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Meta-design as a Pedagogical Framework for Encouraging Student Agency and Democratizing the Classroom

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Abstract
As diverse social and economic pressures are applied to post-secondary education, innovative approaches to pedagogical methodology are required. Given that the new norm in both industry and academia is that of constant change, a flexible and responsive approach is required along with a framework that empowers students with the skills to become independent thinkers and lifelong learners. Meta-design is a conceptual framework that can provide that flexibility and empower students with greater agency in their education.

Alors que l'enseignement post-secondaire est soumis à de nombreuses pressions sociales et économiques, la méthodologie pédagogique doit adopter des approches novatrices. Du fait que la nouvelle norme, à la fois dans l'industrie et dans les universités, est de changer continuellement, il est nécessaire d'adopter une approche souple et réactive doublée d'un cadre qui renforce la position des étudiants en leur donnant les compétences nécessaires pour devenir des êtres pensants indépendants et continuer à apprendre leur vie durant. Le Meta-design est un cadre conceptuel qui peut offrir cette souplesse et renforcer la position des étudiants en leur donnant davantage de structure dans leur éducation.

Keywords
meta-design, democracy, agency

Meta-design, as a form of design practice, places significant emphasis on the process side of design and the need for a model that is dynamic and adaptable. It involves the creation of socio-technical environments in which people can be creative. It has been clearly characterized as the "objectives, techniques, and processes for creating […] environments that allow the owners of problems to act as designers" (Fischer, 2003, p. 1). Central to meta-design is that these environments enable users to "engage in informed participation rather than being restricted by the use of existing systems" (Fischer, 2003, p. 1). Meta-design does not define a product or specify an outcome, rather it defines and designs the conditions for a process of interaction (Fischer, 2003). By focusing on the general structures and processes, rather than on fixed objects and contents, meta-design seeks to better anticipate unforeseen changes with an eye toward adaptation (Giaccardi, 2005).

Many of the principles upon which meta-design is based have pedagogical applications for post-secondary educators, particularly in the context of art and design universities where creativity and innovation are highly valued. As an instructor at Emily Carr University of Art and Design in Vancouver, I have often applied meta-design principles to my class curriculum, in a process that allows for improvisation, iteration, reflection, adjustment to individual student strengths and challenges, and collaboration with both students and community stakeholders. This application of principles involves a fine balance between order and chaos, what Hock (2005) termed "chaordic," and while this method can pose many challenges to students who are more familiar with structured regimens, it inculcates a practice of iteration, reflection, and even play. All are central to the design process that is less tidy than they might imagine and prepares them for, what Rittel (1973) referred to as the *wicked problems* (1973) that are "ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and were the ramifications in the whole system are thoroughly confusing" (as cited in Buchannan, 1992, p. 15). These approaches and principles have materialized in a number of courses, such as a class I taught called Designing for Democracy in the fall of 2012 and a course I am currently teaching in the area of technology called Web Practices. This research note shares some observations from these classes, as part of a longer pedagogical project of developing democratic co-creative teaching and learning practices that respect student desires for hands-on learning, experimentation, and increased measures of learning autonomy. Many of the students who come to our institution are makers who learn through doing, through the tactile, the visual, and the intuitive. They are also expected to think critically, act independently, and prepare themselves for a field of practice where methods and technology are in a state of rapid constant change; they will need to be lifelong learners. A meta-design approach to pedagogy can help prepare them for that future.

One important aspect of meta-design is the development of systems that enable the creation, evolution, and dissemination of shared bodies of knowledge. Thackara (2005) refers to this as conviviality and quotes NYU law professor Yochai Benkler's description of this commons-based peer production:

> We are seeing the emergence of a new mode of production, distinguishable from the property and contract-based modes of firms and markets. Its central characteristic is that groups of individuals successfully collaborate on large-scale projects following a diverse cluster of motivational drives and social signals—rather than market prices or managerial commands. (p. 130)

This is more than user-generated content; users are actually contributing to the development of systems themselves by beta testing, writing code snippets, contributing feedback, and leveraging existing mash-up applications to create more efficient user-experiences and communications. Facebook, as an example, provides add-ons and extensions that have been developed by users; the content itself is all user-generated and often drawn from another mash-up application such as YouTube, Twitter, or Instagram. There are actually thousands of these new Web 2.0 technologies and applications, and most of them would not exist if it were not for the principles and methodologies of meta-design. I am interested in the myriad ways that these same methodologies might inform pedagogy. Imagine, for instance, if students were empowered with leveraging these resources and technologies to contribute learning material and provide ongoing direct feedback and those contributions helped inform curriculum.

The emphasis on multi-disciplinary collaboration that exists within meta-design embraces the notion that the required knowledge to solve complex problems is beyond the scope of one individual or discipline and that in true collaborative and co-creative environments participants teach and instruct each other. In this case, the role of the designer is that of a facilitator and a co-designer of systems that will enable access by user-designers to various practical bodies of knowledge and experts, whether pedagogical or practical, specialist, or layman. Both at design time (when the system itself is being developed) and at use time (when user-designers continue the meta-design project), there is an understanding that social creativity emerges when participants teach and instruct each other. Giaccardi (2005) notes:

> Keeping the system open to participation and evolution at use time is meant to join social and technical systems, not only to make them optimized and efficient, but also to let new conditions, interactions and relationships emerge. In this way—by sustaining emergence and evolution—new forms of sociability and creativity can develop and innovation can be fostered. (pp. 346-347)

This creativity emerged in multiple ways during a partnership with ElectionsBC, where students designed campaigns to mobilize young voters for the upcoming spring election. As the majority of students in the class fit the target demographic of 18 to 24 year olds (Rodgers, 2012), this offered an excellent opportunity for them to address their peers. The class make up was itself multi-disciplinary, with students coming from critical studies, visual arts, industrial design, and communication design. They self-assigned roles in practice and research based on their discipline and unique strengths, proposed and tested their own solutions; they also worked collaboratively when problems required diverse fields of knowledge. Responsibilities were also self-determined, in many cases in response to immediate need, where a vacuum in knowledge or production had to quickly be filled. Rather than imposing institutional tools and technology students chose, individually or collectively, based on what they were most comfortable with and what they deemed appropriate for the task. Google Drive, Dropbox, Gmail, Pinterest, and Vimeo, to name a few, became the tools of choice—an open web of familiar options enabled them to develop their own creative platform for project development.

A technical web course I taught recently combined 2nd, 3rd, and 4th year students together from diverse disciplines in visual arts, interaction, communication, and industrial design. Students determined their own learning outcomes, proposed project deliverables, and defined personal criteria for success. As it was not possible to provide tutorials and lectures appropriate to all areas and levels of knowledge, students were recommended online free open-source

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learning resources and in turn made recommendations themselves. This online learning was supported in class with ongoing individual assistance and facilitation from the instructor.

From a meta-design context, in both of the examples above, the instructor plays a dual role of designer of the pedagogical system and active facilitator; the student, as primary stakeholder, is a user-designer of their own educational process (Fischer, 1999). Given that meta-design is a framework or methodology to support participatory cultures, its pedagogical application should not be limited to design. It should uniquely benefit any teaching environment that can reasonably make use of open access to technology and knowledge resources, where a participatory framework can be put in place that makes use of those resources, and where that framework can contain the means necessary for iteration and improvement over time.

In meta-design what we see is an evolution of design methodologies to a more democratized form of design. What began as an early 20th century modernist approach that expected users to adapt to the designed outcome has transformed to design methodologies that create new opportunities for users to become engaged participants in the co-creative practice of designing solutions to their own unique problems. As diverse social and economic pressures are applied to post-secondary education, innovative approaches to pedagogical methodology are required. I look forward to continuing my exploration and research of meta-design as a conceptual framework for post-secondary pedagogy.

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