenges.

Finally, we were encouraged to give Design Based Learning a try and advised not to get discouraged if we have our students do the intro piece and it fails. Usually it happens when one criteria doesn’t work, or we direct them too much, or we don’t seem serious enough.
In 2006, the Institute for Multimedia Literacy at USC united General Education courses with multimedia labs offering all USC students the opportunity to explore new forms of scholarly expression. USC IML exemplifies a model agency for what Vannevar Bush had predicted in 1945 in his seminal essay “As We May Think”, and it has been my source of inspiration for the future of Multimedia at Moorpark College. In the Spring 2010, IML offered The Digital Studies Symposium as a USC course IML 466 for the first time. the course was open for enrollment credit to all USC students, but it is also open and free to the public.

Course Description: A longtime staple in the industries of advertising and entertainment, multimedia has now carved a new niche for itself: academia. Unlike the wealth of text-based examples, however, multimedia scholarship remains limited and uncodified. One of the major challenges is the lack of models or exemplars – to whom do we turn for guidance in such a new and burgeoning field? The Digital Studies Symposium is designed to rectify this gap, introducing us to the often hard-to-find scholarly media-based research and production, much of which is centered in Southern California.
The speakers in this series were a mix of artists, programmers, scholars and designers, and their projects include cutting edge gestural interfaces, mobile media experiments, innovative websites and augmented reality pieces. They have discussed their work, as well as the rewards and challenges of producing scholarly multimedia.

Ramesh Srinivasan is an Assistant Professor in the Department of Information Studies and Design | Media Arts at the UCLA. He is an engineer, designer, social scientist, and ethnographer. His research focuses on the interaction between new media technologies and global cultures and communities. He works in such diverse parts of the world as Kyrgyzstan, India, Native America.

Mark Hansen is a Professor of Statistics at the University of California, Los Angeles, holding joint appointments in both the Department of Electrical Engineering and the Department of Design | Media Art

Gilda Haas has taught economic development at UCLA’s Department of Urban Planning for 25 years. Ms. Haas recently left her position as the founding Executive Director of Strategic Actions for A Just Economy an economic justice and development organization that is dedicated to building economic power for working-class people in Los Angeles, to devote more time to coaching, consulting, and the "Dr. Pop" website.
At the Digital Studies Symposium, I meet Bjorn Littlefield-Palmer, the lead Second Life designer at the USC IML who created and manages the IML and SCA Second Life islands. The virtual School of Cinematic Arts space is similar to the adjacent IML island, a large black box that serves as a center for teaching, learning, and innovation. According to Bjorn, the idea was not to just recreate the USC campus. They wanted to apply the pedagogy about how to use the platform in a new way that only a 3D environment can provide, and to design and engineer the right kinds of social interactions to create a learning space. Bjorn has agreed to help us set the VCCCD Second Life Island as well as help us acquire knowledge necessary to build in Second Life.

At USC IML I have also attended a series of events dedicated to Processing, an open source programming language that allows artists and designers with little background in coding to experiment with the programming of images, animation and interactivity. Created in 2001 by Casey Reas and Ben Fry, Processing has since built a community devoted to its use. In his lecture Code Word: Processing Casey Reas explored the history and development of the Processing application, and continued with a three-part series of workshops designed to allow the audience to explore Processing as a kind of a “software sketchbook.”
My first Design Based Learning experiment took place as a module in my Intro to Communication Design on-site class in the Fall 2009. In order to offer a similar learning experience to my online class, I was considering to teach the Design Based Learning module in Second Life, and I started learning and discussing the Second Life pedagogy with Liz Russotti from SBCC and Bjorn Littlefield-Palmer from USC IML.

At this stage I have accepted an invitation to present my Design Based Learning project at the Technology Mediated Education - Necessity or Luxury? 8th ELTA IATEFL Conference in Belgrade.

While most Design Based Learning practitioners are fond of the low-tech approach, and they emphasize the use of everyday materials such as pipe cleaners, toothpicks, or cardboard, the purpose of my presentation was to build the case that virtual world is as suitable environment for Design Based Learning as the traditional classroom.

Reactions to both, low-tech and hi-tech Design Based Learning were very positive. Most participants were interested to customize the Design Based Learning pedagogy to teach ESL, and we have brainstormed the challenges and the criteria.
Keynote speaker Gavin Dudeney wrote “Overcoming the Entry Barriers to Second Life in Higher Education” chapter in “Higher Education in Virtual Worlds: Teaching and Learning in Second Life”. His presentation “New Literacies, Teachers & Learners” had a subtitle “Digital Literacy Unpacked”. He presented a challenging thesis that students usually are “tech confy”, but in most cases they are not “tech savvy”. Just because they are digital natives doesn’t mean they are tech literate.

Marine Mitry from the Open University in Cairo discussed the constructivist pedagogy of learning by doing as a key element in most successful programs in higher education. She advocated the use of hybrid courses because they effectively compensate for the downsides of both classroom and online classes.

During my visit to the School of Architecture at the Belgrade University I had a Q&A session with the Visual Communications students. I talked about the way we teach Design and Multimedia at Moorpark College, and about the increasing importance of design theory and design research in design education in the United States. Also, I presented some of the Moorpark College students’ design projects based on experimentation and critical thinking. I was asked to critique students work, and the difference in the way we conduct critiques was immediately evident.
18_Keynote slide: NBS Sustainable Civilization, Moorpark College Fall 2009

19_Keynote slide: Visual Identities, Moorpark College Fall 2009

20_Keynote slide: SBCC Second Life island

21_Paper, plastic and glass compactor by MC student Lewis Varney, Fall 2009
The role of design as an agent of socio-economic change has been broadly acknowledged and documented in the design community. Activity Theory is the conceptual and practical framework that illustrates how the object of designing becomes a tool in the cultural context of the user, and suggests a new and potentially useful vocabulary to design education on creation of new artifacts, and production of novel social patterns.

To learn about the ways in which the Activity Theory is being used as a framework in design education worldwide, I have attended the FISCAR 2010 “Perspectives on social creativity, designing and activity” in Helsinki. If we define design as a field of knowledge and activity concerned with the creation of artifacts, creativity is a social quality that involves communication and community formation. Creative activities and design are needed when humans transform their circumstances by developing new technologies and institutions. The conference brought together diverse points of view and disciplinary orientations to discuss social creativity, design and activity.

In the Tutorial of the Foundations of Activity Theory in Design, Education and
At the Digital Studies Symposium, I meet Bjorn Littlefield-Palmer, the lead Second Life designer at the USC IML who created and manages the IML and SCA Second Life islands. The virtual School of Cinematic Arts space is similar to the adjacent IML island, a large black box that serves as a center for teaching, learning, and innovation. According to Bjorn, the idea was not just to recreate the USC campus. They wanted to apply the pedagogy about how to use the platform in a new way that only a 3D environment can provide, and to design and engineer the right kinds of social interactions to create a learning space. Bjorn has agreed to help us set the VCCCD Second Life Island as well as help us acquire knowledge necessary to build in Second Life.

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Work, S. Bødker and Y. Engeström introduced selected key concepts from activity theory. Whilst the first generation Activity Theory built on Vygotsky’s notion that the relationship between humans and the world is mediated by artifacts, and the second generation built on Leont’ev’s notion of activity system, the third generation builds on the idea of multiple interacting activity systems focused on a partially shared object.

Presented design projects based on the Activity Theory include M.P. Ranjan’s presentation of bamboo as a sustainable human development resource and a way out of poverty in India; S. Bødker’s applications that help citizens help each other and improve interaction between citizens and municipalities through web 2.0 in Denmark; E. N. Yamaguchi’s community collaborative art project in a hospital in Japan - "not marginalized to the decor to the place of suffering, but a potential wildfire activity" (comment by Y. Engeström).

Projects particularly relevant to my Design Based Learning project were: Participatory Design project by R. Engler (Brazil); Contextmapping in Design by K. Lauche, CE Postma, PJ Stappers (Neatherlands); Rapid Prototyping by K. Gale (Great Britain) and New Modes of Interaction between Academic Design Research and Business Engagement the UK by L. Cruickshank (Great Britain).
Architecture Association is the oldest independent school of architecture in the United Kingdom. Its wide-ranging programme of exhibitions, lectures, symposia and publications have given it a central position in global discussions and developments within contemporary architectural culture. The AA’s innovative teaching tradition attracts the interest of academic visitors from all over the world. In response to this interest AA offers a three-week programme to give the teachers an opportunity to engage in a debate about approaches to education. Applicants are selected on the basis of a written proposal which outlines the issues of education that they find particularly interesting and challenging.

During the program we had an opportunity for detailed discussion of ideas and methods of education; meetings with students and teachers in all parts of the school; and involvement in the student review and assessment activities. We have presented work for debate in a seminar on educational ideas and methods. Immersion in the culture of the school through its programme of lectures, seminars and exhibitions is encouraged. We also had organised visits to important examples of architecture and planning in London.
Meetings with students and teachers and involvement in the student review and assessment activities particularly relevant to my Design Based Learning project were the Foundation course with Saskia Lewis and the First Year Studio with Valentin Bontjes van Beek.

The Foundation course offers an introduction to an art- and design-based education. It allows students to develop their conceptual ideas through experimenting with a wide range of media and a variety of creative disciplines from fine art to architecture. Students are taught in an intimate studio-based environment and work on both individual and group projects. Drawing on a number of pedagogical practices, the Foundation offers a unique cross-disciplinary education within the context of an architectural school.

AA First Year Studio asks students to develop their critical thinking for making design decisions. Differing projects, agendas and teaching approaches prepare them for their path through the school.

Inter 9 Studio starts their students with hydrographic charts and pilots' maps and then fusing them with other non-architectural drawings they produce a 'composite' drawing and an 'interference drawing' which, when combined, invents a 3D 'drawing/object' print that is the basis for the scheme. “It’s a method that lets Max Ernst meet Enric Miralles.”
The two day Research Festival Provocations has been organized by the Centre for Research and Development at the University of Brighton. The event was centered around four themes designed to be multi-disciplinary, inclusive, and open to all members of the Faculty. Each theme consisted of a number of 15 minute presentations and an open discussion. Festival Themes included: Desire & Fear, Public & Private, Natural & Synthetic, and Space & Place.

I was particularly interested to hear Jonathan Woodham’s presentation, since I have been using his “Twentieth Century Design” book in my design theory and history classes and I share his belief that design history needs to shift from the cultural high ground onto the texture of everyday life. His presentation title was “Margaret Thatcher Design Values”. He also gave me information about the Centre for Excellence in Teaching and Learning through Design and introduced me to CETLD Manager/Advisor Anne Asha.

In his presentation, Jonathan Chapman, writer of “Emotionally Durable Design: Objects, Experiences & Empathy”, discussed the dark, and disturbing reality beneath the slick, polished surface of design and consumerism.
CETLD was created through a unique partnership between higher education (University of Brighton and the Royal College of Arts) and two cultural institutions (V&A and RIBA).

The key themes that the partnership developed were:
- Learning Spaces
  (Physical/Virtual/Imaginary)
- Practice Based Learning and object scholarship (through the interpretation of artifacts and drawings in archives and museum collections)
- Interdisciplinarity in design education
- The student voice: personalised learning, student centred learning
- Use and application of collections
- Innovative pedagogic research and evaluation
- Employer engagement

One of the CETLD projects particularly aligned with the Design Based Learning methodology is the Learning Spaces project that examines relationships between the design of physical and virtual learning spaces and the learning that takes place there. Project researcher J. Boys has just published a book entitled “Towards Creative Learning Spaces: re-thinking the architecture of post-compulsory education.”
Architects in Residence initiative was developed from a series of the RIBA Trust/Arts Inform projects run by architect and teacher partnerships. The exhibition Maths through Architecture showcased London school students at Tower Bridge Primary School and the Chelsea Academy and their teachers, who worked with two architecture practices Allies and Morrison and Hawkins/Brown on a mathematics curriculum focused architecture project. They were developing their plans to make London a more “Welcoming City”; the theme of the London Festival of Architecture.

Both projects explored the relationship between maths and architecture and the best students’ work has been assessed by the following criteria:
- Originality
- Relevance to locality/function
- Quality/Beauty of presentation of mathematics through architecture
- How well the learning process of mathematics through architecture is demonstrated.

The Chelsea Academy satudents were designing a welcoming entrance to their new school, and the Tower Bridge Primary School students were designing a welcoming temporary meeting space for Potters Field Park in Southwark.
Cathy Gale teaches Graphic Design and Photography at the Kingston College in London. I met her at the FISCAR Conference in Helsinki, at her presentation about Design as Process entitled “Making Ideas Happen: Rapid Prototyping and the Design Process”. Kathy discussed a studio based project as a model of participatory design and co-configuration.

She argued that with art and design equally framed as commodities, her project works with a charitable organization to “sell” an urgent message and raise awareness of relevant issues in the public domain. The project demonstrates the development and application of multiple social and material skills - conceptual, craft based, experimental - in an intense studio environment and limited timescale.

In conclusion, she stated that his new role of designer what Steve Heller describes as “homo universalis”, now encompasses inter-disciplinary collaborations, material thinking, technological understanding and creative play, reinforcing and extending notions of design as being about making ideas happen.
At the Goldsmiths College post-graduate talk by J. Wood, I have learned about their MA program in Design Futures. This program introduces the ethical and ecological perspectives into the design agenda. In this sense the program offers a “metadesign approach.

J. Wood introduces designers to “metadesign” through the Synergy Workshops. With the premises that in order to address the ecological condition it will be vital to change the mindset of the general public. However, governments are unlikely to achieve this because the global economy is driven by acts of consumption. A more creative approach is needed. One solution is to introduce more design thinking into governance.

The current design profession is unable to re-design their working practices. This is because, at the professional level, they are currently unable to attain a high level of strategic power, or to cope with the highly complex situations in society as a whole. ‘Metadesign’ is therefore akin to what Buckminster Fuller proposed as Prime Design. At the practical level metadesign is a way for society to reform itself within its environment by modulating the way it feeds, clothes, shelters, assembles and communicates.
The goal of the New Contexts / New Practices AIGA Education conference was to generate and publish ideas about how design education will address the defining trends of contemporary practice and culture. Rather than a show-and-tell of what people are currently doing, this was an authoring conference that will build consensus and action plans for where we should be heading if graphic design is to remain relevant in the 21st century and if we are to achieve the competencies outlined in AIGA Defining the Designer of 2015. In particular, the conference agenda tackles how design education can both reflect changing conditions and shape future practices in a reconfigured communication landscape.

I have submitted prospectus and have been selected as a co-author for the Social Economies: Enterprise and a New Cultural Geography theme. My paper addressed the question on how to prepare design students to understand the nature of collaboration that allows people with different incentives, cultural behaviors, and values to collaborate successfully by suggesting that we use Activity Theory as the conceptual and practical framework.
Since the beginning of the Fall semester, I have been testing some of the best practices I have observed during my sabbatical in my classroom. Design Based Learning module in my Intro to Design Communication class is a good example. We have been designing the Never Before Seen Learning Space by following Doreen Nelson’s 6 1/2 Steps Backwards Thinking.

We have been experimenting with different contextmapping scenarios and designing FOR, WITH and FROM the users. The idea of multiple interacting activity systems focused on a partially shared object borrowed from the Activity Theory was used to visualize the dynamics of the group decision making process.

AA Chris Mathew’s Inter 9 Studio composite drawing and interference drawing method inspired the process of producing the drawing/object that is the basis for the hybrid solution.

As I am finishing this report, the Never Before Seen Learning Space project is still a work in progress. The purpose of the project is to develop the competencies outlined in AIGA Defining the Designer of 2015:
Ability to create and develop visual response to communication problems, including understanding of hierarchy, typography, aesthetics, composition and construction of meaningful images

Ability to solve communication problems including identifying the problem, researching, analysis, solution generating, prototyping, user testing and outcome evaluation

Broad understanding of issues related to the cognitive, social, cultural, technological and economic contexts for design

Ability to respond to audience contexts recognizing physical, cognitive, cultural and social human factors that shape design decisions

Understanding of and ability to utilize tools and technology (http://www.aiga.org/content.cfm/designer-of-2015-competencies)

IN PROGRESS
DESIGN BASED LEARNING

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SOCIAL CREATIVITY, DESIGN AND ACTIVITY

Perspectives on social creativity, designing and activity conference

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Maths Through Architecture

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